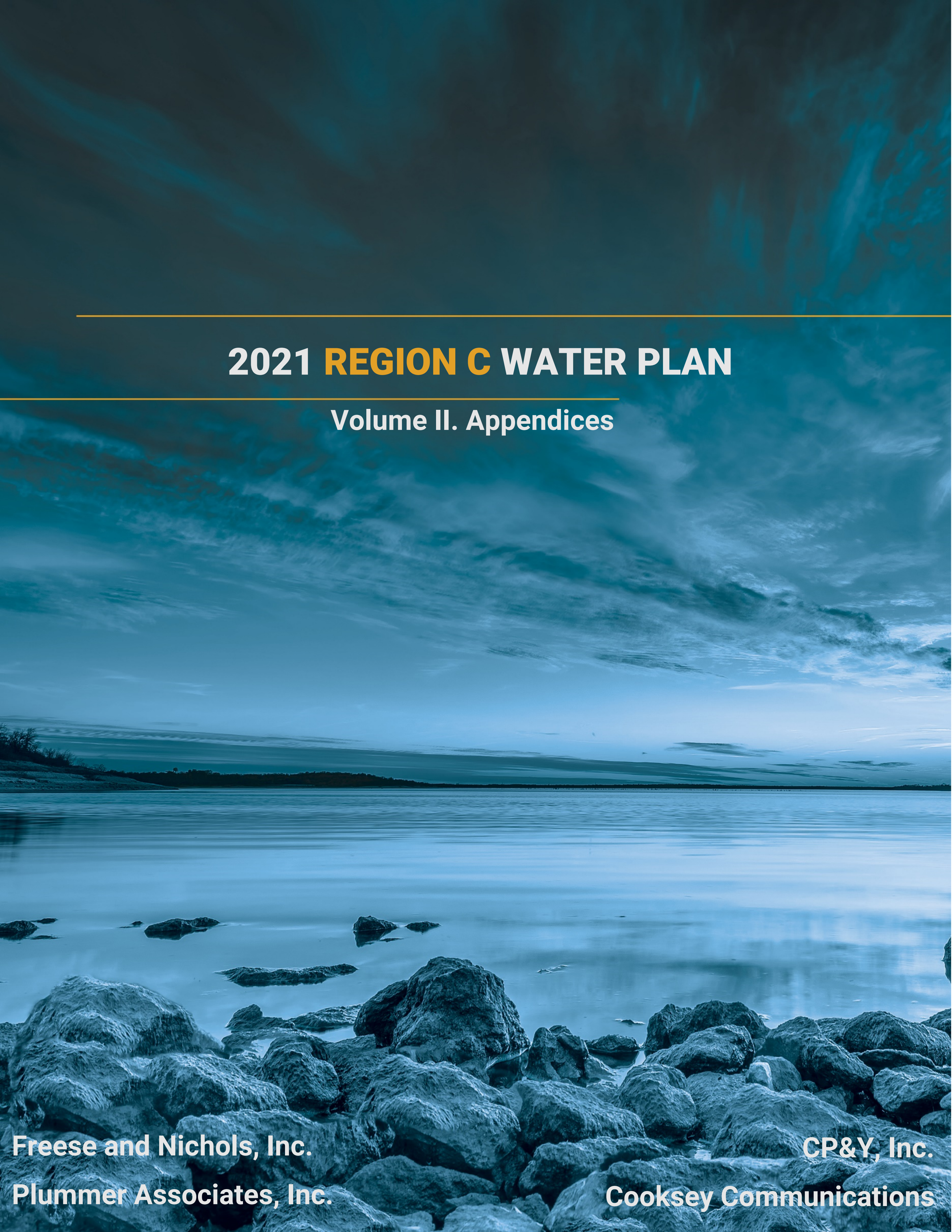

2021 REGION C WATER PLAN

Volume II. Appendices

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2021 REGION C WATER PLAN

November 2020

Prepared for the Region C Water Planning Group

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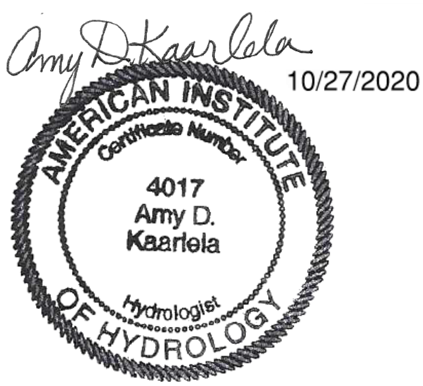

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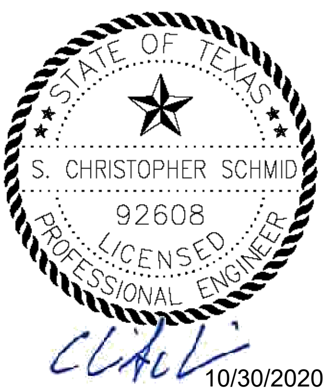

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2021 REGION C
WATER PLAN

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2021 REGION C WATER PLAN

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Prepared for the Region C Water Planning Group

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Appendix I Water Conservation Savings

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List of Acronyms

Acronym	Description
AMI	Advanced Metering Infrastructure
ASR	Aquifer Storage and Recovery
AWWA	American Water Works Association
BEG	Bureau of Economic Geology
BMP	Best Management Practices
CFS	Cubic Feet per Second
CGMA	Collin-Grayson Municipal Alliance
CRU	Collective Reporting Units
DB22	TWDB's Regional Water Planning Database
DBP	Disinfection Byproduct
DCP	Drought Contingency Plan
DFC	Desired Future Conditions
DOR	Drought of Record
DPR	Direct Potable Reuse
EA	Executive Administrator of the TWDB
EPA	Environmental Protection Agency
GAM	Groundwater Availability Model
GCD	Groundwater Conservation District
GMA	Groundwater Management Area
GPCD	Gallons per Capita per Day
GPF	Gallons per Flush
GPM	Gallons per minute
HOA	Homeowners Association
IBT	Interbasin Transfer
ICI	Industrial, Commercial, Institutional
IPP	Initially Prepared Plan
IWA	International Water Association
LLC	Limited Liability Company
MAG	Modeled Available Groundwater
MGD	Million Gallons per Day
MSL	Mean Sea Level
MWP	Major Water Provider
NRCS	Natural Resources Conservation Service (formerly the Soil Conservation Service)
NRNWR	Neches River National Wildlife Refuge
OCR	Off Channel Reservoir
PDSI	Palmer Drought Severity Index
RO	Reverse Osmosis
RWP	Regional Water Plan
RWPA	Regional Water Planning Area
RWPG	Regional Water Planning Group
SB1	Senate Bill One
SB2	Senate Bill Two
SB3	Senate Bill Three

Acronym	Description
SDWA	Safe Drinking Water Act
SEP	Steam Electric Power
SUD	Special Utility District
SWCQP	Statewide Water Conservation Quantification Project
SWIFT	State Water Implementation Fund
SWIRFT	State Water Implementation Revenue Fund
SWP	State Water Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDS	Total Dissolved Solids
TNRIS	Texas Natural Resources Information System
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
UCM	Uniform Costing Model
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
WAM	Water Availability Model
WCAC	Water Conservation Advisory Council
WCCAP	Water Conservation and Condition Assessment Program
WCP	Water Conservation Plan
WIF	Water Infrastructure Fund
WMS	Water Management Strategy
WMSP	Water Management Strategy Project
WSC	Water Supply Corporation
WSD	Water Supply District
WTP	Water Treatment Plant
WUG	Water User Group
WWP	Wholesale Water Provider
WWTP	Wastewater Treatment Plant
Water Providers	
ANRA	Angelina and Neches River Authority
BRA	Brazos River Authority
DWU	Dallas Water Utilities
GTUA	Greater Texoma Utility Authority
NTMWD	North Texas Municipal Water District
RRA	Red River Authority
SRA	Sabine River Authority
SRBA	Sulphur River Basin Authority
SRMWD	Sulphur River Municipal Water District
TRWD	Tarrant Regional Water District
TRA	Trinity River Authority
UNRMWA	Upper Neches River Municipal Water Authority
UTRWD	Upper Trinity Regional Water District

Glossary of Terms

Term	Meaning
Aquifer Storage and Recovery	Aquifer storage and recovery (ASR) is the storage of water in a suitable aquifer through a well during times when water is available, and the recovery of water from the same aquifer during times when it is needed.
Best Management Practice	Best Management Practices (BMPs) are a menu of options for which entities within a water use sector can choose to implement in order to achieve benchmarks and goals through water conservation. Best management practices are voluntary efficiency measures that are intended to save a quantifiable amount of water, either directly or indirectly, and can be implemented within a specified timeframe.
Desired Future Condition	Criteria which is used to define the amount of available groundwater from an aquifer.
Drought of Record	A drought of record is the worst recorded drought since the comipliation of meterologic and hydraulic began.
Groundwater Availability Model	Numerical groundwater flow model. GAMs are used to determine the aquifer response to pumping scenarios. These are the preferred models to assess groundwater availability.
Groundwater Conservation District	Generic term for all or individual state recognized Districts that oversee the groundwater resources within a specified political boundary.
Groundwater Management Area	Sixteen GMAs in Texas. Tasked by the Legislature to define the desired future conditions for major and minor aquifers within the GMA.
Gallons per capita per day	Unit of measure that accounts for water use in the number of gallons a person uses each day.
Interbasin Transfer	In an interbasin water transfer, surface water is taken from one river basin and conveyed into another river basin for use there.
Modeled Available Groundwater	The MAG is the amount of groundwater that can be permitted by a GCD on an annual basis. It is determined by the TWDB based on the DFC approved by the GMA. Once the MAG is established, this value must be used as the available groundwater in regional water planning.
Major Water Provider	A water user group or a wholesale water provider of particular significance to the region's water supply as determined by the regional water planning group.
Palmer Drought Severity Index	A measure of dryness based on precipitation, temperature, soil moisture and other factors.
Regional Water Planning Group	The generic term for the planning groups that oversee the regional water plan development in each respective region in the State of Texas
Senate Bill One	Legislation passed by the 75th Texas Legislature that is the basis for the current regional water planning process.
Texas Commission on Environmental Quality	Agency charged with oversight of Texas surface water rights and WAM program.
Total Dissolved Solids	A measure of the combined total organic and ingorganic substances contained in the water.
Total Maximum Daily Load	A Total Maximum Daily Load (TMDL) is a regulatory term in the U.S. Clean Water Act, describing a plan for restoring impaired waters that

Term	Meaning
	identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.
Texas Water Development Board	Texas Agency charged with oversight of regional water plan development and oversight of GCDs
Water Availability Model	Computer model of a river watershed that evaluates surface water availability based on Texas water rights.
Water Management Strategy	Strategies available to RWPG to meet water needs identified in the regional water plan.
Water User Group	A group that uses water. Six major types of WUGs: municipal, manufacturing, mining, steam electric power, irrigation and livestock.
Wholesale Water Provider	Entity that has or is expected to have contracts to sell 1,000 ac-ft./yr. or more of wholesale water.

Appendix A

Consistency with TWDB Rules

Appendix A
Consistency with TWDB Rules

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
Guidance Principles		
31 TAC §358.3		
358.3 (1)	The state water plan shall provide for the preparation for and response to drought conditions.	Chapters 2, 3, 5, 7
(2)	The RWP and SWP shall serve as water supply plans under drought of record conditions.	Chapters 2, 3, 5, 7
(3)	Consideration shall be given to the construction and improvement of surface water resources and the application of principles that result in voluntary redistribution of water resources.	Chapter 5
(4)	RWP shall provide for the orderly development, management, and conservation of water resources and preparation for and response to drought conditions so that sufficient water will be available at a reasonable cost to satisfy a reasonable projected use of water to ensure public health, safety, and welfare; further economic development; and protect the agricultural and natural resources of the affected regional water planning areas and the state.	Chapters 5 and 6
(5)	RWP shall include identification of those policies and action that may be needed to meet Texas' water supply needs and prepare for and respond to drought conditions.	Chapters 5 and 7
(6)	RWPG decision-making shall be open to and accountable to the public with decisions based on accurate, objective and reliable information with full dissemination of planning results except for those matters made confidential by law.	Chapter 10
(7)	The RWPG shall establish terms of participation in water planning efforts that shall be equitable and shall not unduly hinder participation.	Chapter 10
(8)	Consideration of the effect of policies or water management strategies on the public interest of the state, water supply, and those entities involved in providing this supply throughout the entire state.	Chapter 8
(9)	Consideration of all water management strategies the regional water plan determines to be potentially feasible when developing plans to meet future water needs and to respond to drought so that cost effective water management strategies which are consistent with long-term protection of the state's water resources, agricultural resources, and natural resources are considered and approved.	Chapters 5 and 6
(10)	Consideration of opportunities that encourage and result in voluntary transfers of water resources, including but not limited to regional water banks, sales, leases, options, subordination agreements, and financing agreements.	Chapter 5
(11)	Consideration of a balance of economic, social, aesthetic, and ecological viability.	Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation)
(12)	For regional water planning areas without approved regional water plans or water providers for which revised plans are not developed through the regional water planning process, the use of information from the adopted state water plan and other completed studies that are sufficient for water planning shall represent the water supply plan for that area or water provider.	N/A
(13)	All surface waters are held in trust by the state, their use is subject to rights granted and administered by the Commission, and the use of surface water is governed by the prior appropriation doctrine, unless adjudicated otherwise.	Chapter 3
(14)	Existing water rights, water contracts, and option agreements shall be protected. However, potential amendments of water rights, contracts and agreements may be considered and evaluated. Any amendments will require the eventual consent of the owner.	Chapters 3 and 5
(15)	The production and use of groundwater in Texas is governed by the rule of capture doctrine unless and to the extent that such production and use is regulated by a groundwater conservation district as codified by the legislature at Texas Water Code §36.002 (relating to Ownership of Groundwater).	Chapter 3
(16)	Consideration of recommendations of river and stream segments of unique ecological value to the legislature for potential protection.	Chapter 8
(17)	Consideration of recommendation of sites of unique value for the construction of reservoirs to the legislature for potential protection.	Chapter 8
(18)	Consideration of water planning and management activities of local, regional, state, and federal agencies, along with existing local, regional, and state water plans and information and existing state and federal programs and goals.	Chapters 1 and 5
(19)	Designated water quality and related water uses as shown in the state water quality management plan shall be improved or maintained.	Chapter 6
(20)	Coordination of water planning and management activities of RWPGs to identify common needs and issues and achieve efficient use of water supplies, including the Board and other relevant RWPGs, working together to identify common needs, issues, and challenges while working together to resolve conflicts in a fair, equitable, and efficient manner.	Entire RWP

Appendix A
Consistency with TWDB Rules

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(21)	The water management strategies identified in approved RWPs to meet needs shall be described in sufficient detail to allow a state agency making a financial or regulatory decision to determine if a proposed action before the state agency is consistent with an approved RWP.	Chapter 5; Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation); Appendix I (Water Conservation Savings); Appendix J (Updated Quantification of Impacts of Marvin Nichols)
(22)	The evaluation of water management strategies shall use environmental information in accordance with the Commission's adopted environmental flow standards under 30 TAC Chapter 298 (relating to Environmental Flow Standards for Surface Water) where applicable or, in basins where standards are not available or have not been adopted, information from existing site-specific studies or state consensus environmental planning criteria.	Chapter 5; Evaluation of strategies involving new reservoir include environmental flow standards as appropriate
(23)	Consideration of environmental water needs including instream flows and bay and estuary inflows, including adjustments by the RWPGs to water management strategies to provide for environmental water needs including instream flows and bay and estuary needs. Consideration shall be consistent with the Commission's adopted environmental flow standards under 30 TAC Chapter 298 in basins where standards have been adopted.	Chapter 5; Evaluation of strategies involving new reservoir include environmental flow standards as appropriate
(24)	Planning shall be consistent with all laws applicable to water use for the state and regional water planning area.	Entire RWP
(25)	The inclusion of ongoing water development projects that have been permitted by the Commission or a predecessor agency.	Chapter 5
(26)	Specific recommendations of water management strategies shall be based upon identification, analysis, and comparison of all water management strategies the RWPG determines to be potentially feasible so that the cost effective water management strategies which are environmentally sensitive are considered and adopted unless the RWPG demonstrates that adoption of such strategies is not appropriate. To determine cost-effectiveness, the RWPGs will use the process describedin §357.34(d)(3)(A) of this title (relating to Identificationand Evaluation of Potentially Feasible Water Management Strategies)and, to determine environmental sensitivity, the RWPGs shall use theprocess described in §357.34(d)(3)(B) of this title.	Chapter 5
(27)	RWPGs shall conduct their planning to achieve efficient use of existing water supplies, explore opportunities for and the benefits of developing regional water supply facilities or providing regional management of water facilities, coordinate the actions of local and regional water resource management agencies, provide substantial involvement by the public in the decision-making process, and provide full dissemination of planning results.	Chapters 5 and 10
(28)	RWPGs must consider existing regional water planning efforts when developing their plans.	Chapters 1, 5, and 10
	Chapter One Description of the Regional Water Planning Area	
	31 TAC §357.30	
	RWPGs shall describe their regional water planning area including the following:	
357.3 (1)	Social and economic aspects of a region such as information on current population, economic activity and economic sectors heavily dependent on water resources	Section 1.1
(2)	Current water use and major water demand centers	Section 1.3
(3)	Current groundwater, surface water, and reuse supplies including major springs that are important for water supply or protection of natural resources	Section 1.4
(4)	Major Water Providers (MWP)	Section 1.5
(5)	Agricultural and natural resources	Section 1.10
(6)	Identified water quality problems	Section 1.12.2
(7)	Identified threats to agricultural and natural resources due to water quantity problems or water quality problems related to water supply	Section 1.12
(8)	Summary of existing local and regional water plans	Section 1.6
(9)	The identified historic drought(s) of record within the planning area	Section 1.7 and Chapter 7
(10)	Current preparations for drought within the RWPA	Section 1.7 and Chapter 7

Appendix A
Consistency with TWDB Rules

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(11)	Information compiled by the Board from water loss audits (see also Texas Administrative Code §358.6)	Section 1.9; Appendix B (Water Audit Data)
(12)	An identification of each threat to agricultural and natural resources and a discussion of how that threat will be addressed or affected by the water management strategies evaluated in the plan.	Section 1.10, Chapter 6, Appendix J
Chapter Two Projected Non Municipal, Municipal and Population Water Demands		
31 TAC §357.31		
357.31 (a)	RWPs shall present projected population and Water Demands by WUG as defined in §357.10 of this title (relating to Definitions and Acronyms). If a WUG lies in one or more countiesor RWPA or river basins, data shall be reported for each river basin, RWPA, and county split.	Sections 2.2 and 2.3, Chapter 2 Attachments 1-4, Appendix D (DB22 Reports)
(b)	RWPs shall present projected Water Demands associated with MWPs by category of water use, including municipal, manufacturing, irrigation, steam electric power generation, mining, and livestock for the RWPA.	Chapter 2 Attachments 5
(c)	RWPs shall evaluate the current contractual obligations of WUGs and WWPs to supply water in addition to any demands projected for the WUG or WWP. Information regarding obligations to supply water to other users must also be incorporated into the water supply analysis in §357.32 of this title (relating to Water Supply Analysis) in order to determine net existing water supplies available for each WUG's own use. The evaluation of contractual obligations under this subsection is limited to determining the amount of water secured by the contract and the duration of the contract.	Chapter 3 - Where a seller/buyer relationships existed, calculations of existing supplies for each buyer considered and evaulated the contractual obligations of the seller.
(d)	Municipal demands shall be adjusted to reflect water savings due to plumbing fixture requirements identified in the Texas Health and Safety Code, Chapter 372. RWPGs shall report how changes in plumbing fixtures would affect projected municipal Water Demands using projections with plumbing code savings provided by the Board or by methods approved by the EA.	Section 2.3.1
(e)	Source of population and Water Demands. In developing RWPs, RWPGs shall use:	
(e) (1)	Population and water demand projections developed by the EA that will be contained in the next state water plan and adopted by the Board after consultation with the RWPGs, Commission, Texas Department of Agriculture, and the Texas Parks and Wildlife Department.	Sections 2.2 and 2.3
(e) (2)	RWPGs may request revisions of Board adopted population or Water Demand projections if the request demonstrates that population or Water Demand projections no longer represents a reasonable estimate of anticipated conditions based on changed conditions and or new information. Before requesting a revision to population and Water Demand projections, the RWPG shall discuss the proposed revisions at a public meeting for which notice has been posted in accordance with §357.21(c) of this title (relating to Notice and Public Participation). The RWPG shall summarize public comments received on the proposed request for projection revisions. The EA shall consult with the requesting RWPG and respond to their request within 45 days after receipt of a request from an RWPG for revision of population or Water Demand projections.	Sections 2.2.1 and 2.3.1; Appendix C (Adjustments to Projections)
(f)	Population and Water Demand projections shall be presented for each Planning Decade for WUGs and MWPs.	Sections 2.2 and 2.3; Chapter 2 Attachments 1-5
Chapter Three Water Supply Analysis		
31 TAC §357.32		
357.32 (a)	RWPGs shall evaluate:	
(a) (1)	Source water availability during drought of record conditions.	Chapter 3, Appendix E
(a) (2)	Existing water supplies that are legally and physically available to WUGs and wholesale water suppliers within the RWPA for use during the drought of record.	Sections 3.4, 3.5, 3.6; Appendix D (DB22 Reports); Appendix E (Existing Supply Available)
(b)	Consider surface water and groundwater data from the state water plan, existing water rights, contracts and option agreements relating to water rights, other planning and water supply studies, and analysis of water supplies existing in and available to the RWPA during drought of record conditions	Sections 3.1, 3.2, 3.3; Appendix E (Existing Supply Available)

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(c)	For surface water supply analyses, RWPGs shall use most current Water Availability Models from the Commission to evaluate the adequacy of surface water supplies. As the default approach for evaluating existing supplies, RWPGs shall assume full utilization of existing water rights and no return flows when using Water Availability Models. RWPGs may use better, more representative, water availability modeling assumptions or better site-specific information with written approval from the EA. Information available from the Commission shall be incorporated by RWPGs unless better site-specific information is available and approved in writing by the EA.	Chapter 3; Appendix E (Existing Supply Available)
(c) (1)	Evaluation of existing stored surface water available during Drought of Record conditions shall be based on Firm Yield. The analysis may be based on justified operational procedures other than Firm Yield. The EA shall consider a written request from an RWPG to use procedures other than Firm Yield.	Section 3.2; Appendix E (Existing Supply Available)
(c) (2)	Evaluation of existing run of river surface water available for municipal WUGs during Drought of Record conditions shall be based on the minimum monthly diversion amounts that are available 100 percent of the time, if those run of river supplies are the only supply for the municipal WUG.	Section 3.2; Appendix E (Existing Supply Available)
(d)	Use modeled available groundwater volumes for groundwater availability, as issued by the Board, and incorporate such information in its RWP unless no modeled available groundwater volumes are provided.	Section 3.3
(e)	Evaluate the existing water supplies for each WUG and WWP	Sections 3.5 and 3.6
(f)	Water supplies based on contracted agreements will be based on the terms of the contract, which may be assumed to renew upon contract termination if the contract contemplates renewal or extensions.	3.5, 3.6, Where a seller/buyer relationships existed, calculations of existing supplies for each buyer considered and evaulated the contractual obligations of the seller.
(g)	Evaluation results shall be reported by WUG in accordance with §357.31(a) of this title (relating to Projected Population and Water Demands) and WWPs in accordance with §357.31(b) of this title	Appendix D (DB22 Reports); Appendix E (Existing Supply Available)
Chapter Four Identification of Water Needs		
31 TAC §357.33		
357.33 (a)	RWPs shall include comparisons of existing water supplies and projected Water Demands to identify Water Needs.	Section 4.1
(b)	RWPGs shall compare projected Water Demands, developed in accordance with §357.31 of this title (relating to Projected Population and Water Demands), with existing water supplies available to WUGs and WWPs in a planning area, as developed in accordance with §357.32 of this title (relating to Water Supply Analysis), to determine whether WUGs will experience water surpluses or needs for additional supplies. Results shall be reported for WUGs by categories of use including municipal, manufacturing, irrigation, steam electric, mining, and livestock watering for each county or portion of a county in an RWPA. Results shall be reported for MWPs by categories of use including municipal, manufacturing, irrigation, steam electric, mining, and livestock watering for the RWPA.	Section 4.2, Section 4.3, Figure 4.2, Appendix D (DB22 Reports)
(c)	The social and economic impacts of not meeting water needs will be evaluated by RWPGs and reported for each RWPA.	Chapter 6
(d)	Results of evaluations will be reported by WUG in accordance with §357.31(a) of this title and MWPs in accordance with §357.31(b) of this title.	Section 4.2, Section 4.3, Section 5D, Section 5E, Appendix D (DB22 Reports)
(e)	RWPGs shall perform a secondary water needs analysis for all WUGs and WWPs for which conservation WMSs or direct Reuse WMSs are recommended. This secondary water needs analysis shall calculate the Water Needs that would remain after assuming all recommended conservation and direct Reuse WMSs are fully implemented. The resulting secondarywater needs volumes shall be presented in the RWP by WUG and MWP and decade.	Section 4.5, Appendix D (DB22 Reports)

Appendix A
Consistency with TWDB Rules

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
Chapter Five Identification and Evaluation of Potentially Feasible Water Management Strategies		
31 TAC §357.34		
357.34 (a)	RWPGs shall identify and evaluate potentially feasible WMSs and the WMSPs required to implement those strategies for all WUGs and WWPs with identified Water Needs.	All of Chapter 5; Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation)
(b)	RWPGs shall identify potentially feasible WMSs to meet water supply needs identified in §357.33 of this title (relating to Needs Analysis: Comparison of Water Supplies and Demands)in accordance with the process in §357.12(b) of this title (relating to General Regional Water Planning Group Responsibilities and Procedures). Strategies shall be developed for WUGs and WWPs. The strategies shall meet new water supply obligations necessary to implement recommended WMSs of WWPs and WUGs. RWPGs shall plan for water supply during Drought of Record conditions. In developing RWPs, RWPGs shall provide WMSs to be used during a Drought of Record.	All of Chapter 5; Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation)
(c)	Potential Feasible Water Management Strategies should include, but are not limited to:	
(c) (1)	Expanded use of existing supplies including system optimization and conjunctive use of water resources, reallocation of reservoir storage to new uses, voluntary redistribution of water resources including contracts, water marketing, regional water banks, sales, leases, options, subordination agreements, and financing agreements, subordination of existing water rights through voluntary agreements, enhancements of yields of existing sources, and improvement of water quality including control of naturally occurring chlorides.	Section 5C
(c) (2)	New supply development including construction and improvement of surface water and groundwater resources, brush control, precipitation enhancement, seawater desalination, brackish groundwater desalination, water supply that could be made available by cancellation of water rights based on data provided by the Commission, rainwater harvesting, and aquifer storage and recovery.	Section 5A, Section 5B, Section 5C
(c) (3)	Conservation and drought management measures including demand management.	Section 5B
(c) (4)	Reuse of wastewater.	Section 5B
(c) (5)	Interbasin transfers of surface water.	Section 5A, Section 5B, Section 5C
(c) (6)	Emergency transfers of surface water including a determination of the part of each water right for non-municipal use in the RWPA that may be transferred without causing unreasonable damage to the property of the non-municipal water rights holder in accordance with Texas Water Code §11.139 (relating to Emergency Authorizations).	Section 5A, Section 5B, Section 5C
(d)	All recommended WMSs and WMSPs that are entered into the State Water Planning Database and prioritized by RWPGs shall be designed to reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or develop, deliver or treat additional water supply volumes to WUGs or WWPs in at least one planning decade such that additional water is available during Drought of Record conditions. Any other RWPG recommendations regarding permit modifications, operational changes, and/or other infrastructure that are not designed to reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or develop, deliver or treat additional water supply volumes to WUGs or WWPs in at least one Planning Decade such that additional water is available during Drought of Record conditions shall be indicated as such and presented separately in the RWP and shall not be eligible for funding from the State Water Implementation Fund for Texas.	Section 5C; Appendix F (Potentially Feasible WMSs); Appendix G (Water Management Strategy Evaulation)
(e)	Evaluations of potentially feasible WMSs and associated WMSPs shall include the following analyses:	
(e) (1)	For the purpose of evaluating potentially feasible WMSs, the Commission's most current Water Availability Model with assumptions of no return flows and full utilization of senior water rights, is to be used. Alternative assumptions may be used with written approval from the EA who shall consider a written request from an RWPG to use assumptions other than no return flows and full utilization of senior water rights.	Appendix E (Water Supply Available)
(e) (2)	An equitable comparison between and consistent evaluation and application of all water management strategies the RWPGs determine to be potentially feasible for each water supply need.	Appendix G (Water Management Strategy Evaulation)
(e) (3) (A)	A quantitative reporting of the net quantity, reliability, and cost of water delivered and treated for the end user's requirements during drought of record conditions, taking into account and reporting anticipated strategy water losses, incorporating factors used calculating infrastructure debt payments and may include present costs and discounted present value costs. Costs do not include distribution of water within a WUG after treatment.	Appendix G (Water Management Strategy Evaulation); Appendix H (Cost Estimates)

Appendix A
Consistency with TWDB Rules

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(e) (3) (B)	A quantitative reporting of the environmental factors including effects on environmental water needs, wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico. Evaluations of effects on environmental flows shall include consideration of the Commission's adopted environmental flow standards under 30 Texas Administrative Code Chapter 298 (relating to Environmental Flow Standards for Surface Water). If environmental flow standards have not been established, then environmental information from existing site-specific studies, or in the absence of such information, state environmental planning criteria adopted by the Board for inclusion in the State Water Plan after coordinating with staff of the Commission and the Texas Parks and Wildlife Department to ensure that WMSs are adjusted to provide for environmental water needs including instream flows and bays and estuaries inflows.	Appendix G (Water Management Strategy Evaulation); Appendix H (Cost Estimates); Appendix J (2020 Quantitative Analysis of the Impact of Marvin Nichols Reservoir)
(e) (3) (C)	A quantitative reporting of the impacts to agricultural resources.	Appendix G (Water Management Strategy Evaulation); Appendix J (2020 Quantitative Analysis of the Impact of Marvin Nichols Reservoir); Chapter 6
(e) (4)	Discussion of the plan's impact on other water resources of the state including other water management strategies and groundwater and surface water interrelationships.	Section 6.2.3
(e) (5)	Discussion of each threat to agricultural or natural resources identified pursuant to §357.30(7) of this title (relating to Description of the Regional Water Planning Area) including how that threat will be addressed or affected by the water management strategies evaluated	Section 6.4
(e) (6)	If applicable, consideration and discussion of the provisions in Texas Water Code §11.085(k)(1) for interbasin transfers of surface water. At minimum, this consideration will include a summation of water needs in the basin of origin and in the receiving basin.	Section 6.2.5; Table 6.2
(e) (7)	Consideration of third-party social and economic impacts resulting from voluntary redistributions of water including analysis of third-party impacts of moving water from rural and agricultural areas.	Section 6.2
(e) (8)	A description of the major impacts of recommended water management strategies on key parameters of water quality identified by RWPGs as important to the use of a water resource and comparing conditions with the recommended water management strategies to current conditions using best available data.	Section 6.1; Appendix K (Key Water Quality Parameters)
(e) (9)	Consideration of water pipelines and other facilities that are currently used for water conveyance as described in §357.22(a)(3) of this title (relating to General Considerations for Development of Regional Water Plans).	Section 1.9; Appendix B (Water Audit Data); Section 5B.3, Table 5B.4
(e) (10)	Other factors as deemed relevant by the RWPG including recreational impacts.	Section 6.1.1; Section 6.2.2
(f)	RWPGs shall evaluate and present potentially feasible WMSs and WMSPs with sufficient specificity to allow state agenciesto make financial or regulatory decisions to determine consistency of the proposed action before the state agency with an approved RWP.	Section 5C; Appendix F (Potentially Feasible WMSs); Appendix G (Water Management Strategy Evaulation); Appendix H (Cost Estimates)
(g)	If an RWPG does not recommend aquifer storage and recovery strategies, seawater desalination strategies, or brackish groundwater desalination strategies it must document the reason(s) in the RWP.	Chapter 5A; Chapter 5C
(h)	In instances where an RWPG has determined there are significant identified Water Needs in the RWPA, the RWP shall include an assessment of the potential for aquifer storage and recovery to meet those Water Needs. Each RWPG shall define the threshold to determine whether it has significant identified Water Needs. Each RWP shall include, at a minimum, a description of the methodology used to determine the threshold of significant needs. If a specific assessment is conducted, the assessment may be based on information from existing studies and shall include minimum parameters as defined in contract guidance.	Chapter 5A; Section 5A.1.6
(i)	Conservation, Drought Management Measures, and Drought Contingency Plans shall be considered by RWPGs when developing the regional plans, particularly during the process of identifying, evaluating, and recommending WMSs. RWPs shall incorporate water conservation planning and drought contingency planning in the RWPA.	Chapter 5B; Chapter 7

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Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(i)(1)	Drought Management Measures including water demand management. RWPGs shall consider Drought Management Measures for each need identified in §357.33 of this title and shall include such measures for each user group to which Texas Water Code §11.1272 (relating to Drought Contingency Plans for Certain Applicants and Water Right Holders) applies. Impacts of the Drought Management Measures on Water Needs must be consistent with guidance provided by the Commission in its administrative rules implementing Texas Water Code §11.1272. If an RWPG does not adopt a drought management strategy for a need it must document the reason in the RWP. Nothing in this paragraph shall be construed as limiting the use of voluntary arrangements by water users to forgo water usage during drought periods.	Section 7.6
(i)(2)	Water conservation practices. RWPGs must consider water conservation practices, including potentially applicable best management practices, for each identified Water Need.	Chapter 5B; Appendix I (Water Cosnervation Savings)
(i)(2)(A)	RWPGs shall include water conservation practices for each user group to which Texas Water Code §11.1271 and §13.146 (relating to Water Conservation Plans) apply. The impact of these water conservation practices on Water Needs must be consistent with requirements in appropriate Commission administrative rules related to Texas Water Code §11.1271 and §13.146.	Chapter 5B; Appendix I (Water Cosnervation Savings)
(i) (2) (B)	RWPGs shall consider water conservation practices for each WUG beyond the minimum requirements of subparagraph (A) of this paragraph, whether or not the WUG is subject to Texas Water Code §11.1271 and §13.146. If RWPGs do not adopt a Water Conservation Strategy to meet an identified need, they shall document the reason in the RWP.	Chapter 5B; Appendix I (Water Conservation Savings)
(i) (2) (C)	For each WUG or WWP that is to obtain water from a proposed interbasin transfer to which Texas Water Code §11.085 (relating to Interbasin Transfers) applies, RWPGs shall include a Water Conservation Strategy, pursuant to Texas Water Code §11.085(l), that will result in the highest practicable level of water conservation and efficiency achievable. For these strategies, RWPGs shall determine and report projected water use savings in gallons per capita per day based on its determination of the highest practicable level of water conservation and efficiency achievable. RWPGs shall develop conservation strategies based on this determination. In preparing this evaluation, RWPGs shall seek the input of WUGs and WWPs as to what is the highest practicable level of conservation and efficiency achievable, in their opinion, and take that input into consideration. RWPGs shall develop water conservation strategies consistent with guidance provided by the Commission in its administrative rules that implement Texas Water Code §11.085. When developing water conservation strategies, the RWPGs must consider potentially applicable best management practices. Strategy evaluation in accordance with this section shall include a quantitative description of the quantity, cost, and reliability of the water estimated to be conserved under the highest practicable level of water conservation and efficiency achievable.	Section 5B.5; Appendix I (Water Conservation Savings) using TWDB "Water Conservation Best Management Practices"
(i) (2) (D)	RWPGs shall consider strategies to address any issues identified in the information compiled by the Board from the water loss audits performed by Retail Public Utilities pursuant to §358.6 of this title (relating to Water Loss Audits).	Chapter 5B; Appendix I (Water Conservation Savings), Section I.7 (Water Loss Control Program)
(i) (3)	RWPGs shall recommend Gallons Per Capita Per Day goal(s) for each municipal WUG or specified groupings of municipal WUGs. Goals must be recommended for each planning decade and may be a specific goal or a range of values. At a minimum, the RWPs shall include Gallons Per Capita Per Day goals based on drought conditions to align with guidance principles in §358.3 of this title (relating to Guidance Principles).	Chapter 5B; Appendix I
(j)	RWPs shall include a subchapter consolidating the RWPG's recommendations regarding water conservation. RWPGs shall include in the RWPs model Water Conservation Plans pursuant to Texas Water Code §11.1271.	Chaper 5B; Section 5B.7, with links to model plans for Municipal, Irrigation, Manufacturing, and Steam Electric
	31 TAC §357.35	
357.35 (a)	RWPGs shall recommend WMSs and the WMSPs required to implement those WMSs to be used during a Drought of Record based on the potentially feasible WMSs evaluated under §357.34 of this title (relating to Identification and Evaluation of Potentially Feasible Water Management Strategies and Water Management Strategy Projects).	All of Chapter 5; Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation)

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Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(b)	RWPGs shall recommend specific WMSs and WMSPs based upon the identification, analysis, and comparison of WMSs by the RWPG that the RWPG determines are potentially feasible so that the cost effective WMSs that are environmentally sensitive are considered and adopted unless an RWPG demonstrates that adoption of such WMSs is inappropriate. To determine cost-effectiveness and environmental sensitivity,RWPGs shall follow processes described in §357.34 of this title. The RWP may include Alternative WMSs evaluated by the processes described in §357.34 of this title.	All of Chapter 5; Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation); Appendix H (Cost Estimates)
(c)	Strategies will be selected by the RWPGs so that cost effective water management strategies, which are consistent with long-term protection of the state's water resources, agricultural resources, and natural resources are adopted.	All of Chapter 5; Chapter 6; Appendix F (Potentially Feasible WMSs); Appendix G (WMS Strategy Evaulation); Appendix H (Cost Estimates)
(d)	RWPGs shall identify and recommend WMSs for all WUGs and WWPs with identified Water Needs and that meet all Water Needs during the Drought of Record except in cases where:	
(d) (1)	no WMS is feasible. In such cases, RWPGs must explain why no WMSs are feasible; or	Section 6.5.1
(d) (2)	a Political Subdivision that provides water supply other than water supply corporations, counties, or river authorities explicitly does not participate in the regional water planning process for needs located within its boundaries or extraterritorial jurisdiction.	NA
(e)	Specific recommendations of water management strategies to meet an identified need will not be shown as meeting a need for a political subdivision if the political subdivision in question objects to inclusion of the strategy for the political subdivision and specifies its reasons for such objection. This does not prevent the inclusion of the strategy to meet other needs.	NA
(f)	Recommended strategies shall protect existing water rights, water contracts, and option agreements, but may consider potential amendments of water rights, contracts and agreements, which would require the eventual consent of the owner.	Chapter 3; Appendix E (Water Supply Available)
(g)	RWPGs shall report the following:	
(g) (1)	Recommended WMSs, recommended WMSPs, and the associated results of all the potentially feasible WMS evaluations by WUG and MWP. If a WUG lies in one or more counties or RWPAs or river basins, data shall be reported for each river basin, RWPA, and county.	Chapter 5; Appendices D, F, G, H
(g) (2)	Calculated planning management supply factors for each WUG and MWP included in the RWP assuming all recommended WMSs are implemented. This calculation shall be based on the sum of: the total existing water supplies, plus all water supplies from recommended WMSs for each entity; divided by that entity's total projected Water Demand, within the Planning Decade. The resulting calculated management supply factor shall be presented in the plan by entity and decade for every WUG and MWP. Calculating planning management supply factors is for reporting purposes only.	Appendix D (DB22 Reports)
(g) (3)	Fully evaluated Alternative WMSs and associated WMSPs included in the adopted RWP shall be presented together in one place in the RWP.	Chapter 5C, 5D, 5E; Appendices F, G, H
Chapter Six Impacts of Regional Water Plan and Consistency with Protection of Water Resources, Agricultural Resources, and Natural		
31 TAC §357.40		
357.40(a)	RWPs shall include a quantitative description of the socioeconomic impacts of not meeting the identified Water Needs pursuant to §357.33(c) of this title (relating to Needs Analysis: Comparison of Water Supplies and Demands).	Section 6.5.2, Appendix L (Socio-Economic Impacts)
(b)	RWPs shall include a description of the impacts of the RWP regarding:	
(b) (1)	Agricultural resources pursuant to §357.34(e)(3)(C) of this title (relating to Identification and Evaluation of Potentially Feasible Water Management Strategies);	Section 6.2.1
(b) (2)	Other water resources of the state including other WMSs and groundwater and surface water interrelationships pursuant to §357.34(e)(4) of this title;	Section 6.2.3
(b) (3)	Threats to agricultural and natural resources identified pursuant to §357.34(e)(5) of this title;	Chapter 6; Section 6.4.3
(b) (4)	Third-party social and economic impacts resulting from voluntary redistributions of water including analysis of third-party impacts of moving water from rural and agricultural areas pursuant to §357.34(e)(7) of this title;	Section 6.2
(b) (5)	Major impacts of recommended WMSs on key parameters of water quality pursuant to §357.34(e)(8) of this title; and	Section 6.1; Appendix K (Key Water Quality Parameters)
(b) (6)	Effects on navigation	
(c)	RWPs shall include a summary of the identified Water Needs that remain unmet by the RWP.	Section 6.5.1

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Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
31 TAC §357.41		
357.41	RWPGs shall describe how RWPs are consistent with the long-term protection of the state's water resources, agricultural resources, and natural resources as embodied in the guidance principles in §358.3(4) and (8) of this title (relating to Guidance Principles).	Section 6.4
Chapter Seven Drought Response Information, Activities, and Recommendations		
31 TAC §357.42		
357.42 (a)	RWPs shall consolidate and present information on current and planned preparations for, and responses to, drought conditions in the region including, but not limited to, drought of record conditions based on the following subsections.	Section 7.1; Section 7.2; Appendix M (Summary of Drought Reponses)
(b)	RWPGs shall conduct an overall assessment of current preparations for drought within the RWPA including a description of how water suppliers in the RWPA identify and respond to the onset of drought. This may include information from local drought contingency plans.	Section 7.1; Section 7.2; Appendix M (Summary of Drought Reponses)
(b) (1)	A description of how water suppliers in the RWPA identify and respond to the onset of drought; and	Chapter 7
(b) (2)	Identification of unnecessary or counterproductive variations in drought response strategies among water suppliers that may confuse the public or impede drought response efforts. At a minimum, RWPGs shall review and summarize drought response efforts for neighboring communities including the differences in the implementation of outdoor watering restrictions.	Chapter 7
(c)	RWPGs shall develop drought response recommendations regarding the management of existing groundwater and surface water sources in the RWPA designated in accordance with §357.32 of this title (relating to Water Supply Analysis), including:	
(c) (1)	Factors specific to each source of water supply to be considered in determining whether to initiate a drought response for each water source including specific recommended drought response triggers (See also §357.32 of Regional Planning Guidelines)	Section 7.1; Section 7.2; Appendix M (Summary of Drought Reponses)
(c) (2)	Actions to be taken as part of the drought response by the manager of each water source and the entities relying on each source, including the number of drought stages; and	Section 7.1; Section 7.2; Appendix M (Summary of Drought Reponses)
(c) (3)	Triggers and actions developed in paragraphs (1) and (2) of this subsection may consider existing triggers and actions associated with existing drought contingency plans.	Section 7.5
(d)	RWPGs shall collect information on existing major water infrastructure facilities that may be used for interconnections in event of an emergency shortage of water. In accordance with Texas Water Code §16.053(r), this information is CONFIDENTIAL INFORMATION and cannot be disseminated to the public. The associated information is to be collected by a subgroup of RWPG members in a closed meeting and submitted separately to the EA in accordance with guidance to be provided by EA.	Section 7.3; Section 7.4
(e)	RWPGs shall provide general descriptions of local drought contingency plans that involve making emergency connections between water systems or WWP systems that do not include locations or descriptions of facilities that are disallowed under subsection (d) of this section.	Section 7.3; Section 7.4
(f)	RWPGs may designate recommended and alternative drought management water management strategies and other recommended drought measures in the RWP including:	
(f) (1)	List and description of the recommended drought management water management strategies and associated WUGs and WWPs, if any, that are recommended by the RWPG. Information to include associated triggers to initiate each of the recommended drought management water management strategies	N/A
(f) (2)	List and description of alternative drought management water management strategies and associated WUGs and WWPs, if any, that are included in the plan. Information to include associated triggers to initiate each of the alternative drought management water management strategies	N/A
(f) (3)	List of all potentially feasible drought management water management strategies that were considered or evaluated by the RWPG but not recommended; and	N/A
(f) (4)	List and summary of any other recommended drought management measures, if any, that are included in the RWP, including associated triggers if applicable	N/A

Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(g)	The RWPGs shall evaluate potential emergency responsesto local drought conditions or loss of existing water supplies; theevaluation shall include identification of potential alternative watersources that may be considered for temporary emergency use by WUGsand WWPs in the event that the Existing Water Supply sources becometemporarily unavailable to the WUGs and WWPs due to unforeseeablehydrologic conditions such as emergency water right curtailment, unanticipatedloss of reservoir conservation storage, or other localized droughtimpacts. RWPGs shall evaluate, at a minimum, municipal WUGs that:	
(g) (1)	have existing populations less than 7,500;	Section 7.3; Appendix M (Summary of Drought Reponses)
(g) (2)	rely on a sole source for its water supply regardless of whether the water is provided by a WWP; and	
(g) (3)	all County-Other WUGs.	
(h)	RWPGs shall consider any relevant recommendations from the Drought Preparedness Council.	Section 7.7.1
(i)	RWPGs shall make drought preparation and response recommendations regarding:	
(i) (1)	Development of, content contained within, and implementation of local drought contingency plans required by the Commission	Section 7.5; Section 7.7.2
(i) (2)	Current drought management preparations in the RWPA including:	
(i) (2) (A)	drought response triggers; and	Section 7.5
(i) (2) (B)	responses to drought conditions;	Section 7.5
(i) (3)	The Drought Preparedness Council and the State Drought Preparedness Plan; and	Section 7.5
(i) (4)	Any other general recommendations regarding drought management in the region or state	Section 7.5
(j)	The RWPGs shall develop region-specific model Drought Contingency Plans.	Section 7.5.4
Chapter Eight Policy Recommendations and Unique Sites		
31 TAC §357.43		
357.43 (a)	The RWPs shall contain any regulatory, administrative, or legislative recommendations developed by the RWPGs	Section 8.4
(b)	Ecologically Unique River and Stream Segments. RWPGs may include in adopted RWPs recommendations for all or parts of river and stream segments of unique ecological value located within the RWPA by preparing a recommendation package consisting of a physical description giving the location of the stream segment, maps, and photographs of the stream segment and a site characterization of the stream segment documented by supporting literature and data. The recommendation package shall address each of the criteria for designation of river and stream segments of ecological value found in this subsection. The RWPG shall forward the recommendation package to the Texas Parks and Wildlife Department and allow the Texas Parks and Wildlife Department 30 days for its written evaluation of the recommendation. The adopted RWP shall include, if available, Texas Parks and Wildlife Department's written evaluation of each river and stream segment recommended as a river or stream segment of unique ecological value.	Section 8.2
(b) (1)	An RWPG may recommend a river or stream segment as being of unique ecological value based upon the criteria set forth in §358.2 of this title (relating to Definitions)	Section 8.2
(b) (2)	For every river and stream segment that has been designated as a unique river or stream segment by the legislature, during a session that ends not less than one year before the required date of submittal of an adopted RWP to the Board, or recommended as a unique river or stream segment in the RWP, the RWPG shall assess the impact of the RWP on these segments. The assessment shall be a quantitative analysis of the impact of the plan on the flows important to the river or stream segment, as determined by the RWPG, comparing current conditions to conditions with implementation of all recommended water management strategies. The assessment shall also describe the impact of the plan on the unique features cited in the region's recommendation of that segment	Chapter 6, Section 8.2
(c)	Unique Sites for Reservoir Construction. An RWPG may recommend sites of unique value for construction of reservoirs by including descriptions of the sites, reasons for the unique designation and expected beneficiaries of the water supply to be developed at the site. The criteria at §358.2 of this title shall be used to determine if a site is unique for reservoir construction.	Section 8.3
(d)	Any other recommendations that the RWPG believes are needed and desirable to achieve the stated goals of state and regional water planning including to facilitate the orderly development, management, and conservation of water resources and prepare for and respond to drought conditions.	Section 8.4
(e)	RWPGs may develop information as to the potential impacts of any proposed changes in law prior to or after changes are enacted.	Section 8.4

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Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(f)	RWPGs should consider making legislative recommendations to facilitate more voluntary water transfers in the region.	Section 8.4
	Chapter Nine Infrastructure Financing Report	
357.44	RWPGs shall assess and quantitatively report on how individuallocal governments, regional authorities, and other Political Subdivisionsin their RWPA propose to finance recommended WMSs and associated WMSPs.The assessment shall also describe what role the RWPG proposes forthe state in financing recommended WMSs and associated WMSPs, includingproposed increases in the level of state participation in fundingfor regional projects to meet needs beyond the reasonable financingcapability of local governments, regional authorities, and other politicalsubdivisions involved in building water infrastructure.	Chapter 9
	Chapter Ten Public Participation and Plan Adoption	
	31 TAC §357.21	
357.21 (a)	Each RWPG and any committee or subcommittee of an RWPG are subject to Chapters 551 and 552, Government Code. A copy of all materials presented or discussed at an open meeting shall be made available for public inspection prior to and following the meetings and shall meet the additional notice requirements when specifically referenced as required under other subsections. In addition to the notice requirements of Chapter 551, Government Code, the following requirements apply to RWPGs.	Section 10.4
(b-e)	All public notices required by the TWDB by the RWPG shall comply with 31 TAC §357.21 and shall meet the requirements specified therein.	Section 10.4
	31 TAC §357.50	
357.5 (a)	Submit their adopted RWPs to the Board every five years on a date to be disseminated by the EA, as modified by subsection (e)(2) of this section, for approval and inclusion in the state water plan.	Entire final RWP Document; cover/transmittal letter
(b)	Prior to the adoption of the RWP, the RWPGs shall submit concurrently to the EA and the public an IPP. The IPP submitted to the EA must be in the electronic and paper format specified by the EA. Each RWPG must certify that the IPP is complete and adopted by the RWPG. In the instance of a recommended WMS proposed to be supplied from a different RWPA, the RWPG recommending such strategy shall submit, concurrently with the submission of the IPP to the EA, a copy of the IPP, or a letter identifying the WMS in the other region along with an internet link to the IPP, to the RWPG associated with the location of such strategy.	Entire IPP Document; cover/transmittal letter
(c)	The RWPGs shall distribute the IPP in accordance with §357.21(d)(4) of this title (relating to Notice and Public Participation).	Section 10.4
(d)	Within 60 days of the submission of IPPs to the EA, the RWPGs shall submit to the EA, and the other affected RWPG, in writing, the identification of potential Interregional Conflicts by:	
(d) (1)	identifying the specific recommended WMS from another RWPG's IPP;	No Interregional Conflict declared in the 2021 Region C water plan
(d) (2)	providing a statement of why the RWPG considers there to be an Interregional Conflict; and	
(d) (3)	providing any other information available to the RWPG that is relevant to the Board's decision.	
(e)	The RWPGs shall seek to resolve conflicts with other RWPGs and shall promptly and actively participate in any Board sponsored efforts to resolve Interregional Conflicts.	Section 10.7
(f)	The RWPGs shall solicit, and consider the following comments when adopting an RWP:	
(f) (1)	the EA's written comments, which shall be provided to the RWPG within 120 days of receipt of the IPP;	Comments will be solicited after the April 13, 2020 Public Hearing and addressed in the Final Plan.
(f) (2)	written comments received from any federal agency or Texas state agency, which the RWPGs shall accept after the first public hearing notice is published pursuant to §357.21(d) of this title until at least 90 days after the public hearing is held pursuant to §357.21(d) of this title; and	
(f) (3)	any written or oral comments received from the public after the first public hearing notice is published pursuant to §357.21(d) of this title until at least 60 days after the public hearing is held pursuant to §357.21(d) of this title.	
(f) (4)	The RWPGs shall revise their IPPs to incorporate negotiated resolutions or Board resolutions of any Interregional Conflicts into their final adopted RWPs.	No Interregional Conflict declared in the 2021 Region C water plan
(f) (5)	In the event that the Board has not resolved an Interregional Conflict sufficiently early to allow an involved RWPG to modify and adopt its final RWP by the statutory deadline, all RWPGs involved in the conflict shall proceed with adoption of their RWP by excluding the relevant recommended WMS and all language relevant to the conflict and include language in the RWP explaining the unresolved Interregional Conflict and acknowledging that the RWPG may be required to revise or amend its RWP in accordance with a negotiated or Board resolution of an Interregional Conflict.	

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Regulatory Citation	Summary of Requirement	Location(s) in Regional Plan and/or Commentary
(g)	Submittal of RWPs. RWPGs shall submit the IPP and the adopted RWPs and amendments to approved RWPs to the EA in conformance with this section.	
(g) (1)	RWPs shall include:	
(g) (1) (A)	The technical report and data prepared in accordance with this chapter and the EA's specifications;	All final RWP chapters and appendices
(g) (1) (B)	An executive summary that documents key RWP findings and recommendations; and	Executive Summary
(g) (1) (C)	Summaries of all written and oral comments received pursuant to subsection (f) of this section, with a response by the RWPG explaining how the plan was revised or why changes were not warranted in response to written comments received under subsection (f) of this section.	Appendix Q
(g) (2)	RWPGs shall submit RWPs to the EA according to the following schedule:	
(g) (2) (A)	IPPs are due every five years on a date disseminated by the EA unless an extension is approved, in writing, by the EA.	IPP submitted prior to March 3, 2020 IPP deadline
(g) (2) (B)	Prior to submission of the IPP, the RWPGs shall upload the data, metadata and all other relevant digital information supporting the plan to the Board's State Water Planning Database. All changes and corrections to this information must be entered into the Board's State Water Planning Database prior to submittal of a final adopted plan.	All metadata and digital information uploaded prior to the March 3, 2020 IPP deadline.
(g) (2) (C)	The RWPG shall transfer copies of all data, models, and reports generated by the planning process and used in developing the RWP to the EA. To the maximum extent possible, data shall be transferred in digital form according to specifications provided by the EA. One copy of all reports prepared by the RWPG shall be provided in digital format according to specifications provided by the EA. All digital mapping shall use a geographic information system according to specifications provided by the EA. The EA shall seek the input from the State Geographic Information Officer regarding specifications mentioned in this section.	All data, models, and reports submitted with the IPP submittal.
(g) (2) (D)	Adopted RWPs are due to the EA every five years on a date disseminated by the EA unless, at the discretion of the EA, a time extension is granted consistent with the timelines in Texas Water Code §16.053(i).	Final RWP submitted prior to November 5, 2020 deadline
(g) (2) (E)	Once approved by the Board, RWPs shall be made available on the Board website.	
(h)	Upon receipt of an RWP adopted by the RWPG, the Board shall consider approval of such plan based on the following criteria:	
(h) (1)	verified adoption of the RWP by the RWPG; and	
(h) (2)	verified incorporation of any negotiated resolution or Board resolution of any Interregional Conflicts, or in the event that an Interregional Conflict is not yet resolved, verified exclusion of the relevant recommended WMS and all language relevant to the conflict.	No Interregional Conflict declared in the 2021 Region C water plan
(i)	Approval of RWPs by the Board. The Board may approve an RWP only after it has determined that the RWP complies with statute and rules.	
(j)	The Board shall consider approval of an RWP that includes unmet municipal Water Needs provided that the RWPG includes adequate justification, including that the RWP:	
(j) (1)	documents that the RWPG considered all potentially feasible WMSs, including Drought Management WMSs and contains an explanation why additional conservation and/or Drought Management WMSs were not recommended to address the need;	NA. There are no unmet municipal needs.
(j) (2)	describes how, in the event of a repeat of the Drought of Record, the municipal WUGs associated with the unmet need shall ensure the public health, safety, and welfare in each Planning Decade that has an unmet need; and	
(j) (3)	explains whether there may be occasion, prior to development of the next IPP, to amend the RWP to address all or a portion of the unmet need.	
(k)	Board Adoption of State Water Plan. RWPs approved by the Board pursuant to this chapter shall be incorporated into the State Water Plan as outlined in §358.4 of this title (relating to Guidelines).	
Chapter Eleven Implementation and Comparison to the Previous Regional Water Plan		
31 TAC §357.45		
357.45 (a)	RWPGs shall describe the level of implementation of previously recommended WMSs and associated impediments to implementation in accordance with guidance provided by the board. Information on the progress of implementation of all WMSs that were recommended in the previous RWP, including conservation and Drought Management WMSs; and the implementation of WMSPs that have affected progress in meeting the state's future water needs.	Appendix P (Water Management Strategy Implementation Survey)
(b)	RWPGs shall assess the progress of the RWPA in encouraging cooperation between WUGs for the purpose of achieving economies of scale and otherwise incentivizing WMSs that benefit the entire RWPA. This assessment of regionalization shall include:	

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(b) (1)	The number of recommended WMSs in the previously adopted and current RWPs that serve more than one WUG;	Chapter 11; Appendix D
(b) (2)	The number of recommended WMSs in the previously adopted RWPs that serve more than one WUG and have been implemented since the previously adopted RWP; and.	Chapter 11; Appendix D
(b) (3)	A description of efforts the RWPG has made to encourage WMSs and WMSPs that serve more than one WUG, and that benefit the entire region	Section 11.3
(c)	RWPGs shall provide a brief summary of how the RWP differs from the previously adopted RWP with regards to:	
(c) (1)	Water Demand projections;	Section 11.2.1
(c) (2)	Drought of Record and hydrologic and modeling assumptions used in planning for the region;	Section 11.2.2
(c) (3)	Groundwater and surface water Availability, Existing Water Supplies, and identified Water Needs for WUGs and WWPs; and	Section 11.2.3, Section 11.2.4, and Section 11.2.5
(c) (4)	Recommended and Alternative WMSs and WMSPs.	Tables 11.1, 11.2, 11.7, 11.8

Appendix B

Water Loss Audit Data

Appendix B
Water Loss Audit Data

WUG	2015 Water Loss %	2016 Water Loss %	2017 Water Loss %
ABLES SPRINGS WSC	8.62		
ADDISON	4.20	6.48	4.72
ALEDO	31.44	30.73	3.71
ALLEN	8.11	14.35	12.73
ANNA	20.63		40.38
ARGYLE WSC	6.36		
ARLEDGE RIDGE WSC	43.45		
ARLINGTON	10.19	11.01	6.72
ATHENS		28.16	29.98
AUBREY	8.28		
AVALON WATER SUPPLY & SEWER SERVICE	34.03	40.14	
AZLE	3.41	3.95	5.00
BALCH SPRINGS	9.15	10.22	10.14
BEAR CREEK SUD	9.12		
BECKER JIBA WSC	11.74		
BEDFORD		4.75	8.29
BENBROOK WATER AUTHORITY	14.49	11.59	10.44
BETHEL ASH WSC	62.84	74.12	
BLACK ROCK WSC	3.42		
BLOOMING GROVE	0.75		
BLUE RIDGE	32.90	7.66	
BOIS D ARC MUD	26.16	27.1	34.78
BOLIVAR WSC	21.73	9.32	27.76
BONHAM	18.53	19.14	20.15
BUENA VISTA BETHEL SUD	44.02	45.25	40.32
BUTLER WSC	32.67		
CALLISBURG WSC	10.44		
CARROLLTON	6.08	7.20	6.23
CEDAR HILL	10.65	14.01	15.07
CELINA	25.45	17.21	15.88
CHATFIELD WSC	18.36	26.74	
COCKRELL HILL	18.22	23.87	49.12
COLLEGE MOUND WSC	19.3		
COLLEYVILLE	2.47	2.30	3.65
COLLINSVILLE	8.59		
COMBINE WSC	5.25	7.05	
COPEVILLE SUD	13.02	9.25	12.66
COPPELL		14.05	18.85
CORBET WSC	22.62	18.11	
CORINTH	10.43	9.25	9.62
CORSICANA	13.18	16.18	19.71
CRANDALL	12.55		
CRESCENT HEIGHTS WSC	10.79	16.09	
CROSS TIMBERS WSC	8.87		

Appendix B
Water Loss Audit Data

WUG	2015 Water Loss %	2016 Water Loss %	2017 Water Loss %
CROWLEY	12.58	18.04	16.02
CULLEOKA WSC	10.45		
DALLAS	14.98	8.58	6.54
DAWSON	6.32	4.19	
DECATUR	8.91		
DENISON	14.84	12.53	10.59
DENTON COUNTY FWSD 1-A	10.55	5.24	8.59
DESERT WSC	37.05	31.92	
DESOTO	15.88	14.99	19.47
DOGWOOD ESTATES WATER	35.46		
DUNCANVILLE	26.30	9.35	8.59
EAST CEDAR CREEK FWSD	28.23	14.48	0
EAST FORK SUD	6.86	5.69	5.02
ELMO WSC	42.54		
ENNIS	8.36	1.17	16.77
EULESS	3.48	8.33	7.28
EUSTACE	29.21		
EVERMAN	12.10		
FAIRFIELD	15.56		
FAIRVIEW		12.99	15.03
FARMERS BRANCH	13.87	14	9.05
FARMERSVILLE		5.84	
FATE	2.19	9.48	8.92
FERRIS	15.19	50.94	
FLOWER MOUND	0.08	7.69	1.06
FOREST HILL		12.23	12.77
FORNEY	12.04	12.28	12.36
FORNEY LAKE WSC	8.57	13.94	
FORT WORTH	19.01	20.91	18.13
FRISCO		5.40	4.85
GAINESVILLE	15.68	15.02	7.12
GARLAND	4.26	9.72	15.44
GASTONIA SCURRY SUD	14.22		
GRAND PRAIRIE	10.86	17.24	19.08
GRAPEVINE	2.80	3.58	1.72
GUNTER	15.45		
HACKBERRY	13.26		
HALTOM CITY	15.46	6.21	5.60
HASLET	9.18		
HEATH		11.15	
HIGHLAND PARK	5.95	10.06	3.85
HIGHLAND VILLAGE	7.64	6.32	2.25
HONEY GROVE	28.87	17.12	20.83
HORSESHOE BEND WATER SYSTEM	5.75		
HOWE	2.75		

Appendix B
Water Loss Audit Data

WUG	2015 Water Loss %	2016 Water Loss %	2017 Water Loss %
HUDSON OAKS	7.85	3.37	
HURST	4.28	2.64	10.06
HUTCHINS	5.43		
IRVING	9.06	9.61	9.25
JACKSBORO	22.54	22.60	
JOSEPHINE	11.76		
JUSTIN		4.48	
KAUFMAN	13.06	22.78	
KELLER	99.52	5.87	6.51
KEMP		22.67	
KENNEDALE	8.25	10.33	
KENTUCKYTOWN WSC	28.28		
KERENS	13.90		
KRUM	7.67		15.54
LADONIA		76.59	
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	7.74	10.75	10.53
LAKE KIOWA SUD	0.65	1.16	
LAKE WORTH	12.99	10.58	8.23
LAKESIDE	28.12		
LANCASTER	3.89	4.21	3.9
LEONARD	37.42	14.27	28.35
LEWISVILLE	7.63	9.16	13.41
LINDSAY	5.66		
LITTLE ELM	0.92	12.68	12.14
LUELLA SUD	9.34		
M E N WSC	15.08		
MABANK	17.2	17.11	8.69
MALAKOFF	2.57	4.41	
MANSFIELD		1.55	13.59
MARILEE SUD	21.5		
MARKOUT WSC	13.43		
MCKINNEY	25.28	21.90	19.38
MELISSA	15.37		
MESQUITE	7.37	4.94	8.81
MIDLOTHIAN	8.94	12.33	8.19
MILLIGAN WSC	4.56		
MOUNT ZION WSC	13.81	12.33	
MOUNTAIN PEAK SUD	27.33	35.3	36.93
MOUNTAIN SPRINGS WSC	4.42		
MURPHY	19.18	25.27	23.49
MUSTANG SUD	10.49	3.72	17.8
NAVARRO MILLS WSC	22.97		
NEVADA SUD	2.38		
NEWARK			

Appendix B
Water Loss Audit Data

WUG	2015 Water Loss %	2016 Water Loss %	2017 Water Loss %
NORTH FARMERSVILLE WSC	11.82		
NORTH KAUFMAN WSC	10.89	10.16	9.5
NORTH RICHLAND HILLS	2.99	7.37	4.37
NORTHLAKE	19.76		
OAK RIDGE SOUTH GALE WSC	60.79	18.43	
OVILLA		21.13	
PALMER	0.08		
PANTEGO	6.62	4.75	
PARKER COUNTY SUD	26.39	38.77	0
PELICAN BAY	24.93		
PILOT POINT	12.32		
PINK HILL WSC	10.29		
PLANO	15.28	16.63	14.7
PLEASANT GROVE WSC	20.34		
POETRY WSC	14.94	14.49	
POTTSBORO	19.81	21.48	
PRINCETON		8.61	
PROSPER	5.64	7.68	4.51
PROVIDENCE VILLAGE WCID			
R C H WSC	10.78	4.91	
RED OAK	10.44		
RENO	14.36		
RICE WATER SUPPLY AND SEWER SERVICE	1.49		
RICHARDSON	9.37	11.15	14.19
RICHLAND HILLS	13.74	11.49	
RIVER OAKS	8.12		
ROCKETT SUD	14.4	7.25	17.32
ROCKWALL	2.39	1.86	1.35
ROSE HILL SUD	12.68		
ROWLETT	10.13	14.61	8.28
ROYSE CITY	12.11		
RUNAWAY BAY	14.04	5.24	
SACHSE	11.78	11.13	10.25
SAGINAW	15.23	10.92	
SANGER	2.51		
SANSOM PARK	37.13		
SARDIS LONE ELM WSC	19.36	20.66	17.78
SEAGOVILLE	13.55	11.50	5.75
SEIS LAGOS UD		12.44	2.25
SHERMAN	10.5	9.27	12.11
SOUTH ELLIS COUNTY WSC	57.3		
SOUTH FREESTONE COUNTY WSC	20.9	22.86	
SOUTH GRAYSON SUD			
SOUTHLAKE	3.67	6.58	6.79

Appendix B
Water Loss Audit Data

WUG	2015 Water Loss %	2016 Water Loss %	2017 Water Loss %
SOUTHMAYD	11.53		
SOUTHWEST FANNIN COUNTY SUD	17.79		
SPRINGTOWN	21.83	30.84	37.2
STARR WSC	15.79	13.19	
TALTY SUD	11.09	9.14	
TEAGUE	26.09		
TERRELL	11.00	18.63	18.4
THE COLONY	10.89	9.56	11.8
TIOGA	7.87	7.83	9.62
TOM BEAN	29.36	24.03	33.41
TRINIDAD	44.27	59.4	21.54
TROPHY CLUB MUD 1	9.21	6.07	6.17
TWO WAY SUD	11.28		
UNIVERSITY PARK		6.63	4.58
VAN ALSTYNE	15.95	7.78	11.95
VERONA SUD	4.07		
VIRGINIA HILL WSC	35.89		
WALNUT CREEK SUD	18.75	7.23	
WATAUGA	6.17	4.20	4.15
WAXAHACHIE	3.16	4.93	10.9
WEATHERFORD	12.59	11.32	10.85
WEST CEDAR CREEK MUD	36.44	8.67	
WEST LEONARD WSC	27.97	24.87	
WEST WISE SUD	22.05	21.77	
WESTLAKE		14.74	
WHITE SETTLEMENT			20.21
WHITE SHED WSC	17.51		
WHITESBORO	7.24	8.19	
WHITEWRIGHT	12.41	22.54	8.61
WILLOW PARK		20.98	13.89
WOODBINE WSC	11.90		
WORTHAM	22.88	60.36	16.25
WYLIE		8.89	18.79
WYLIE NORTHEAST SUD	10.22		

Appendix C

Adjustments to Projections

Appendix C Adjustments to Projections

WUGs Removed Since the 2016 Region C Water Plan

Removed WUGs	
Annetta North	Maypearl
Annetta South	Mclendon-Chisholm
Argyle	Milford
Aurora	New Fairview
Bardwell	New Hope
Bartonville	Oak Grove
Blue Mound	Oak Leaf
Bryson	Oak Point
Combine	Oakwood
Copper Canyon	Paloma Creek
Cresson	Payne Springs
Cross Roads	Pecan Hill
Double Oak	Post Oak Bend City
Ector	Rice
Frost	Savoy
Garrett	Scurry
Gun Barrel City	Seven Points
Hickory Creek	Shady Shores
Krugerville	St Paul
Lake Dallas	Talty
Lakewood Village	Tool
Lavon	Valley View
Log Cabin	Weston
Lowry Crossing	

WUGs Added Since the 2016 Region C Water Plan

Added WUGs	
Arledge Ridge WSC	Milligan WSC
Avalon Water Supply and Sewer Service	Mustang SUD
B and B WSC	Nevada WSC
B B S WSC	North Farmersville
B H P WSC	North Kaufman WSC
Becker Jiba WSC	North Rural WSC
Black Rock WSC	Northwest Grayson County WCID 1
Bois D Arc MUD	Oak Ridge South Gale WSC
Butler WSC	Paloma Creek North CRU
Callisburg WSC	Paloma Creek South CRU
Combine WSC	Pink Hill WSC
Crescent Heights WSC	Pleasant Grove WSC
Cross Timbers WSC	Poetry WSC
Delta County MUD	Point Enterprise WSC
Desert WSC	Post Oak SUD
Dogwood Estates Water	R C H WSC
Dorchester	Red River Authority of Texas
East Garrett WSC	Santo SUD
Elmo WSC	South Ellis County WSC
Frognot WSC	South Freestone County WSC
Hilco United Services	Starr WSC
Horseshoe Bend Water System	Verona SUD
Kaufman County Development District 1	West Leonard WSC
Kaufman County MUD 11	Westminster WSC
Lake Cities MUA	White Shed WSC
Markout WSC	Wolfe City

WUGs Renamed Since the 2016 Region C Water Plan

Renamed WUGs	
2016 Region C Plan Name	**2021 Region C Plan Name**
Bethel-Ash WSC	Bethel Ash WSC
Brandon-Irene WSC	Brandon Irene WSC
Buena Vista - Bethel SUD	Buena Vista-Bethel SUD
De Soto	DeSoto
Denton County FWSD No. 10	Denton County FWSD 10
Denton County FWSD No. 1A	Denton County FWSD 1-A
Denton County FWSD No. 7	Denton County FWSD 7
Gastonia-Scurry SUD	Gastonia Scurry SUD
Kiowa Homeowners WSC	Lake Kiowa SUD
Lavon SUD	Bear Creek SUD
Luella WSC	Luella SUD
Mt Zion WSC	Mount Zion WSC
Nevada WSC	Nevada SUD
North Collin WSC	North Collin SUD
North Hunt WSC	North Hunt SUD
Rice WSC	Rice Water Supply and Sewer Service
Sardis-Lone Elm WSC	Sardis Lone Elm WSC
South Grayson WSC	South Grayson SUD

Amy Kaarlela

From: Amy Kaarlela
Sent: Thursday, July 20, 2017 4:25 PM
To: pgregg@cityofalvord.org
Subject: Population and Demand Projections FOR YOUR REVIEW - Region C Water Plan

Dear Ms. Patience Barnes,

The Texas Water Development Board (TWDB), which is responsible for developing the State Water Plan, has begun a new cycle of regional/state water planning. I am the project manager for the consultant team developing the *2021 Region C Water Plan*. Region C includes a 16 county-area in and around the DFW Metroplex.

The first stage in developing a regional water plan is selecting **population and demand projections.** TWDB has released their draft population and demand projections for the 2021 regional plans. Region C consultants have reviewed and (in some cases) revised the projections. We are now asking you, as the water provider, to provide input on your population and demand projections. The projections for the City of Alvord are shown in the tables below. If you do not agree with the projections, we have provided a blank table at the bottom for you to enter your own projections.

As you review these projections, please keep in mind the following:

- **Population** is for your RETAIL service area only, which may differ from your city limits (for cities) or other political boundaries. *Note: this is a change from past planning rounds.*
- **Demands** are for drought year (dry year) conditions and are in acre-feet per year. *Note: 1 million gallons/day (MGD) is equivalent to 1,120 acre-feet per year.*
- Most entities' **Demands** are based on the per capita water use values from the 2016 Region C Water Plan (which were largely based on 2011 water use). In early July, TWDB released more recent per capita data (2012-2025). If any recent year's per capita use was at least 20 gallons per capita per day higher use than was used in the 2016 plan, we have used the higher per capita value. If this is the case for your entity, you will be notified in a separate email.
- The projections do not include your wholesale customers' population or demand.
- The projections do not include the demand for any major industrial/manufacturing customers. Those are included in a separate demand category by county. Please contact us if you are interested in reviewing the manufacturing/industrial demand projects.
- While TWDB allows population to shift between entities, the total Regional population is required to remain the same as it was in the *2016 Region C Water Plan*. Due to this and other TWDB restrictions, we may not be able to satisfy all the revision requests submitted by water suppliers, but we will do our best to incorporate your requested changes.

If you agree with the projections, please simply reply to this email stating your agreement.

If you do not agree with the projections, please reply to this email filling in your suggested projections in the blank tables below.

Thank you for your time and participation. If you have any questions, please don't hesitate to contact me (contact information below).

	TWDB DRAFT projections for *2021 Region C Plan*					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**
Population	1,625	1,957	2,297	2,800	3,200	3,600

Demand (ac-ft/yr)	109	132	154	188	215	242

	Consultant's revised* projections for *2021 Region C Plan*					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**
Population	1,625	1,957	2,297	2,800	3,200	3,600
Demand (ac-ft/yr)	218	264	308	376	430	484

*Consultants may or may not have revised your projections.

	YOUR REVISED projections for *2021 Region C Plan***					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**
Population						
Demand (ac-ft/yr)						

**Please provide alternate projections if you do not agree with the consultant's projections above.

Amy D. Kaarlela, P.H.
Water Resources Planning

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TO: Region C Water Planning Group

FROM: Amy Kaarlela, P.H., Keeley Kirksey, P.E., and Lissa Gregg, P.E., Freese and Nichols, Inc.

SUBJECT: Methodology for Reviewing and Adjusting Population Projections

DATE: December 20, 2017

PROJECT: 2021 Region C Water Plan; TR116409

In December 2016, the Texas Water Development Board (TWDB) released draft population projections for the 2021 Regional Water Plans. Since no new Census data has been released since the publication of the 2016 Regional Water Plans, there are restrictions on adjusting the draft population projections for regional, county and individual water user group (WUG) totals.

Regional and County Total Projection Adjustments

Prior to the release of the draft projections, TWDB analyzed the most recent population estimates from the Texas Demographic Center (TDC) in comparison to the 2017 State Water Plan projections to determine the maximum region-wide population changes that may be considered by the Regional Water Planning Groups (RWPGs). TWDB officially recommended to either keep the regional totals as provided in the draft projections or to increase the total within the percentage difference calculated based on the 2015 State Demographer's estimate. The percentage difference for each county as well as for the total region was calculated in **Table 1** below. For Region C, this equates to a maximum allowable percentage increase of 2.44% between the draft and revised projections.

Table 1: 2017 State Water Plan Projections vs. US Census Bureau for 2015

County	U.S. Census Bureau – 2015 Population	2017 State Water Plan – 2015 Population	Difference	% Difference
Collin	914,127	865,146	48,981	5.7%
Cooke	39,229	40,195	(966)	-2.4%
Dallas	2,553,385	2,465,149	88,236	3.6%
Denton	780,612	772,944	7,668	1.0%
Ellis	163,632	165,832	(2,200)	-1.3%
Fannin	33,693	36,063	(2,370)	-6.6%
Freestone	19,691	20,124	(433)	-2.2%
Grayson	125,467	127,642	(2,175)	-1.7%
Henderson	56,327	57,847	(1,520)	-2.6%
Jack	8,878	9,391	(513)	-5.5%
Kaufman	114,690	123,100	(8,410)	-6.8%

Navarro	48,323	50,082	(1,759)	-3.5%
Parker	126,042	152,906	(26,864)	-17.6%
Rockwall	90,861	90,645	216	0.2%
Tarrant	1,982,498	1,905,198	77,300	4.1%
Wise	62,953	68,725	(5,772)	-8.4%
Total	**7,120,408**	**6,950,989**	**169,419**	**2.44%**

As shown in **Table 2**, the proposed Region C regional total is within the percent difference specified.

Table 2: Region C Regional Population Totals

	2020	2030	2040	2050	2060	2070
TWDB Draft Projections	7,504,200	8,648,725	9,908,572	11,260,257	12,742,283	14,347,912
Revised Projections	7,637,764	8,857,957	10,150,077	11,533,432	13,051,603	14,684,790
Percent Difference	1.78%	2.42%	2.44%	2.43%	2.43%	2.35%

Water User Group Projection Adjustments

Individual WUG projection adjustments were made as needed based on currently available information. Where possible, adjustments between WUG population projections were made within the same county.

For a WUG to qualify for an adjustment one or more of the following criteria were met;

1) The 2010 permanent population-served estimate by a WUG is significantly different than the 2010 baseline population estimate used in the draft projections.
2) The population growth rate for a WUG over the most recent five years (2011-2015) is substantially different than the growth rate between 2010 and 2020 in the draft projections.
3) Identification of growth limitations or potential build-out conditions for a WUG that would result in an expected maximum population that is different than the draft projection.
4) Updated information regarding the utility or public water system service area, or anticipated near-term changes in service area.

A summary of the WUG adjustments proposed is attached.

Sources for Projection Adjustments

In the case of Region C, new data sources since the *2016 Region C Water Plan* (RCWP) have been considered and changes to both the regional and county totals are warranted.

The consultant's population revisions are based on a review of the following data:

- **Input from Wholesale Water Providers (WWPs)** – FNI met with or surveyed all 41 WWPs to get their input on their customer's population and demands. In April, FNI met with the largest WWPs, followed by meetings or calls with mid-sized WWPs in May and June. In July, an email survey was sent to the remaining WWPs.
- **Water User Group Survey** – In July, FNI sent a survey to each municipal water user group with their draft projections and asked for input on the projections (245 surveys sent). To date, we have had a 55% response rate, 29 of which have requested changes.

- **State Data Center Estimates** – The Texas State Data Center releases annual population estimates by place. Currently, estimates from 2010-2016 are available. The Region C consultants reviewed these estimates of observed historical growth and compared it to the projected growth from 2020-2070. This was done for individual water user groups (WUG) and for county totals. If an entity has grown much faster or slower than originally projected, adjustments were made.
- **North Central Texas Council of Government (NCTCOG) Estimates** – 2010-2017 NCTCOG county estimates were reviewed and compared to the 2010 Census and TWDB projected growth from 2020-2070.
- **Individual Water and Wastewater Master Plans** – If population projections were available from a recently updated Water or Wastewater Master Plan that was available to Freese and Nichols, the projections were compared to the other available data and projections were updated for the time period in which they overlapped. Specifically, these were reviewed for:
  - Arlington
  - Benbrook
  - Cedar Hill
  - Frisco
  - Garland (Ongoing Population Update Study)
  - Irving
  - Kennedale
  - Sunnyvale
  - The Colony
  - Trinity River Authority Tarrant County Water Supply Project (Bedford, Colleyville, Euless, Grapevine, North Richland Hills)
  - Weatherford
- **Individual Impact Fee Reports -** If population projections were available from a recently updated Impact Fee Report that was available to Freese and Nichols, the projections were compared to the other available data and projections were updated for the time period in which they overlapped. Specifically, these were reviewed for:
  - Aledo
  - Cedar Hill
  - Coppell
  - Fort Worth
  - Grapevine
  - Hurst
  - Midlothian
  - Sunnyvale
  - Terrell
- **Individual Comprehensive Plans** – Population projections, especially build-out numbers based on future land use plans that were available to Freese and Nichols, were reviewed and compared to TWDB 2070 projections. Specifically, comprehensive plans were reviewed for:
  - Balch Springs
  - DeSoto
  - Farmers Branch
  - Fate
  - Ferris

- Hudson Oaks
- Melissa
- Prosper
- Sunnyvale
- Watauga
- Waxahachie
- Willow Park

- **Collin County Mobility Study** – The Collin County Mobility Study (CCMS) was updated in August 2014, after the official adoption of population projections for the 2016 Region C Water Plan (RCWP) and was thus not incorporated into the previous plan. In the 2016 RCWP, Collin County had a 2070 population of about 2 million people. The CCMS projects potential build-out between 2.1 million and 3.4 million. Collin County is home to several rapidly growing cities, some of which are among the fastest growing in the nation. To better align with what has been observed historically and the CCMS, the draft revisions reflect a 2070 Collin County population of 2.37 million.
- **Denton County Thoroughfare Plan** – The January 2017 Draft Denton County Thoroughfare Plan projects a 2035 population of 1.05 million people in Denton County. The revised 2021 Region C projections estimate a 2030 population of 1.1 million people increasing to around 2.05 million by 2070.
- **Kaufman County Thoroughfare Plan** – The Kaufman County plan estimates the 2035 population to be 210,000. The current draft Region C adjustments place the Kaufman County 2035 population at roughly 218,000, which is in line with this study.

Appendix C
Summary of Changes Made to TWDB Draft Population Projections

In Multiple Counties or Regions	County	WUG Name	Comments
	COLLIN	ALLEN	Revisions were made based on both the CCMP as well as the survey response from WUG. Data from WUG is more detailed than TWDB data, particularly in this case where city is near buildout already (within 15 years of buildout) and city based their estimate on current zoning, platting, developer plans, etc.
	COLLIN	ANNA	NCTCOG 2017 estimate is 12,390. Historical growth rates according to COG between 2011 and 2017 average 7%. 7% was used for 2020 and 2030 estimates. Rate was decreased to 6% in 2030, and 3% for 2040-2070 (assuming growth will slow as City reaches build-out). This updated population also reflects the removal of other WUGS (N Collin SUD, Westminister WSC, and County-Other).
Yes	COLLIN	B H P WSC	
	COLLIN	BLUE RIDGE	For 2030-2070 FNI subtracted Verona SUD, Frognot WSC, 50% of North Farmersville, 5% of County Other and Hickory Creek SUD. Revised values reflect this change. For 2020 the value was adjusted to be in-line with the changes made in 2030-2070. Revised buildout is well within the CCMP 3.4M scenario buildout even with the removal of the other WUGs. Growth rate is from addendum to CCMP. Collin County has seen significant growth according to the State Data Center. The average growth for WUGs in Collin County is 24% from 2010-2016 according to the State Data Center. The CCMP is justification for the increased growth rate that the RWPG is requesting and the difference in boundaries between the TWDB and CCMP boundries has been accounted for (hence the buildout for Blue Ridge is significantly less than that shown on the CCMP tab in this file). In addition, while the historical growth rate has been relatively low, the State Data Center estimates the growth between 2015 and 2016 at 9.7%. The percentages subtracted out were determined by overlaying the TSZ file and TWDB files in GIS and estimating the overlap between the areas.
Yes	COLLIN	CADDO BASIN SUD	
Yes	COLLIN	CARROLLTON	
Yes	COLLIN	CELINA	Survey response from entity requesting changes. Survey requested even larger increases. 2070 population requested in survey is less than 3.4M buildout scenario in CCMP even with Marilee SUD deducted from 3.4M scenario buildout (421,000).
	COLLIN	COPEVILLE SUD	
	COLLIN	COUNTY-OTHER, COLLIN	Adjustments made per Collin Co Mobility Plan; County-Other is the difference between total county population and all named WUGs.
	COLLIN	CULLEOKA WSC	
Yes	COLLIN	DALLAS	Projections were revised to match populations that were in the Dallas Long Range Water Plan (equivalent to 2016 Regional Projections).
Yes	COLLIN	DESERT WSC	
Yes	COLLIN	EAST FORK SUD	Survey response from entity requesting changes. Revisions are based on TWDB reports dated 12/31/16 showing a pop of 12,419. EFSUD has already set 254 meters this year with 19 subdivisions in different phases of development.
	COLLIN	FAIRVIEW	

Appendix C
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In Multiple Counties or Regions	County	WUG Name	Comments
	COLLIN	FARMERSVILLE	For 2030-2070 FNI subtracted out North Farmersville WSC, 50% of Caddo Basin SUD and Copeville SUD. The revised values reflect this change. No change was made to the 2020 value since the Consultant Revision and TWDB values were nearly in agreement. Revised buildout is well within the CCMP 3.4M scenario buildout even with the removal of the other WUGs. Growth rate is from addendum to CCMP. Collin County has seen significant growth according to the State Data Center. The average growth for WUGs in Collin County is 24% from 2010-2016 according to the State Data Center. The CCMP is justification for the increased growth rate that the RWPG is requesting and the difference in boundaries between the TWDB and CCMP boundries has been accounted for. In addition, while the historical growth rate has been relatively low, the State Data Center estimates the growth between 2015 and 2016 at 9%. The percentages subtracted out were determined by overlaying the TSZ file and TWDB files in GIS and estimating the overlap between the areas.
Yes	COLLIN	FRISCO	Survey response from entity requesting changes. Revisions were based on Frisco's survey response for the entire WUG. As per the higher growth rate, CCMP 2.1M scenarios shows buildout by 2035. Total build-out for Frisco (Denton and Collin County) is in-line with the CCMP and the survey response from the WUG.
Yes	COLLIN	FROGNOT WSC	
Yes	COLLIN	GARLAND	
Yes	COLLIN	HICKORY CREEK SUD	
Yes	COLLIN	JOSEPHINE	
Yes	COLLIN	BEAR CREEK SUD	Formerly Lavon SUD. Revisions were made based on the Collin County Mobility Plan. There is limited land for growth around Lake Lavon.
	COLLIN	LUCAS	
Yes	COLLIN	MARILEE SUD	Survey response from entity requesting changes. Revisions were made based on a higher current population (7,686 in 2017) and higher historical growth rate (3.5%).
	COLLIN	MCKINNEY	Survey response from entity requesting changes. In addition, the NCTCOG Jan1, 2017 population estimate is 169,710, which is significatly larger than the TWDB 2020 estimate. 2070 population requested in survey is less than 3.4M buildout scenario in CCMP even with a portion of N Collin SUD deducted from 3.4M scenario buildout (403,968).
	COLLIN	MELISSA	Survey response from entity requesting changes. Changes are based on Comp Plan, Impact Fee, and Water Master Plan which is at a higher level of detail than TWDB methodology.
	COLLIN	MILLIGAN WSC	
	COLLIN	MURPHY	Revisions were made based on the Collin County Mobility Plan.
Yes	COLLIN	NEVADA SUD	
	COLLIN	NORTH COLLIN SUD	
	COLLIN	NORTH FARMERSVILLE WSC	Survey response from entity requesting changes. The WSC stated they have 216 memberships with 214 meters and 379 people living on properties with meters. The WSC assumes a maximum population growth of 10% over the next few years.
	COLLIN	PARKER	Revisions based on Collin County Mobility Plan.
Yes	COLLIN	PLANO	Survey response from entity requesting changes. Buildout request in survey (300,000) is within the 3.4M buildout scenario in CCMP. According to Census data, Plano's population was just over 269,000 in 2010.
	COLLIN	PRINCETON	Survey response from entity requesting changes.
Yes	COLLIN	PROSPER	Revisions based on NCTCOG value for 2020, Mobility Plan 2030 estimate and UTRWD planning buildout of 51,000 occuring 2055.

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Yes	COLLIN	RICHARDSON	Revisions are still lower than CCMP. Increased growth rate was trying to close the gap between the CCMP estimate and the TWDB estimate. Note that revisions were made in the Collin County portion only. The NCTCOG 2017 estimate is 107,400 which is lower than the TWDB estimate for all of Richardson. This drives the growth in the early decades. The Richardson WUG is split between Collin and Dallas counties, but the WUG forsees most of the growth occurring in Collin county.
Yes	COLLIN	ROYSE CITY	Ultimate buildout between the 2.1M scenario and the 3.4M scenario. Growth in early decades is due to NCTCOG 2017 estimate of 11,540 for all of Royse City. TWDB estimate is lower than this in 2020. A portion of BHP WSC was subtracted out because of boundary differences in the CCMP. This is reflected in the revised revision numbers.
Yes	COLLIN	SACHSE	
	COLLIN	SEIS LAGOS UD	
Yes	COLLIN	SOUTH GRAYSON SUD	
	COLLIN	VERONA SUD	
Yes	COLLIN	WEST LEONARD WSC	
Yes	COLLIN	WESTMINSTER WSC	
Yes	COLLIN	WYLIE	
	COLLIN	WYLIE NORTHEAST SUD	
Yes	COOKE	BOLIVAR WSC	
	COOKE	CALLISBURG WSC	
	COOKE	COUNTY-OTHER, COOKE	
	COOKE	GAINESVILLE	
	COOKE	LAKE KIOWA SUD	Survey response from entity requesting changes. Per Lake Kiowa SUD, decrease is based on recent growth trends and the fact that they have little room to grow. The area is a small subdivision and it is close to buildout.
	COOKE	LINDSAY	
Yes	COOKE	MOUNTAIN SPRINGS WSC	
	COOKE	MUENSTER	
Yes	COOKE	TWO WAY SUD	
Yes	COOKE	WOODBINE WSC	
	DALLAS	ADDISON	Survey response from entity requesting changes. The City relayed that they are essentially landlocked and have no room to grow or expand their boundaries.
	DALLAS	BALCH SPRINGS	
Yes	DALLAS	CARROLLTON	
Yes	DALLAS	CEDAR HILL	Revisions made based on buildout population of 85,000 per Water & WW Master Plan, March 2013.
	DALLAS	COCKRELL HILL	
Yes	DALLAS	COMBINE WSC	
Yes	DALLAS	COPPELL	
	DALLAS	COUNTY-OTHER, DALLAS	
Yes	DALLAS	DALLAS	Projections were revised to match populations that were in the Dallas Long Range Water Plan (equivalent to 2016 Regional Projections).
	DALLAS	DESOTO	Revisions were made based on the WUG's Comp Plan.
	DALLAS	DUNCANVILLE	
Yes	DALLAS	EAST FORK SUD	
	DALLAS	FARMERS BRANCH	
Yes	DALLAS	FERRIS	
Yes	DALLAS	GARLAND	Survey response from entity requesting changs. Revisions based on on-going population study conducted by FNI, GAR16251; Increase is based on known developments and catalyst areas that are developing; slightly slower growth; slightly lower buildout than plan.
Yes	DALLAS	GLENN HEIGHTS	

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In Multiple Counties or Regions	County	WUG Name	Comments
Yes	DALLAS	GRAND PRAIRIE	
	DALLAS	HIGHLAND PARK	
	DALLAS	HUTCHINS	
	DALLAS	IRVING	Revisions were made based on WUG's Wastewater Master Plan.
	DALLAS	LANCASTER	
Yes	DALLAS	LEWISVILLE	
Yes	DALLAS	MESQUITE	
Yes	DALLAS	OVILLA	
Yes	DALLAS	RICHARDSON	
Yes	DALLAS	ROCKETT SUD	
Yes	DALLAS	ROWLETT	Survey response from entity requesting changes. Revisions are based on the Water Master Plan Update.
Yes	DALLAS	SACHSE	
Yes	DALLAS	SEAGOVILLE	
	DALLAS	SUNNYVALE	Revisions made based on WUG's 2017 Comp Plan and Water Distribution Master Plan.
	DALLAS	UNIVERSITY PARK	
	DALLAS	WILMER	
Yes	DALLAS	WYLIE	
	DENTON	ARGYLE WSC	
	DENTON	AUBREY	
	DENTON	BLACK ROCK WSC	
Yes	DENTON	BOLIVAR WSC	
Yes	DENTON	CARROLLTON	
Yes	DENTON	CELINA	Survey response from entity requesting changes. 2070 population requested in survey is less than 3.4M buildout scenario in CCMP even with Marilee SUD deducted from 3.4M scenario buildout (421,000).
	DENTON	THE COLONY	
Yes	DENTON	COPPELL	
	DENTON	CORINTH	
	DENTON	COUNTY-OTHER, DENTON	Anticipated most areas will be within WUG CCNs.
	DENTON	CROSS TIMBERS WSC	Revisions per WUG request. Cross Timbers requested a population of 7,500 in 2020 based on current meter count data.
Yes	DENTON	DALLAS	Projections were revised to match populations that were in the Dallas Long Range Water Plan (equivalent to 2016 Regional Projections).
	DENTON	DENTON	Revisions based on Denton Co Thoroughfare Plan population.
	DENTON	DENTON COUNTY FWSD 10	Revisions based on UTRWD 2016 Planning Study.
	DENTON	DENTON COUNTY FWSD 1-A	
	DENTON	DENTON COUNTY FWSD 7	
Yes	DENTON	FLOWER MOUND	Revisions based on Denton County Thoroughfare Plan.
Yes	DENTON	FORT WORTH CRU	
Yes	DENTON	FRISCO	Survey response from entity requesting changes. As per the higher growth rate, CCMP 2.1M scenarios shows buildout by 2035. The values shown here are the Denton County Portion only.
	DENTON	HACKBERRY	
	DENTON	HIGHLAND VILLAGE	
	DENTON	JUSTIN	
	DENTON	KRUM	
	DENTON	LAKE CITIES MUNICIPAL UTILITY AUTHORITY	
Yes	DENTON	LEWISVILLE	

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In Multiple Counties or Regions	County	WUG Name	Comments
	DENTON	LITTLE ELM	
Yes	DENTON	MOUNTAIN SPRINGS WSC	
Yes	DENTON	MUSTANG SUD	Revisions based on UTRWD 2016 Planning Study. Information was provided by UTRWD based on historical and expected future growth in Mustang's service area. Many of the future developments are far enough along in the planning process to be named, so it was deemed appropriate to include these in Mustang's projections. Nearly all of the "remaining area" projection amount was not included as there are too many variables to quantify this amount at this time.
	DENTON	NORTHLAKE	Based on information from UTRWD related to authorized developments.
	DENTON	PALOMA CREEK NORTH CRU	
	DENTON	PALOMA CREEK SOUTH CRU	
	DENTON	PILOT POINT	
Yes	DENTON	PLANO	
	DENTON	PONDER	
Yes	DENTON	PROSPER	See comment for Prosper in Collin County.
	DENTON	PROVIDENCE VILLAGE WCID	
	DENTON	ROANOKE	
	DENTON	SANGER	
Yes	DENTON	SOUTHLAKE	
	DENTON	TROPHY CLUB	Survey response from entity requesting changes. The City is landlocked w/ no room to grow.
Yes	DENTON	WESTLAKE	
	ELLIS	AVALON WATER SUPPLY & SEWER SERVICE	
Yes	ELLIS	BRANDON IRENE WSC	
	ELLIS	BUENA VISTA-BETHEL SUD	
Yes	ELLIS	CEDAR HILL	
	ELLIS	COUNTY-OTHER, ELLIS	
	ELLIS	EAST GARRETT WSC	
	ELLIS	ENNIS	
Yes	ELLIS	FERRIS	Survey response from entity requesting changes. Revisions based on survey request and Comprehensive Plan (2013).
Yes	ELLIS	FILES VALLEY WSC	
Yes	ELLIS	GLENN HEIGHTS	
Yes	ELLIS	GRAND PRAIRIE	
Yes	ELLIS	HILCO UNITED SERVICES	
	ELLIS	ITALY	
Yes	ELLIS	MANSFIELD	
	ELLIS	MIDLOTHIAN	Revisions based on the WUG's 2016 Impact Fee projections.
Yes	ELLIS	MOUNTAIN PEAK SUD	Revisions based on a slower projected buildout growth.
Yes	ELLIS	OVILLA	
	ELLIS	PALMER	
	ELLIS	RED OAK	
Yes	ELLIS	RICE WATER SUPPLY AND SEWER SERVICE	
Yes	ELLIS	ROCKETT SUD	Entity requested changes per meeting.
	ELLIS	SARDIS LONE ELM WSC	Survey response from entity requesting changes. Revisions based on current connection count of 6,000 (98% residential; factor of 3 for population used) and historic growth rate of 3%; slightly less buildout than requested (2K).

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In Multiple Counties or Regions	County	WUG Name	Comments
Yes	ELLIS	SOUTH ELLIS COUNTY WSC	
Yes	ELLIS	VENUS	
	ELLIS	WAXAHACHIE	
	FANNIN	ARLEDGE RIDGE WSC	
	FANNIN	BOIS D ARC MUD	
	FANNIN	BONHAM	
	FANNIN	COUNTY-OTHER, FANNIN	
Yes	FANNIN	DELTA COUNTY MUD	
Yes	FANNIN	DESERT WSC	
Yes	FANNIN	HICKORY CREEK SUD	
	FANNIN	HONEY GROVE	Survey response from entity requesting changes. The City did not think population would spike in 2030 and then come back down.
	FANNIN	LADONIA	
	FANNIN	LEONARD	Survey response from entity requesting changes. Population should not spike in 2030 and then come back down. Additionally, the City is landlocked.
Yes	FANNIN	NORTH HUNT SUD	
Yes	FANNIN	SOUTHWEST FANNIN COUNTY SUD	
	FANNIN	TRENTON	
Yes	FANNIN	WEST LEONARD WSC	
	FANNIN	WHITE SHED WSC	
Yes	FANNIN	WHITEWRIGHT	
Yes	FANNIN	WOLFE CITY	
	FREESTONE	BUTLER WSC	
	FREESTONE	COUNTY-OTHER, FREESTONE	
	FREESTONE	FAIRFIELD	
Yes	FREESTONE	FLO COMMUNITY WSC	Requested change from Region H.
Yes	FREESTONE	PLEASANT GROVE WSC	
Yes	FREESTONE	POINT ENTERPRISE WSC	
	FREESTONE	SOUTH FREESTONE COUNTY WSC	
	FREESTONE	TEAGUE	
	FREESTONE	WORTHAM	
	GRAYSON	BELLS	
	GRAYSON	COLLINSVILLE	
	GRAYSON	COUNTY-OTHER, GRAYSON	Anticipated most areas will be within WUG CCNs.
	GRAYSON	DENISON	Revision based on a slower projected buildout growth.
Yes	GRAYSON	DESERT WSC	
	GRAYSON	DORCHESTER	
	GRAYSON	GUNTER	
	GRAYSON	HOWE	
	GRAYSON	KENTUCKYTOWN WSC	
	GRAYSON	LUELLA SUD	
Yes	GRAYSON	MARILEE SUD	Survey response from entity requesting changes. Revisions were made based on a higher current population (7,686 in 2017) and higher historical growth rate (3.5%).
Yes	GRAYSON	MUSTANG SUD	
	GRAYSON	NORTHWEST GRAYSON COUNTY WCID 1	

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In Multiple Counties or Regions	County	WUG Name	Comments
	GRAYSON	OAK RIDGE SOUTH GALE WSC	
	GRAYSON	PINK HILL WSC	
	GRAYSON	POTTSBORO	
Yes	GRAYSON	RED RIVER AUTHORITY OF TEXAS	
	GRAYSON	SHERMAN	Revision based on a slower projected buildout growth.
Yes	GRAYSON	SOUTH GRAYSON SUD	
	GRAYSON	SOUTHMAYD	
Yes	GRAYSON	SOUTHWEST FANNIN COUNTY SUD	
	GRAYSON	STARR WSC	
	GRAYSON	TIOGA	
	GRAYSON	TOM BEAN	
Yes	GRAYSON	TWO WAY SUD	
	GRAYSON	VAN ALSTYNE	Survey response from entity requesting changes. Revisions were made in 2030-2050 based on a higher historical growth rate (last 5 years).
Yes	GRAYSON	WESTMINSTER WSC	
	GRAYSON	WHITESBORO	
Yes	GRAYSON	WHITEWRIGHT	
Yes	GRAYSON	WOODBINE WSC	
Yes	HENDERSON	ATHENS	
Yes	HENDERSON	B B S WSC	
Yes	HENDERSON	BETHEL ASH WSC	
	HENDERSON	COUNTY-OTHER, HENDERSON	
	HENDERSON	CRESCENT HEIGHTS WSC	
	HENDERSON	DOGWOOD ESTATES WATER	
	HENDERSON	EAST CEDAR CREEK FWSD	Survey response from entity requesting changes. In 2011-2012 the District acquired 700 customers from the City of Mabank. Revisions are based on this as well as historical growth.
	HENDERSON	EUSTACE	
Yes	HENDERSON	MABANK	
	HENDERSON	MALAKOFF	
	HENDERSON	TRINIDAD	
Yes	HENDERSON	VIRGINIA HILL WSC	
Yes	HENDERSON	WEST CEDAR CREEK MUD	
	JACK	COUNTY-OTHER, JACK	
	JACK	JACKSBORO	
Yes	KAUFMAN	ABLES SPRINGS WSC	
	KAUFMAN	BECKER JIBA WSC	
	KAUFMAN	COLLEGE MOUND WSC	
Yes	KAUFMAN	COMBINE WSC	
	KAUFMAN	COUNTY-OTHER, KAUFMAN	Anticipated most areas will be within WUG CCNs.
	KAUFMAN	CRANDALL	
	KAUFMAN	ELMO WSC	
	KAUFMAN	FORNEY	
Yes	KAUFMAN	FORNEY LAKE WSC	
	KAUFMAN	GASTONIA SCURRY SUD	

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In Multiple Counties or Regions	County	WUG Name	Comments
Yes	KAUFMAN	HIGH POINT WSC	
	KAUFMAN	KAUFMAN	
	KAUFMAN	KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	
	Kaufman	KAUFMAN COUNTY MUD 11	
	KAUFMAN	KEMP	
Yes	KAUFMAN	MABANK	
Yes	KAUFMAN	MACBEE SUD	
	KAUFMAN	MARKOUT WSC	
Yes	KAUFMAN	MESQUITE	
	KAUFMAN	NORTH KAUFMAN WSC	
Yes	KAUFMAN	POETRY WSC	
	KAUFMAN	ROSE HILL SUD	
Yes	KAUFMAN	SEAGOVILLE	
	KAUFMAN	TALTY SUD	
	KAUFMAN	TERRELL	Revisions based on WUG's Impact Fee.
Yes	KAUFMAN	WEST CEDAR CREEK MUD	
	NAVARRO	B AND B WSC	
	NAVARRO	BLOOMING GROVE	
Yes	NAVARRO	BRANDON IRENE WSC	
	NAVARRO	CHATFIELD WSC	Survey response from entity requesting changes. Revisions based on a historical average of 20 new customers per year (2.4 persons per connection).
	NAVARRO	CORBET WSC	
	NAVARRO	CORSICANA	
	NAVARRO	COUNTY-OTHER, NAVARRO	Evened out growth, lowered buildout. Most of the growth is expected to occur within WUG boundaries.
	NAVARRO	DAWSON	Survey response from entity requesting changes. Dawson officials relayed that the City will not exceed 1,100 by the year 2070.
	NAVARRO	KERENS	
	NAVARRO	M E N WSC	
	NAVARRO	NAVARRO MILLS WSC	
Yes	NAVARRO	PLEASANT GROVE WSC	
Yes	NAVARRO	POST OAK SUD	
Yes	NAVARRO	RICE WATER SUPPLY AND SEWER SERVICE	
Yes	NAVARRO	SOUTH ELLIS COUNTY WSC	
	PARKER	ALEDO	Revisions based on Impact Fee Study, Jan 2017.
	PARKER	ANNETTA	Survey response from entity requesting changes. Revisions were based on a higher current population (3,720 in 2017) than projected in 2020. The TWDB growth rate was then applied to the following decades.
Yes	PARKER	AZLE	
	PARKER	COUNTY-OTHER, PARKER	Anticipated most areas will be within WUG CCNs.
Yes	PARKER	FORT WORTH CRU	
	PARKER	HORSESHOE BEND WATER SYSTEM	
	PARKER	HUDSON OAKS	
Yes	PARKER	MINERAL WELLS	
Yes	PARKER	NORTH RURAL WSC	

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Yes	PARKER	PARKER COUNTY SUD	Survey response from entity requesting changes. The number of new connections in 2016=189; new connections in 2017=141. A five year average of new connections was used develop the projections.
Yes	PARKER	RENO	
Yes	PARKER	SANTO SUD	
	PARKER	SPRINGTOWN	
Yes	PARKER	WALNUT CREEK SUD	
	PARKER	WEATHERFORD	Revisions based on WW Master Plan.
	PARKER	WILLOW PARK	Survey response from entity requesting changes. Requested revisions based on a current population of 5,100 and the Comprehensive Master Plan projections.
Yes	ROCKWALL	B H P WSC	
Yes	ROCKWALL	BLACKLAND WSC	Survey response requesting changes. Rockwall survey included info for Blackland (same engineer).
Yes	ROCKWALL	CASH SUD	
	ROCKWALL	COUNTY-OTHER, ROCKWALL	Anticipated most areas will be within WUG CCNs.
Yes	ROCKWALL	DALLAS	Projections were revised to match populations that were in the Dallas Long Range Water Plan (equivalent to 2016 Regional Projections).
Yes	ROCKWALL	EAST FORK SUD	
	ROCKWALL	FATE	Survey response from entity requesting changes. Revisions are based on a current population of 13,690 as well as an ultimate buildout capacity of 52,542 according to the City's Comprehensive Plan.
Yes	ROCKWALL	FORNEY LAKE WSC	
Yes	ROCKWALL	GARLAND	
	ROCKWALL	HEATH	Survey response from entity requesting changes. Revisions based on the City's Comprehensive Plan Update.
Yes	ROCKWALL	HIGH POINT WSC	
Yes	ROCKWALL	BEAR CREEK SUD	
	ROCKWALL	MOUNT ZION WSC	
Yes	ROCKWALL	NEVADA SUD	
	ROCKWALL	R C H WSC	Survey response from entity requesting changes. 2020 revisions based on the WSC's consultant's projections (Daniel & Brown).
	ROCKWALL	ROCKWALL	Survey response from entity requesting changes. Revisions are based on the City's Master Plan with a buildout in 2046 of 145,268. Revised to show slower growth, and slightly lower buildout.
Yes	ROCKWALL	ROWLETT	
Yes	ROCKWALL	ROYSE CITY	Ultimate buildout between the 2.1M scenario and the 3.4M scenario in CCMP. Growth in early decades is due to NCTCOG 2017 estimate of 11,540 for all of Royse City. TWDB estimate is lower than this in 2020. A portion of BHP WSC was subtracted out because of boundary differences in the CCMP. This is reflected in the revised revision numbers.
Yes	ROCKWALL	WYLIE	
	TARRANT	ARLINGTON	Revisions based on Water Master Plan (2014).
Yes	TARRANT	AZLE	
	TARRANT	BEDFORD	
	TARRANT	BENBROOK WATER AUTHORITY	Revisions based on Water & WW Master Plan (2016).
Yes	TARRANT	BETHESDA WSC	
Yes	TARRANT	BURLESON	
	TARRANT	COLLEYVILLE	
	TARRANT	COMMUNITY WSC	
	TARRANT	COUNTY-OTHER, TARRANT	
Yes	TARRANT	CROWLEY	
	TARRANT	DALWORTHINGTON GARDENS	
	TARRANT	EDGECLIFF	
	TARRANT	EULESS	
	TARRANT	EVERMAN	

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In Multiple Counties or Regions	County	WUG Name	Comments
Yes	TARRANT	FLOWER MOUND	
	TARRANT	FOREST HILL	
Yes	TARRANT	FORT WORTH CRU	
Yes	TARRANT	GRAND PRAIRIE	
Yes	TARRANT	GRAPEVINE	Revisions based on W/WW Impact Fee.
	TARRANT	HALTOM CITY	
	TARRANT	HASLET	Survey response from entity requesting changes. Revisions based on buildout (no more available land) of 14,420 occuring in 2050.
	TARRANT	HURST	
Yes	TARRANT	JOHNSON COUNTY SUD	Survey response from entity requesting change. Shared change pro-rata w/ Region G based on Water Conservation Plan.
	TARRANT	KELLER	
	TARRANT	KENNEDALE	Revisions based on W/WW Master Plan.
	TARRANT	LAKE WORTH	
	TARRANT	LAKESIDE	
Yes	TARRANT	MANSFIELD	Survey responses from entity requesting changes. Revisions based on Master Plan update (FNI).
	TARRANT	NORTH RICHLAND HILLS	
	TARRANT	PANTEGO	
	TARRANT	PELICAN BAY	
Yes	TARRANT	RENO	
	TARRANT	RICHLAND HILLS	
	TARRANT	RIVER OAKS	
	TARRANT	SAGINAW	
	TARRANT	SANSOM PARK	
Yes	TARRANT	SOUTHLAKE	
	TARRANT	WATAUGA	Revisions based on Comprehensive Plan buildout of 24,525.
Yes	TARRANT	WESTLAKE	Survey response from entity requesting changes. Changes are based on Westlake's 2015 Comprehensive Plan Update prepared by MESA Planning, Gresham Smith and Partners, RCLCO, and MOSAIC
	TARRANT	WESTOVER HILLS	
	TARRANT	WESTWORTH VILLAGE	
	TARRANT	WHITE SETTLEMENT	
	WISE	ALVORD	
Yes	WISE	BOLIVAR WSC	
	WISE	BOYD	
	WISE	BRIDGEPORT	
	WISE	CHICO	
	WISE	COUNTY-OTHER, WISE	Anticipated most areas will be within WUG CCNs.
	WISE	DECATUR	
Yes	WISE	FORT WORTH CRU	
	WISE	NEWARK	
	WISE	RHOME	
	WISE	RUNAWAY BAY	
Yes	WISE	WALNUT CREEK SUD	
	WISE	WEST WISE SUD	

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TO:	Region C Water Planning Group
FROM	Amy Kaarlela, P.H., Tom Gooch, P.E., Abigail Gardner, E.I.T., Freese and Nichols, Inc.
SUBJECT:	Comparison of Historical GPCDs for Region C; Requested GPCD Changes
DATE:	December 20, 2017
PROJECT:	2021 Region C Water Plan; TR116409

The purpose of this memorandum is to summarize the conclusions from a quantitative assessment of the base dry year Gallons Per Capita Day (gpcd) estimates to be used in the 2021 Region C Water Plan. The TWDB provided updated estimates of 2010-2015 gpcds in July 2017.

To review this data, we compared the base dry year gpcds that were used in the 2016 Regional Plan with the updated historical gpcds from 2012 to 2015. Any WUGs that had a recent year of at least 20 gpcd higher than their base gpcd from the 2016 regional plan were identified. If the max gpcd was over 100 gpcd higher than the 2016 Plan, the other years were also analyzed. If the max gpcd was significantly higher than all other the other annual historical data, then it was marked as an outlier. If that max gpcd was consistent with the other historical data, the WUG was marked as requiring further analysis to determine if a revision to the base gpcd was needed. Additionally, the gpcds for Dallas County-Other and Tarrant County-Other have been revised to include demand for DFW International Airport. Supporting data for this revision is attached at the end of this memo.

According to the General Guidelines for the Fifth Cycle of Regional Water Plan Development, one or more of the following criteria must be met to qualify for an adjustment;

1) Evidence that per capita water use from a different year between 2012-2015 would be more appropriate because that year was more representative of dry-year conditions.
2) Evidence of errors identified in the historical water use for a utility or public water system, including evidence that volumes of reuse (treated effluent) water or brackish groundwater used for municipal purposes should be included in the draft projections.
3) Evidence that the dry year water use was abnormal due to temporary infrastructure constraints.
4) Trends indicating that per capita water use for a utility or rural area of a county have changed substantially since 2011 and evidence that these trends will continue to rise in the short-term future.
5) Evidence that the number of installations of water-efficient fixtures and appliances between 2010 and 2015 is substantially different than the TWDB estimate.

Based on our review, we believe that several of the Region C WUGs meet one or more of the required criteria for a gpcd adjustment. The table on the following page summarizes the requested gpcd revisions as well as the required TWDB criteria code(s) that they fulfill. The gpcds highlighted in green are the requested changes.

Region C requested GPCD changes

Entity Name	County	Base GPCD 2016 Plan	2010	2011	2012	2013	2014	2015	TWDB Criteria Code (1-5)*	Additional Comments
			Historical GPCD Estimates (provided by TWDB)							
ANNETTA	PARKER	90	143	113	115	123	121	121	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
BLACK ROCK WSC	DENTON	146	120	176	149	149	129	222	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
CULLEOKA WSC	COLLIN	75	101	107	106	104	115	90	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
HUDSON OAKS	PARKER	164	248	318	290	256	330	246	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
JOSEPHINE	COLLIN/HUNT	145	130	203	167	139	132	116	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
LADONIA	FANNIN	82	149	154	137	158	160	336	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
LAKE KIOWA SUD	COOKE	330	264	374	377	380	321	273	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
RICE WATER SUPPLY AND SEWER	ELLIS/NAVARRO	93	95	116	119	109	101	101	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
RUNAWAY BAY	WISE	224	191	334	267	245	187	232	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
SOUTHMAYD	GRAYSON	88	53	109	208	161	84	60	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan); in addition, historical population data seems to be in error for 2012-2015
SPRINGTOWN	PARKER	137	110	209	167	196	142	170	2	Updated 2011 gpcd from TWDB is 20+ gpcd greater than previous 2011 gpcd (used in 2016 Plan)
KAUFMAN COUNTY MUD 11	KAUFMAN	126	-	-	-	-	-	157	2	Not a WUG in 2016 plan (no basis for 126 shown as being in 2016 Plan); Only historical record is 2015, use 2015.
HUTCHINS	DALLAS	102	173	152	159	143	173	207	4	Hutchins has experienced significant commercial/retail development in the past several years. http://www.elliscountypress.com/2017/news/hutchins-continues-development/
ALVORD	WISE	65	89	112	130	121	165	89	3, 4	Multiple recent years show substantially higher gpcd than 2011, indicating 2011 was not representative of a dry year. (Removed outlier year of 2014; 35 gpcd above next highest year)
KAUFMAN	KAUFMAN	121	132	126	145	158	140	131	3, 4	Multiple recent years show substantially higher gpcd than 2011, indicating 2011 was not representative of a dry year.
SOUTH ELLIS COUNTY WSC	ELLIS/NAVARRO	143	143	143	149	228	238	196	3, 4	Multiple recent years show substantially higher gpcd than 2011, indicating 2011 was not representative of a dry year.
LAKESIDE	TARRANT	158	148	200	298	253	221	205	3, 4	Multiple recent years show substantially higher gpcd than 2011, indicating 2011 was not representative of a dry year.
BLUE RIDGE	COLLIN	97	87	87	161	140	119	93	3, 4	Multiple recent years show substantially higher gpcd than 2011, indicating 2011 was not representative of a dry year.
TEAGUE	FREESTONE	100	99	99	118	161	130	150	3, 4	Multiple recent years show substantially higher gpcd than 2011, indicating 2011 was not representative of a dry year.

Entity Name	County		2020	2030	2040	2050	2060	2070		
COUNTY OTHER	DALLAS		1,822	2,425	2,258	2,133	1,540	1,289	2	Historical data does not include all of DFWIA; Added demand for DFW Intern'l Airport; see separate file for detail
COUNTY OTHER	TARRANT		206	206	208	176	165	158	2	Historical data does not include all of DFWIA; Added demand for DFW Intern'l Airport; see separate file for detail

**TWDB Criteria for Adjustment: One or more of the following criteria must be verified by the RWPG and the EA for consideration of revising the municipal water demand projections: (From Exhibit C Guidelines, pages 17-18)*

1. *Evidence that per capita water use from a different year between 2012-2015 would be more appropriate because that year was more representative of dry-year conditions.*
2. *Evidence of errors identified in the historical water use for a utility or public water system, including evidence that volumes of reuse (treated effluent) water or brackish groundwater used for municipal purposes should be included in the draft projections.*
3. *Evidence that the dry year water use was abnormal due to temporary infrastructure constraints.*
4. *Trends indicating that per capita water use for a utility or rural area of a county have changed substantially since 2011 and evidence that these trends will continue to rise in the short-term future.*
5. *Evidence that the number of installations of water-efficient fixtures and appliances between 2010 and 2015 is substantially different than the TWDB estimate.*

DFW Airport Calculations

2016 Plan

DALLAS	COUNTY-OTHER	2020	2030	2040	2050	2060	2070
Population							
GPCD							
Demand		1,722	966	644	642	640	640
Municipal		5,339 / 287.58 / *1,102*	3,000 / 287.58 / *618*	2,000 / 287.37 / *412*	2,000 / 286.50 / *411*	2,000 / 285.83 / *410*	2,000 / 285.83 / *410*
DFW Airport		*620*	*348*	*232*	*231*	*230*	*230*
Add'l DFW Airport Demand		1,383	1,655	1,771	1,772	1,773	1,773
Total Demand		3,105	2,621	2,415	2,414	2,413	2,413
GPCD without any DFW Airport		184.31	184.02	183.81	183.39	182.96	182.96

TARRANT	COUNTY-OTHER	2020	2030	2040	2050	2060	2070
Population							
GPCD							
Demand		36,012 / 6,006	36,012 / 5,860	36,012 / 5,740	60,000 / 9,407	80,000 / 12,506	17,175
Municipal		148.88 / *6,006*	145.26 / *5,860*	142.30 / *5,740*	139.97 / *9,407*	139.56 / *12,506*	*17,175*
DFW Airport Demand		2,002	2,002	2,002	2,002	2,002	2,002
Total Demand		8,008	7,862	7,742	11,409	14,508	19,177
GPCD without any DFW Air		148.88	145.26	142.30	139.97	139.56	139.39

2021 Plan

DALLAS	COUNTY-OTHER	2020	2030	2040	2050	2060	2070
Population							
GPCD							
Municipal Demand		225	164	177	188	270	331
		1,092 / 184.31	184.02	183.81	183.39	1,318 / 182.96	1,617 / 182.96
Add'l DFW Airport Demand		2,003	798 2,003	862 2,003	917 2,003	2,003	2,003
Total Demand		2,228	2,167	2,180	2,191	2,273	2,334
Adjusted GPCD		1,822	2,425	2,258	2,133	1,540	1,289

TARRANT	COUNTY-OTHER	2020	2030	2040	2050	2060	2070
Population							
GPCD							
Demand		31,254 / 5,212	29,358 / 4,777	27,021 / 4,307	49,948 / 7,831	69,001 / 10,787	15,276
Municipal		148.88 / *5,212*	145.26 / *4,777*	142.30 / *4,307*	139.97 / *7,831*	139.56 / *10,787*	*15,276*
DFW Airport Demand		2,002	2,002	2,002	2,002	2,002	2,002
Total Demand		7,214	6,779	6,309	9,833	12,789	17,278
Adjusted GPCD		206	206	208	176	165	158

TECHNICAL MEMORANDUM

Region C Water Planning Group
2021 Regional Water Planning Cycle
Non-Municipal Demand Projections, Irrigation

Project No.:	0312-051-01
Date:	December 13, 2017
Prepared For:	Tom Gooch, Freese and Nichols, Inc. Amy Kaarlela, Freese and Nichols, Inc.
Prepared By:	Brian McDonald, Alan Plummer Associates, Inc.

The *2021 Region C Water Plan* will incorporate projections for municipal demands, as well as non-municipal demands for irrigation, livestock, manufacturing, mining, and steam-electric power. The Texas Water Development Board (TWDB) provided the planning groups with draft non-municipal demand projections. The draft non-municipal demand projections will be reviewed by the individual planning groups, and recommendations will be provided to the TWDB. The TWDB will consider the recommended changes from the planning groups, and the final projections will ultimately be adopted by the planning groups and the TWDB and incorporated into the 2022 State Water Plan (SWP). The purpose of this technical memorandum is to document information related to historical irrigation usage and provide information supporting recommended modifications to the draft irrigation demands.

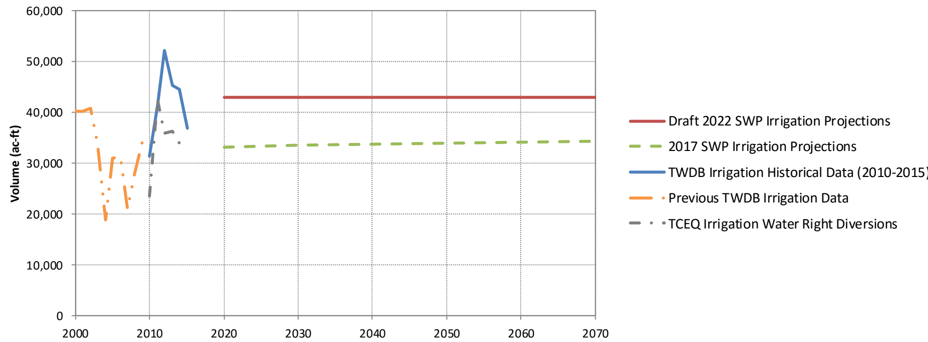
BACKGROUND

Irrigation water use is defined by the TWDB as irrigation of agricultural crops and golf courses.

Historical Irrigation Water Use Estimates

As of June 2017, historical data estimates are available through the year 2015. The historical 2010-2015 use estimates are based on crops, acreage, climatic conditions, observations by local agricultural representatives, and data provided by irrigation and groundwater districts. Since 2010, the region-wide irrigation water use estimates have ranged from 31,387 to 52,087 acre-feet per year (Figure 1).

Figure 1. Region C Total County Irrigation Comparison



Since some golf courses in Region C are served by municipal supply, the current method of calculating total irrigated golf course acreage without removing golf courses supplied by municipal supply may be counting the usage of some golf courses as part of both the municipal and irrigation demand. In order to more accurately account for golf course irrigation, it is recommended that future TWDB municipal water use surveys ask utilities for golf course irrigation data, so that the golf course irrigation that is supplied from municipal systems can be removed from historical irrigation use estimates (since it is included as municipal use).

TWDB Draft Irrigation Water Demand Projections

TWDB's draft non-municipal irrigation demand projections for the 2022 State Water Plan utilize an average of the 2010-2014 irrigation water use estimates held constant for years 2020-2070.

Criteria for Revising the Draft Irrigation Water Demand Projections

One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the irrigation water demand projections:

- Evidence that irrigation water use estimates for a county from another information source or more recent modeled available groundwater volumes are more accurate than those used in the draft projections.
- Evidence that recent (10 years or less) irrigation trends are more indicative of future trends than the draft groundwater resource-constrained water demand projections.
- Evidence that the baseline projection is more likely as a future demand than the draft groundwater resource-constrained water demand projections.

- Region or county-specific studies that have developed water demand projections or trends for the planning period, or part of the planning period, and are deemed more accurate than the draft projections.
- Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) or brackish groundwater that were not included in the draft projections.

During the review process, the TWDB also imposed one other restriction on revisions of the draft irrigation water demand projections: Projections for all counties must have the same basis. For example, if the Planning Group recommends using the average of the 2011-2015 irrigation water use estimates to project future water demand, then it must recommend this basis for all counties.

The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustments to the irrigation water demand projections:

- Historical water use, diversion, or pumpage volumes for irrigation by county.
- Acreage and water use data for irrigated crops grown in a region as published by the Texas Agricultural Statistics Service, the Texas Agricultural Extension Service, the Farm Service Agency or other sources.
- Available economic, technical, and/or water supply-related evidence that may provide a basis for adjustments in the default baseline projection and/or the future rate of change in irrigation water demand.
- Alternative projected water availability volumes that may constrain water demand projections.
- Other data that the RWPG considers adequate to justify an adjustment to the irrigation water demand projections.

Data Used in the Evaluation of Draft Irrigation Demands

Data used to evaluate the draft irrigation demands were obtained from the following sources:

- TWDB historical irrigation water use, 2010-2015
- Texas Commission on Environmental Quality (TCEQ) irrigation water right diversions, 2010-2014.[1]

[1] Texas Commission on Environmental Quality, *Water Use Data Files*. URL: http://tceq.state.tx.us/permitting/water_rights/permitting/water_rights/wrwud/, accessed January 2017.

RCWPG RECOMMENDED REVISIONS TO DRAFT WATER DEMAND PROJECTIONS

A comparison of the draft projections for the 2022 SWP (provided by TWDB), the final 2017 SWP projections, and the proposed RCWPG revisions to the 2017 SWP projections is presented in Table 1 and Figure 2. Deviations from the draft projections for the 2022 State Water Plan are explained in this section.

After reviewing the available data, the Planning Group recommends that the average of the 2011-2015 TWDB irrigation water use estimates should be used to project future irrigation water demands in each county for the following reasons:

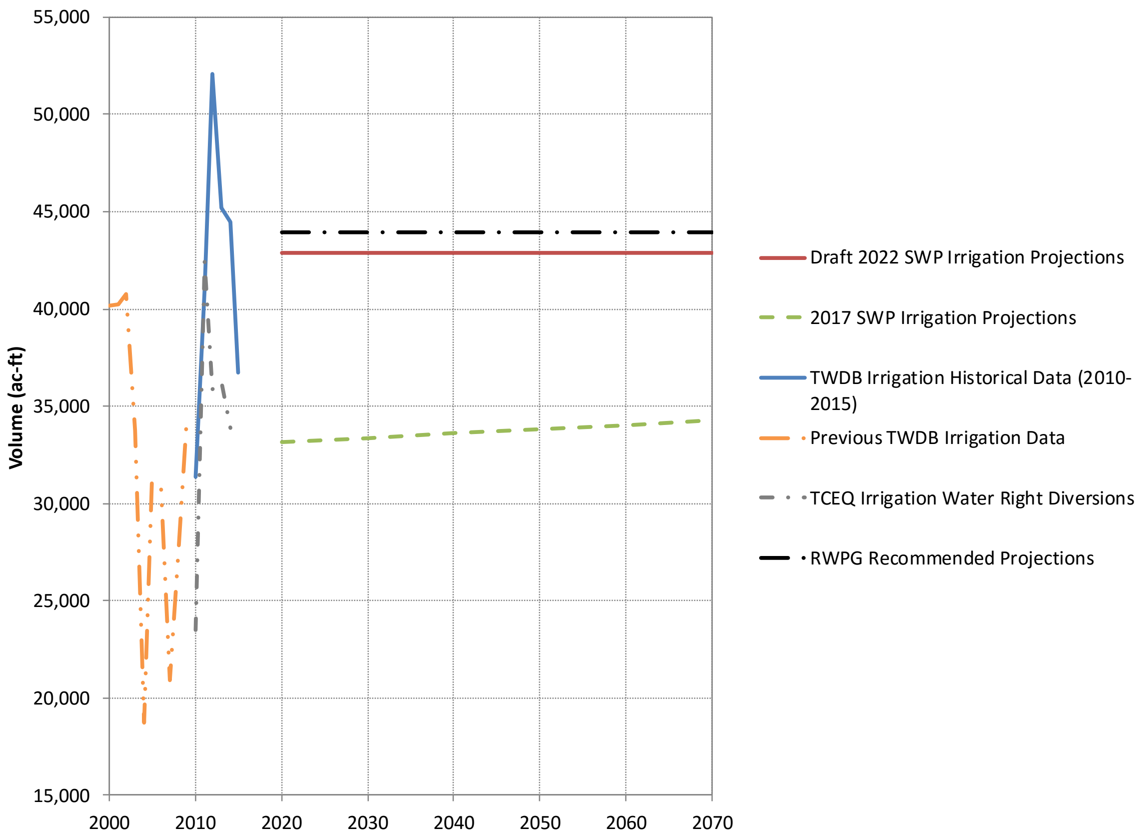
- On a regional basis, these data indicate that recent irrigation water use is 2.3 percent greater than the draft projections for the 2022 SWP.
- The revised projections are greater than the draft projections in 11 of 16 counties.
- In the counties where the revised projections are less than the draft projections, the decreases are small.
- The revised projections are greater than the final 2017 SWP projections in 14 of 16 counties.
- This approach is consistent with TWDB's use of a five-year average of recent water use to project future water demands.

Table 1. Comparison of Irrigation Demand Projections

County Name	2017 SWP Projections (ac-ft/yr)						Draft Projections for 2022 SWP (ac-ft/yr)						Recommended RWPG Revisions (ac-ft/yr)					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
Collin	2,995	2,995	2,995	2,995	2,995	2,995	2,811	2,811	2,811	2,811	2,811	2,811	3,340	3,340	3,340	3,340	3,340	3,340
Cooke	300	300	300	300	300	300	1,038	1,038	1,038	1,038	1,038	1,038	1,100	1,100	1,100	1,100	1,100	1,100
Dallas	9,134	9,134	9,134	9,134	9,134	9,134	10,468	10,468	10,468	10,468	10,468	10,468	10,122	10,122	10,122	10,122	10,122	10,122
Denton	2,137	2,137	2,137	2,137	2,137	2,137	2,973	2,973	2,973	2,973	2,973	2,973	3,003	3,003	3,003	3,003	3,003	3,003
Ellis	572	572	572	572	572	572	1,255	1,255	1,255	1,255	1,255	1,255	1,367	1,367	1,367	1,367	1,367	1,367
Fannin	8,301	8,301	8,301	8,301	8,301	8,301	11,186	11,186	11,186	11,186	11,186	11,186	11,553	11,553	11,553	11,553	11,553	11,553
Freestone	298	298	298	298	298	298	565	565	565	565	565	565	569	569	569	569	569	569
Grayson	2,438	2,654	2,870	3,086	3,303	3,519	4,450	4,450	4,450	4,450	4,450	4,450	4,477	4,477	4,477	4,477	4,477	4,477
Henderson	0	0	0	0	0	0	487	487	487	487	487	487	582	582	582	582	582	582
Jack	101	101	101	101	101	101	84	84	84	84	84	84	98	98	98	98	98	98
Kaufman	179	179	179	179	179	179	247	247	247	247	247	247	285	285	285	285	285	285
Navarro	58	58	58	58	58	58	84	84	84	84	84	84	75	75	75	75	75	75
Parker	490	490	490	490	490	490	602	602	602	602	602	602	773	773	773	773	773	773
Rockwall	374	374	374	374	374	374	251	251	251	251	251	251	234	234	234	234	234	234
Tarrant	4,466	4,466	4,466	4,466	4,466	4,466	4,964	4,964	4,964	4,964	4,964	4,964	4,926	4,926	4,926	4,926	4,926	4,926
Wise	1,324	1,324	1,324	1,324	1,324	1,324	1,440	1,440	1,440	1,440	1,440	1,440	1,406	1,406	1,406	1,406	1,406	1,406
Total	**33,167**	**33,383**	**33,599**	**33,815**	**34,032**	**34,248**	**42,905**	**42,905**	**42,905**	**42,905**	**42,905**	**42,905**	**43,910**	**43,910**	**43,910**	**43,910**	**43,910**	**43,910**

Gray shading indicates a recommended change in the irrigation water demand projections.

Figure 2. Region C Irrigation – Comparison of Water Use Estimates, 2017 State Water Plan Projection, Proposed Projections, and Revised Projections



Attachment A
Irrigation Demand by County
Historical Usage and Projections Comparison

Figure 1A. Collin County Irrigation Comparison

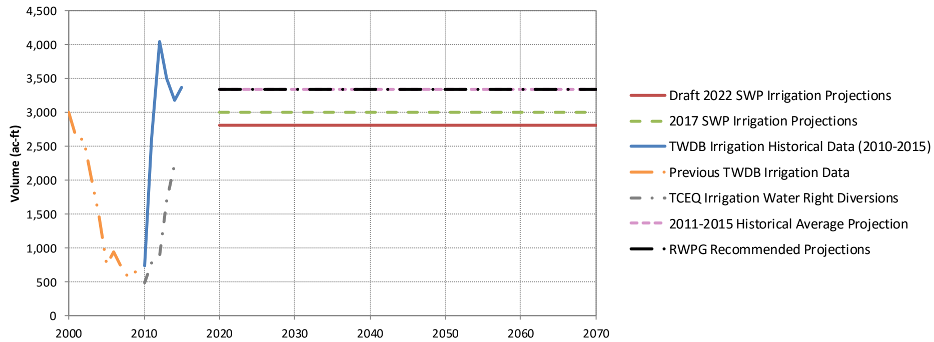


Figure 2A. Cooke County Irrigation Comparison

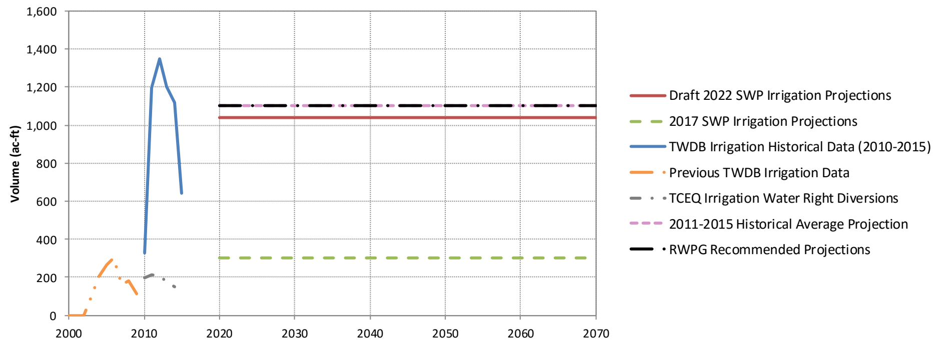


Figure 3A. Dallas County Irrigation Comparison

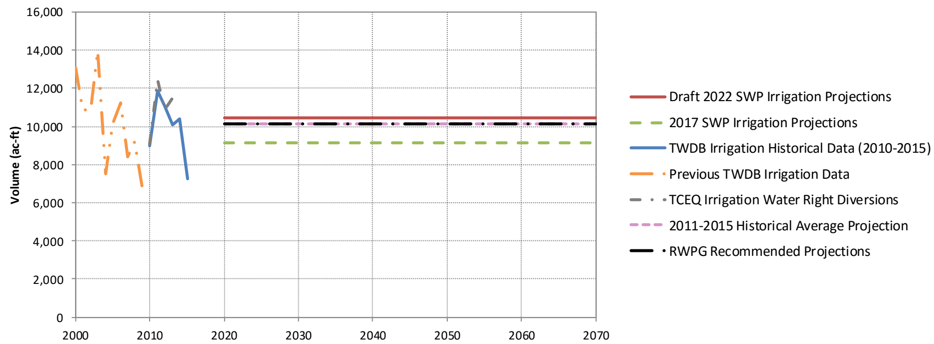


Figure 4A. Denton County Irrigation Comparison

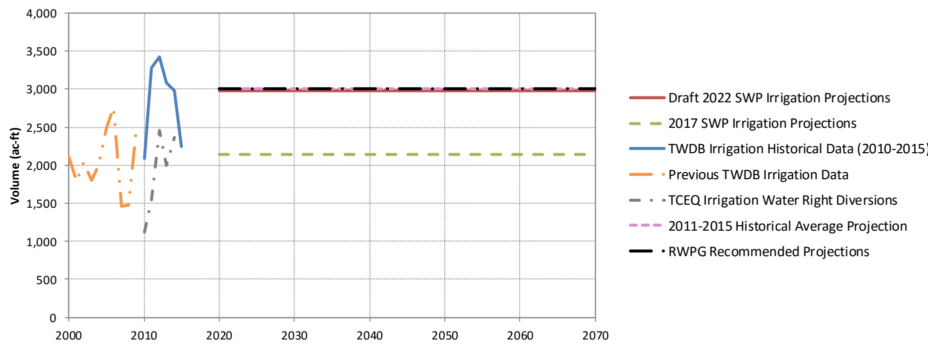


Figure 5A. Ellis County Irrigation Comparison

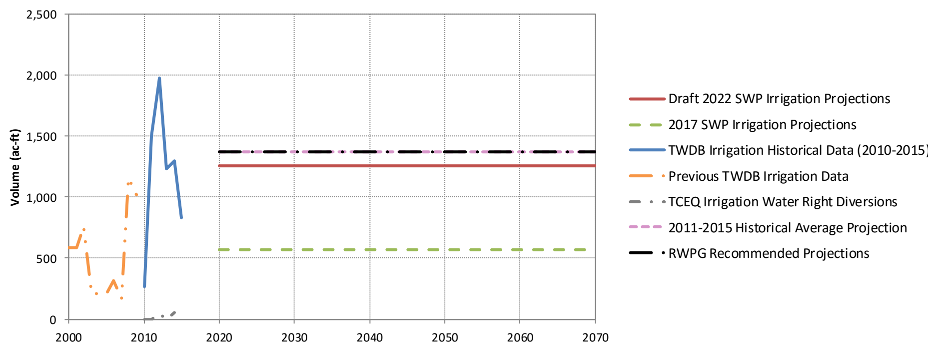


Figure 6A. Fannin County Irrigation Comparison

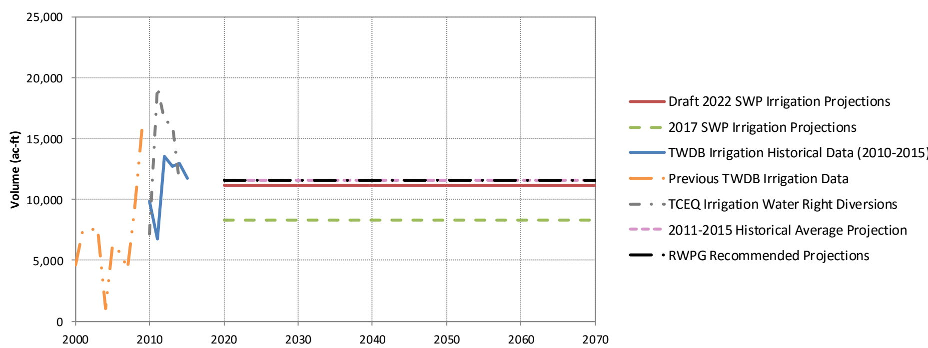


Figure 7A. Freestone County Irrigation Comparison

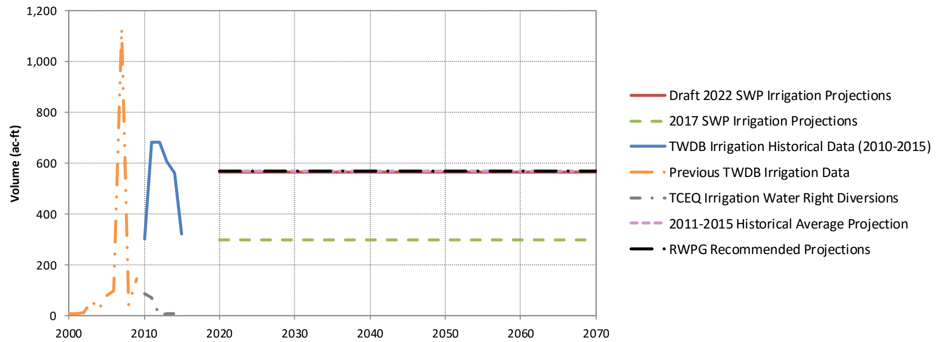


Figure 8A. Grayson County Irrigation Comparison

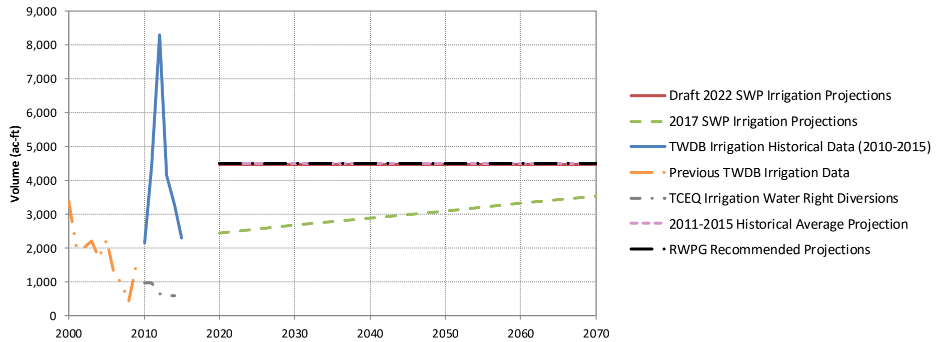


Figure 9A. Henderson County Irrigation Comparison

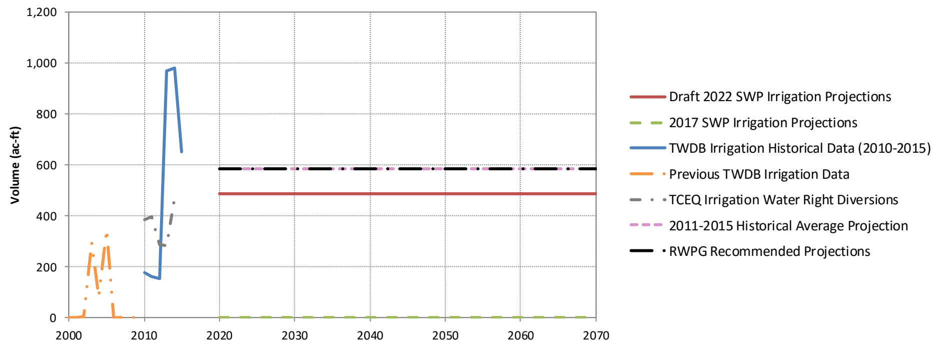


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Figure 10A. Jack County Irrigation Comparison

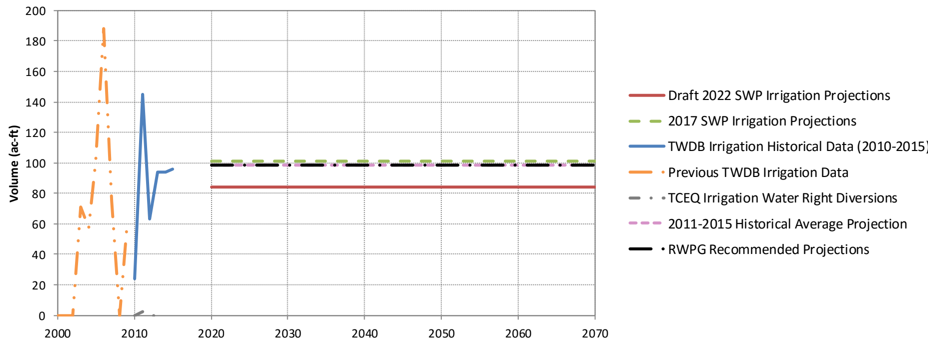

Figure 11A. Kaufman County Irrigation Comparison

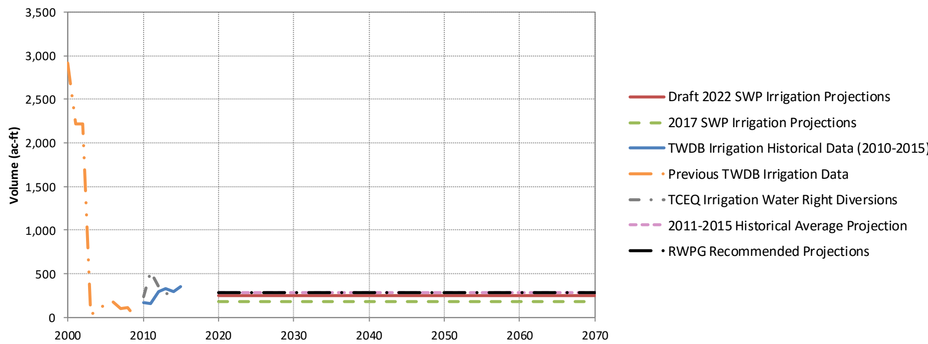

Figure 12A. Navarro County Irrigation Comparison

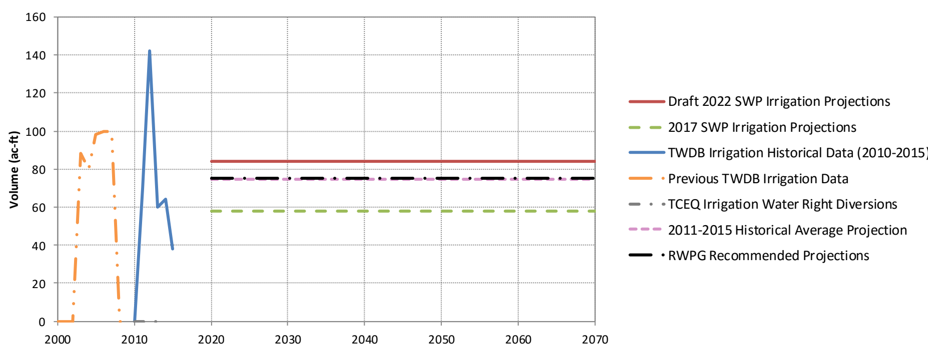

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Figure 13A. Parker County Irrigation Comparison

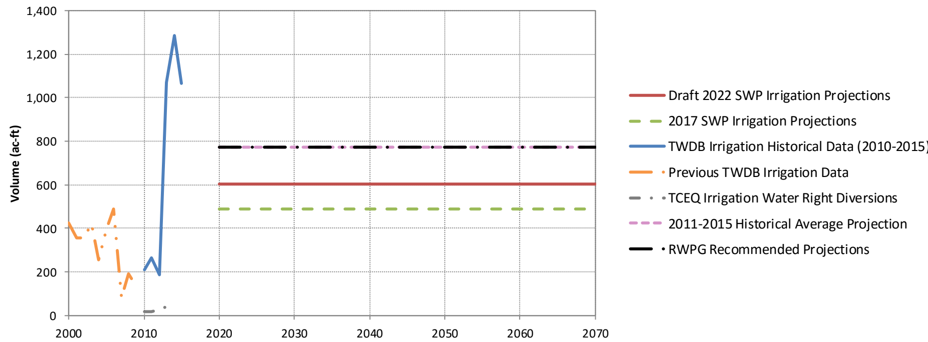

Figure 14A. Rockwall County Irrigation Comparison

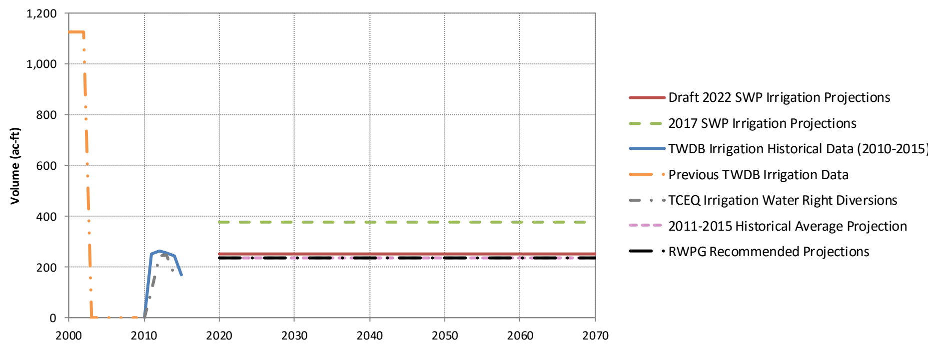

Figure 15A. Tarrant County Irrigation Comparison

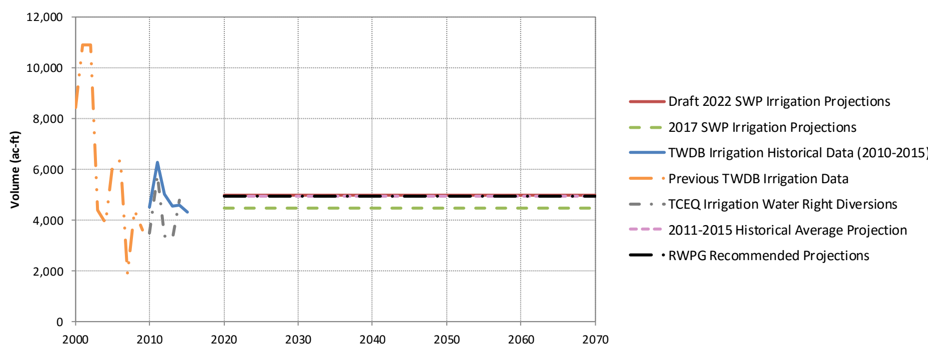

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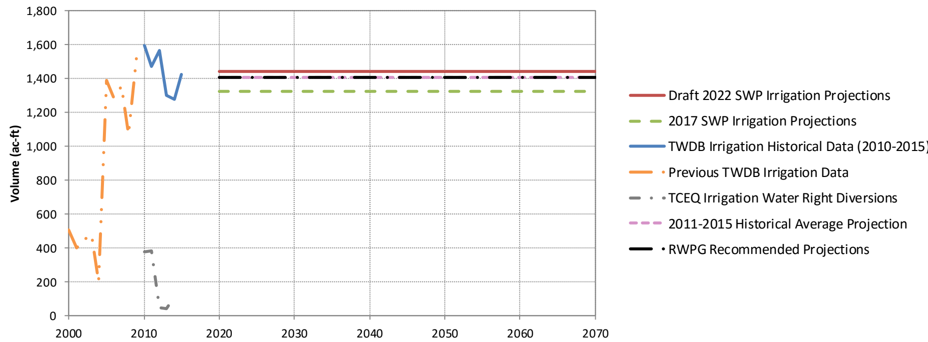
Figure 16A. Wise County Irrigation Comparison



TECHNICAL MEMORANDUM

Region C Water Planning Group
2021 Regional Water Planning Cycle
Non-Municipal Demand Projections, Manufacturing

Project No.: 0312-051-01

Date: August 3, 2017

Prepared For: Tom Gooch, Freese and Nichols, Inc.
Amy Kaarlela, Freese and Nichols, Inc.

Prepared By: Brian McDonald, Alan Plummer Associates, Inc.

The *2021 Region C Water Plan* will incorporate projections for municipal demands, as well as non-municipal demands for irrigation, livestock, manufacturing, mining, and steam-electric power. The Texas Water Development Board (TWDB) provided the planning groups with draft non-municipal demand projections. The draft non-municipal demand projections will be reviewed by the individual planning groups, and recommendations will be provided to the TWDB. The TWDB will consider the recommended changes from the planning groups, and the final projections will ultimately be adopted by the planning groups and the TWDB and incorporated into the 2022 State Water Plan (SWP). The purpose of this technical memorandum is to document information related to historical manufacturing usage and provide information supporting recommended modifications to the draft manufacturing demands.

BACKGROUND

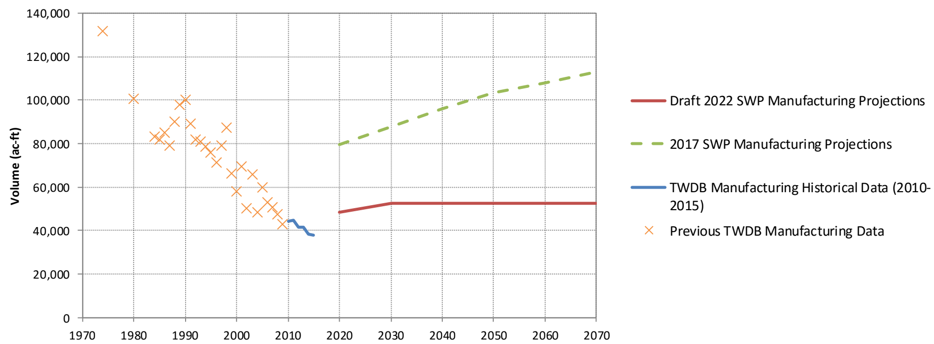
Manufacturing water use is defined by the TWDB as water used in the production process of manufactured products, including water used by employees for drinking and sanitation purposes. The manufacturing water use category does not include water use by all manufacturers, as described in the following section.

Historical Manufacturing Water Use Estimates

The TWDB's manufacturing water use estimates are obtained from manufacturing facilities that complete TWDB Water Use Surveys and from manufacturing use volumes reported by surveyed municipal water sellers. The TWDB historical manufacturing water use estimates focus on facilities that use large amounts of water and/or are self-supplied by groundwater or surface water. Facilities with smaller uses are generally supplied by public utilities and are included in municipal water demands.

As of June 2017, historical data estimates are available through the year 2015. Since 2010, the region-wide manufacturing water use estimates have ranged from 37,879 to 44,795 acre-feet per year (Figure 1). However, the historical manufacturing water use estimates have not been adjusted for facilities that do not respond to TWDB surveys.

Figure 1. Region C Total County Manufacturing Comparison



Note: Historical TWDB water use estimates do not include adjustments for facilities that do not respond to TWDB surveys.

TWDB Draft Manufacturing Water Demand Projections

TWDB's draft 2020 manufacturing demand projections for the 2022 State Water Plan are based on the maximum annual manufacturing water use that occurred in each county during 2010-2014. For counties with no reported manufacturing water use between 2010 and 2014, data from 2015, if available, was used for the 2020 projection.

To obtain the 2030 demand projections, the 2020 demand projections were multiplied by the employment growth rate, as represented by the most recent 10-year projection for employment growth by the Texas Workforce Commission. If employment is projected to decline in a given county, the 2030 demand projection equals the 2020 demand projection. After 2030, the draft manufacturing water demand projections are held constant through 2070.

TWDB staff members have determined that holding 2030-2070 manufacturing water demands constant is the "most efficient, effective, and reasonable strategy for developing draft water demand projections and planning for future manufacturing water use" for the following reasons:[1]

1. Basing projections on the highest county water use in recent years ensures sufficient supply for current water uses.
2. The long-term trend of manufacturing water use has been decreasing while output has been increasing. TWDB staff members expect that manufacturing firms will continue to increase their water use efficiency.
3. Developing modeled projections would be complicated and expensive. In addition, there could be a significant amount of error due to the large range of manufacturing activities, the cost of acquiring proprietary projections of various economic outputs, and the speed at which industries shift and process technology changes.
4. There will be opportunities to update the projections during each planning cycle.

Criteria for Revising the Draft Manufacturing Water Demand Projections

One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the manufacturing water demand projections:

- A new or existing facility that has not been included in the TWDB water use survey.
- An industrial facility has recently closed its operation in a county.
- Plans for new construction or expansion of an existing industrial facility in a county at some future date.
- Evidence of a long-term projected water demand of a facility or industry within a county that is substantially different than the draft projections.
- Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) or brackish groundwater that were not included in the draft projections.

The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustments to the manufacturing water demand projections:

- Historical water use data and the 6-digit North American Industrial Classification System (NAICS) code of a manufacturing facility. The NAICS code classifies establishments by type of activity in

[1] Texas Water Development Board, Methodologies for Developing Draft Irrigation, Manufacturing, and Steam-Electric Water Demand Projections, February 2017.

which they are engaged as defined by the U.S. Office of Management and Budget and is a successor of the Standard Industrial Classification (SIC).

- Documentation and analysis that justify that the new manufacturing facility not included in the Water Use Survey database will increase the future manufacturing water demand for the county above the draft projections.
- The 6-digit NAICS code of the industrial facility that has recently located in a county and annual water use volume.
- Documentation of plans for a manufacturing facility to locate in a county at some future date will include the following data:
    - The quantity of water required by the planned facility on an annual basis.
    - The proposed construction schedule for the facility including the date the facility will become operational.
    - The 6-digit NAICS code for the planned facility.
- Other data that the RWPG considers adequate to justify an adjustment to the manufacturing water demand projections.

RCWPG RECOMMENDED REVISIONS TO DRAFT MANUFACTURING WATER DEMAND PROJECTIONS

A comparison of the draft projections for the 2022 SWP (provided by TWDB), the final 2017 SWP projections, and the proposed RCWPG revisions to the 2022 SWP projections is presented in Table 1 and Figure 2. Deviations from the draft projections for the 2022 State Water Plan are explained in this section.

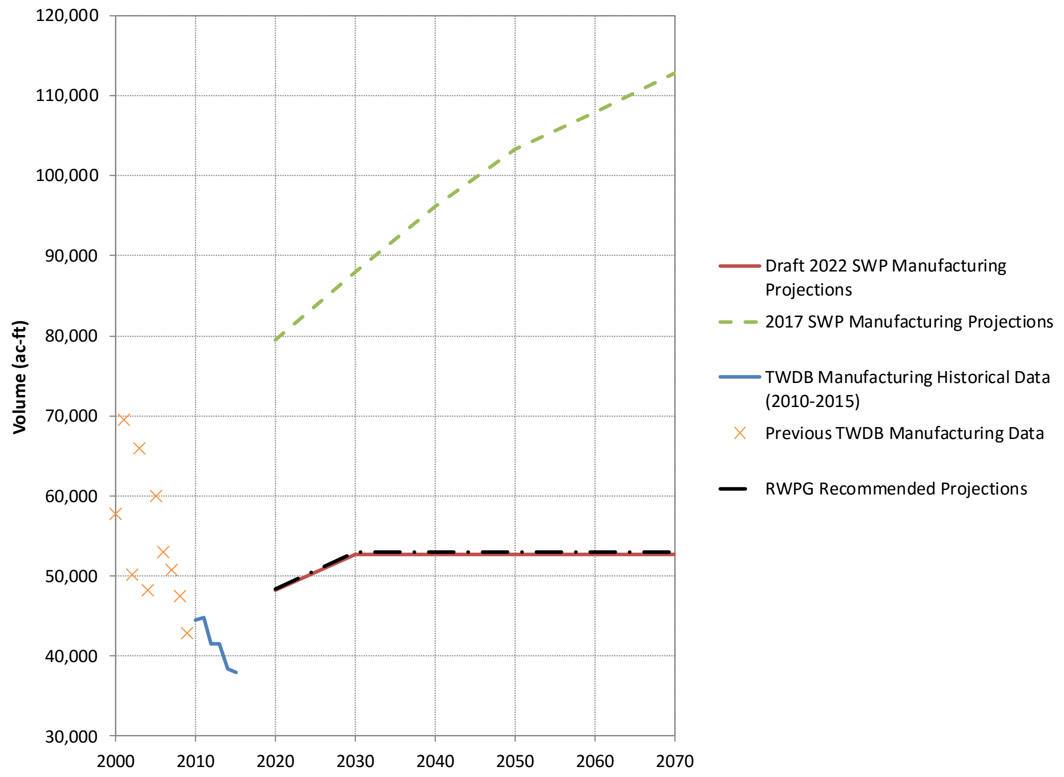
For Freestone and Kaufman Counties, the 2015 estimated manufacturing water use was greater than the maximum reported during 2010-2014. Therefore, the Planning Group recommends use of the 2015 estimated manufacturing water use as the 2020 manufacturing water demand projection for these counties. Furthermore, the Planning Group recommends holding the projected manufacturing water demand constant through 2070 for Freestone County.

Table 1. Comparison of Manufacturing Demand Projections

County Name	2017 SWP Projections (ac-ft/yr)						Draft Projections for 2022 SWP (ac-ft/yr)						Recommended RWPG Revisions (ac-ft/yr)					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
Collin	3,456	3,888	4,319	4,706	5,109	5,547	2,246	2,602	2,602	2,602	2,602	2,602	2,246	2,602	2,602	2,602	2,602	2,602
Cooke	226	247	268	286	310	336	116	128	128	128	128	128	116	128	128	128	128	128
Dallas	37,791	41,148	44,214	46,703	46,983	47,265	21,834	23,073	23,073	23,073	23,073	23,073	21,834	23,073	23,073	23,073	23,073	23,073
Denton	1,446	1,643	1,843	2,020	2,194	2,383	374	440	440	440	440	440	374	440	440	440	440	440
Ellis	5,247	5,403	5,560	5,716	5,716	5,716	5,414	6,549	6,549	6,549	6,549	6,549	5,414	6,549	6,549	6,549	6,549	6,549
Fannin	88	97	106	114	124	135	12	12	12	12	12	12	12	12	12	12	12	12
Freestone	100	111	121	130	136	142	0	0	0	0	0	0	19	19	19	19	19	19
Grayson	4,905	5,329	5,729	6,065	6,584	7,147	2,951	3,009	3,009	3,009	3,009	3,009	2,951	3,009	3,009	3,009	3,009	3,009
Henderson	575	594	613	633	652	671	806	985	985	985	985	985	806	985	985	985	985	985
Jack	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Kaufman	813	869	928	993	1,061	1,134	724	849	849	849	849	849	946	1,109	1,109	1,109	1,109	1,109
Navarro	1,114	1,249	1,384	1,519	1,654	1,789	894	1,062	1,062	1,062	1,062	1,062	894	1,062	1,062	1,062	1,062	1,062
Parker	638	729	821	912	1,004	1,095	87	103	103	103	103	103	87	103	103	103	103	103
Rockwall	35	40	45	50	55	61	31	36	36	36	36	36	31	36	36	36	36	36
Tarrant	20,444	23,630	26,924	29,919	32,457	35,210	12,197	13,301	13,301	13,301	13,301	13,301	12,197	13,301	13,301	13,301	13,301	13,301
Wise	2,660	2,979	3,277	3,539	3,858	4,206	454	501	501	501	501	501	454	501	501	501	501	501
Total	**79,540**	**87,958**	**96,154**	**103,307**	**107,899**	**112,839**	**48,141**	**52,651**	**52,651**	**52,651**	**52,651**	**52,651**	**48,382**	**52,930**	**52,930**	**52,930**	**52,930**	**52,930**

Gray shading indicates a recommended change in the manufacturing water demand projections.

Figure 2. Region C Manufacturing – Comparison of Water Use Estimates, 2012 State Water Plan Projection, Proposed Projections, and Revised Projections



Note: Historical TWDB water use estimates do not include adjustments for facilities that do not respond to TWDB surveys.

Attachment A
Manufacturing Demand by County
Historical Usage and Projections Comparison

Figure 1A. Collin County Manufacturing Comparison

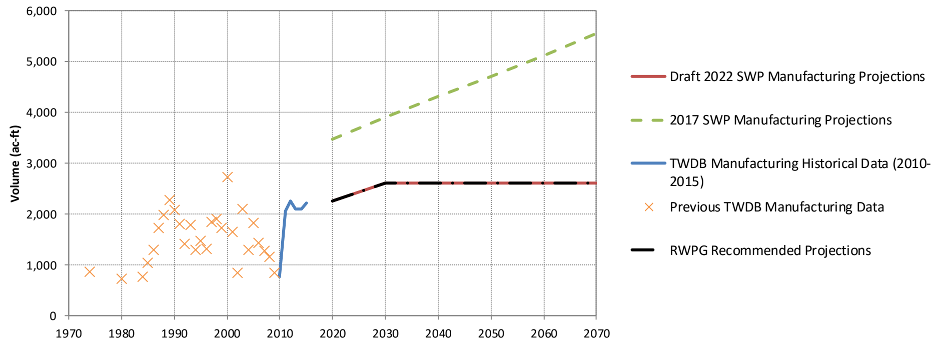


Figure 2A. Cooke County Manufacturing Comparison

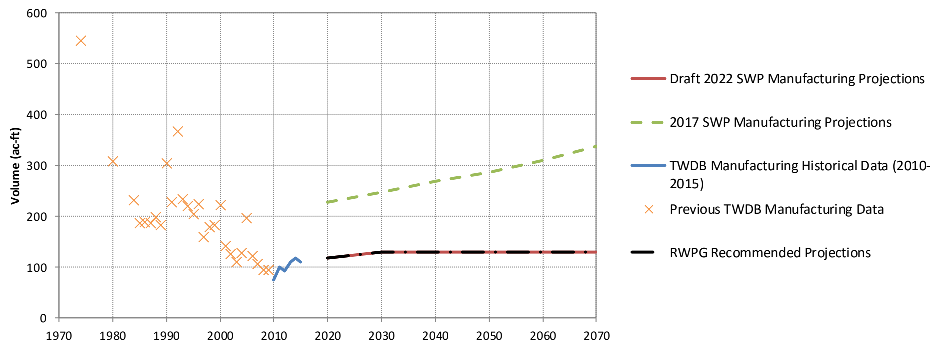


Figure 3A. Dallas County Manufacturing Comparison

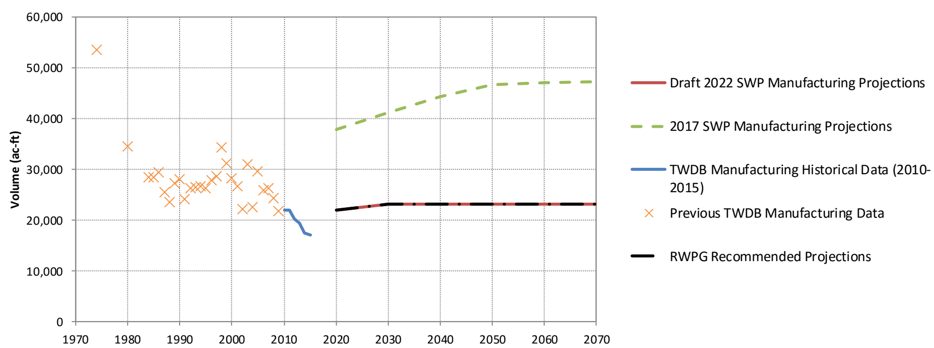


Figure 4A. Denton County Manufacturing Comparison

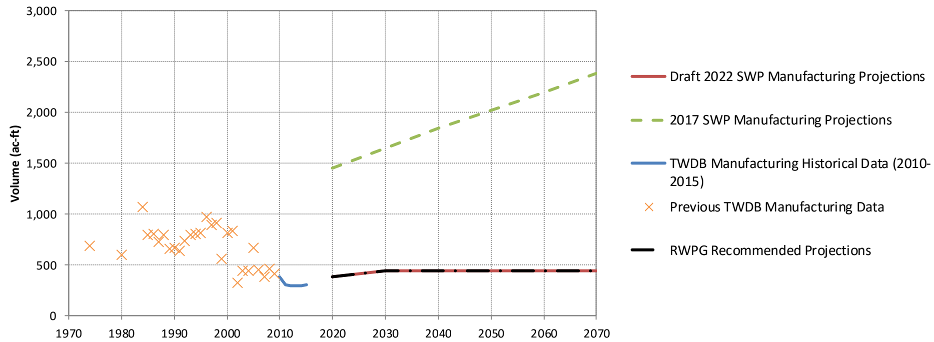


Figure 5A. Ellis County Manufacturing Comparison

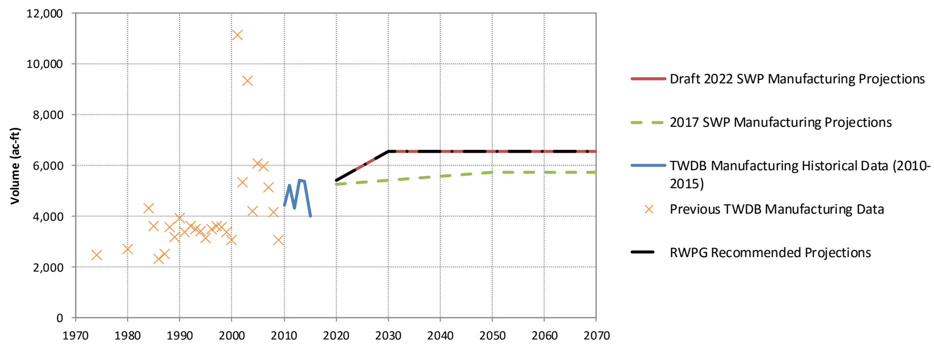


Figure 6A. Fannin County Manufacturing Comparison

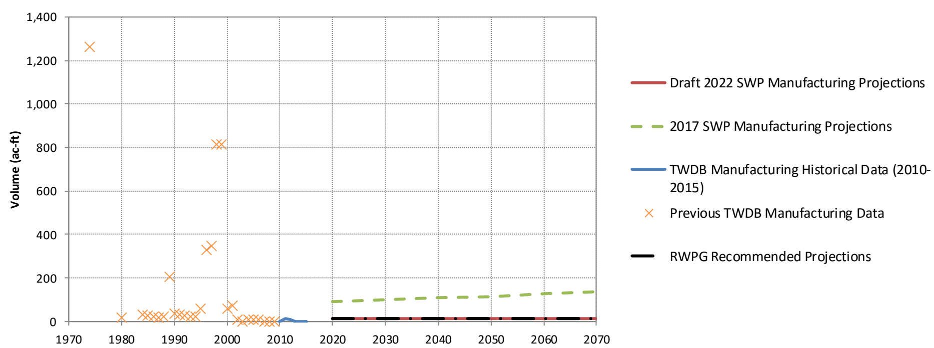


Figure 7A. Freestone County Manufacturing Comparison

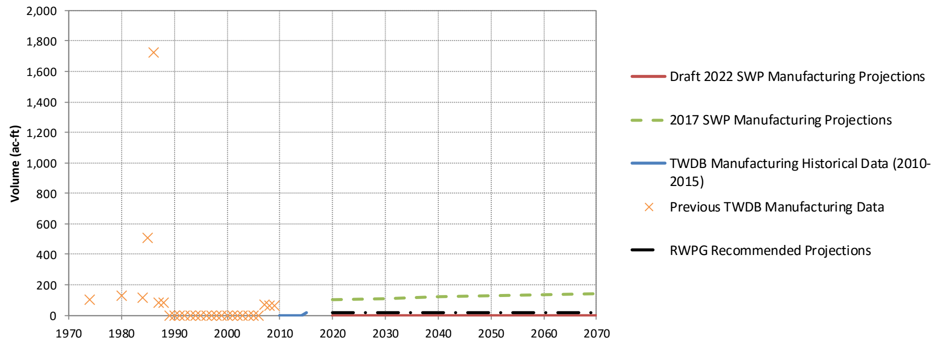


Figure 8A. Grayson County Manufacturing Comparison

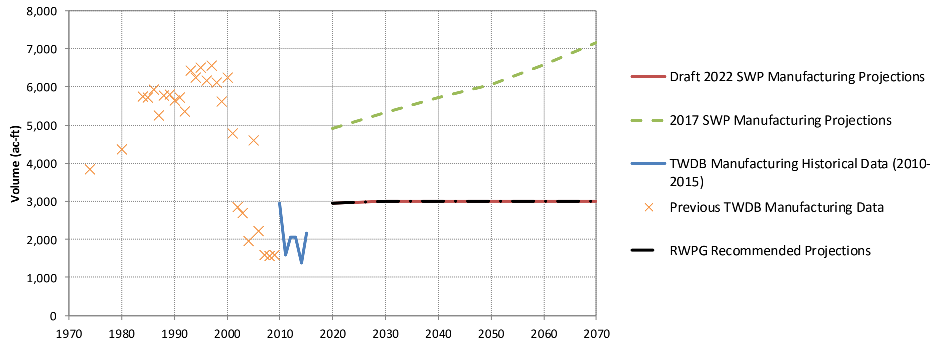


Figure 9A. Henderson County Manufacturing Comparison

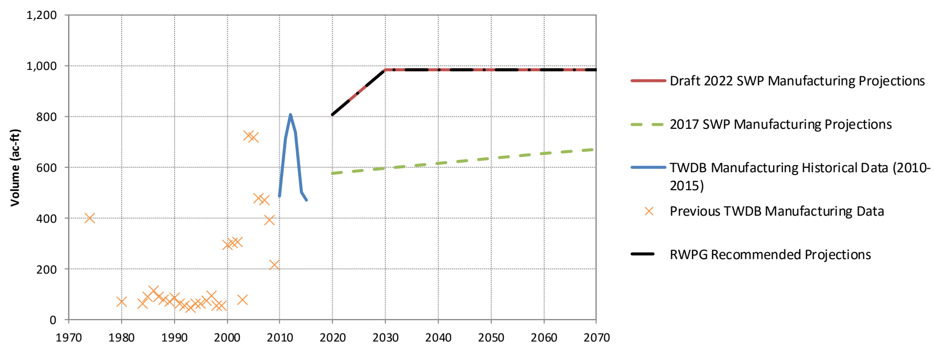


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Figure 10A. Jack County Manufacturing Comparison

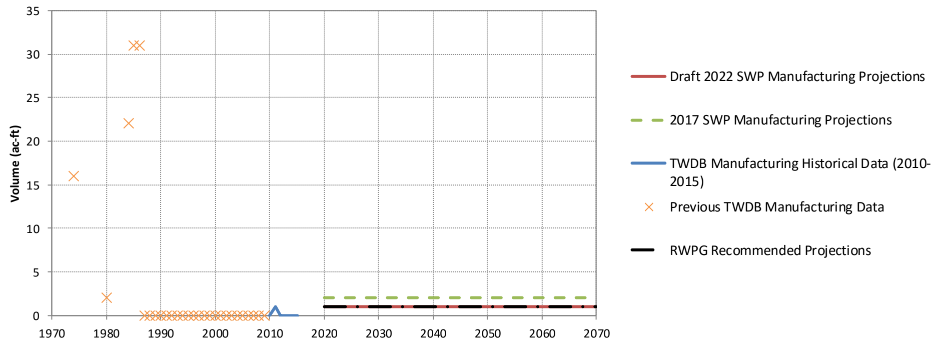

Figure 11A. Kaufman County Manufacturing Comparison

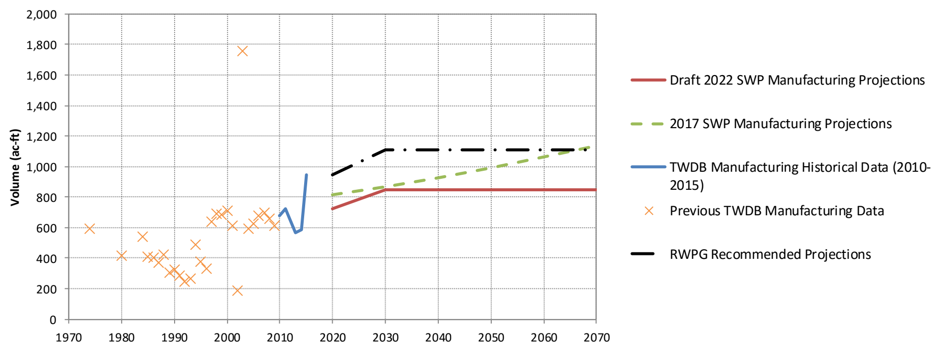

Figure 12A. Navarro County Manufacturing Comparison

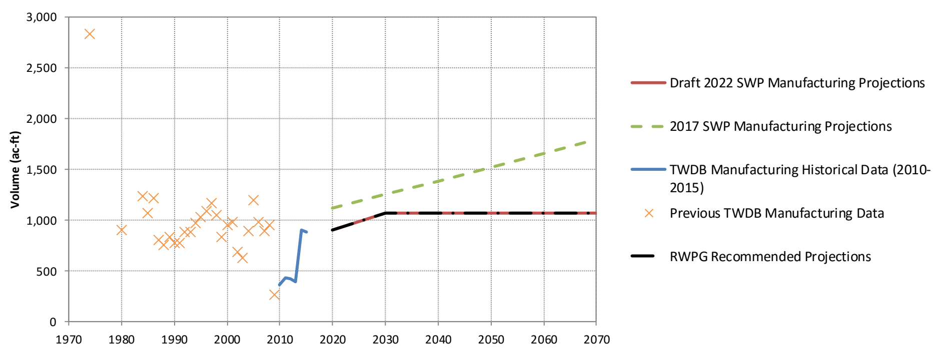

Figure 13A. Parker County Manufacturing Comparison

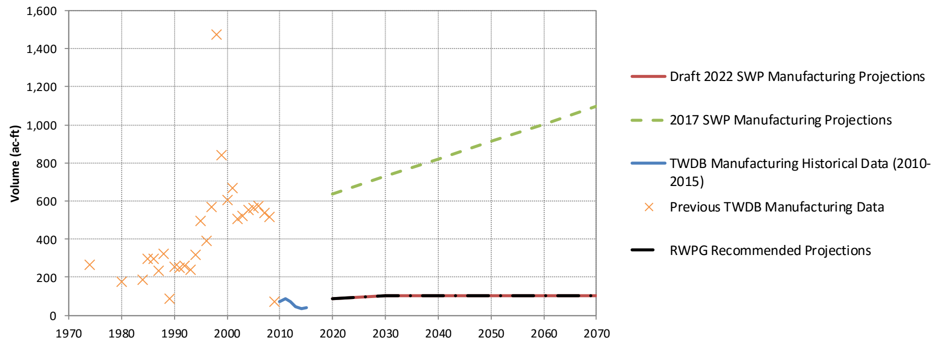

Figure 14A. Rockwall County Manufacturing Comparison

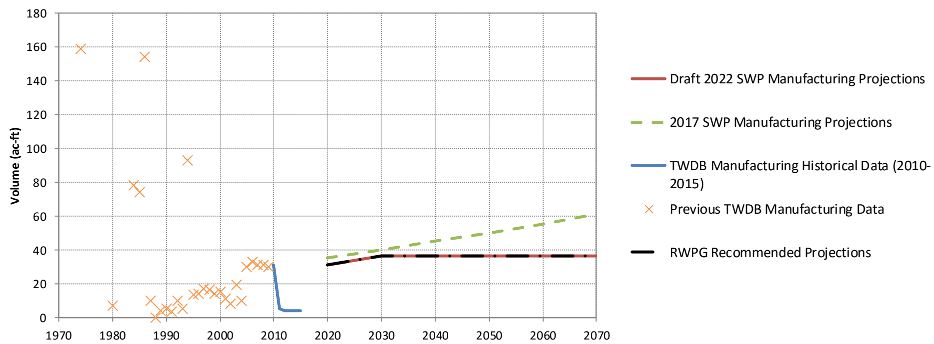

Figure 15A. Tarrant County Manufacturing Comparison

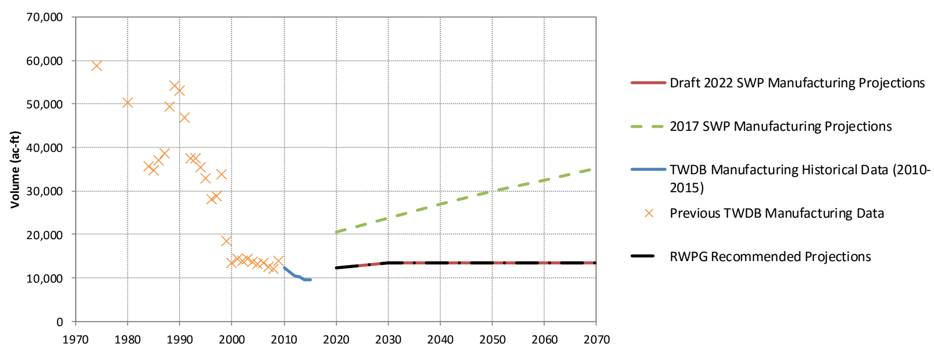

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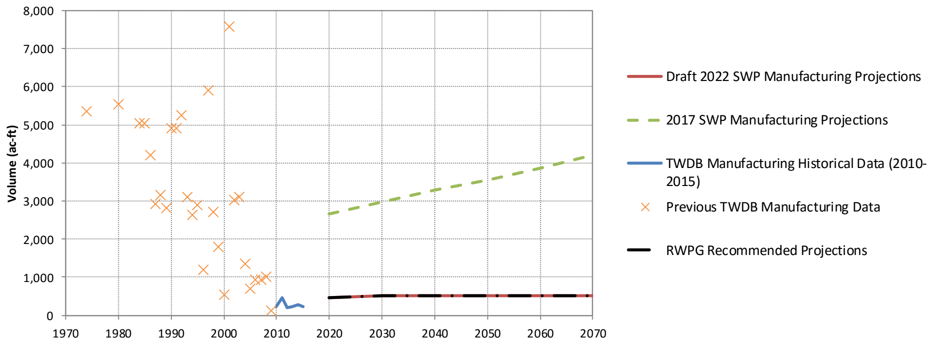
Figure 16A. Wise County Manufacturing Comparison



TECHNICAL MEMORANDUM

Region C Water Planning Group
2021 Regional Water Planning Cycle
Non-Municipal Demand Projections, Steam Electric Power

Project No.: 0312-051-01

Date: November 15, 2017

Prepared For: Tom Gooch, Freese and Nichols, Inc.
Amy Kaarlela, Freese and Nichols, Inc.

Prepared By: Brian McDonald, Alan Plummer Associates, Inc.

The *2021 Region C Water Plan* will incorporate projections for municipal demands, as well as non-municipal demands for irrigation, livestock, manufacturing, mining, and steam-electric power (SEP). The Texas Water Development Board (TWDB) provided the planning groups with draft non-municipal demand projections. The draft non-municipal demand projections will be reviewed by the individual planning groups, and recommendations will be provided to the TWDB. The TWDB will consider the recommended changes from the planning groups, and the final projections will ultimately be adopted by the planning groups and the TWDB and incorporated into the 2022 State Water Plan (SWP). The purpose of this technical memorandum is to document information related to historical SEP usage and provide information supporting recommended modifications to the draft SEP demands.

BACKGROUND

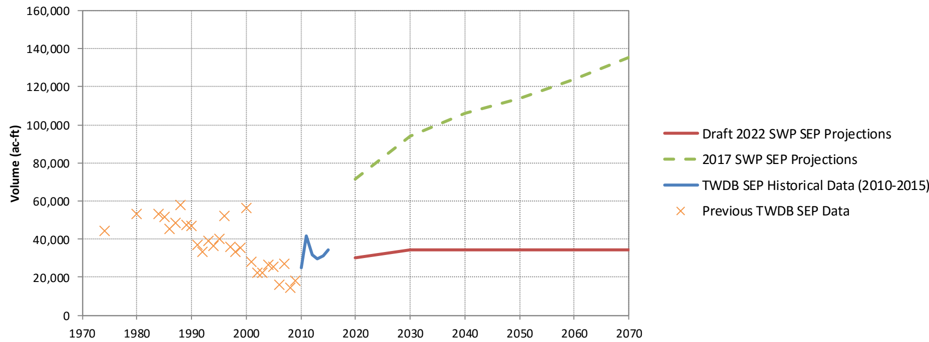
SEP water use is defined by the TWDB as water used in the production process of SEP, including water used by employees for drinking and sanitation purposes.

Historical Steam Electric Power Water Use Estimates

The TWDB's SEP water use estimates are obtained from SEP facilities that complete TWDB Water Use Surveys. These typically include large power generation plants that sell power on the open market and do not include cogeneration plants for manufacturing or mining processes. SEP water uses reported by municipal users in their Water Use Surveys are also included in the SEP water use estimates.

As of June 2017, historical data estimates are available through the year 2015. Since the year 2010, the region-wide SEP water use estimates have ranged from 25,144 to 41,798 acre-feet (Figure 1). The TWDB historical SEP water use estimates include water provided by reuse programs.

Figure 1. Region C Total County Steam Electric Power Comparison



TWDB Draft Steam Electric Power Water Demand Projections

TWDB's draft 2020 SEP demand projections for the 2022 State Water Plan are based on the maximum annual SEP water use that occurred in each county during 2010-2014. This period includes 2011, a hot, dry year that saw elevated SEP water demands. After 2020, the draft SEP water demand projections are held constant through 2070 with one exception: Anticipated water use from new SEP facilities listed in state and federal reports is added to the projections from the anticipated operation date to 2070. For new facilities, TWDB staff estimated water demand from fuel type, generation capacity, average water use information, and average operational time.

Based on this information, new facilities are projected to occur in the following counties:[1]

- Freestone (additional 3,585 ac-ft/yr by 2020): unidentified facility.
- Grayson (additional 2,439 ac-ft/yr by 2020): Navasota Energy Generation Holdings Van Alstyne Energy Center.
- Henderson (additional 2,060 ac-ft/yr by 2020): Halyard Energy Henderson, LLC Halyard Henderson Energy Center.

[1] Demands shown in parentheses are the demands from the new facilities. This was estimated to be the TWDB projected water demand minus the historical maximum annual SEP water use that occurred from 2010-2014 (2015 for Grayson County). For Grayson, Henderson, and Tarrant Counties, new facilities were identified from information obtained from the U.S. Energy Information Administration.

- Jack (additional 3,772 ac-ft/yr by 2020): unidentified facility.
- Tarrant (additional 3,791 ac-ft/yr in 2030): Luminant Generation Company LLC Eagle Mountain facility.

According to the TWDB, individual generator(s) within active plants may be scheduled to be retired, the Big Brown Steam Electric Station in Freestone County is scheduled to be retired, and the Valley Steam Electric Station in Fannin County has been retired since the last Region C Water Plan was developed, For an individual generator that is scheduled to be retired, no change was made to the baseline water use if the plant is still active. The Big Brown Steam Electric Station reported a maximum water use of 30,847 ac-ft in 2011 and has continued to report water use since then. The Valley Steam Electric Station reported a maximum water use of 384 ac-ft in 2010 and has not reported water use since then. The TWDB removed both the Big Brown and Valley Steam Electric Stations from the draft SEP water demands for the 2022 SWP.

For SEP plants that have not returned a Water Use Survey, water use was either obtained from the operator or water demand was estimated from kilowatt-hour output and fuel type. Power plants driven by landfill gas, wood waste biomass, battery, or renewable energy sources are not included in the draft water demand projections.

TWDB staff members have determined that holding 2020-2070 steam electric power water demands constant is “efficient, effective, and reasonable” for the following reasons:[2]

1. Basing projections on the highest county water use in recent years ensures sufficient supply for current water uses.
2. Developing modeled projections would be complicated and expensive. Modeling would have to include a number of potential water use drivers, including facility replacement schedules, anticipation of generation efficiency and cooling systems, carbon capture activities, cost of various fuels, and federal environmental/regulatory policies. Each of these drivers has its own probability of occurrence and level of impact.
3. Projected increases in solar and wind generation capacity will offset the need to operate some water-consuming facilities.
4. New steam electric power plants will be more efficient than existing plants.

[2] Texas Water Development Board, Methodologies for Developing Draft Irrigation, Manufacturing, and Steam-Electric Water Demand Projections, February 2017.

5. It would be difficult to allocate increased demands by county, because locations of new facilities listed in government reports cannot be identified. This could also lead to double-counting of demands from any new facilities brought forward by the RWPG.
6. There will be opportunities to update the projections during each planning cycle.

Although the Region C population has increased substantially since the 1980s, the reported SEP water use has declined (Figure 1). This also supports holding 2020-2070 SEP water demands constant.

Criteria for Revising the Draft Steam Electric Power Water Demand Projections

One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the SEP water demand projections:

- Documentation that the TWDB draft projections have not included a facility that warrants inclusion.
- Any local information related to new facilities or facility closures that may not have been included in Electrical Reliability Council of Texas's Capacity, Demand, and Reserves report.
- Evidence of a long-term projected water demand of a facility or in a county that is substantially different than the draft projections.
- Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) water or brackish groundwater that were not included in the draft projections.
- Evidence that a currently-operating power generation facility has experienced a higher dry-year water use beyond the most recent five years, within the most recent 10 years.

The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustments to the SEP water demand projections:

- Historical (2010-2015) water use data and description of a surveyed or future facility, including the fuel type, cooling process, capacity, average percent of time operating, and any other information necessary to estimate water use.
- Reports describing alternative trends or anticipated water use for steam-electric power generation.
- Specific information of an anticipated facility not listed in state or federal reports necessary to estimate the volume of water reasonably expected to be consumed. Such information would include generation method, cooling method, generation capacity and any additional information necessary to estimate the future water use.
- Other data that the RWPG considers adequate to justify an adjustment to the steam electric power water demand projections.

RECOMMENDATIONS BASED ON COMMENTS RECEIVED FROM REGION C ELECTRIC GENERATING FACILITIES REPRESENTATIVE

Mr. Gary Spicer of Luminant, the Region C Water Planning Group member representing Electric Generating Facilities, offered several comments about the TWDB's proposed methodology for estimating SEP water demands. Although the TWDB methodology has since been finalized, most of these comments are still relevant. In the following sections, Mr. Spicer's comments are summarized and discussed.

Historical Data Period

***Summary of Mr. Spicer's Comments*:** Mr. Spicer expressed concern that the proposed methodology was based on average SEP demands in the most recent five years. He suggested considering average demands over a ten- to fifteen-year period of historical data, and he believes that demands that occurred during the 2011 drought should be considered in the projections.

***Consultant Comments*:** In the final TWDB methodology, the maximum annual demand during the period 2010-2014 was used as the baseline projection for each county. This includes the 2011 drought year, which had the highest regional SEP water use in the last 15 years. The maximum annual demand is more appropriate for water supply planning than the average annual demand, because it better ensures that sufficient water supply will be available in critical years.

***Recommendation*:** Since the future water demand projection methodology for the current regional planning effort considers the 2011 drought, the methodology appears to be adequate. For future regional water plans, the TWDB should continue to consider a historical period that is long enough to include significant drought periods.

Near-Term Additions and Retirements

***Summary of Mr. Spicer's Comments*:** Knowledge of future SEP plant construction or retirement is closely guarded confidential business information in a competitive market. ERCOT does not have access to this information, so using ERCOT data for water demand projections may miss a significant amount of SEP demand. Even if a generating unit is retired, the site, the cooling system, and the water rights may be reused for a new unit.

***Consultant Comments*:** Information about several of the new facilities accounted for in the draft water demand projections was apparently obtained from the U.S. Energy Information Administration. However, given Mr. Spicer's point about the competitive market, it is also unlikely that generators would share planning information with the federal government until they enter the permitting phase of a project. No plant retirements were accounted for in the draft SEP water demand projections.

***Recommendation*:** There appears to be a significant risk that some planned SEP facilities are not included in the water demand projections. TWDB should consult with SEP industry representatives to explore ways to adequately project water demands for planned SEP facilities without compromising proprietary information.

Anticipated Water Use Based on Fuel Type

***Summary of Mr. Spicer's Comments*:** No valid projection of water demand for new generation can be based solely on fuel type. At a minimum the type of cooling system must be included. It may also be necessary to consider the actual generating technology, since the difference in water demand for various generating technologies can be significant.

***Consultant Comments*:** None.

***Recommendation*:** TWDB should consult with SEP industry representatives to obtain additional information about the cooling systems and generating technologies for planned projects and to refine water demand projections based on this information.

No Consideration of Available Source Water

***Summary of Mr. Spicer's Comments*:** The amount of source water available to a generating facility is usually defined by a Certificate of Adjudication, water rights permit, or water contract. However, the water demand projections do not consider the amount of source water available.

***Consultant Comments*:** In the regional water planning process, water demands and available water supplies are projected independently. Water management strategies are then developed, as appropriate, to meet shortages. This process should be sufficient to account for source water limitations.

Presumably, generators have included water supply limitations in the siting and sizing of planned generation facilities. However, it is acknowledged that planned SEP plants may be relocated or resized in response to water supply limitations.

***Recommendation*:** None.

Lack of Industry Input

***Summary of Mr. Spicer's Comments*:** Any attempt to project future water demand for steam electric power must necessarily involve the industry. The industry should at a minimum be consulted and given the opportunity to review and provide input to any projections of future water demands.

***Consultant Comments*:** None.

***Recommendation*:** TWDB should work with SEP industry representatives to refine projected SEP water demands.

Future of the Big Brown and Valley Steam Electric Stations

***Summary of Mr. Spicer's Comments*:** The Big Brown Steam Electric Station is for sale, and the new owner will probably desire to continue operating the station. The Valley Steam Electric Station has an active permit for the construction of a new generating facility, which will eventually require water if it is expanded to a combined cycle site.

***Consultant Comments*:** None.

***Recommendation*:** With respect to the Big Brown Steam Electric Station, the consultant team also contacted Glenn Clingenpeel of the Trinity River Authority, the water supplier for the Big Brown Station. Mr. Clingenpeel said that the potential retirement of the Big Brown Station is not certain. Therefore, since the Big Brown Station is a currently active site, since the Station is for sale and the new owner would likely continue operating the Station, and since the closure is not certain, water demands for the Big Brown Steam Electric Station should be included in the 2022 SWP.

With respect to the Valley Steam Electric Station, since the Station is currently retired and since there are no concrete plans to reactivate the Station, no changes should be made to the SEP water demands for the 2022 SWP.

PROPOSED SEP WATER USE

A comparison of the draft projections for the 2022 SWP (provided by TWDB), the final 2017 SWP projections, and the proposed RCWPG revisions to the 2022 SWP projections is presented in Table 1 and Figure 2. Proposed RCWPG revisions to the 2022 SWP projections are explained below:

- Freestone County – Since the Big Brown Station is a currently active site, since the Station is for sale and the new owner would likely continue operating the Station, and since the closure is not certain, water demands for the Big Brown Steam Electric Station should be included in the 2022

SWP. Therefore, 30,847 ac-ft/yr, the maximum water use reported at the Big Brown Steam Electric Station from 2010-2015, should be added to the draft SEP water demand projections for Freestone County.

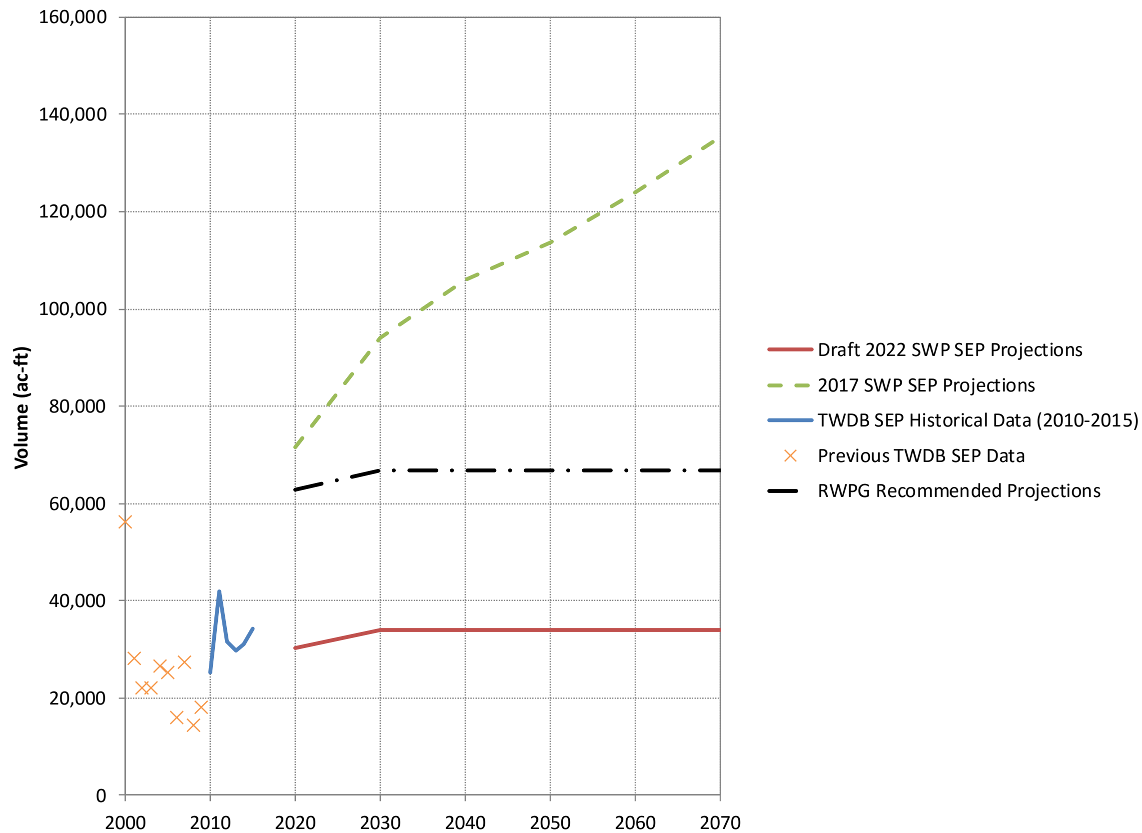
- Henderson County – The 2015 SEP water use (1,649 ac-ft) was greater than the maximum annual usage during 2010-2014 (1,017 ac-ft). Therefore, the 2015 SEP water use should be used as the baseline projection, increasing the draft projections by 632 ac-ft/yr in all decades.
- Kaufman County – The 2015 SEP water use (9,793 ac-ft) was greater than the maximum annual usage during 2010-2014 (8,621 ac-ft). Therefore, the 2015 SEP water use should be used as the baseline projection, increasing the draft projections by 1,172 ac-ft/yr in all decades.

Table 1. Comparison of SEP Demand Projections

County Name	2017 SWP Projections (ac-ft/yr)						Draft Projections for 2022 SWP (ac-ft/yr)						Recommended RWPG Revisions (ac-ft/yr)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Collin	715	602	740	594	782	724	40	40	40	40	40	40	40	40	40	40	40	40
Cooke	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	5	5	5
Dallas	5,000	5,000	11,066	11,066	11,066	11,066	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065
Denton	646	733	819	906	993	1,088	173	173	173	173	173	173	173	173	173	173	173	173
Ellis	698	1,450	3,741	5,754	7,878	10,786	901	901	901	901	901	901	901	901	901	901	901	901
Fannin	6,363	11,474	11,910	12,443	13,092	13,775	0	0	0	0	0	0	0	0	0	0	0	0
Freestone	25,000	25,000	25,000	28,712	33,963	40,175	3,585	3,585	3,585	3,585	3,585	3,585	34,432	34,432	34,432	34,432	34,432	34,432
Grayson	6,163	12,711	12,711	12,711	12,711	12,711	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387	4,387
Henderson	4,000	7,000	8,000	9,000	10,000	11,000	3,077	3,077	3,077	3,077	3,077	3,077	3,709	3,709	3,709	3,709	3,709	3,709
Jack	2,665	2,879	3,092	3,305	3,518	3,745	3,772	3,772	3,772	3,772	3,772	3,772	3,772	3,772	3,772	3,772	3,772	3,772
Kaufman	8,000	8,000	8,000	8,000	8,000	8,000	8,621	8,621	8,621	8,621	8,621	8,621	9,793	9,793	9,793	9,793	9,793	9,793
Navarro	8,000	13,440	13,440	13,440	13,440	13,440	-	-	-	-	-	-	-	-	-	-	-	-
Parker	260	260	260	260	260	260	604	604	604	604	604	604	604	604	604	604	604	604
Rockwall	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tarrant	2,448	4,168	5,000	5,000	5,000	5,000	1,157	4,948	4,948	4,948	4,948	4,948	1,157	4,948	4,948	4,948	4,948	4,948
Wise	1,494	1,459	2,254	2,450	3,298	3,673	2,894	2,894	2,894	2,894	2,894	2,894	2,894	2,894	2,894	2,894	2,894	2,894
Total	**71,452**	**94,176**	**106,033**	**113,641**	**124,001**	**135,443**	**30,281**	**34,072**	**34,072**	**34,072**	**34,072**	**34,072**	**62,932**	**66,723**	**66,723**	**66,723**	**66,723**	**66,723**

Gray shading indicates a recommended change in the steam electric power water demand projections.

Figure 1. Region C Steam Electric Power – Comparison of Water Use Estimates, 2017 State Water Plan Projection, Proposed Projections, and Revised Projections



Attachment A
Steam Electric Power Demand by County
Historical Usage and Projections Comparison

Figure 1A. Collin County Steam Electric Power Comparison

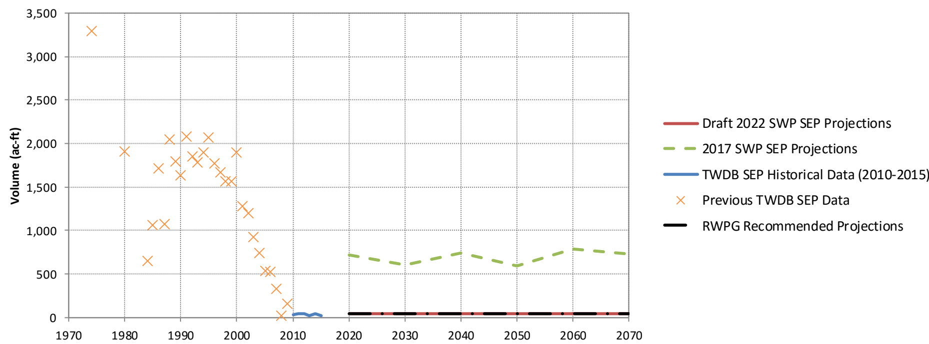


Figure 2A. Cooke County Steam Electric Power Comparison

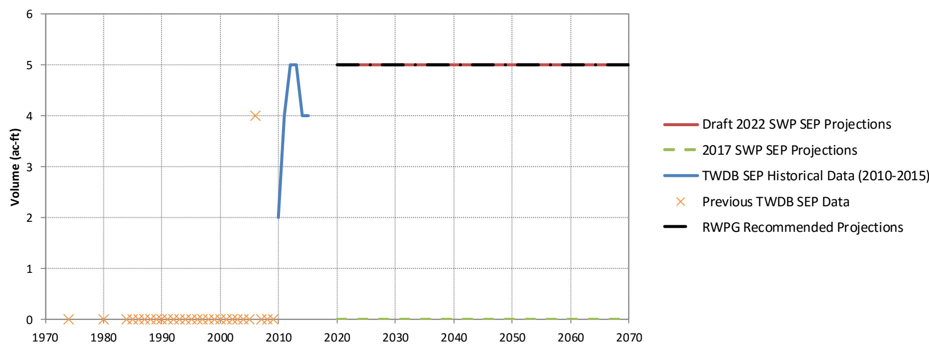


Figure 3A. Dallas County Steam Electric Power Comparison

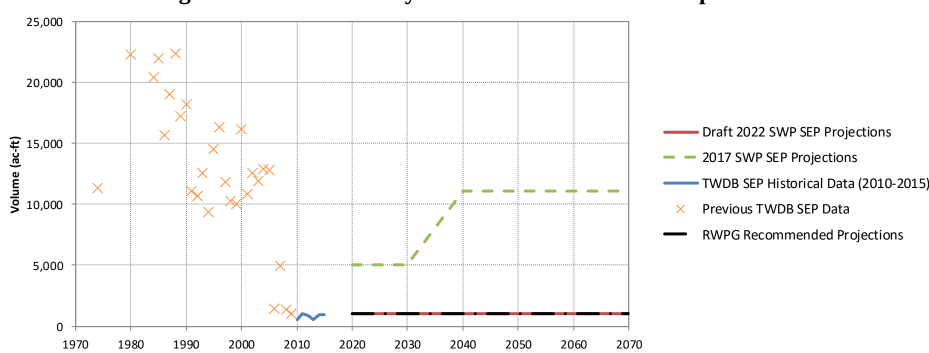


Figure 4A. Denton County Steam Electric Power Comparison

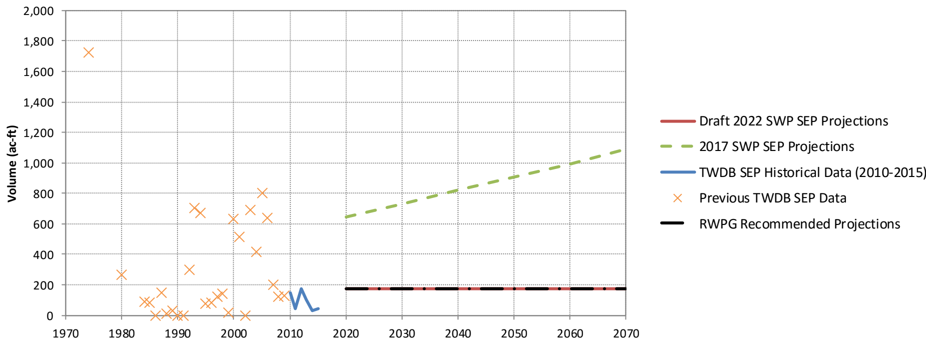


Figure 5A. Ellis County Steam Electric Power Comparison

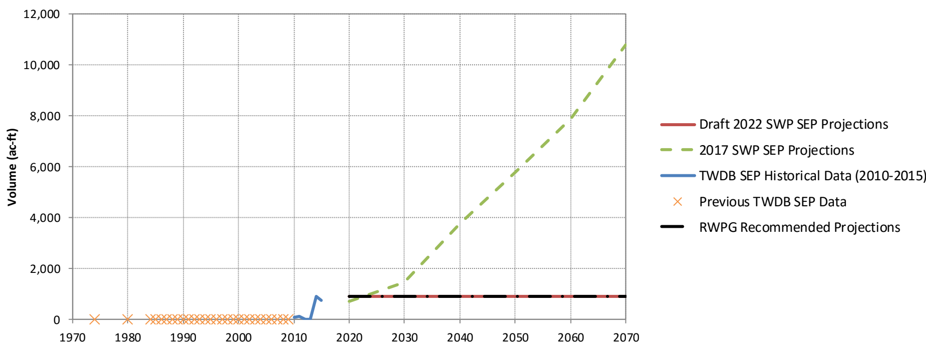


Figure 6A. Fannin County Steam Electric Power Comparison

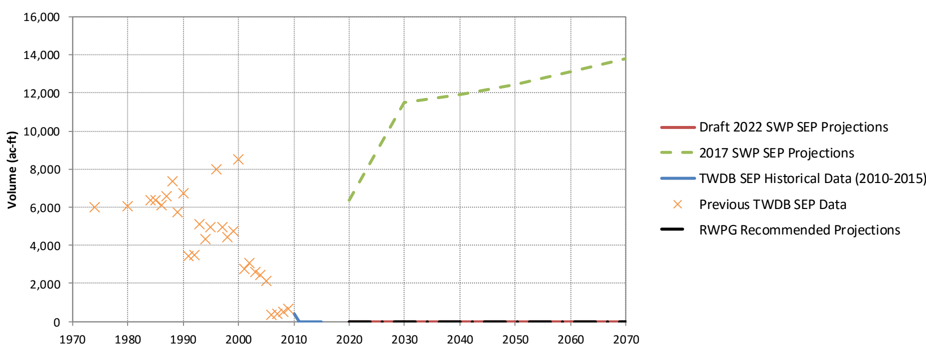


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Figure 7A. Freestone County Steam Electric Power Comparison

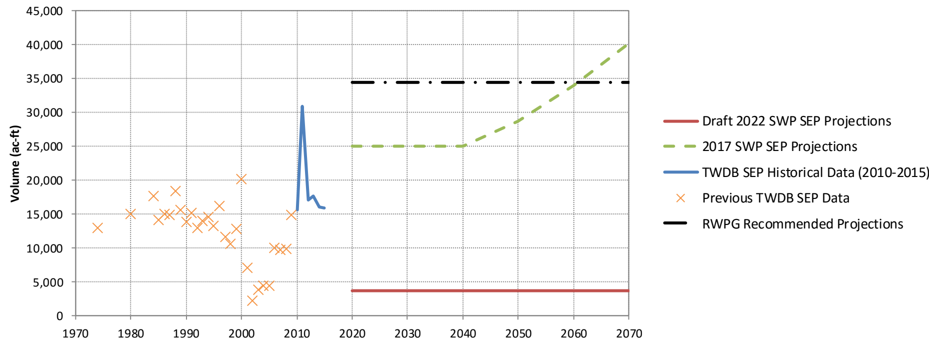

Figure 8A. Grayson County Steam Electric Power Comparison

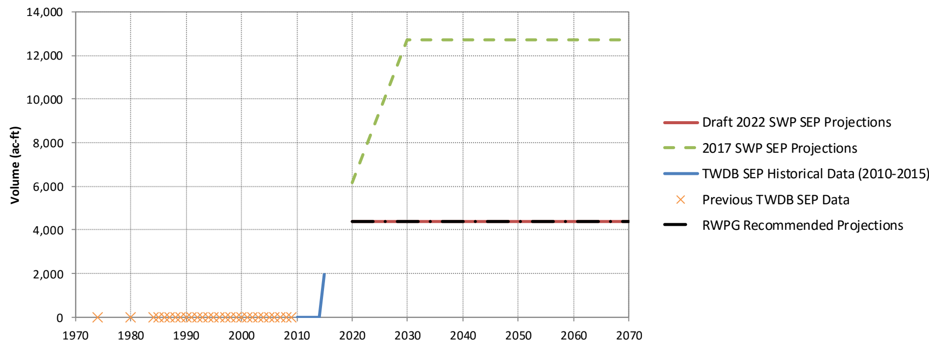

Figure 9A. Henderson County Steam Electric Power Comparison

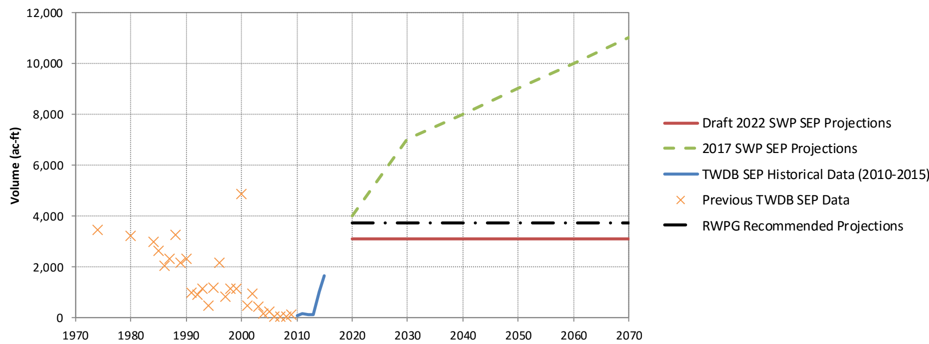

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Figure 10A. Jack County Steam Electric Power Comparison

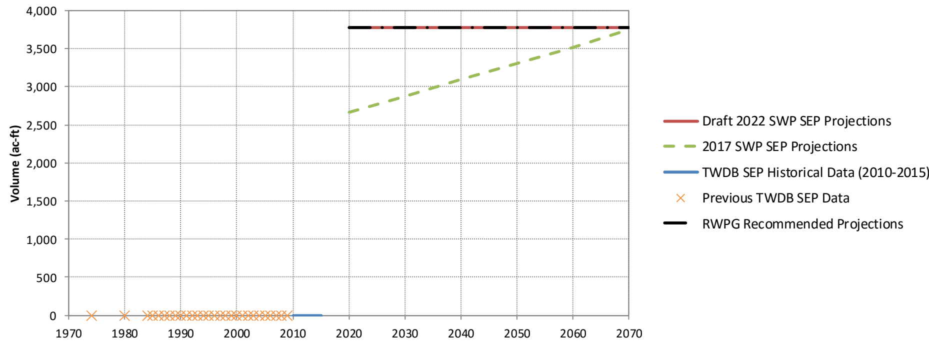


Figure 11A. Kaufman County Steam Electric Power Comparison

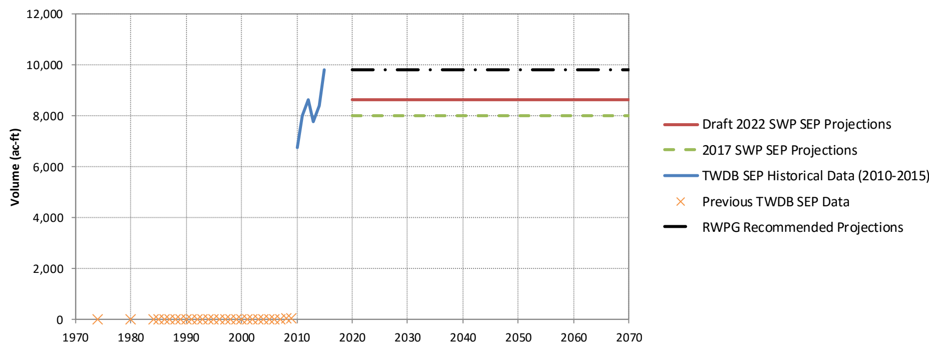


Figure 12A. Navarro County Steam Electric Power Comparison

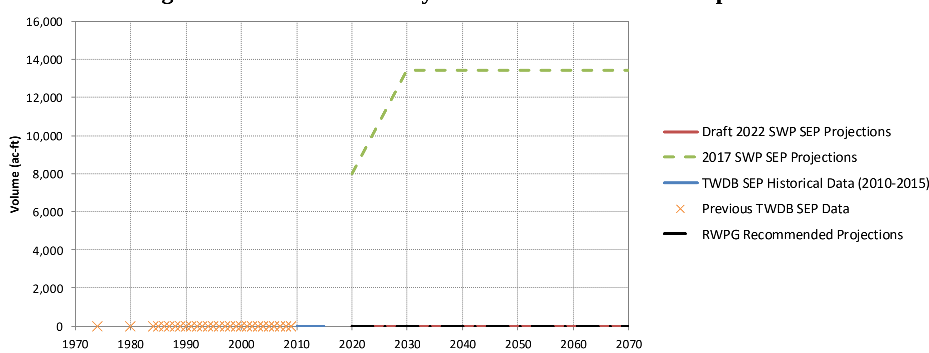


Figure 13A. Parker County Steam Electric Power Comparison

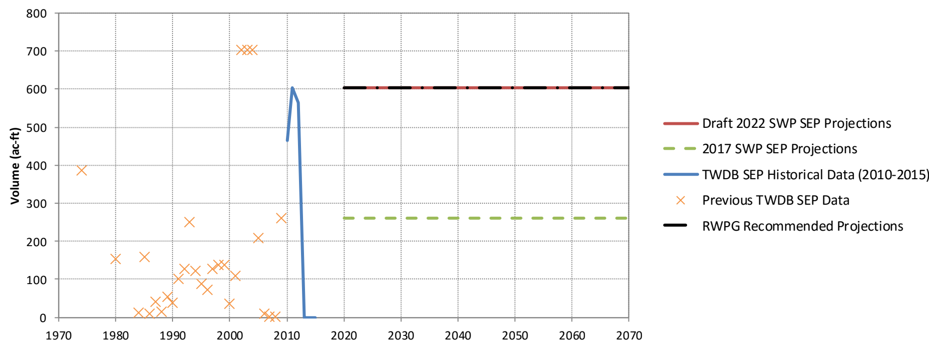


Figure 14A. Rockwall County Steam Electric Power Comparison

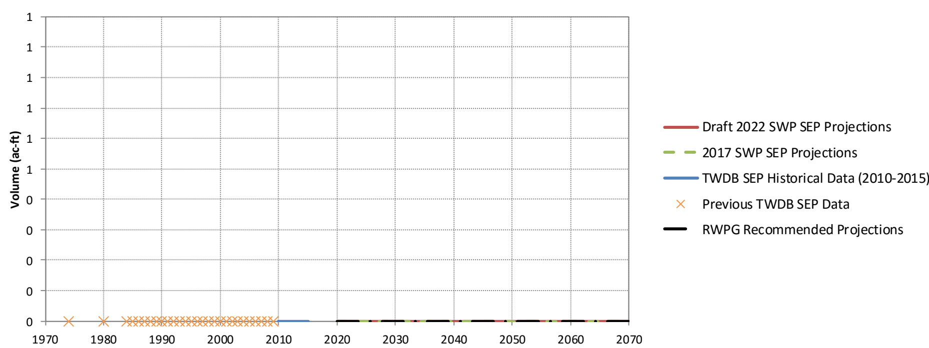


Figure 15A. Tarrant County Steam Electric Power Comparison

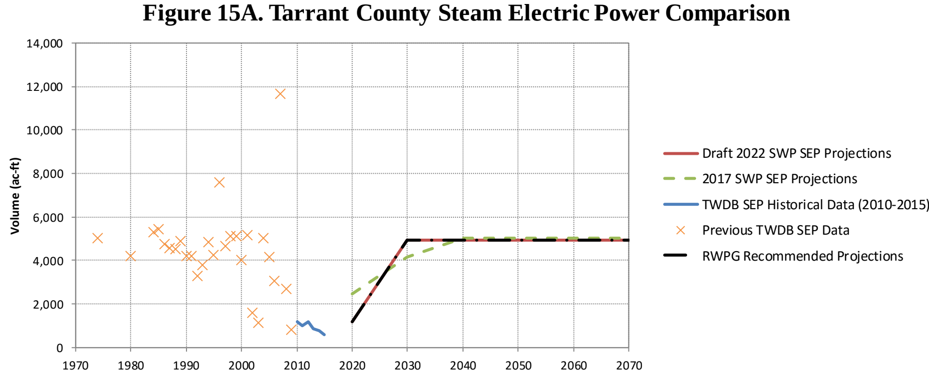
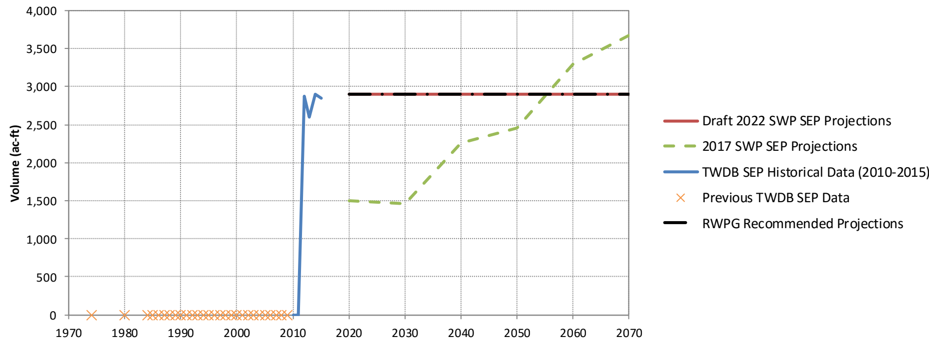


Figure 16A. Wise County Steam Electric Power Comparison



TECHNICAL MEMORANDUM

Region C Water Planning Group
2021 Regional Water Planning Cycle
Non-Municipal Demand Projections, Livestock

Project No.:	0312-051-01
Date:	December 13, 2017
Prepared For:	Tom Gooch, Freese and Nichols, Inc. Amy Kaarlela, Freese and Nichols, Inc.
Prepared By:	Brian McDonald, Alan Plummer Associates, Inc.

The *2021 Region C Water Plan* will incorporate projections for municipal demands, as well as non-municipal demands for irrigation, livestock, manufacturing, mining, and steam-electric power. The Texas Water Development Board (TWDB) provided the planning groups with draft non-municipal demand projections. The draft non-municipal demand projections will be reviewed by the individual planning groups, and recommendations will be provided to the TWDB. The TWDB will consider the recommended changes from the planning groups, and the final projections will ultimately be adopted by the planning groups and the TWDB and incorporated into the 2022 State Water Plan (SWP). The purpose of this technical memorandum is to document information related to historical livestock usage and provide information supporting recommended modifications to the draft livestock demands.

BACKGROUND

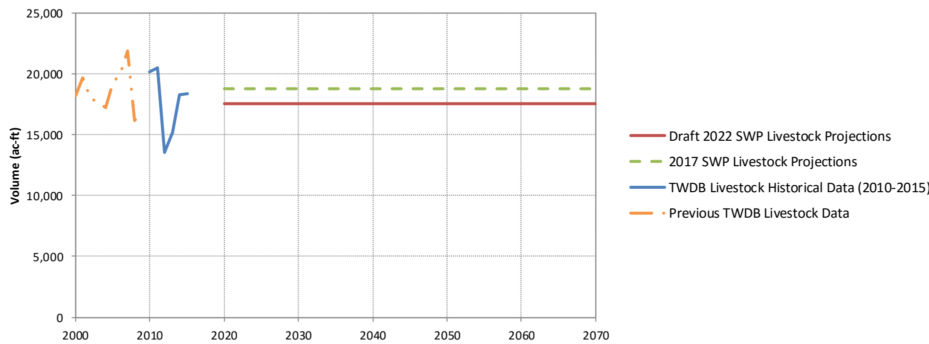
Livestock water use is defined by the TWDB as water used in the production of livestock, both for drinking and for cleaning or environmental purposes.

<u>Historical Livestock Water Use Estimates</u>

The historical 2010-2015 livestock water use estimates are based on a combination of TWDB Water Use Surveys and estimates derived from applying a water use coefficient for each livestock category to county-level inventory estimates from the National Agricultural Statistical Service and the Texas Department of Agriculture.

As of June 2017, historical data estimates are available through the year 2015. Since the year 2010, the region-wide livestock water use estimates have ranged from 13,558 to 20,506 acre-feet per year (Figure 1).

Figure 1. Region C Total County Livestock Comparison



TWDB Draft Livestock Water Demand Projections

TWDB's draft non-municipal livestock demand projections for the 2022 State Water Plan utilize an average of the 2010-2014 livestock water use estimates as a base (2020 projection), and the rate of change for projections from the *2016 Region C Water Plan* is applied to the base for the years 2030-2070.[1]

Criteria for Revising the Draft Livestock Water Demand Projections

One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the livestock water demand projections:

- Evidence that livestock water use estimates for a county from another source are more accurate than those used in the draft projections.
- Plans for the construction of a confined livestock feeding operation in a county at some future date.
- Documentation of an existing confined livestock feeding operation not captured in the draft projections.
- Other evidence of change in livestock inventory or water requirements that would justify an adjustment in the projected future rate of change in livestock water demand.
- Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) or brackish groundwater that were not included in the draft projections.

[1] In 2017, the TWDB updated livestock water use estimates for 2010-2014 use new "per head" daily water use for chickens.

During the review process, the TWDB also imposed one other restriction on revisions of the draft livestock water demand projections: Projections for all counties must have the same basis. For example, if the Planning Group recommends using the average of the 2011-2015 livestock water use estimates to project future water demand, then it must recommend this basis for all counties.

The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustments to the livestock water demand projections:

- Documentation of plans for the construction of a confined livestock feeding facility in a county at some future date will include the following:
    - Confirmation of land purchase or lease arrangements for the facility.
    - The construction schedule including the date the livestock feeding facility will become operational.
    - The daily water requirements of the planned livestock feeding facility.
- Other evidence that would document an expected increase or decrease in the livestock inventory in the county.
- Other data that the RWPG considers adequate to justify an adjustment to the livestock water demand projections.

RCWPG-RECOMMENDED REVISIONS TO DRAFT LIVESTOCK WATER DEMAND PROJECTIONS

A comparison of the draft projections for the 2022 SWP (provided by TWDB), the final 2017 SWP projections, and the proposed RCWPG revisions to the 2017 SWP projections is presented in Table 1 and Figure 2. The majority of the proposed RCWPG county-level projections are identical to the draft projections for the 2022 SWP. Deviations from the draft projections for the 2022 State Water Plan are explained in this section.

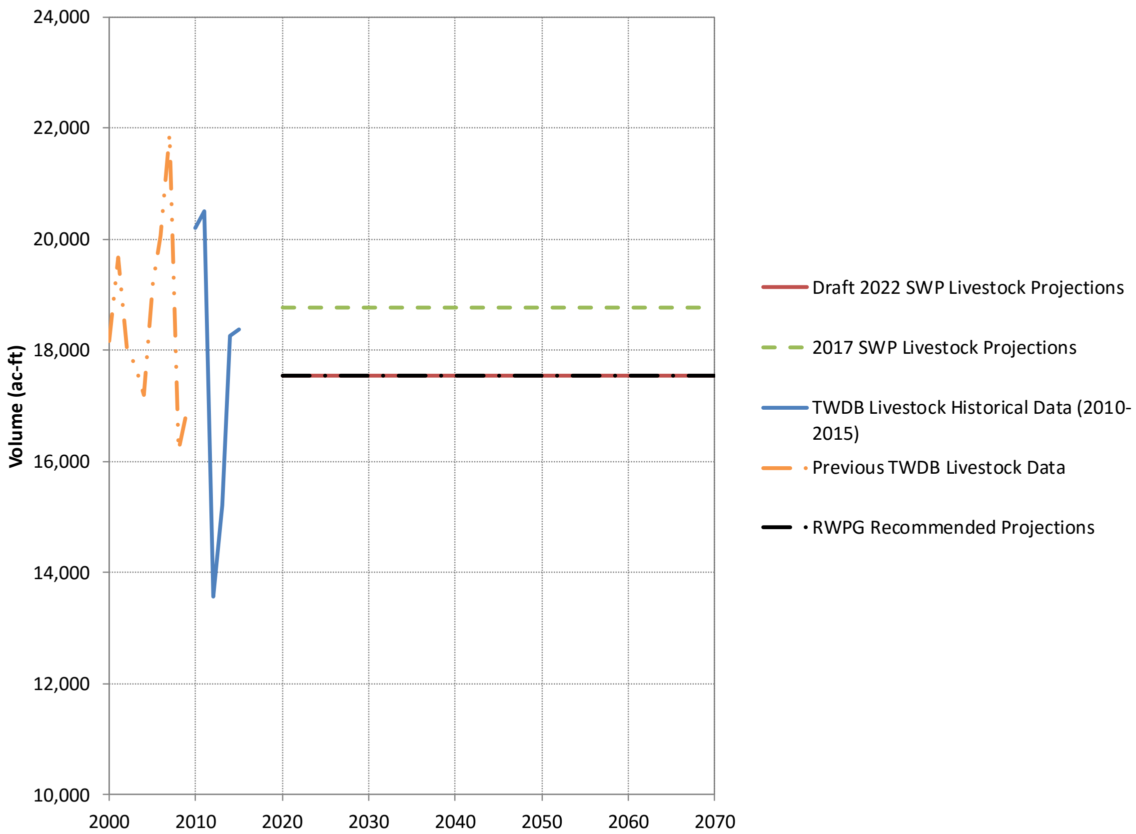
After reviewing the available data, the Planning Group recommends no changes to the draft projections for the 2022 SWP.

Table 1. Comparison of Livestock Demand Projections

County Name	2017 SWP Projections (ac-ft/yr)						Draft Projections for 2022 SWP (ac-ft/yr)						Recommended RWPG Revisions (ac-ft/yr)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Collin	860	860	860	860	860	860	912	912	912	912	912	912	912	912	912	912	912	912
Cooke	1,494	1,494	1,494	1,494	1,494	1,494	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
Dallas	854	854	854	854	854	854	758	758	758	758	758	758	758	758	758	758	758	758
Denton	1,045	1,045	1,045	1,045	1,045	1,045	769	769	769	769	769	769	769	769	769	769	769	769
Ellis	905	905	905	905	905	905	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140
Fannin	1,668	1,668	1,668	1,668	1,668	1,668	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411	1,411
Freestone	1,852	1,852	1,852	1,852	1,852	1,852	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207
Grayson	1,458	1,458	1,458	1,458	1,458	1,458	1,143	1,143	1,143	1,143	1,143	1,143	1,143	1,143	1,143	1,143	1,143	1,143
Henderson	490	490	490	490	490	490	1,261	1,261	1,261	1,261	1,261	1,261	1,261	1,261	1,261	1,261	1,261	1,261
Jack	932	932	932	932	932	932	785	785	785	785	785	785	785	785	785	785	785	785
Kaufman	1,717	1,717	1,717	1,717	1,717	1,717	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570	1,570
Navarro	1,544	1,544	1,544	1,544	1,544	1,544	1,691	1,691	1,691	1,691	1,691	1,691	1,691	1,691	1,691	1,691	1,691	1,691
Parker	1,544	1,544	1,544	1,544	1,544	1,544	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634	1,634
Rockwall	117	117	117	117	117	117	111	111	111	111	111	111	111	111	111	111	111	111
Tarrant	723	723	723	723	723	723	627	627	627	627	627	627	627	627	627	627	627	627
Wise	1,575	1,575	1,575	1,575	1,575	1,575	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198	1,198
Total	**18,778**	**18,778**	**18,778**	**18,778**	**18,778**	**18,778**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**	**17,547**

Gray shading indicates a recommended change in the livestock water demand projections.

Figure 2. Region C Livestock – Comparison of Water Use Estimates, 2017 State Water Plan Projection, Proposed Projections, and Revised Projections



Attachment A
Livestock Demand by County
Historical Usage and Projections Comparison

Figure 1A. Collin County Livestock Comparison

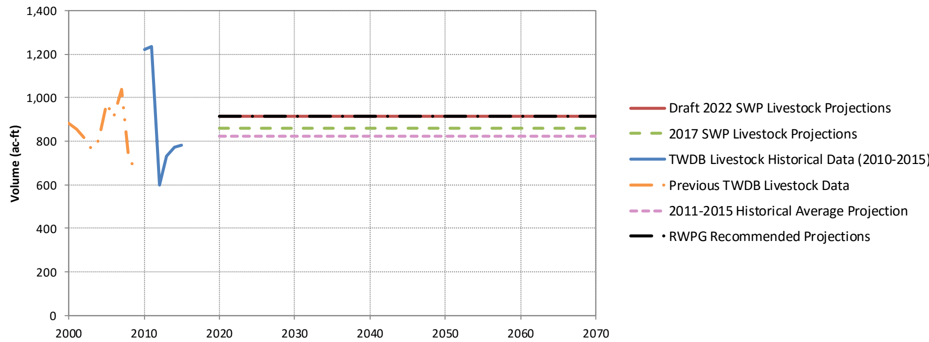


Figure 2A. Cooke County Livestock Comparison

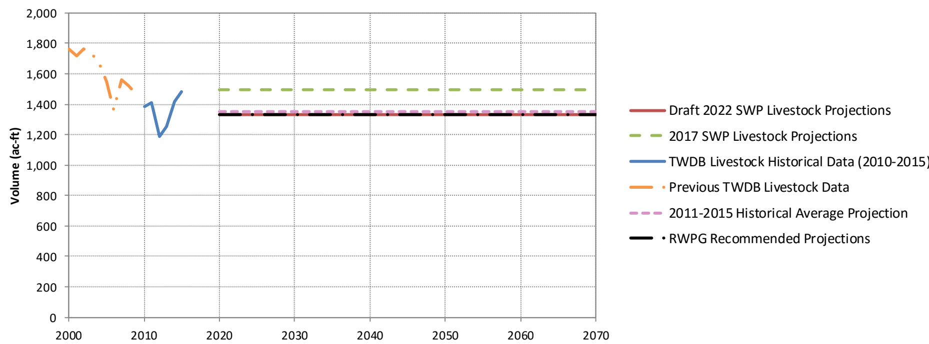


Figure 3A. Dallas County Livestock Comparison

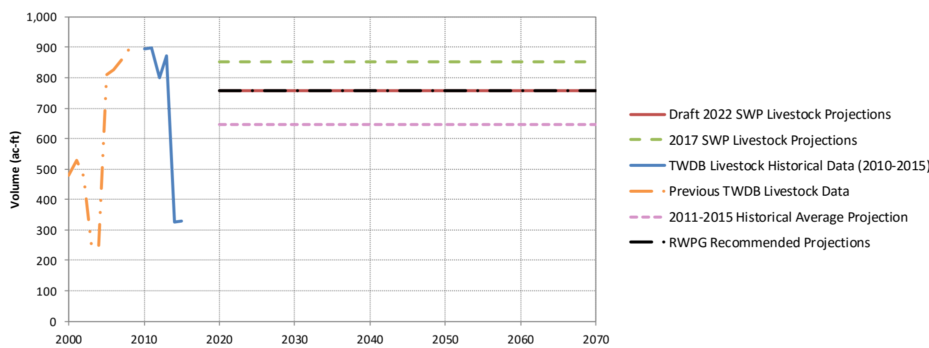


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Figure 4A. Denton County Livestock Comparison

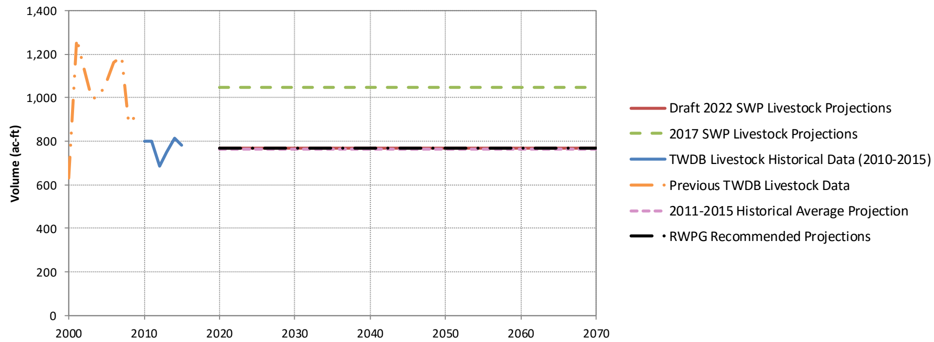

Figure 5A. Ellis County Livestock Comparison

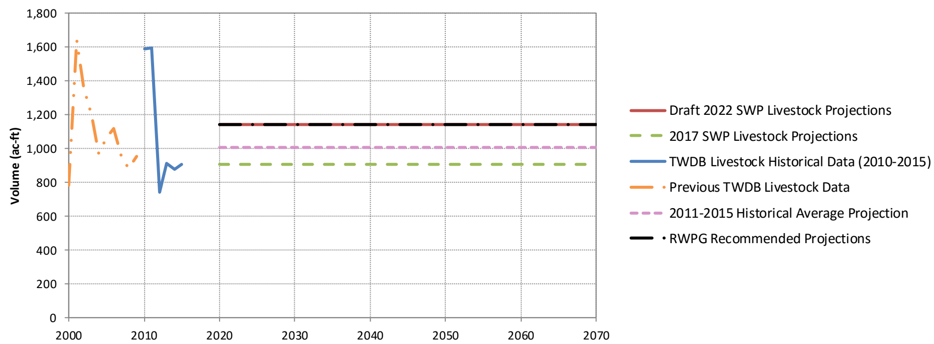

Figure 6A. Fannin County Livestock Comparison

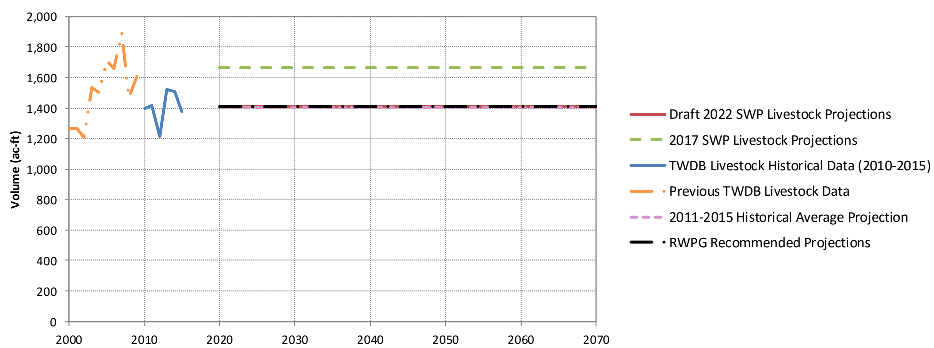

Figure 7A. Freestone County Livestock Comparison

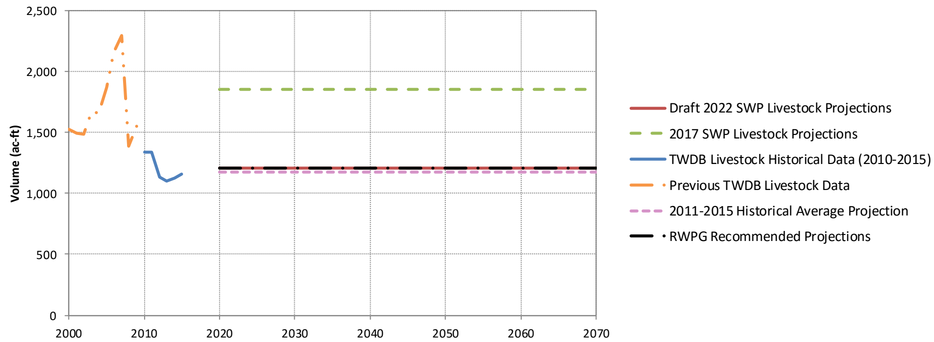

Figure 8A. Grayson County Livestock Comparison

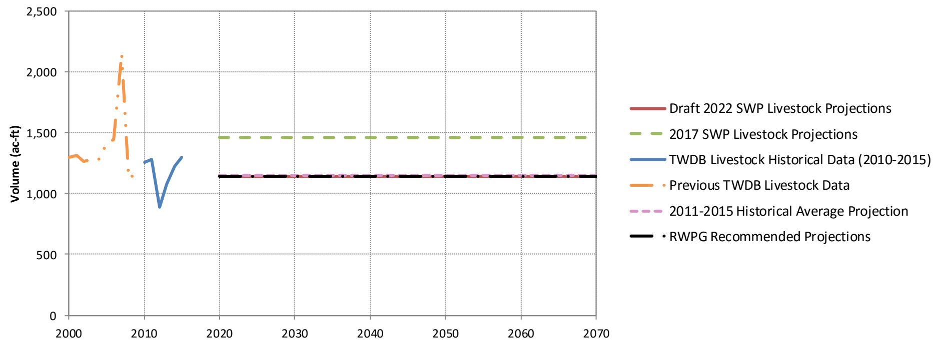

Figure 9A. Henderson County Livestock Comparison

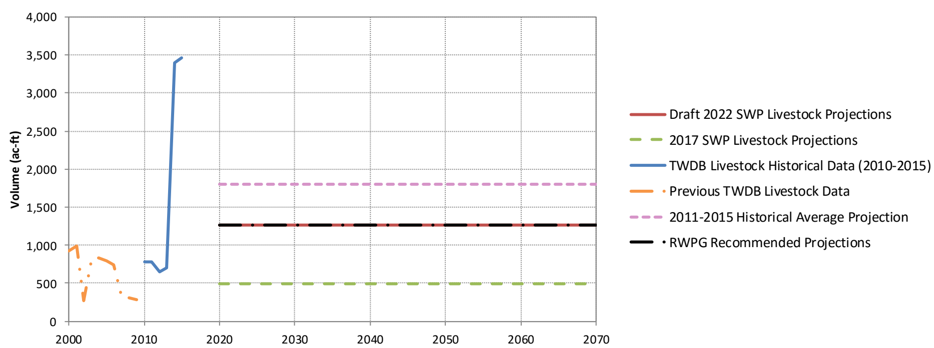

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Figure 10A. Jack County Livestock Comparison

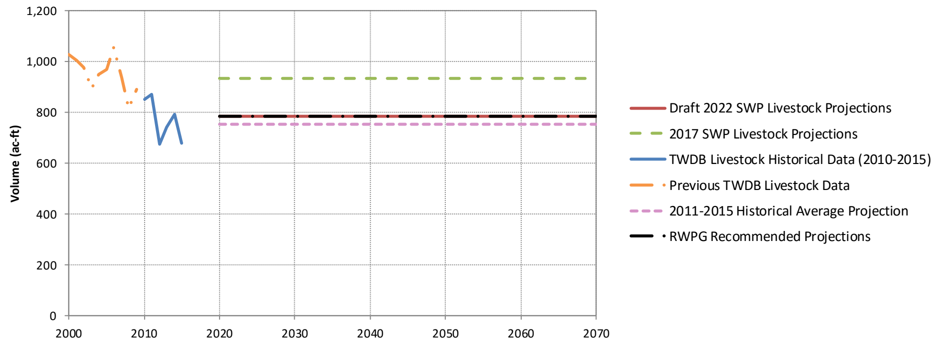


Figure 11A. Kaufman County Livestock Comparison

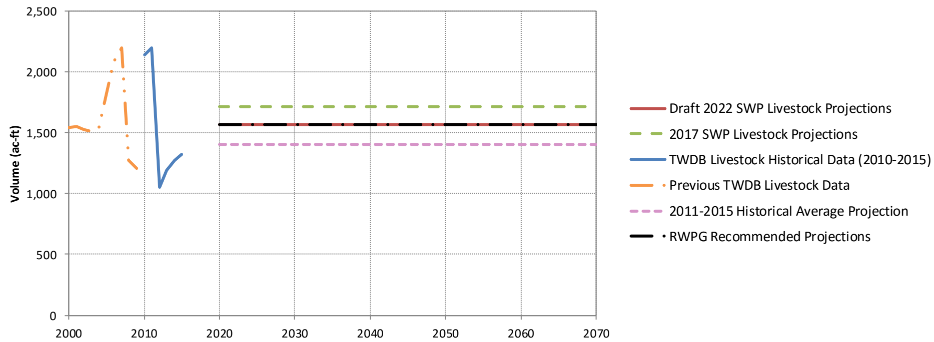


Figure 12A. Navarro County Livestock Comparison

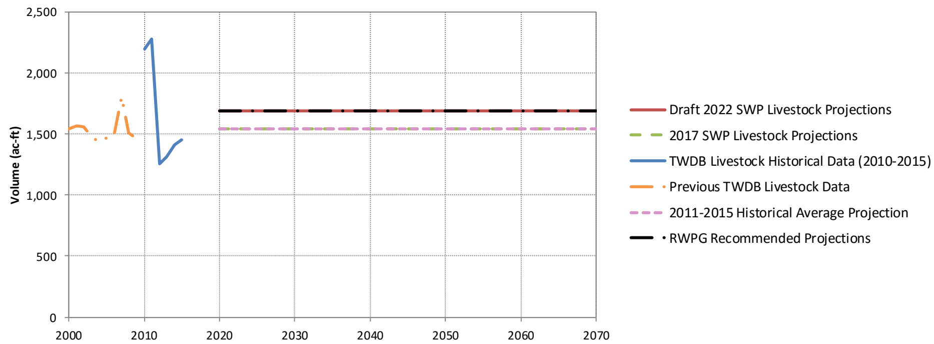


Figure 13A. Parker County Livestock Comparison

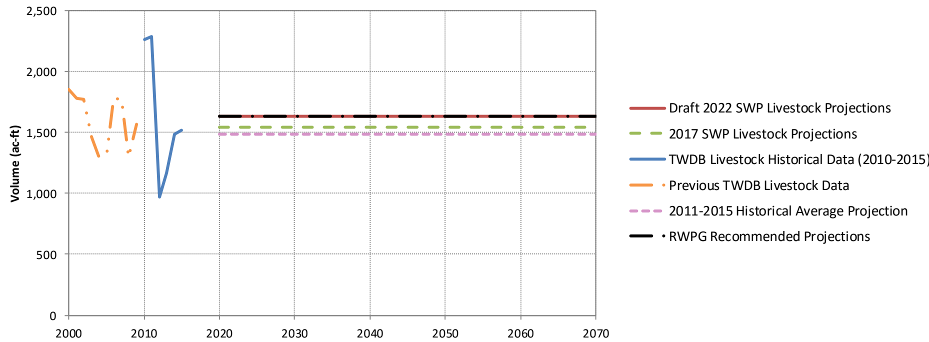


Figure 14A. Rockwall County Livestock Comparison

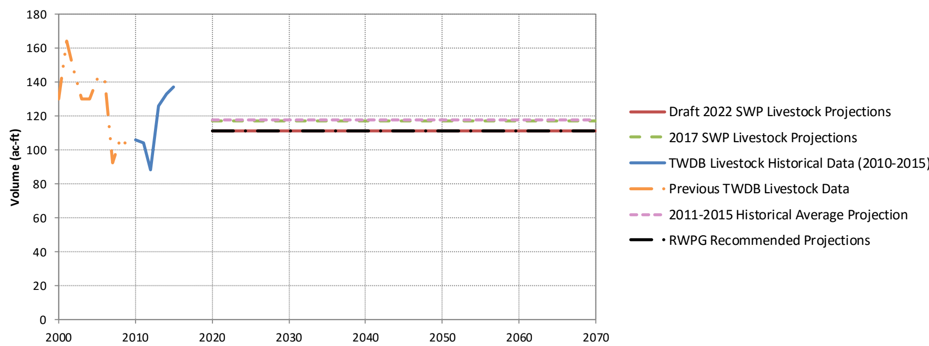


Figure 15A. Tarrant County Livestock Comparison

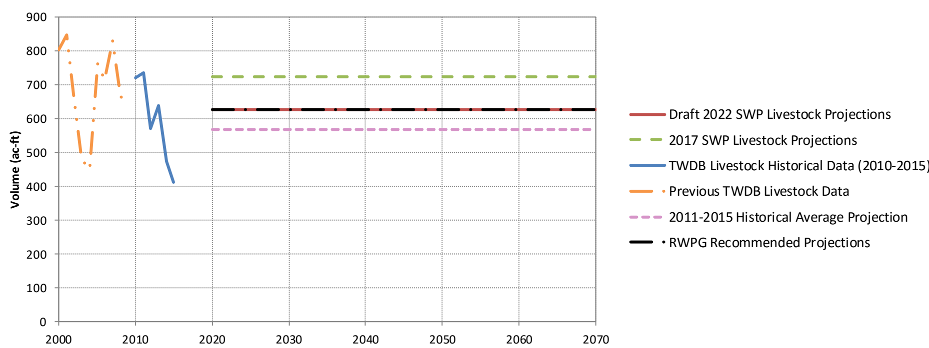
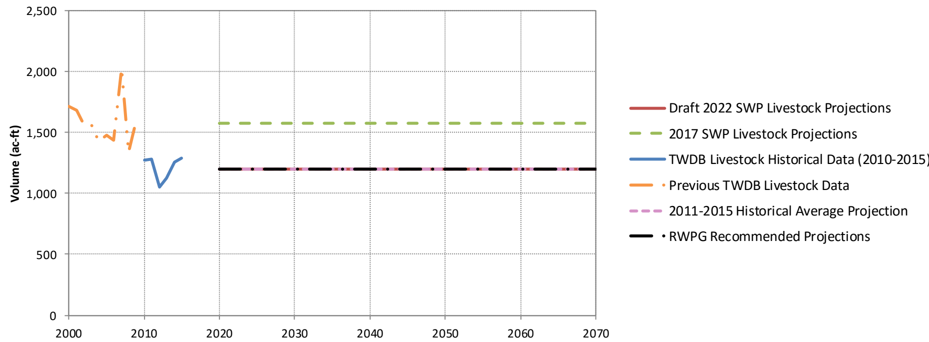


Figure 16A. Wise County Livestock Comparison



TECHNICAL MEMORANDUM

Region C Water Planning Group
2021 Regional Water Planning Cycle
Non-Municipal Demand Projections, Mining

Project No.: 0312-051-01

Date: December 13, 2017

Prepared For: Tom Gooch, Freese and Nichols, Inc.
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The *2021 Region C Water Plan* will incorporate projections for municipal demands, as well as non-municipal demands for irrigation, livestock, manufacturing, mining, and steam electric power. The Texas Water Development Board (TWDB) provided the planning groups with draft non-municipal demand projections. The draft non-municipal demand projections will be reviewed by the individual planning groups, and recommendations will be provided to the TWDB. The TWDB will consider the recommended changes from the planning groups, and the final projections will ultimately be adopted by the planning groups and the TWDB and incorporated into the 2022 State Water Plan (SWP). The purpose of this technical memorandum is to document information related to historical mining usage and provide information supporting recommended modifications to the draft mining demands.

BACKGROUND

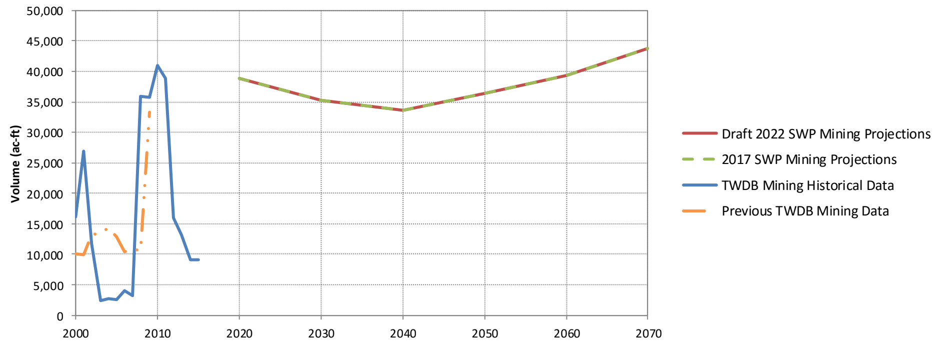
Mining water use is water used for oil and gas development, as well as coal and lignite, sand aggregate, and other resource extraction.

Historical Mining Water Use Estimates

The TWDB publishes historical annual mining water use estimates for each county.[1] Since the year 2000, the region-wide mining water use estimates have ranged from 2,335 to 41,024 acre-feet per year (Figure 1). As of June 2017, historical data estimates were available through the year 2015.

[1] Texas Water Development Board, *Historical Water Use Estimates, Summary Water Use Estimates, County, Summary, 2000 and Later*. URL: http://www2.twdb.texas.gov/ReportServerExt/Pages/ReportViewer.aspx?%2fWU%2fSumFinal_CountyReport&rs:Command=Render, accessed January 2017.

Figure 1. Region C Total County Mining Comparison



TWDB Draft Mining Water Demand Projections

TWDB's draft mining water demand projections for the 2022 State Water Plan (SWP) are the same as the projections used in the 2017 SWP. The 2017 SWP projections were originally developed from a 2011 TWDB-contracted study with the Bureau of Economic Geology (BEG)[2] and a September 2012 update to the BEG study.[3] The 2017 SWP projections for Fannin and Henderson Counties were then revised based on input from the Region C Water Planning Group.

The BEG study estimated current mining water use and projected use across the planning horizon using data collected from trade organizations, government agencies, and other industry representatives. The projections include information from four mining categories: oil and gas, aggregates, coal and lignite, and other. The BEG study projects the overall state-wide mining use to peak between 2020 and 2030 (primarily influenced by oil and gas production). The coal and aggregate mining industry is projected to continue to increase throughout the planning period. The historical water use pattern in Figure 1 indicates that the primary driver for mining water use in Region C is the oil and gas categories. However, mining water use in several Region C counties appears to be driven by the coal/aggregate mining industries. Figure 1 also indicates that the TWDB mining historical data have been revised since the last round of planning.

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[2] Bureau of Economic Geology, *Current and Projected Water Use in the Texas Mining and Oil and Gas Industry*, prepared for Texas Water Development Board, June 2011.

[3] Bureau of Economic Geology, *Oil and Gas Water Use in Texas: Update to the 2011 Mining Water Use Report*, prepared for Texas Water Development Board, September 2012.

Criteria for Revising the Draft Mining Water Demand Projections

One or more of the following criteria must be verified by the Planning Group and the Executive Administrator for consideration of revising the mining water demand projections:

- Evidence that mining water use in a county is substantially different than the draft projections. This could include trends in water use data from FracFocus national online registry,[4] the Texas Railroad Commission, or other sources.
- Evidence of new facilities coming online, reported closures in surveyed facilities that may impact county projections
- Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) water or brackish groundwater that were not included in the draft projections.

The Planning Group must provide the following data associated with the identified criteria to the Executive Administrator for justifying any adjustments to the mining water demand projections:

- Historical (2010-2015) water use data and description of a surveyed or future facility, and any other information necessary to estimate water use.
- Reports describing alternative trends or anticipated water use for mining.
- Other data that the RWPG considers adequate to justify an adjustment to the mining water demand projections will be considered.

Data Used in the Evaluation of Draft Mining Demands

Data used to evaluate the draft mining demands were obtained from the following sources:

- TWDB
  - Historical mining water use data by county, 2000-2015 (referenced earlier).
  - Historical industrial water use survey, 2010-2015.[5] Identified water use associated with NAICS Sector 21: Mining, Quarrying, and Oil and Gas Extraction.
- United States Geological Survey mining water use data for 2010.[6]

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[4] https://fracfocus.org/

[5] Texas Water Development Board, *Historical Water Use Estimates, Summary Water Use Estimates, Other Water Use Related Reports, Historical Surveyed Industrial Water Intake by Planning Region*. URL: http://www2.twdb.texas.gov/ReportServerExt/Pages/ReportViewer.aspx?%2fWU%2fHistoricalIndustrial&rs:Command=Render, accessed January 2017.

- Fracfocus.org hydraulic fracturing water use data, 2012-2015. The Texas Commission on Environmental Quality (TCEQ) requires Texas oil and gas operators to disclose on the FracFocus website chemical ingredients and water volumes used in the hydraulic fracturing treatment of oil and gas wells for all wells initially permitted and undergoing hydraulic fracturing after February 1, 2012.[7]
- TCEQ mining water right diversions, 2010-2014.[8]
- The BEG study and update mentioned earlier.

In several counties, the USGS reported 2010 mining water use that is much higher than estimates from state sources. It appears that there may be a mismatch between the definitions of mining water use between the USGS and state sources. Since regional water planning is generally based on data reported to the state, state data sources have been given precedence, and the USGS data have been ignored.

RCWPG RECOMMENDED REVISIONS TO DRAFT MINING WATER DEMAND PROJECTIONS

After reviewing the data described in the previous section, the Region C Water Planning Group (RCWPG) recommends no change to the majority of the draft county-level mining water demand projections. However, the RCWPG believes that changes to the projections are warranted in several counties. In each of these cases, the changes are intended to bridge gaps between recent peak mining water use and projections based on long-term trends. Graphs showing the RCWPG-recommended mining water demand projections are presented for each Region C county in Appendix A.

Deviations from the draft projections are explained below:

- Ellis County – The TWDB reported that Ellis County mining water use was 3,056 ac-ft in 2008. However, this usage was not sustained, and the next largest TWDB-reported water use was 375 ac-ft in 2010. In contrast, the TCEQ mining water right diversions were consistently between 612 acre-feet per year (ac-ft/yr) and 931 ac-ft/yr. This level of water use is supported by the 2014

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[6] United States Geological Survey, *Estimated Use of Water in the United States County-Level Data for 2010*. URL: https://water.usgs.gov/watuse/data/2010/index.html, accessed January 2017.

[7] Fracfocus Chemical Disclosure Registry, *Fracfocus Data Download*. URL: https://fracfocus.org/data-download, accessed January 2017.

[8] Texas Commission on Environmental Quality, *Water Use Data Files*. URL: http://tceq.state.tx.us/permitting/water_rights/permitting/water_rights/wrwud/, accessed January 2017.

TWDB historical industrial water use survey, although it's not clear why the survey resulted in zero or near-zero estimates in other years. Since the TCEQ mining water right diversions provide the most consistent data for Ellis County, it is recommended that the peak mining water right diversion (931 ac-ft) be used for the 2020 projected mining water demand and that the projected mining water demand should transition to match the draft 2040-2070 projections.

- Fannin County – 2010-2015 TWDB historical mining water use estimates are significantly greater than the projected mining water demand. Therefore, it is recommended that the peak historical mining water use estimate (574 ac-ft) be used for the 2020 projected mining water demand and that the projected mining water demand should transition to match the draft 2040-2070 projections.
- Grayson County – The maximum TWDB historical mining water use was 312 ac-ft/yr in 2014. It is recommended that the maximum historical mining water use (312 ac-ft) be used for the 2020 projected mining water demand and that the projected mining water demand should transition to match the draft 2040-2070 projections.
- Henderson County – The draft projections are based on the TWDB mining water use estimates that were available during the previous round of planning (607 ac-ft in 2008). However, these historical estimates have been revised significantly downward in the intervening years. Therefore, it is recommended that the draft projections for the entire county be revised to match those from the 2011 BEG study. However, part of Henderson County is located in Region C, and part is located in Region I. Therefore, the recommended changes were distributed to Region C in proportion to the percentage of the county-wide mining water demand that is projected to occur in Region C.
- Jack County – The TWDB mining water use estimate for 2010 matches the 2010 projection from the BEG study, and both are significantly greater than the draft projections. Therefore, it is recommended that the draft projections be revised to match those from the 2011 BEG study through 2030.
- Navarro County – The TWDB mining water use estimates for 2008-2011 range from 1,123 ac-ft/yr to 1,193 ac-ft/yr and are greater than the draft water demand projections in the early decades. Therefore, it is recommended that the peak historical mining water use estimate (1,193 ac-ft) be used for the 2020 projected mining water demand and that the projected mining water demand should transition to match the draft 2040-2070 projections.
- Tarrant County – The peak TWDB mining water use estimate (11,535 ac-ft in 2011) is much greater than the draft water demand projections. Therefore, it is recommended that the peak historical mining water use estimate (11,535 ac-ft) be used for the 2020 projected mining water

demand and that the projected mining water demand should transition to match the draft 2040-2070 projections.

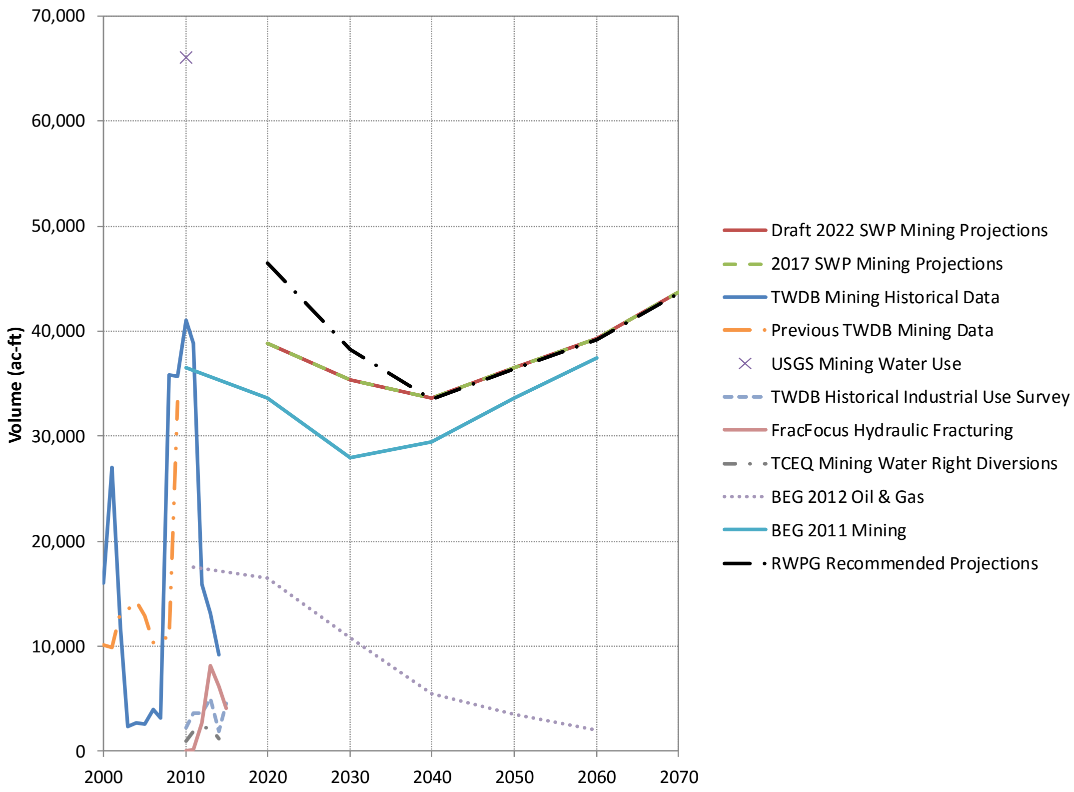
A comparison of the draft projections for the 2022 SWP (provided by TWDB), the final 2017 SWP projections, and the proposed RCWPG revisions to the draft 2022 SWP projections is presented in Table 1 and Figure 2. County projections for 2020 were based on recent peak mining water use from different years and different data sources. Therefore, it is not surprising that the total revised 2020 projection (46,467 ac-ft) is greater than the peak mining water use reported by TWDB for the region as a whole (41,024 ac-ft in 2011).

Table 1. Comparison of Region C Mining Demand Projections

County Name	2017 SWP Projections (ac-ft/yr)						Draft Projections for 2022 SWP (ac-ft/yr)						Recommended RWPG Revisions (ac-ft/yr)					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
Collin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cooke	1,583	900	378	446	511	586	1,583	900	378	446	511	586	1,583	900	378	446	511	586
Dallas	3,038	2,656	2,279	1,930	1,922	1,916	3,038	2,656	2,279	1,930	1,922	1,916	3,038	2,656	2,279	1,930	1,922	1,916
Denton	4,326	2,729	3,345	4,306	5,204	6,291	4,326	2,729	3,345	4,306	5,204	6,291	4,326	2,729	3,345	4,306	5,204	6,291
Ellis	147	213	164	123	82	55	147	213	164	123	82	55	931	547	164	123	82	55
Fannin	128	128	128	128	128	128	128	128	128	128	128	128	574	351	128	128	128	128
Freestone	5,347	5,115	5,251	5,286	5,356	5,582	5,347	5,115	5,251	5,286	5,356	5,582	5,347	5,115	5,251	5,286	5,356	5,582
Grayson	79	91	107	123	142	163	79	91	107	123	142	163	312	210	107	123	142	163
Henderson	607	607	607	607	607	607	607	607	607	607	607	607	434	506	481	484	479	469
Jack	1,555	1,745	1,698	1,731	1,768	1,862	1,555	1,745	1,698	1,731	1,768	1,862	3,396	1,821	1,698	1,731	1,768	1,862
Kaufman	296	386	491	646	783	951	296	386	491	646	783	951	296	386	491	646	783	951
Navarro	883	1,071	1,282	1,572	1,806	2,076	883	1,071	1,282	1,572	1,806	2,076	1,193	1,238	1,282	1,572	1,806	2,076
Parker	3,182	4,029	4,006	4,073	4,124	4,364	3,182	4,029	4,006	4,073	4,124	4,364	3,182	4,029	4,006	4,073	4,124	4,364
Rockwall	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tarrant	7,367	4,482	1,589	1,537	1,497	1,464	7,367	4,482	1,589	1,537	1,497	1,464	11,535	6,562	1,589	1,537	1,497	1,464
Wise	10,320	11,159	12,337	13,975	15,378	17,694	10,320	11,159	12,337	13,975	15,378	17,694	10,320	11,159	12,337	13,975	15,378	17,694
Total	**38,858**	**35,311**	**33,662**	**36,483**	**39,308**	**43,739**	**38,858**	**35,311**	**33,662**	**36,483**	**39,308**	**43,739**	**46,467**	**38,209**	**33,536**	**36,360**	**39,180**	**43,601**

Gray shading indicates a recommended change in the mining water demand projections.

Figure 2. Region C Mining – Comparison of Water Use Estimates, 2017 State Water Plan Projection, Proposed Projections, and Revised Projections



Note: Historical data and projections from BEG studies include mining water use for all of Henderson County. Other projections, including the RWPG recommended projections, include only the portion of Henderson County located in Region C.

Attachment A
Mining Demand by County
Historical Usage and Projections Comparison

Figure 1A. Collin County Mining Comparison

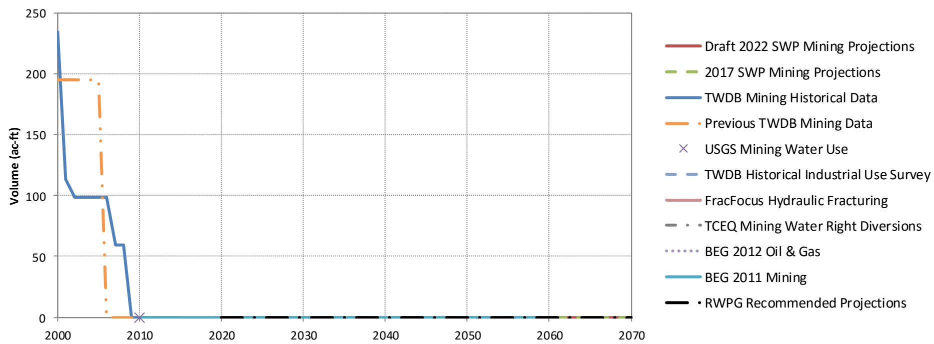


Figure 2A. Cooke County Mining Comparison

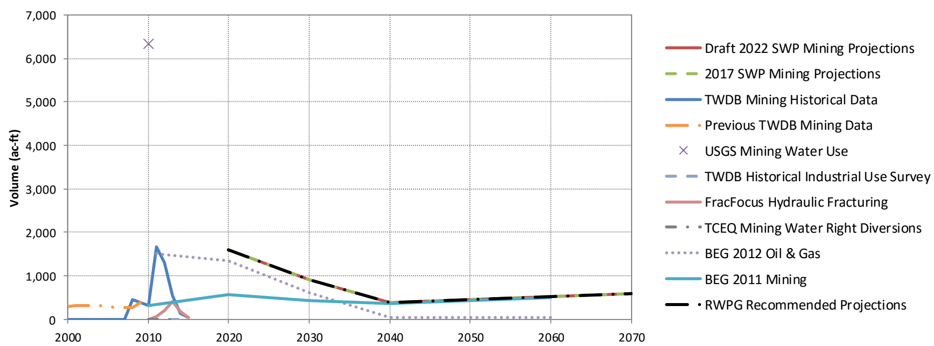


Figure 3A. Dallas County Mining Comparison

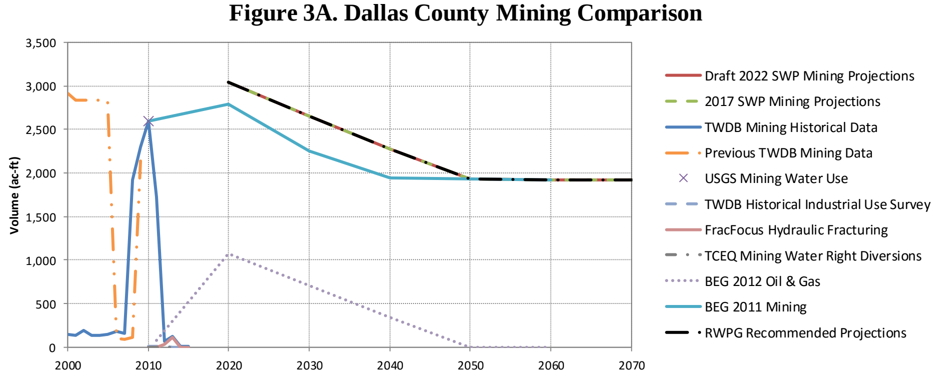


Figure 4A. Denton County Mining Comparison

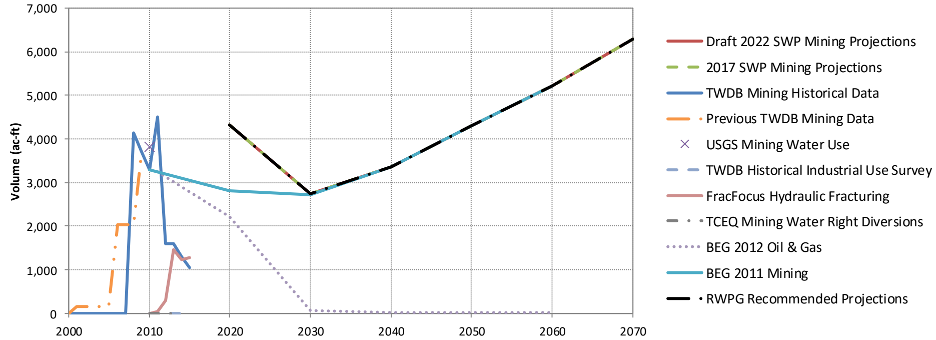


Figure 5A. Ellis County Mining Comparison

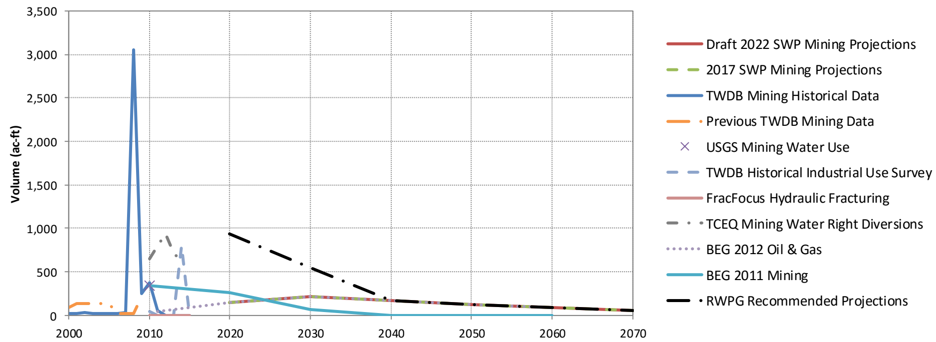


Figure 6A. Fannin County Mining Comparison

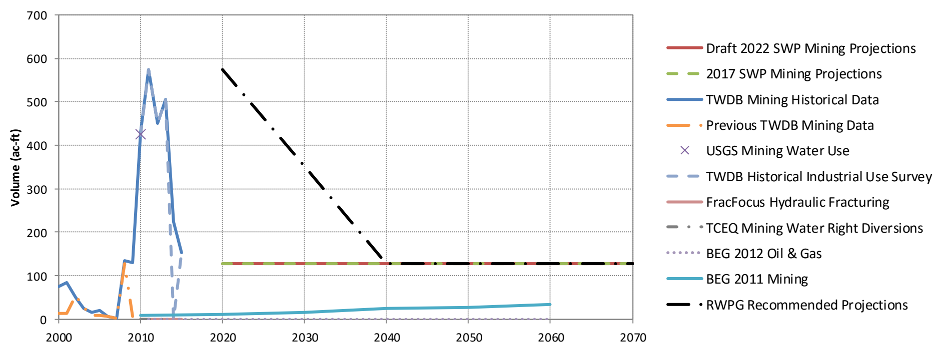


Figure 7A. Freestone County Mining Comparison

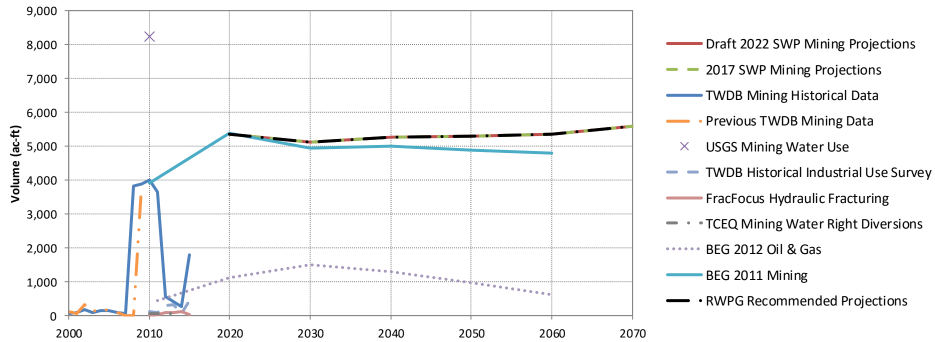


Figure 8A. Grayson County Mining Comparison

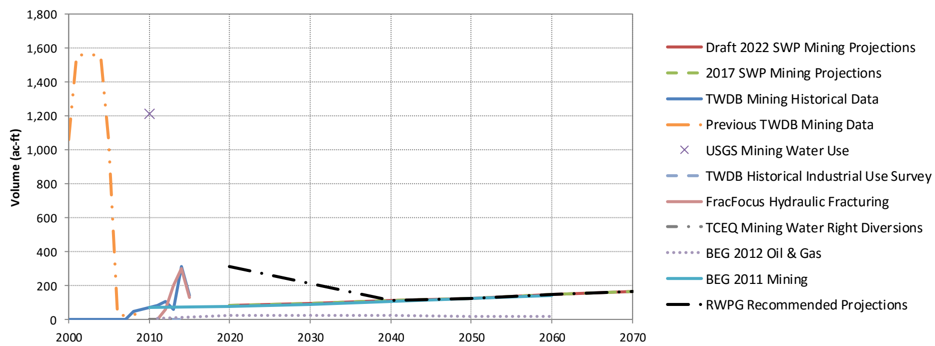
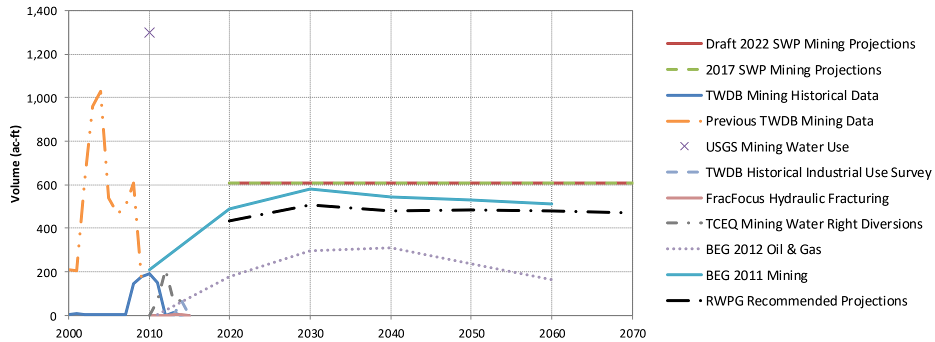


Figure 9A. Henderson County Mining Comparison



Note: Historical data and projections from BEG studies include mining water use for all of Henderson County. Other projections, including the RWPG recommended projections, include only the portion of Henderson County located in Region C.

Figure 10A. Jack County Mining Comparison

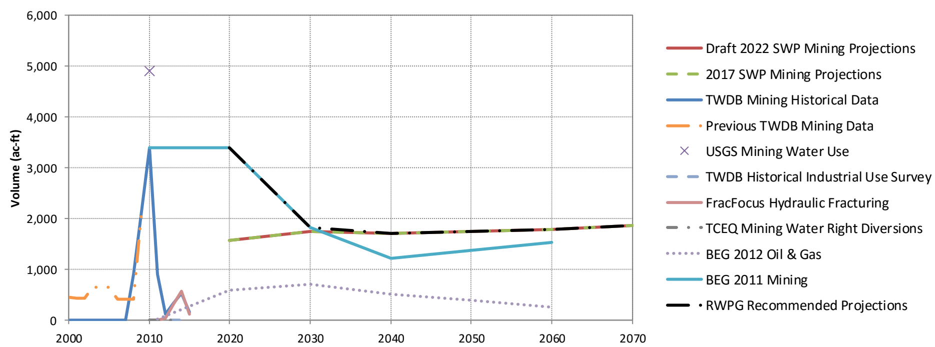


Figure 11A. Kaufman County Mining Comparison

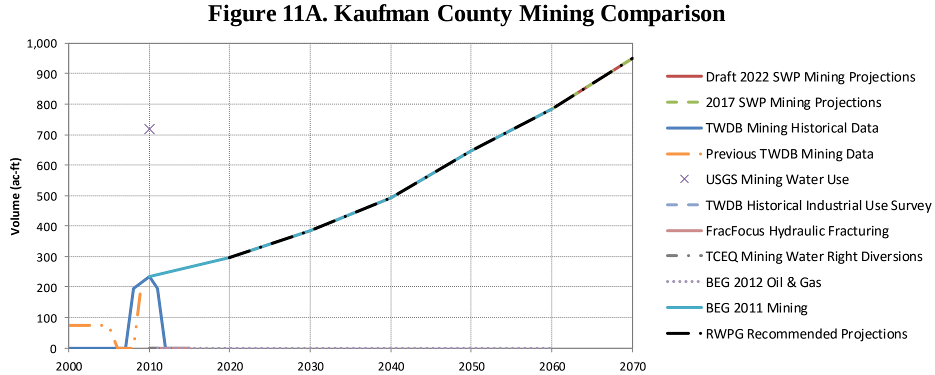


Figure 12A. Navarro County Mining Comparison

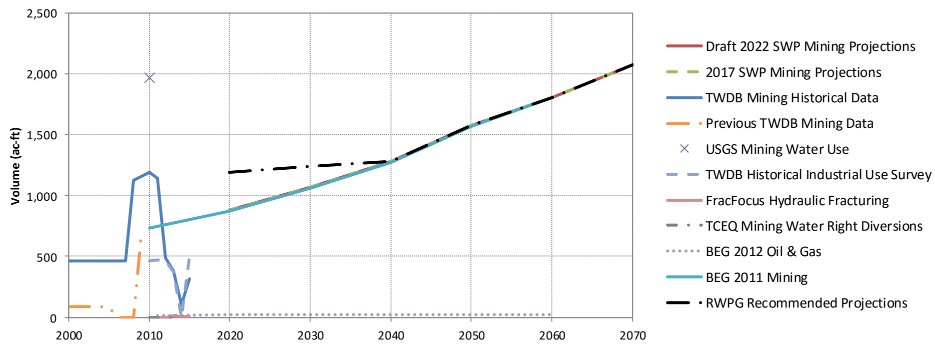


Figure 13A. Parker County Mining Comparison

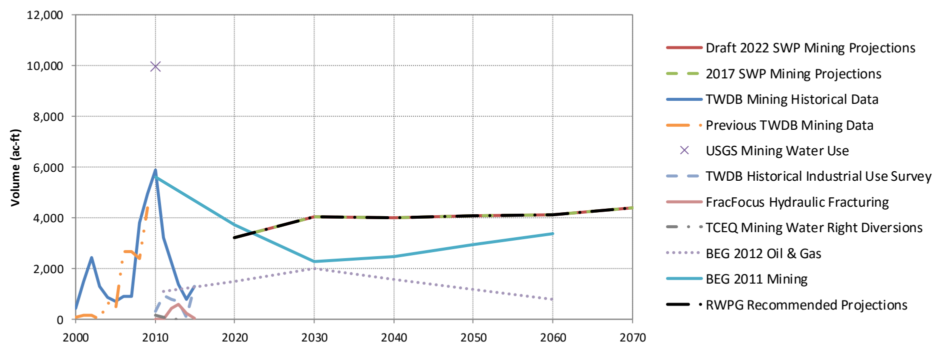


Figure 14A. Rockwall County Mining Comparison

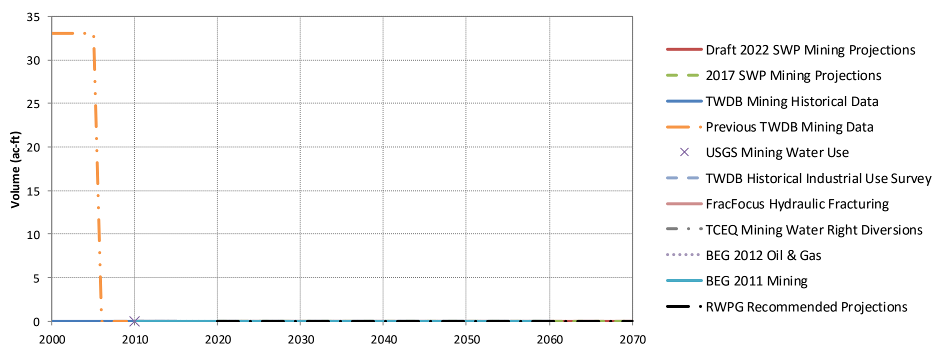


Figure 15A. Tarrant County Mining Comparison

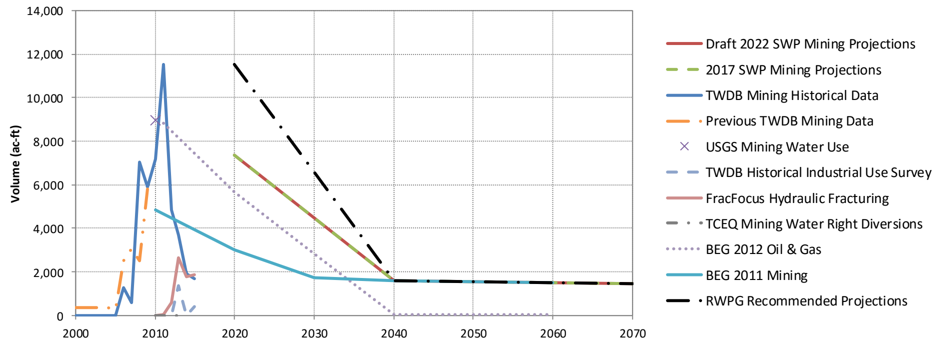
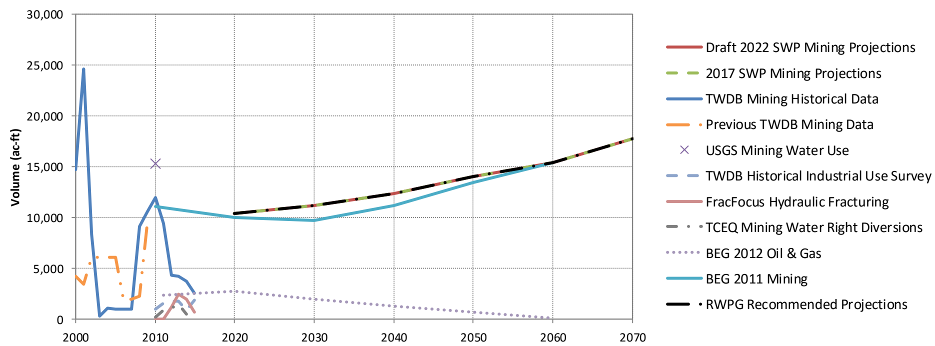


Figure 16A. Wise County Mining Comparison



Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
ABLES SPRINGS WSC	KAUFMAN	SABINE	8	10	13	16	19	23
ABLES SPRINGS WSC	KAUFMAN	TRINITY	7	8	10	13	15	18
ADDISON	DALLAS	TRINITY	158	245	309	351	377	399
ALEDO	PARKER	TRINITY	63	124	153	179	188	212
ALLEN	COLLIN	TRINITY	813	1,110	1,272	1,385	1,446	1,473
ALVORD	WISE	TRINITY	9	11	13	16	18	20
ANNA	COLLIN	TRINITY	104	221	400	542	725	951
ANNETTA	PARKER	TRINITY	40	64	84	101	114	128
ARGYLE WSC	DENTON	TRINITY	192	261	337	339	342	345
ARLEDGE RIDGE WSC	FANNIN	RED	11	17	24	34	51	69
ARLEDGE RIDGE WSC	FANNIN	SULPHUR	4	7	10	13	20	27
ARLINGTON	TARRANT	TRINITY	3,849	5,692	7,015	7,829	7,967	7,971
ATHENS	HENDERSON	TRINITY	157	247	320	383	680	1,020
AUBREY	DENTON	TRINITY	50	84	105	130	158	193
AVALON WATER SUPPLY & SEWER SERVICE	ELLIS	TRINITY	12	20	29	42	57	80
AZLE	PARKER	TRINITY	25	39	51	60	75	97
AZLE	TARRANT	TRINITY	102	157	206	241	298	387
B AND B WSC	NAVARRO	TRINITY	19	27	35	44	55	68
B B S WSC	HENDERSON	TRINITY	0	0	1	1	1	1
B H P WSC	COLLIN	SABINE	6	12	18	19	19	19
B H P WSC	ROCKWALL	SABINE	3	6	9	11	15	20
BALCH SPRINGS	DALLAS	TRINITY	270	416	544	643	707	763
BEAR CREEK SUD	COLLIN	TRINITY	74	147	234	341	434	552
BEAR CREEK SUD	ROCKWALL	SABINE	5	8	12	16	33	70
BEAR CREEK SUD	ROCKWALL	TRINITY	5	7	11	15	30	64
BECKER JIBA WSC	KAUFMAN	TRINITY	41	70	97	144	205	274
BEDFORD	TARRANT	TRINITY	509	817	1,089	1,278	1,296	1,296
BELLS	GRAYSON	RED	18	29	39	45	110	149
BENBROOK WATER AUTHORITY	TARRANT	TRINITY	237	387	520	643	734	734
BETHEL ASH WSC	HENDERSON	TRINITY	21	33	41	49	55	59
BETHESDA WSC	TARRANT	TRINITY	117	185	244	287	318	344
BLACK ROCK WSC	DENTON	TRINITY	13	22	29	36	43	49
BLACKLAND WSC	ROCKWALL	SABINE	19	30	39	43	50	54
BLACKLAND WSC	ROCKWALL	TRINITY	22	35	46	51	59	64
BLOOMING GROVE	NAVARRO	TRINITY	11	18	24	28	31	34
BLUE RIDGE	COLLIN	TRINITY	24	68	721	0	0	0
BOIS D ARC MUD	FANNIN	RED	26	41	59	82	123	168
BOLIVAR WSC	COOKE	TRINITY	12	18	22	25	26	27
BOLIVAR WSC	DENTON	TRINITY	102	173	245	313	379	452
BOLIVAR WSC	WISE	TRINITY	9	15	19	23	27	30
BONHAM	FANNIN	RED	136	237	378	544	679	830
BOYD	WISE	TRINITY	14	21	38	51	73	80
BRANDON IRENE WSC	ELLIS	TRINITY	1	1	2	3	4	5
BRANDON IRENE WSC	NAVARRO	TRINITY	2	3	5	5	6	7
BRIDGEPORT	WISE	TRINITY	75	127	173	256	347	437
BUENA VISTA-BETHEL SUD	ELLIS	TRINITY	37	64	87	119	176	237
BURLESON	TARRANT	TRINITY	76	109	140	208	258	290
BUTLER WSC	FREESTONE	TRINITY	16	23	28	31	31	32
CADDO BASIN SUD	COLLIN	SABINE	16	29	46	64	84	104
CADDO BASIN SUD	COLLIN	TRINITY	11	19	30	43	56	69
CALLISBURG WSC	COOKE	RED	6	9	11	12	12	12
CALLISBURG WSC	COOKE	TRINITY	11	16	19	21	21	22
CARROLLTON	COLLIN	TRINITY	0	0	0	0	0	0
CARROLLTON	DALLAS	TRINITY	519	723	878	964	982	983
CARROLLTON	DENTON	TRINITY	802	1,151	1,399	1,536	1,564	1,565
CASH SUD	ROCKWALL	SABINE	13	22	32	41	50	59
CEDAR HILL	DALLAS	TRINITY	493	833	1,132	1,306	1,321	1,323

Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
CEDAR HILL	ELLIS	TRINITY	6	11	16	22	22	22
CELINA	COLLIN	TRINITY	223	633	994	1,369	1,736	2,105
CELINA	DENTON	TRINITY	8	65	224	483	484	485
CHATFIELD WSC	NAVARRO	TRINITY	43	64	84	100	111	120
CHICO	WISE	TRINITY	15	22	29	61	79	100
COCKRELL HILL	DALLAS	TRINITY	55	86	103	112	154	338
COLLEGE MOUND WSC	KAUFMAN	TRINITY	142	176	212	266	391	495
COLLEYVILLE	TARRANT	TRINITY	221	329	423	478	486	486
COLLINSVILLE	GRAYSON	TRINITY	28	47	65	83	89	118
COMBINE WSC	DALLAS	TRINITY	9	14	20	25	30	36
COMBINE WSC	KAUFMAN	TRINITY	31	50	69	90	110	129
COMMUNITY WSC	TARRANT	TRINITY	41	66	89	99	109	118
COPEVILLE SUD	COLLIN	TRINITY	45	79	114	169	305	526
COPPELL	DALLAS	TRINITY	382	529	626	681	695	695
COPPELL	DENTON	TRINITY	11	14	17	18	19	19
CORBET WSC	NAVARRO	TRINITY	27	42	55	66	74	81
CORINTH	DENTON	TRINITY	199	305	332	349	356	357
CORSICANA	NAVARRO	TRINITY	306	485	646	771	858	941
COUNTY-OTHER, COLLIN	COLLIN	SABINE	0	0	0	0	0	0
COUNTY-OTHER, COLLIN	COLLIN	TRINITY	32	44	52	63	127	199
COUNTY-OTHER, COOKE	COOKE	RED	12	19	26	42	54	131
COUNTY-OTHER, COOKE	COOKE	TRINITY	45	70	95	154	198	477
COUNTY-OTHER, DALLAS	DALLAS	TRINITY	0	0	0	0	0	0
COUNTY-OTHER, DENTON	DENTON	TRINITY	66	107	143	343	638	1,234
COUNTY-OTHER, ELLIS	ELLIS	TRINITY	35	42	77	287	920	1,902
COUNTY-OTHER, FANNIN	FANNIN	RED	51	60	82	138	407	712
COUNTY-OTHER, FANNIN	FANNIN	SULPHUR	3	4	5	9	25	44
COUNTY-OTHER, FANNIN	FANNIN	TRINITY	4	4	6	10	30	53
COUNTY-OTHER, FREESTONE	FREESTONE	BRAZOS	4	6	7	10	24	64
COUNTY-OTHER, FREESTONE	FREESTONE	TRINITY	33	46	53	74	187	495
COUNTY-OTHER, GRAYSON	GRAYSON	RED	61	74	59	72	254	429
COUNTY-OTHER, GRAYSON	GRAYSON	TRINITY	2	2	2	2	8	13
COUNTY-OTHER, HENDERSON	HENDERSON	TRINITY	34	40	56	35	14	29
COUNTY-OTHER, JACK	JACK	BRAZOS	22	33	41	46	47	48
COUNTY-OTHER, JACK	JACK	TRINITY	28	43	54	60	61	62
COUNTY-OTHER, KAUFMAN	KAUFMAN	SABINE	1	3	5	5	22	50
COUNTY-OTHER, KAUFMAN	KAUFMAN	TRINITY	10	26	36	40	170	391
COUNTY-OTHER, NAVARRO	NAVARRO	TRINITY	19	44	60	95	124	252
COUNTY-OTHER, PARKER	PARKER	BRAZOS	269	356	350	628	1,015	1,509
COUNTY-OTHER, PARKER	PARKER	TRINITY	192	254	250	448	724	1,077
COUNTY-OTHER, ROCKWALL	ROCKWALL	SABINE	6	11	12	12	15	24
COUNTY-OTHER, ROCKWALL	ROCKWALL	TRINITY	11	19	20	20	26	41
COUNTY-OTHER, TARRANT	TARRANT	TRINITY	0	0	0	0	0	0
COUNTY-OTHER, WISE	WISE	TRINITY	295	423	519	632	672	1,049
CRANDALL	KAUFMAN	TRINITY	53	85	116	151	154	154
CRESCENT HEIGHTS WSC	HENDERSON	TRINITY	20	29	37	43	55	70
CROSS TIMBERS WSC	DENTON	TRINITY	63	105	120	129	134	137
CROWLEY	TARRANT	TRINITY	157	246	338	433	566	650
CULLEOKA WSC	COLLIN	TRINITY	62	97	147	178	202	252
DALLAS	COLLIN	TRINITY	730	1,092	1,367	1,491	1,516	1,519
DALLAS	DALLAS	TRINITY	11,682	18,520	26,196	32,008	35,217	36,562
DALLAS	DENTON	TRINITY	304	480	675	820	899	932
DALLAS	ROCKWALL	TRINITY	1	2	2	3	4	5
DALWORTHINGTON GARDENS	TARRANT	TRINITY	24	35	45	50	52	54
DAWSON	NAVARRO	TRINITY	10	15	19	22	23	24
DECATUR	WISE	TRINITY	102	192	280	380	451	526
DELTA COUNTY MUD	FANNIN	SULPHUR	0	1	1	1	1	1

Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
DENISON	GRAYSON	RED	308	491	601	717	850	1,142
DENTON	DENTON	TRINITY	1,600	2,764	3,888	5,640	8,218	10,171
DENTON COUNTY FWSD 1-A	DENTON	TRINITY	105	233	289	292	294	296
DENTON COUNTY FWSD 10	DENTON	TRINITY	52	137	163	165	166	167
DENTON COUNTY FWSD 7	DENTON	TRINITY	91	104	106	108	110	111
DESERT WSC	FANNIN	RED	0	0	0	0	0	0
DESERT WSC	GRAYSON	TRINITY	6	9	11	12	14	15
DESERT WSC	FANNIN	TRINITY	6	10	12	15	22	33
DESERT WSC	COLLIN	TRINITY	4	6	8	10	14	19
DESOTO	DALLAS	TRINITY	529	797	1,034	1,220	1,344	1,392
DOGWOOD ESTATES WATER	HENDERSON	TRINITY	13	19	24	27	35	45
DORCHESTER	GRAYSON	RED	11	17	22	25	28	31
DORCHESTER	GRAYSON	TRINITY	5	8	11	12	13	15
DUNCANVILLE	DALLAS	TRINITY	477	743	885	963	977	978
EAST CEDAR CREEK FWSD	HENDERSON	TRINITY	113	125	139	154	172	191
EAST FORK SUD	COLLIN	TRINITY	147	224	294	312	327	339
EAST FORK SUD	DALLAS	TRINITY	51	69	72	93	111	129
EAST FORK SUD	ROCKWALL	TRINITY	17	32	49	64	80	97
EAST GARRETT WSC	ELLIS	TRINITY	15	27	39	53	66	158
EDGECLIFF	TARRANT	TRINITY	31	43	54	60	61	61
ELMO WSC	KAUFMAN	TRINITY	29	50	70	98	140	187
ENNIS	ELLIS	TRINITY	232	382	514	791	1,302	2,186
EULESS	TARRANT	TRINITY	562	847	1,029	1,130	1,148	1,149
EUSTACE	HENDERSON	TRINITY	12	18	23	37	50	60
EVERMAN	TARRANT	TRINITY	64	97	122	135	137	137
FAIRFIELD	FREESTONE	TRINITY	53	78	100	191	232	313
FAIRVIEW	COLLIN	TRINITY	114	160	234	251	256	257
FARMERS BRANCH	DALLAS	TRINITY	321	483	625	725	780	824
FARMERSVILLE	COLLIN	SABINE	0	1	1	2	3	4
FARMERSVILLE	COLLIN	TRINITY	137	434	1,015	1,576	2,247	3,256
FATE	ROCKWALL	SABINE	55	91	131	179	222	250
FATE	ROCKWALL	TRINITY	48	79	113	154	191	216
FERRIS	DALLAS	TRINITY	0	0	0	0	0	1
FERRIS	ELLIS	TRINITY	34	85	139	169	194	217
FILES VALLEY WSC	ELLIS	TRINITY	8	14	21	29	37	45
FLO COMMUNITY WSC	FREESTONE	TRINITY	4	6	8	9	10	10
FLOWER MOUND	DENTON	TRINITY	669	1,020	1,157	1,254	1,306	1,347
FLOWER MOUND	TARRANT	TRINITY	2	3	4	4	4	4
FOREST HILL	TARRANT	TRINITY	138	210	283	374	489	644
FORNEY	KAUFMAN	TRINITY	185	271	387	508	772	1,040
FORNEY LAKE WSC	KAUFMAN	TRINITY	57	90	119	156	275	398
FORNEY LAKE WSC	ROCKWALL	TRINITY	6	10	13	17	21	24
FORT WORTH	DENTON	TRINITY	380	800	1,326	1,967	2,554	3,127
FORT WORTH	PARKER	TRINITY	659	1,422	1,839	2,174	2,350	2,507
FORT WORTH	TARRANT	TRINITY	8,833	14,836	20,868	23,905	25,913	27,732
FORT WORTH	WISE	TRINITY	127	249	367	497	613	725
FRISCO	COLLIN	TRINITY	791	1,033	1,308	1,941	2,314	2,493
FRISCO	DENTON	TRINITY	530	842	1,139	1,180	1,214	1,225
FROGNOT WSC	COLLIN	TRINITY	15	24	34	45	53	59
GAINESVILLE	COOKE	RED	0	0	1	1	1	1
GAINESVILLE	COOKE	TRINITY	200	307	392	450	561	796
GARLAND	COLLIN	TRINITY	3	6	9	12	15	18
GARLAND	DALLAS	TRINITY	2,542	3,952	5,103	5,687	5,827	5,824
GARLAND	ROCKWALL	TRINITY	0	0	0	0	0	0
GASTONIA SCURRY SUD	KAUFMAN	TRINITY	118	147	176	226	378	589
GLENN HEIGHTS	DALLAS	TRINITY	144	255	357	459	550	729
GLENN HEIGHTS	ELLIS	TRINITY	40	67	92	123	153	235

Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
GRAND PRAIRIE	DALLAS	TRINITY	1,674	2,824	3,612	3,822	3,874	3,882
GRAND PRAIRIE	ELLIS	TRINITY	1	1	1	2	2	3
GRAND PRAIRIE	TARRANT	TRINITY	522	708	809	856	868	870
GRAPEVINE	TARRANT	TRINITY	554	806	947	1,022	1,037	1,039
GUNTER	GRAYSON	TRINITY	21	38	56	73	91	106
HACKBERRY	DENTON	TRINITY	15	25	35	46	57	69
HALTOM CITY	TARRANT	TRINITY	428	617	793	949	1,045	1,146
HASLET	TARRANT	TRINITY	16	72	123	242	246	246
HEATH	ROCKWALL	TRINITY	124	233	304	315	332	347
HICKORY CREEK SUD	COLLIN	TRINITY	1	2	4	5	8	11
HICKORY CREEK SUD	FANNIN	SULPHUR	3	5	6	6	7	8
HICKORY CREEK SUD	FANNIN	TRINITY	0	0	0	0	0	0
HIGH POINT WSC	KAUFMAN	TRINITY	59	96	131	171	263	342
HIGH POINT WSC	ROCKWALL	TRINITY	8	13	18	22	35	45
HIGHLAND PARK	DALLAS	TRINITY	99	147	182	197	200	200
HIGHLAND VILLAGE	DENTON	TRINITY	172	247	291	316	322	322
HILCO UNITED SERVICES	ELLIS	TRINITY	2	2	3	3	4	4
HONEY GROVE	FANNIN	RED	4	6	8	8	8	8
HONEY GROVE	FANNIN	SULPHUR	15	23	28	30	31	31
HORSESHOE BEND WATER SYSTEM	PARKER	BRAZOS	16	29	39	53	71	93
HOWE	GRAYSON	RED	9	15	20	24	27	31
HOWE	GRAYSON	TRINITY	23	38	51	61	70	78
HUDSON OAKS	PARKER	TRINITY	50	89	101	104	105	105
HURST	TARRANT	TRINITY	423	609	745	820	834	834
HUTCHINS	DALLAS	TRINITY	110	195	271	343	410	476
IRVING	DALLAS	TRINITY	2,848	4,376	5,208	5,610	5,695	5,705
ITALY	ELLIS	TRINITY	31	55	79	107	137	184
JACKSBORO	JACK	TRINITY	49	73	91	101	105	106
JOHNSON COUNTY SUD	TARRANT	TRINITY	27	41	53	63	70	77
JOSEPHINE	COLLIN	SABINE	19	38	57	76	79	79
JUSTIN	DENTON	TRINITY	46	115	181	185	186	186
KAUFMAN	KAUFMAN	TRINITY	92	164	237	401	531	654
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	KAUFMAN	TRINITY	42	72	101	142	201	269
KAUFMAN COUNTY MUD 11	KAUFMAN	TRINITY	43	69	96	124	154	190
KELLER	TARRANT	TRINITY	424	591	667	711	727	728
KEMP	KAUFMAN	TRINITY	24	39	54	71	112	157
KENNEDALE	TARRANT	TRINITY	85	134	186	230	265	298
KENTUCKYTOWN WSC	GRAYSON	RED	16	28	38	46	59	77
KENTUCKYTOWN WSC	GRAYSON	TRINITY	16	26	36	44	56	73
KERENS	NAVARRO	TRINITY	21	34	45	52	57	63
KRUM	DENTON	TRINITY	44	74	104	133	163	196
LADONIA	FANNIN	SULPHUR	28	41	48	55	67	67
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	DENTON	TRINITY	128	196	252	288	294	296
LAKE KIOWA SUD	COOKE	TRINITY	31	42	47	48	49	50
LAKE WORTH	TARRANT	TRINITY	60	97	130	163	194	267
LAKESIDE	TARRANT	TRINITY	13	18	23	27	27	27
LANCASTER	DALLAS	TRINITY	463	845	1,142	1,342	1,499	1,646
LEONARD	FANNIN	RED	0	0	0	0	0	0
LEONARD	FANNIN	SULPHUR	0	1	1	1	1	1
LEONARD	FANNIN	TRINITY	24	37	46	52	55	57
LEWISVILLE	DALLAS	TRINITY	8	11	13	14	14	14
LEWISVILLE	DENTON	TRINITY	1,009	1,586	2,134	2,616	2,978	2,982
LINDSAY	COOKE	TRINITY	13	19	25	30	37	57
LINDSAY	COOKE	RED	0	0	0	0	0	0
LITTLE ELM	DENTON	TRINITY	173	247	262	274	283	284
LUCAS	COLLIN	TRINITY	76	111	169	206	233	234
LUELLA SUD	GRAYSON	RED	33	52	69	80	92	109

Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
LUELLA SUD	GRAYSON	TRINITY	5	8	10	12	13	16
M E N WSC	NAVARRO	TRINITY	31	48	62	73	82	90
MABANK	HENDERSON	TRINITY	38	57	72	101	144	202
MABANK	KAUFMAN	TRINITY	62	92	113	164	237	333
MACBEE SUD	KAUFMAN	SABINE	1	1	1	1	2	2
MACBEE SUD	KAUFMAN	TRINITY	0	0	0	0	0	0
MALAKOFF	HENDERSON	TRINITY	25	38	48	55	59	64
MANSFIELD	ELLIS	TRINITY	1	1	2	3	4	5
MANSFIELD	TARRANT	TRINITY	560	930	1,254	1,654	1,934	2,195
MARILEE SUD	COLLIN	TRINITY	53	64	73	75	76	77
MARILEE SUD	GRAYSON	TRINITY	36	47	56	58	59	59
MARKOUT WSC	KAUFMAN	TRINITY	27	47	65	92	130	175
MCKINNEY	COLLIN	TRINITY	1,358	1,961	2,498	3,189	3,863	4,190
MELISSA	COLLIN	TRINITY	133	543	826	1,097	1,280	1,331
MESQUITE	DALLAS	TRINITY	1,514	2,384	3,274	3,869	4,252	4,589
MESQUITE	KAUFMAN	TRINITY	1	2	4	5	6	7
MIDLOTHIAN	ELLIS	TRINITY	142	312	382	431	471	522
MILLIGAN WSC	COLLIN	TRINITY	35	55	78	104	120	133
MINERAL WELLS	PARKER	BRAZOS	22	31	37	40	40	39
MOUNT ZION WSC	ROCKWALL	TRINITY	30	53	75	96	116	137
MOUNTAIN PEAK SUD	ELLIS	TRINITY	104	181	220	334	392	443
MOUNTAIN SPRINGS WSC	COOKE	TRINITY	24	36	44	50	84	136
MOUNTAIN SPRINGS WSC	DENTON	TRINITY	1	1	1	1	1	2
MUENSTER	COOKE	TRINITY	16	23	30	33	35	35
MURPHY	COLLIN	TRINITY	128	154	167	175	181	182
MUSTANG SUD	DENTON	TRINITY	277	669	1,035	1,392	1,741	2,088
MUSTANG SUD	GRAYSON	TRINITY	2	3	3	3	4	4
NAVARRO MILLS WSC	NAVARRO	TRINITY	32	49	65	77	86	95
NEVADA SUD	COLLIN	SABINE	8	13	17	59	143	259
NEVADA SUD	COLLIN	TRINITY	15	25	34	117	283	512
NEVADA SUD	ROCKWALL	SABINE	1	1	2	7	18	32
NEWARK	WISE	TRINITY	24	40	63	88	123	165
NORTH COLLIN SUD	COLLIN	TRINITY	55	89	123	158	189	219
NORTH FARMERSVILLE WSC	COLLIN	TRINITY	4	6	9	12	13	15
NORTH HUNT SUD	FANNIN	SULPHUR	0	0	0	0	0	0
NORTH KAUFMAN WSC	KAUFMAN	TRINITY	32	46	56	75	104	139
NORTH RICHLAND HILLS	TARRANT	TRINITY	757	1,123	1,327	1,441	1,464	1,466
NORTH RURAL WSC	PARKER	BRAZOS	8	12	15	17	18	18
NORTHLAKE	DENTON	TRINITY	88	256	368	514	658	659
NORTHWEST GRAYSON COUNTY WCID 1	GRAYSON	RED	20	29	36	43	60	84
OAK RIDGE SOUTH GALE WSC	GRAYSON	RED	26	36	48	58	80	110
OVILLA	DALLAS	TRINITY	6	10	14	17	21	36
OVILLA	ELLIS	TRINITY	46	79	113	154	192	358
PALMER	ELLIS	TRINITY	29	52	75	102	132	246
PALOMA CREEK NORTH	DENTON	TRINITY	53	87	89	90	91	92
PALOMA CREEK SOUTH	DENTON	TRINITY	34	47	47	47	47	47
PANTEGO	TARRANT	TRINITY	27	39	50	55	56	56
PARKER	COLLIN	TRINITY	65	92	102	121	134	153
PARKER COUNTY SUD	PARKER	BRAZOS	62	132	201	268	330	391
PELICAN BAY	TARRANT	TRINITY	4	4	4	4	4	4
PILOT POINT	DENTON	TRINITY	85	131	202	287	388	526
PINK HILL WSC	GRAYSON	RED	21	32	37	45	62	86
PLANO	COLLIN	TRINITY	2,530	3,574	4,390	4,801	4,902	4,953
PLANO	DENTON	TRINITY	68	98	121	132	135	135
PLEASANT GROVE WSC	FREESTONE	TRINITY	14	20	27	39	55	90
PLEASANT GROVE WSC	NAVARRO	TRINITY	1	2	2	3	5	8
POETRY WSC	KAUFMAN	TRINITY	5	9	12	17	23	31

Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
POETRY WSC	KAUFMAN	SABINE	5	9	12	17	24	32
POINT ENTERPRISE WSC	FREESTONE	BRAZOS	5	7	9	10	10	11
POINT ENTERPRISE WSC	FREESTONE	TRINITY	4	6	8	9	10	10
PONDER	DENTON	TRINITY	27	50	73	97	123	153
POST OAK SUD	NAVARRO	TRINITY	8	11	14	15	17	19
POTTSBORO	GRAYSON	RED	33	58	80	111	179	326
PRINCETON	COLLIN	TRINITY	102	477	1,093	1,391	1,408	1,413
PROSPER	COLLIN	TRINITY	152	215	256	293	371	372
PROSPER	DENTON	TRINITY	9	55	103	157	169	169
PROVIDENCE VILLAGE WCID	DENTON	TRINITY	43	50	52	54	56	56
R C H WSC	ROCKWALL	TRINITY	41	78	106	137	180	221
RED OAK	ELLIS	TRINITY	59	89	141	215	271	429
RED RIVER AUTHORITY OF TEXAS	GRAYSON	RED	16	25	34	39	42	41
RENO (Parker)	PARKER	TRINITY	0	0	0	0	0	0
RENO (Parker)	TARRANT	TRINITY	0	0	0	0	0	0
RHOME	WISE	TRINITY	21	39	55	93	126	162
RICE WATER SUPPLY AND SEWER SERVICE	ELLIS	TRINITY	60	101	140	183	224	268
RICE WATER SUPPLY AND SEWER SERVICE	NAVARRO	TRINITY	38	63	88	111	135	163
RICHARDSON	COLLIN	TRINITY	366	516	634	712	757	826
RICHARDSON	DALLAS	TRINITY	757	1,111	1,419	1,606	1,631	1,632
RICHLAND HILLS	TARRANT	TRINITY	94	146	192	233	262	296
RIVER OAKS	TARRANT	TRINITY	76	108	136	151	153	153
ROANOKE	DENTON	TRINITY	69	113	152	158	160	161
ROCKETT SUD	DALLAS	TRINITY	11	31	53	75	95	115
ROCKETT SUD	ELLIS	TRINITY	444	794	997	1,410	1,908	2,493
ROCKWALL	ROCKWALL	TRINITY	437	857	1,426	1,573	1,738	1,885
ROSE HILL SUD	KAUFMAN	TRINITY	63	101	137	183	246	383
ROWLETT	DALLAS	TRINITY	564	829	1,036	1,186	1,262	1,335
ROWLETT	ROCKWALL	TRINITY	72	97	111	120	124	126
ROYSE CITY	COLLIN	SABINE	16	110	226	376	511	674
ROYSE CITY	ROCKWALL	SABINE	66	100	118	300	518	576
RUNAWAY BAY	WISE	TRINITY	14	22	29	38	44	53
SACHSE	COLLIN	TRINITY	71	86	96	106	109	110
SACHSE	DALLAS	TRINITY	180	220	243	258	263	264
SAGINAW	TARRANT	TRINITY	204	315	409	459	466	467
SANGER	DENTON	TRINITY	80	137	194	248	304	365
SANSOM PARK	TARRANT	TRINITY	47	72	101	117	126	133
SANTO SUD	PARKER	BRAZOS	1	1	2	2	2	2
SARDIS LONE ELM WSC	ELLIS	TRINITY	235	395	503	539	561	563
SEAGOVILLE	DALLAS	TRINITY	199	329	445	543	624	624
SEAGOVILLE	KAUFMAN	TRINITY	0	1	1	1	1	1
SEIS LAGOS UD	COLLIN	TRINITY	22	26	28	31	32	32
SHERMAN	GRAYSON	RED	463	673	839	994	1,345	2,085
SOUTH ELLIS COUNTY WSC	NAVARRO	TRINITY	1	1	1	2	3	4
SOUTH ELLIS COUNTY WSC	ELLIS	TRINITY	16	27	38	54	74	104
SOUTH FREESTONE COUNTY WSC	FREESTONE	BRAZOS	4	6	9	13	18	30
SOUTH FREESTONE COUNTY WSC	FREESTONE	TRINITY	24	35	47	68	99	163
SOUTH GRAYSON SUD	COLLIN	TRINITY	9	16	25	32	39	44
SOUTH GRAYSON SUD	GRAYSON	TRINITY	22	32	43	48	52	54
SOUTHLAKE	DENTON	TRINITY	8	14	20	26	33	40
SOUTHLAKE	TARRANT	TRINITY	207	310	418	511	591	662
SOUTHMAYD	GRAYSON	RED	13	21	27	32	45	61
SOUTHWEST FANNIN COUNTY SUD	FANNIN	RED	37	55	66	74	91	109
SOUTHWEST FANNIN COUNTY SUD	FANNIN	TRINITY	2	3	3	4	4	5
SOUTHWEST FANNIN COUNTY SUD	GRAYSON	RED	16	29	44	60	84	111
SPRINGTOWN	PARKER	TRINITY	49	87	95	100	101	101
STARR WSC	GRAYSON	RED	24	37	44	53	73	100

Plumbing Code Savings
(acre-feet per year)

EntityName	County	Basin	PC2020	PC2030	PC2040	PC2050	PC2060	PC2070
SUNNYVALE	DALLAS	TRINITY	63	123	177	213	216	216
TALTY SUD	KAUFMAN	TRINITY	83	117	146	218	311	434
TEAGUE	FREESTONE	BRAZOS	21	32	55	79	97	114
TEAGUE	FREESTONE	TRINITY	23	35	60	86	105	124
TERRELL	KAUFMAN	TRINITY	292	792	1,169	1,411	1,583	1,850
THE COLONY	DENTON	TRINITY	602	854	1,034	1,199	1,212	1,215
TIOGA	GRAYSON	TRINITY	12	19	25	29	68	94
TOM BEAN	GRAYSON	RED	2	3	4	4	6	9
TOM BEAN	GRAYSON	TRINITY	12	19	25	30	38	58
TRENTON	FANNIN	RED	0	0	0	0	0	0
TRENTON	FANNIN	TRINITY	9	17	47	95	164	233
TRINIDAD	HENDERSON	TRINITY	11	17	20	20	24	29
TROPHY CLUB MUD 1	DENTON	TRINITY	107	141	159	169	172	173
TWO WAY SUD	COOKE	RED	1	1	2	2	2	2
TWO WAY SUD	GRAYSON	RED	40	70	93	118	161	209
TWO WAY SUD	GRAYSON	TRINITY	22	38	51	65	88	115
UNIVERSITY PARK	DALLAS	TRINITY	291	397	485	533	542	542
VAN ALSTYNE	GRAYSON	TRINITY	40	79	130	178	358	453
VENUS	ELLIS	TRINITY	1	1	2	2	3	3
VERONA SUD	COLLIN	TRINITY	25	39	55	74	85	95
VIRGINIA HILL WSC	HENDERSON	TRINITY	27	43	56	67	76	86
WALNUT CREEK SUD	PARKER	TRINITY	165	262	316	485	738	976
WALNUT CREEK SUD	WISE	TRINITY	33	59	85	111	169	221
WATAUGA	TARRANT	TRINITY	260	364	449	496	505	505
WAXAHACHIE	ELLIS	TRINITY	391	598	845	1,109	1,375	1,685
WEATHERFORD	PARKER	BRAZOS	17	29	36	65	108	150
WEATHERFORD	PARKER	TRINITY	289	482	603	1,094	1,826	2,533
WEST CEDAR CREEK MUD	HENDERSON	TRINITY	47	48	50	52	66	82
WEST CEDAR CREEK MUD	KAUFMAN	TRINITY	14	15	17	20	23	26
WEST LEONARD WSC	FANNIN	TRINITY	14	21	24	27	32	40
WEST LEONARD WSC	COLLIN	TRINITY	4	6	8	12	17	23
WEST WISE SUD	WISE	TRINITY	46	65	81	91	96	99
WESTLAKE	DENTON	TRINITY	0	0	1	1	1	1
WESTLAKE	TARRANT	TRINITY	11	43	79	92	93	94
WESTMINSTER WSC	GRAYSON	TRINITY	0	0	0	1	1	1
WESTMINSTER WSC	COLLIN	TRINITY	18	28	39	52	61	68
WESTOVER HILLS	TARRANT	TRINITY	7	11	14	15	16	16
WESTWORTH VILLAGE	TARRANT	TRINITY	29	46	60	70	76	81
WHITE SETTLEMENT	TARRANT	TRINITY	179	273	354	461	601	735
WHITE SHED WSC	FANNIN	RED	31	49	71	98	147	201
WHITESBORO	GRAYSON	RED	18	26	33	36	47	63
WHITESBORO	GRAYSON	TRINITY	21	30	38	41	54	73
WHITEWRIGHT	FANNIN	RED	0	0	0	0	0	0
WHITEWRIGHT	GRAYSON	RED	20	29	38	39	42	47
WHITEWRIGHT	GRAYSON	TRINITY	0	0	0	0	0	0
WILLOW PARK	PARKER	TRINITY	56	116	166	220	286	323
WILMER	DALLAS	TRINITY	42	65	128	256	408	746
WOLFE CITY	FANNIN	SULPHUR	1	2	3	4	5	7
WOODBINE WSC	COOKE	RED	5	8	11	13	14	16
WOODBINE WSC	COOKE	TRINITY	58	95	127	151	168	184
WOODBINE WSC	GRAYSON	TRINITY	1	1	2	2	2	3
WORTHAM	FREESTONE	TRINITY	13	20	26	29	51	57
WYLIE	COLLIN	TRINITY	299	420	495	565	603	668
WYLIE	DALLAS	TRINITY	17	22	26	28	30	31
WYLIE	ROCKWALL	TRINITY	25	33	38	42	45	47
WYLIE NORTHEAST SUD	COLLIN	TRINITY	43	68	90	158	241	357

Appendix D

DB22 Reports

Appendix D DB22 Reports

The Texas Water Development Board (TWDB) hosts a statewide database, known as DB22, which houses all the data and information from each of the 16 Regional Water Plans across the state. TWDB uses this data to assist in the development of the State Water Plan. In order to facilitate statewide data collection, there are specific requirements in how the data must be entered and reflected in DB22. In some cases, the aggregation and reporting of this data from the database differs from how the data is aggregated and reported in the written Regional Water Plan. The Regional Water Plan aims to present the data in a format that is easily understandable to stakeholders and the public. Divergence between the numbers in tables in the Plan and the DB22 reports do not necessarily represent errors.

Examples of these differences include:

> Total strategy water volumes are aggregated by water user group in the DB22 reports. If a strategy is not fully allocated to a water user group or multiple water user groups, then the total volumes may differ between the DB22 report and the Plan. This is the case for several strategies developed by major water providers.
>
> Water management strategy volumes only display the seller and the end user, not any intermediate sellers. For instance, if a Wholesale Provider sells to City A and City A sells a portion of that supply to City B, the volume sold to City B will only be shown under City B as a sale from the Wholesale Provider. The sale to City A will only show the supply used by City A. The total volume sold to City A is not shown and sale from City A to City B is not shown.

There are no database reports that are blank.

Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
B H P WSC*	510	778	1,001	1,011	1,032	1,032
CADDO BASIN SUD*	1,392	1,757	2,408	3,209	4,130	5,121
FARMERSVILLE	11	29	65	99	141	204
JOSEPHINE*	1,434	2,300	3,226	4,175	4,352	4,352
NEVADA SUD	812	1,002	1,179	3,831	9,076	16,338
ROYSE CITY*	2,225	10,604	19,182	30,063	40,153	52,844
COUNTY-OTHER	3	3	3	3	5	8
SABINE BASIN TOTAL	**6,387**	**16,473**	**27,064**	**42,391**	**58,889**	**79,899**
ALLEN	105,000	114,000	116,000	118,000	120,000	122,000
ANNA	15,037	25,747	41,195	53,553	69,619	90,505
BEAR CREEK SUD	5,179	8,287	11,920	16,695	20,961	26,474
BLUE RIDGE	2,425	4,190	39,507	81,703	116,583	161,591
CADDO BASIN SUD*	923	1,165	1,596	2,128	2,738	3,396
CARROLLTON	4	6	9	12	15	19
CELINA	21,257	51,038	77,710	105,998	134,286	162,573
COPEVILLE SUD	3,959	4,945	6,148	8,574	15,171	26,007
CULLEOKA WSC	5,500	5,787	8,739	10,615	12,000	15,000
DALLAS	71,320	73,220	74,169	74,169	74,169	74,169
DESERT WSC	400	451	531	675	917	1,198
EAST FORK SUD	10,735	12,040	13,826	13,963	14,492	14,997
FAIRVIEW	12,592	14,529	19,397	20,193	20,418	20,418
FARMERSVILLE	8,649	21,651	49,230	75,294	107,028	154,761
FRISCO	112,747	116,865	137,833	199,910	234,514	251,443
FROGNOT WSC*	1,630	1,904	2,326	2,928	3,344	3,720
GARLAND	317	396	492	619	755	900
HICKORY CREEK SUD*	104	149	209	305	433	614
LUCAS	7,822	8,908	11,794	13,720	15,330	15,330
MARILEE SUD	4,580	4,580	4,663	4,663	4,663	4,663
MCKINNEY	186,565	205,000	227,522	275,828	330,324	357,967
MELISSA	17,938	57,000	80,000	100,000	115,072	119,072
MILLIGAN WSC	3,728	4,352	5,312	6,680	7,604	8,423
MURPHY	19,330	19,330	19,330	19,330	19,330	19,330
NEVADA SUD	1,606	1,981	2,333	7,576	17,952	32,314
NORTH COLLIN SUD	5,566	6,442	7,509	9,006	10,529	12,143
NORTH FARMERSVILLE WSC	417	486	594	747	850	942
PARKER	7,316	7,316	7,811	9,117	10,035	11,465
PLANO	279,151	283,397	287,717	288,601	289,054	292,054
PRINCETON	11,047	38,120	77,633	91,943	91,943	91,943
PROSPER	19,003	22,000	25,000	28,000	35,056	35,056
RICHARDSON	35,700	35,700	35,700	36,536	38,207	41,690
SACHSE	8,108	8,108	8,108	8,441	8,535	8,535
SEIS LAGOS UD	2,041	2,041	2,041	2,124	2,148	2,148
SOUTH GRAYSON SUD	1,232	1,538	2,057	2,501	2,920	3,324
VERONA SUD	2,648	3,091	3,772	4,744	5,400	5,983
WEST LEONARD WSC*	318	362	441	596	857	1,142
WESTMINSTER WSC	1,889	2,204	2,687	3,377	3,851	4,277
WYLIE	41,381	44,531	46,984	50,563	52,636	57,986
WYLIE NORTHEAST SUD	4,958	5,976	7,015	11,464	17,153	25,279

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
COUNTY-OTHER	3,997	3,997	3,997	3,997	7,939	12,342
TRINITY BASIN TOTAL	**1,044,119**	**1,222,830**	**1,470,857**	**1,764,888**	**2,034,831**	**2,293,193**
COLLIN COUNTY TOTAL	**1,050,506**	**1,239,303**	**1,497,921**	**1,807,279**	**2,093,720**	**2,373,092**
CALLISBURG WSC	600	614	625	632	636	640
GAINESVILLE	28	30	32	33	40	57
LINDSAY	11	12	13	14	17	25
TWO WAY SUD	100	108	113	119	124	128
WOODBINE WSC	484	548	613	677	741	805
COUNTY-OTHER	1,211	1,305	1,445	2,120	2,678	6,307
RED BASIN TOTAL	**2,434**	**2,617**	**2,841**	**3,595**	**4,236**	**7,962**
BOLIVAR WSC	1,169	1,255	1,320	1,386	1,441	1,488
CALLISBURG WSC	1,056	1,082	1,101	1,112	1,120	1,127
GAINESVILLE	18,449	19,802	20,838	21,871	26,605	37,245
LAKE KIOWA SUD	2,200	2,300	2,350	2,400	2,420	2,450
LINDSAY	1,314	1,411	1,504	1,674	2,003	3,017
MOUNTAIN SPRINGS WSC	2,654	2,848	2,998	3,146	5,000	7,999
MUENSTER	1,564	1,564	1,614	1,614	1,665	1,665
WOODBINE WSC	5,647	6,398	7,149	7,900	8,649	9,398
COUNTY-OTHER	4,416	4,758	5,269	7,729	9,766	23,000
TRINITY BASIN TOTAL	**38,469**	**41,418**	**44,143**	**48,832**	**58,669**	**87,389**
COOKE COUNTY TOTAL	**40,903**	**44,035**	**46,984**	**52,427**	**62,905**	**95,351**
ADDISON	14,869	15,895	16,921	17,947	18,973	20,000
BALCH SPRINGS	26,418	28,974	31,600	34,449	37,226	40,010
CARROLLTON	51,277	51,277	51,277	51,277	51,277	51,277
CEDAR HILL	53,244	65,133	76,989	83,579	83,579	83,579
COCKRELL HILL	4,787	5,250	5,250	5,250	6,999	14,997
COMBINE WSC	810	986	1,185	1,412	1,669	1,956
COPPELL	40,848	41,747	41,809	41,809	41,809	41,809
DALLAS	1,141,059	1,242,191	1,420,781	1,591,937	1,722,709	1,785,569
DESOTO	54,505	58,941	64,281	70,078	75,727	78,033
DUNCANVILLE	43,110	47,307	47,307	47,307	47,307	47,307
EAST FORK SUD	3,725	3,725	3,376	4,169	4,942	5,717
FARMERS BRANCH	30,582	32,477	34,420	36,531	38,586	40,648
FERRIS	6	10	14	19	23	27
GARLAND	254,381	278,659	293,920	297,792	299,655	299,509
GLENN HEIGHTS	13,822	18,831	23,973	29,555	34,995	45,991
GRAND PRAIRIE	166,208	206,781	231,491	231,491	231,491	231,491
HIGHLAND PARK	9,023	9,311	9,311	9,311	9,311	9,311
HUTCHINS	9,901	13,919	17,937	21,956	25,974	29,994
IRVING	259,186	294,623	301,541	301,541	301,541	301,541
LANCASTER	45,097	58,781	69,582	77,498	85,417	93,333
LEWISVILLE	841	841	841	841	841	841
MESQUITE	149,800	164,758	186,045	202,822	219,171	235,561
OVILLA	485	624	768	924	1,076	1,862
RICHARDSON	73,816	76,839	79,892	82,378	82,378	82,378
ROCKETT SUD	1,000	2,000	2,999	3,999	4,999	5,999
ROWLETT	59,891	65,397	70,903	75,409	78,784	83,228

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
SACHSE	20,596	20,596	20,596	20,596	20,596	20,596
SEAGOVILLE	18,853	22,871	26,888	30,904	34,987	34,974
SUNNYVALE	6,637	9,481	12,326	14,222	14,222	14,222
UNIVERSITY PARK	25,656	25,656	25,656	25,656	25,656	25,656
WILMER	4,111	4,595	7,336	13,692	21,517	39,121
WYLIE	2,324	2,388	2,452	2,515	2,579	2,704
COUNTY-OTHER	1,092	798	862	917	1,318	1,617
TRINITY BASIN TOTAL	**2,587,960**	**2,871,662**	**3,180,529**	**3,429,783**	**3,627,334**	**3,770,858**
DALLAS COUNTY TOTAL	**2,587,960**	**2,871,662**	**3,180,529**	**3,429,783**	**3,627,334**	**3,770,858**
ARGYLE WSC	13,466	17,126	22,005	22,005	22,005	22,005
AUBREY	4,597	6,112	7,148	8,475	10,173	12,346
BLACK ROCK WSC	1,570	1,977	2,347	2,745	3,215	3,639
BOLIVAR WSC	9,904	12,050	14,614	17,479	20,832	24,660
CARROLLTON	79,200	81,682	81,682	81,682	81,682	81,682
CELINA	743	5,248	17,514	37,427	37,427	37,427
COPPELL	1,134	1,134	1,134	1,134	1,134	1,134
CORINTH	24,928	29,520	29,520	29,520	29,520	29,520
CROSS TIMBERS WSC	7,500	9,523	9,647	9,785	9,947	10,131
DALLAS	29,680	32,203	36,598	40,789	43,991	45,531
DENTON	145,000	186,773	233,749	322,996	463,472	570,694
DENTON COUNTY FWSD 10	7,884	16,750	19,770	19,770	19,770	19,770
DENTON COUNTY FWSD 1-A	14,000	25,021	30,000	30,000	30,000	30,000
DENTON COUNTY FWSD 7	13,500	13,500	13,500	13,500	13,500	13,500
FLOWER MOUND	75,315	84,200	86,000	88,000	90,000	92,730
FORT WORTH*	36,529	56,185	81,471	114,851	147,198	179,544
FRISCO	75,596	95,300	120,040	121,546	123,051	123,557
HACKBERRY	1,870	2,415	3,065	3,792	4,642	5,612
HIGHLAND VILLAGE	17,119	18,020	18,020	18,020	18,020	18,020
JUSTIN	4,766	8,532	12,298	12,298	12,298	12,298
KRUM	5,110	6,347	7,827	9,479	11,413	13,621
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	15,312	17,649	20,200	21,810	21,810	21,810
LEWISVILLE	106,485	121,082	138,526	158,014	176,513	176,513
LITTLE ELM	29,627	33,557	33,557	33,557	33,557	33,557
MOUNTAIN SPRINGS WSC	55	61	68	74	84	94
MUSTANG SUD	30,336	56,772	83,209	109,647	136,080	162,519
NORTHLAKE	9,500	22,000	31,010	43,005	55,000	55,000
PALOMA CREEK NORTH	8,194	11,174	11,174	11,174	11,174	11,174
PALOMA CREEK SOUTH	4,154	5,665	5,665	5,665	5,665	5,665
PILOT POINT	6,500	8,000	11,000	15,000	20,000	27,000
PLANO	7,449	7,747	7,946	7,946	7,946	7,946
PONDER	3,117	4,305	5,725	7,311	9,169	11,289
PROSPER	1,157	5,609	10,058	15,029	15,944	15,944
PROVIDENCE VILLAGE WCID	7,235	7,235	7,235	7,235	7,235	7,235
ROANOKE	7,949	9,956	11,961	11,961	11,961	11,961
SANGER	8,190	10,164	12,522	15,158	18,243	21,765
SOUTHLAKE	1,014	1,310	1,662	2,057	2,518	3,045
THE COLONY	53,029	58,000	62,000	67,600	67,600	67,600

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
TROPHY CLUB MUD 1	12,750	12,750	12,750	12,750	12,750	12,750
WESTLAKE	26	34	45	56	69	85
COUNTY-OTHER	9,573	12,431	15,289	33,673	59,607	112,763
TRINITY BASIN TOTAL	**891,063**	**1,115,119**	**1,329,551**	**1,584,015**	**1,866,215**	**2,113,136**
DENTON COUNTY TOTAL	**891,063**	**1,115,119**	**1,329,551**	**1,584,015**	**1,866,215**	**2,113,136**
AVALON WATER SUPPLY & SEWER SERVICE	1,182	1,435	1,764	2,405	3,242	4,537
BRANDON IRENE WSC*	70	90	112	145	177	215
BUENA VISTA-BETHEL SUD	4,619	5,617	6,605	8,465	12,169	16,217
CEDAR HILL	694	884	1,103	1,421	1,421	1,421
EAST GARRETT WSC	1,490	1,896	2,368	3,051	3,743	8,933
ENNIS	21,354	25,111	28,828	41,086	66,145	110,073
FERRIS	2,944	5,190	7,186	8,181	9,177	10,173
FILES VALLEY WSC*	755	961	1,199	1,545	1,896	2,302
GLENN HEIGHTS	3,874	4,929	6,153	7,930	9,728	14,843
GRAND PRAIRIE	55	71	88	114	140	170
HILCO UNITED SERVICES*	149	160	167	183	192	202
ITALY	2,365	3,011	3,757	4,842	6,132	8,176
MANSFIELD*	110	130	162	236	293	361
MIDLOTHIAN	20,660	30,895	32,500	34,500	36,836	40,689
MOUNTAIN PEAK SUD*	9,467	12,047	12,800	18,377	21,269	23,861
OVILLA	4,000	5,089	6,352	8,186	10,042	18,505
PALMER	2,440	3,104	3,875	4,994	6,383	11,784
RED OAK	7,667	8,635	11,660	16,615	20,449	31,952
RICE WATER SUPPLY AND SEWER SERVICE	5,861	7,190	8,710	10,758	12,925	15,421
ROCKETT SUD	39,447	51,008	56,000	75,000	100,000	130,000
SARDIS LONE ELM WSC	19,699	26,433	30,524	31,524	32,524	32,524
SOUTH ELLIS COUNTY WSC	1,563	1,887	2,313	3,144	4,227	5,902
VENUS*	81	102	128	165	202	246
WAXAHACHIE	37,700	43,084	52,272	64,400	78,500	95,500
COUNTY-OTHER	3,392	2,819	4,119	13,317	42,127	86,838
TRINITY BASIN TOTAL	**191,638**	**241,778**	**280,745**	**360,584**	**479,939**	**670,845**
ELLIS COUNTY TOTAL	**191,638**	**241,778**	**280,745**	**360,584**	**479,939**	**670,845**
ARLEDGE RIDGE WSC	955	1,081	1,314	1,725	2,539	3,451
BOIS D ARC MUD	2,319	2,625	3,190	4,187	6,164	8,376
BONHAM	12,603	16,000	22,000	30,000	37,000	45,000
DESERT WSC	7	8	8	10	15	22
HONEY GROVE	382	384	384	384	384	384
LEONARD	18	19	20	21	22	23
SOUTHWEST FANNIN COUNTY SUD	3,915	4,304	4,580	4,851	5,827	6,927
TRENTON	1	1	3	6	10	14
WHITE SHED WSC	2,769	3,133	3,809	4,998	7,360	10,001
WHITEWRIGHT	10	11	12	13	14	15
COUNTY-OTHER	5,246	4,346	4,693	6,925	19,606	34,021
RED BASIN TOTAL	**28,225**	**31,912**	**40,013**	**53,120**	**78,941**	**108,234**
ARLEDGE RIDGE WSC	377	427	519	681	1,003	1,362
DELTA COUNTY MUD*	45	45	46	46	47	49
HICKORY CREEK SUD*	282	310	330	350	382	416

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Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
HONEY GROVE	1,435	1,444	1,444	1,444	1,444	1,444
LADONIA	1,600	2,000	2,200	2,500	3,000	3,000
LEONARD	42	45	47	49	51	53
NORTH HUNT SUD*	525	577	617	653	709	769
WOLFE CITY*	90	112	142	183	242	327
COUNTY-OTHER	324	268	290	428	1,211	2,101
SULPHUR BASIN TOTAL	**4,720**	**5,228**	**5,635**	**6,334**	**8,089**	**9,521**
DESERT WSC	675	762	809	987	1,427	2,113
HICKORY CREEK SUD*	15	17	18	19	20	22
LEONARD	2,140	2,336	2,433	2,530	2,627	2,724
SOUTHWEST FANNIN COUNTY SUD	193	212	226	239	287	342
TRENTON	735	933	2,099	4,197	7,238	10,257
WEST LEONARD WSC*	1,238	1,362	1,310	1,388	1,623	1,996
COUNTY-OTHER	389	322	348	514	1,454	2,523
TRINITY BASIN TOTAL	**5,385**	**5,944**	**7,243**	**9,874**	**14,676**	**19,977**
FANNIN COUNTY TOTAL	**38,330**	**43,084**	**52,891**	**69,328**	**101,706**	**137,732**
POINT ENTERPRISE WSC*	422	447	467	490	508	523
SOUTH FREESTONE COUNTY WSC	399	412	448	608	868	1,431
TEAGUE	1,934	2,063	2,750	3,636	4,384	5,157
COUNTY-OTHER	472	469	432	538	1,297	3,365
BRAZOS BASIN TOTAL	**3,227**	**3,391**	**4,097**	**5,272**	**7,057**	**10,476**
BUTLER WSC	1,450	1,465	1,475	1,490	1,497	1,506
FAIRFIELD	4,593	4,670	4,951	8,749	10,498	14,116
FLO COMMUNITY WSC*	454	489	513	532	545	555
PLEASANT GROVE WSC	1,243	1,288	1,402	1,877	2,649	4,292
POINT ENTERPRISE WSC*	395	418	438	458	475	490
SOUTH FREESTONE COUNTY WSC	2,166	2,234	2,432	3,300	4,714	7,767
TEAGUE	2,095	2,235	2,978	3,939	4,748	5,587
WORTHAM	1,185	1,278	1,342	1,390	2,319	2,622
COUNTY-OTHER	3,629	3,609	3,319	4,135	9,973	25,876
TRINITY BASIN TOTAL	**17,210**	**17,686**	**18,850**	**25,870**	**37,418**	**62,811**
FREESTONE COUNTY TOTAL	**20,437**	**21,077**	**22,947**	**31,142**	**44,475**	**73,287**
BELLS	1,713	2,020	2,322	2,536	5,925	8,000
DENISON	27,340	30,410	30,768	33,805	39,346	52,403
DORCHESTER	1,097	1,192	1,290	1,353	1,476	1,648
HOWE	804	945	1,080	1,198	1,352	1,508
KENTUCKYTOWN WSC	1,466	1,767	2,057	2,329	2,957	3,792
LUELLA SUD	3,214	3,710	4,195	4,544	5,122	5,992
NORTHWEST GRAYSON COUNTY WCID 1	1,906	1,990	2,095	2,362	3,194	4,479
OAK RIDGE SOUTH GALE WSC	2,551	2,522	2,802	3,161	4,273	5,861
PINK HILL WSC	1,992	2,187	2,187	2,467	3,335	4,576
POTTSBORO	3,056	3,951	4,834	6,331	10,000	18,000
RED RIVER AUTHORITY OF TEXAS*	1,457	1,625	1,773	1,921	2,062	1,976
SHERMAN	43,522	45,675	46,749	50,692	66,937	102,574
SOUTHMAYD	1,281	1,426	1,569	1,731	2,334	3,151
SOUTHWEST FANNIN COUNTY SUD	1,727	2,308	3,072	3,947	5,382	7,061
STARR WSC	2,355	2,588	2,556	2,882	3,897	5,347
TOM BEAN	160	182	203	227	280	420

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Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
TWO WAY SUD	3,973	5,139	6,074	7,337	9,810	12,684
WHITESBORO	1,781	1,813	1,835	1,817	2,308	3,054
WHITEWRIGHT	1,881	1,904	1,926	1,852	1,962	2,182
COUNTY-OTHER	5,703	4,779	2,979	3,521	11,939	19,692
RED BASIN TOTAL	**108,979**	**118,133**	**122,366**	**136,013**	**183,891**	**264,400**
COLLINSVILLE	2,567	3,139	3,798	4,596	4,850	6,370
DESERT WSC	618	676	732	792	875	947
DORCHESTER	525	570	617	647	707	788
GUNTER	1,841	2,538	3,384	4,230	5,182	6,046
HOWE	2,064	2,427	2,774	3,077	3,471	3,871
KENTUCKYTOWN WSC	1,390	1,676	1,951	2,208	2,804	3,595
LUELLA SUD	466	538	608	659	743	869
MARILEE SUD	3,106	3,375	3,570	3,570	3,570	3,570
MUSTANG SUD	264	268	271	273	280	281
SOUTH GRAYSON SUD	2,902	3,118	3,565	3,717	3,928	4,052
TIOGA	1,209	1,322	1,421	1,535	3,395	4,656
TOM BEAN	1,096	1,250	1,390	1,552	1,916	2,874
TWO WAY SUD	2,183	2,824	3,337	4,031	5,390	6,969
VAN ALSTYNE	3,750	5,300	7,470	9,640	18,644	23,494
WESTMINSTER WSC	20	24	29	35	40	44
WHITESBORO	2,058	2,095	2,121	2,100	2,667	3,528
WHITEWRIGHT	15	15	15	15	16	17
WOODBINE WSC	79	89	97	107	121	131
COUNTY-OTHER	179	150	94	110	375	618
TRINITY BASIN TOTAL	**26,332**	**31,394**	**37,244**	**42,894**	**58,974**	**72,720**
GRAYSON COUNTY TOTAL	**135,311**	**149,527**	**159,610**	**178,907**	**242,865**	**337,120**
ATHENS*	14,241	15,906	17,294	19,125	32,895	48,841
B B S WSC*	29	30	30	30	30	30
BETHEL ASH WSC*	2,115	2,385	2,609	2,907	3,163	3,411
CRESCENT HEIGHTS WSC	1,885	2,012	2,172	2,361	2,968	3,770
DOGWOOD ESTATES WATER	1,205	1,286	1,388	1,509	1,897	2,409
EAST CEDAR CREEK FWSD	20,100	22,320	24,840	27,570	30,630	34,050
EUSTACE	1,170	1,277	1,383	2,041	2,659	3,191
MABANK*	3,715	4,141	4,568	5,975	8,339	11,619
MALAKOFF	2,432	2,512	2,580	2,668	2,824	3,026
TRINIDAD	1,026	1,026	1,026	1,026	1,158	1,390
VIRGINIA HILL WSC*	2,384	2,734	3,027	3,413	3,774	4,246
WEST CEDAR CREEK MUD	13,963	14,406	14,817	15,570	19,500	24,500
COUNTY-OTHER*	3,314	2,557	2,770	1,706	656	1,398
TRINITY BASIN TOTAL	**67,579**	**72,592**	**78,504**	**85,901**	**110,493**	**141,881**
HENDERSON COUNTY TOTAL	**67,579**	**72,592**	**78,504**	**85,901**	**110,493**	**141,881**
COUNTY-OTHER	2,125	2,268	2,357	2,404	2,438	2,460
BRAZOS BASIN TOTAL	**2,125**	**2,268**	**2,357**	**2,404**	**2,438**	**2,460**
JACKSBORO	4,873	5,202	5,406	5,514	5,593	5,643
COUNTY-OTHER	2,753	2,939	3,054	3,115	3,159	3,188
TRINITY BASIN TOTAL	**7,626**	**8,141**	**8,460**	**8,629**	**8,752**	**8,831**
JACK COUNTY TOTAL	**9,751**	**10,409**	**10,817**	**11,033**	**11,190**	**11,291**
ABLES SPRINGS WSC*	2,514	3,117	3,758	4,715	5,748	6,873

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Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
MACBEE SUD*	234	290	350	439	535	640
POETRY WSC*	459	574	708	942	1,276	1,718
COUNTY-OTHER	177	328	368	374	1,543	3,534
SABINE BASIN TOTAL	**3,384**	**4,309**	**5,184**	**6,470**	**9,102**	**12,765**
ABLES SPRINGS WSC*	1,988	2,465	2,972	3,728	4,545	5,435
BECKER JIBA WSC	3,547	4,590	5,626	7,933	11,093	14,800
COLLEGE MOUND WSC	11,510	14,270	17,206	21,584	31,717	40,174
COMBINE WSC	2,904	3,503	4,122	5,066	6,047	7,089
CRANDALL	4,209	5,218	6,292	7,840	7,920	7,920
ELMO WSC	2,566	3,320	4,071	5,418	7,576	10,110
FORNEY	21,341	24,927	31,904	40,020	59,400	79,200
FORNEY LAKE WSC	7,012	8,694	10,482	13,149	22,474	32,306
GASTONIA SCURRY SUD	10,568	13,088	15,739	20,150	33,704	52,565
HIGH POINT WSC	4,314	5,356	6,462	8,057	12,155	15,724
KAUFMAN	7,754	9,593	11,744	18,512	24,201	29,700
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	3,687	4,771	5,849	7,786	10,887	14,527
KAUFMAN COUNTY MUD 11	3,702	4,540	5,568	6,828	8,374	10,269
KEMP	1,699	2,107	2,540	3,187	4,950	6,930
MABANK*	6,048	6,673	7,208	9,726	13,712	19,106
MACBEE SUD*	33	41	49	62	76	90
MARKOUT WSC	2,391	3,094	3,793	5,050	7,062	9,422
MESQUITE	136	170	204	257	313	374
NORTH KAUFMAN WSC	2,818	3,647	4,471	5,952	8,322	11,103
POETRY WSC*	450	562	694	924	1,251	1,684
ROSE HILL SUD	5,106	6,329	7,606	9,699	12,870	19,800
SEAGOVILLE	29	36	44	55	67	80
TALTY SUD	10,985	12,710	14,642	20,600	28,710	39,600
TERRELL	22,723	43,973	60,000	70,000	78,000	90,869
WEST CEDAR CREEK MUD	4,103	4,560	5,009	5,861	6,705	7,605
COUNTY-OTHER	1,382	2,561	2,873	2,919	12,044	27,593
TRINITY BASIN TOTAL	**143,005**	**190,798**	**237,170**	**300,363**	**414,175**	**554,075**
KAUFMAN COUNTY TOTAL	**146,389**	**195,107**	**242,354**	**306,833**	**423,277**	**566,840**
B AND B WSC	1,752	1,809	1,954	2,265	2,755	3,416
BLOOMING GROVE	973	1,073	1,175	1,293	1,416	1,547
BRANDON IRENE WSC*	193	213	234	257	281	307
CHATFIELD WSC	3,933	4,414	4,894	5,374	5,854	6,334
CORBET WSC	2,785	3,071	3,366	3,702	4,054	4,429
CORSICANA	26,739	29,484	32,318	35,546	38,921	42,525
DAWSON	893	934	975	1,016	1,057	1,100
KERENS	1,824	2,011	2,204	2,424	2,655	2,900
M E N WSC	3,451	3,805	4,171	4,588	5,023	5,488
NAVARRO MILLS WSC	3,128	3,450	3,782	4,159	4,554	4,975
PLEASANT GROVE WSC	111	115	125	167	236	383
POST OAK SUD*	706	757	801	874	973	1,099
RICE WATER SUPPLY AND SEWER SERVICE	3,660	4,511	5,492	6,514	7,828	9,338
SOUTH ELLIS COUNTY WSC	59	71	88	115	154	215
COUNTY-OTHER	2,298	3,838	4,379	5,919	7,460	15,000

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Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
TRINITY BASIN TOTAL	**52,505**	**59,556**	**65,958**	**74,213**	**83,221**	**99,056**
NAVARRO COUNTY TOTAL	**52,505**	**59,556**	**65,958**	**74,213**	**83,221**	**99,056**
HORSESHOE BEND WATER SYSTEM	1,655	2,112	2,409	3,035	3,978	5,210
MINERAL WELLS*	2,107	2,078	2,044	2,004	1,958	1,905
NORTH RURAL WSC*	770	826	864	899	926	947
PARKER COUNTY SUD*	6,762	10,732	14,702	18,672	22,642	26,612
SANTO SUD*	94	102	108	114	121	128
WEATHERFORD	1,690	2,024	2,176	3,639	5,963	8,220
COUNTY-OTHER	29,725	28,911	23,642	37,407	58,358	85,525
BRAZOS BASIN TOTAL	**42,803**	**46,785**	**45,945**	**65,770**	**93,946**	**128,547**
ALEDO	5,579	8,724	10,000	11,500	12,000	13,500
ANNETTA	3,720	4,422	5,123	5,825	6,526	7,228
AZLE	2,467	2,676	2,887	3,100	3,746	4,806
FORT WORTH*	63,316	99,884	113,006	126,940	135,422	143,903
HUDSON OAKS	4,000	5,513	5,679	5,679	5,679	5,679
RENO (Parker)	2,522	2,566	2,613	2,670	2,734	2,809
SPRINGTOWN	4,068	5,484	5,484	5,484	5,484	5,484
WALNUT CREEK SUD	17,811	21,176	22,589	32,601	48,379	63,430
WEATHERFORD	28,494	34,134	36,682	61,363	100,539	138,585
WILLOW PARK	5,500	8,200	10,100	12,500	16,000	18,000
COUNTY-OTHER	21,211	20,630	16,871	26,693	41,642	61,029
TRINITY BASIN TOTAL	**158,688**	**213,409**	**231,034**	**294,355**	**378,151**	**464,453**
PARKER COUNTY TOTAL	**201,491**	**260,194**	**276,979**	**360,125**	**472,097**	**593,000**
B H P WSC*	302	375	475	612	808	1,092
BEAR CREEK SUD	350	440	605	791	1,578	3,334
BLACKLAND WSC*	1,943	2,203	2,367	2,436	2,745	2,957
CASH SUD*	1,220	1,580	1,989	2,403	2,864	3,354
FATE	8,589	11,165	15,037	19,870	24,167	26,852
NEVADA SUD	75	91	111	449	1,122	2,019
ROYSE CITY*	9,054	9,706	10,000	24,000	40,712	45,160
COUNTY-OTHER	913	1,289	1,320	1,234	1,381	2,142
SABINE BASIN TOTAL	**22,446**	**26,849**	**31,904**	**51,795**	**75,377**	**86,910**
BEAR CREEK SUD	320	403	554	723	1,442	3,049
BLACKLAND WSC*	2,294	2,601	2,796	2,876	3,241	3,491
DALLAS	77	103	132	162	195	230
EAST FORK SUD	1,240	1,735	2,298	2,868	3,566	4,286
FATE	7,405	9,624	12,963	17,130	20,833	23,148
FORNEY LAKE WSC	763	959	1,183	1,409	1,690	1,978
GARLAND	3	4	4	5	6	7
HEATH	12,109	17,246	21,713	22,000	23,000	24,000
HIGH POINT WSC	565	709	873	1,056	1,604	2,091
MOUNT ZION WSC	2,521	3,171	3,869	4,660	5,590	6,542
R C H WSC	4,266	5,946	6,969	8,487	10,994	13,407
ROCKWALL	52,740	77,560	114,807	120,268	130,268	140,268
ROWLETT	7,632	7,632	7,632	7,632	7,763	7,825
WYLIE	3,451	3,546	3,640	3,734	3,894	4,119

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Region C Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
COUNTY-OTHER	1,578	2,227	2,282	2,133	2,387	3,701
TRINITY BASIN TOTAL	**96,964**	**133,466**	**181,715**	**195,143**	**216,473**	**238,142**
ROCKWALL COUNTY TOTAL	**119,410**	**160,315**	**213,619**	**246,938**	**291,850**	**325,052**
ARLINGTON	387,000	404,225	413,655	423,084	423,084	423,084
AZLE	9,872	10,701	11,545	12,403	14,985	19,223
BEDFORD	48,435	52,345	56,255	60,166	60,166	60,166
BENBROOK WATER AUTHORITY	22,323	24,803	27,284	30,749	34,213	34,213
BETHESDA WSC*	10,614	11,933	13,238	14,507	15,778	17,023
BURLESON*	8,434	8,791	9,768	13,675	16,606	18,559
COLLEYVILLE	23,719	25,201	27,000	28,000	28,000	28,000
COMMUNITY WSC	3,419	3,845	4,265	4,673	5,083	5,484
CROWLEY*	16,250	18,986	22,679	27,268	34,890	39,874
DALWORTHINGTON GARDENS	2,298	2,350	2,401	2,451	2,501	2,549
EDGECLIFF	2,924	2,924	2,924	2,924	2,924	2,924
EULESS	54,725	57,689	57,689	57,689	57,689	57,689
EVERMAN	6,153	6,477	6,600	6,600	6,600	6,600
FLOWER MOUND	240	270	270	270	270	270
FOREST HILL	12,975	13,761	14,971	17,965	22,955	29,942
FORT WORTH*	848,803	1,042,039	1,282,178	1,395,762	1,493,447	1,592,141
GRAND PRAIRIE	51,864	51,864	51,864	51,864	51,864	51,864
GRAPEVINE	52,243	54,037	54,037	54,037	54,037	54,037
HALTOM CITY	43,611	44,602	46,585	50,550	54,514	59,470
HASLET	1,750	5,380	7,870	14,000	14,000	14,000
HURST	39,229	40,209	40,209	40,209	40,209	40,209
JOHNSON COUNTY SUD*	2,649	2,897	3,233	3,568	3,904	4,240
KELLER	48,279	51,974	51,974	51,974	51,974	51,974
KENNEDALE	8,044	9,250	10,883	12,632	14,381	16,130
LAKE WORTH	5,157	5,798	6,431	7,457	8,750	11,932
LAKESIDE	1,350	1,400	1,450	1,500	1,500	1,500
MANSFIELD*	67,501	85,935	102,678	127,297	146,050	164,697
NORTH RICHLAND HILLS	72,102	77,480	77,480	77,480	77,480	77,480
PANTEGO	2,653	2,653	2,653	2,653	2,653	2,653
PELICAN BAY	1,684	1,716	1,748	1,779	1,810	1,841
RENO (Parker)	15	22	29	36	44	49
RICHLAND HILLS	8,401	9,001	9,601	10,850	12,000	13,500
RIVER OAKS	7,559	7,559	7,559	7,559	7,559	7,559
SAGINAW	23,166	26,386	29,607	31,218	31,218	31,218
SANSOM PARK	4,799	5,099	5,722	6,063	6,405	6,739
SOUTHLAKE	26,695	29,882	34,862	39,843	44,823	49,803
WATAUGA	24,525	24,525	24,525	24,525	24,525	24,525
WESTLAKE	1,515	4,200	6,882	7,694	7,681	7,665
WESTOVER HILLS	682	699	715	732	749	764
WESTWORTH VILLAGE	2,741	2,989	3,235	3,473	3,712	3,947
WHITE SETTLEMENT	16,957	17,858	18,750	22,000	28,000	34,000
COUNTY-OTHER	31,254	29,358	27,021	49,948	69,001	97,840
TRINITY BASIN TOTAL	**2,004,609**	**2,279,113**	**2,580,325**	**2,799,127**	**2,978,034**	**3,167,377**
TARRANT COUNTY TOTAL	**2,004,609**	**2,279,113**	**2,580,325**	**2,799,127**	**2,978,034**	**3,167,377**

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	2020	2030	2040	2050	2060	2070
ALVORD	1,625	1,957	2,297	2,800	3,200	3,600
BOLIVAR WSC	883	1,018	1,157	1,309	1,472	1,644
BOYD	1,304	1,414	2,001	2,501	3,502	3,802
BRIDGEPORT	7,337	8,999	10,702	14,762	19,682	24,603
CHICO	1,412	1,487	1,565	2,955	3,761	4,702
DECATUR	8,509	11,740	15,254	19,752	23,227	27,002
FORT WORTH*	12,176	17,481	22,561	29,015	35,327	41,639
NEWARK	1,772	2,339	3,302	4,458	6,216	8,300
RHOME	2,304	3,255	4,230	6,765	9,085	11,598
RUNAWAY BAY	1,447	1,631	1,821	2,200	2,500	3,000
WALNUT CREEK SUD	3,540	4,790	6,072	7,487	11,101	14,351
WEST WISE SUD	3,899	4,036	4,177	4,323	4,474	4,631
COUNTY-OTHER	33,674	34,939	35,204	37,470	38,735	60,000
TRINITY BASIN TOTAL	**79,882**	**95,086**	**110,343**	**135,797**	**162,282**	**208,872**
WISE COUNTY TOTAL	**79,882**	**95,086**	**110,343**	**135,797**	**162,282**	**208,872**
REGION C POPULATION TOTAL	**7,637,764**	**8,857,957**	**10,150,077**	**11,533,432**	**13,051,603**	**14,684,790**

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**
B H P WSC*	38	55	68	68	69	69
CADDO BASIN SUD*	155	188	251	331	425	527
FARMERSVILLE	1	3	7	11	16	23
JOSEPHINE*	307	485	676	874	910	910
NEVADA SUD	81	97	112	361	852	1,532
ROYSE CITY*	258	1,197	2,137	3,328	4,437	5,838
COUNTY-OTHER	0	0	0	0	1	1
LIVESTOCK	91	91	91	91	91	91
IRRIGATION	94	94	94	94	94	94
SABINE BASIN TOTAL	**1,025**	**2,210**	**3,436**	**5,158**	**6,895**	**9,085**
ALLEN	21,887	23,536	23,806	24,125	24,496	24,902
ANNA	2,389	4,047	6,429	8,336	10,816	14,053
BEAR CREEK SUD	610	948	1,342	1,866	2,336	2,947
BLUE RIDGE	413	687	6,403	14,735	21,025	29,142
CADDO BASIN SUD*	103	124	166	220	282	349
CARROLLTON	1	1	2	2	3	3
CELINA	4,420	10,515	15,980	21,784	27,596	33,405
COPEVILLE SUD	327	387	465	638	1,123	1,921
CULLEOKA WSC	597	596	901	1,094	1,237	1,546
DALLAS	15,807	15,886	15,830	15,706	15,681	15,679
DESERT WSC	51	56	64	81	110	144
EAST FORK SUD	1,308	1,407	1,580	1,581	1,638	1,693
FAIRVIEW	4,498	5,162	6,871	7,146	7,223	7,222
FARMERSVILLE	1,035	2,501	5,658	8,629	12,260	17,721
FRISCO	27,373	28,159	33,122	47,994	56,265	60,316
FROGNOT WSC*	171	193	232	289	329	366
GARLAND	51	62	76	94	115	137
HICKORY CREEK SUD*	10	14	20	28	40	57
LUCAS	2,316	2,613	3,438	3,990	4,455	4,454
MARILEE SUD	675	665	669	666	665	665
MCKINNEY	40,856	44,424	48,984	59,223	70,879	76,807
MELISSA	3,946	12,418	17,365	21,642	24,886	25,745
MILLIGAN WSC	450	511	614	766	870	963
MURPHY	4,441	4,414	4,402	4,393	4,388	4,387
NEVADA SUD	161	192	222	713	1,685	3,031
NORTH COLLIN SUD	818	921	1,055	1,254	1,463	1,685
NORTH FARMERSVILLE WSC	91	104	126	158	180	199
PARKER	3,123	3,096	3,302	3,852	4,239	4,843
PLANO	71,890	71,978	72,314	72,139	72,158	72,907
PRINCETON	1,184	3,964	7,951	9,320	9,303	9,298
PROSPER	4,872	5,600	6,353	7,109	8,896	8,895
RICHARDSON	8,951	8,801	8,683	8,824	9,215	10,055
SACHSE	1,473	1,457	1,448	1,502	1,516	1,516
SEIS LAGOS UD	577	573	571	592	598	598
SOUTH GRAYSON SUD	151	184	242	293	341	388
VERONA SUD	266	301	360	448	509	563
WEST LEONARD WSC*	42	47	56	75	107	142
WESTMINSTER WSC	256	291	350	437	498	552

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WYLIE	6,236	6,614	6,926	7,421	7,710	8,491
WYLIE NORTHEAST SUD	674	795	924	1,498	2,238	3,295
COUNTY-OTHER	627	615	606	596	1,180	1,834
MANUFACTURING	2,246	2,602	2,602	2,602	2,602	2,602
STEAM ELECTRIC POWER	40	40	40	40	40	40
LIVESTOCK	821	821	821	821	821	821
IRRIGATION	3,246	3,246	3,246	3,246	3,246	3,246
TRINITY BASIN TOTAL	**241,480**	**271,568**	**312,617**	**367,968**	**417,263**	**459,625**
COLLIN COUNTY TOTAL	**242,505**	**273,778**	**316,053**	**373,126**	**424,158**	**468,710**
CALLISBURG WSC	54	53	52	52	52	53
GAINESVILLE	4	4	4	4	5	8
LINDSAY	1	1	2	2	2	3
TWO WAY SUD	11	12	12	12	13	13
WOODBINE WSC	51	56	61	66	72	78
COUNTY-OTHER	160	167	179	259	326	766
LIVESTOCK	630	630	630	630	630	630
IRRIGATION	332	332	332	332	332	332
RED BASIN TOTAL	**1,243**	**1,255**	**1,272**	**1,357**	**1,432**	**1,883**
BOLIVAR WSC	104	107	109	113	117	121
CALLISBURG WSC	96	93	92	91	92	92
GAINESVILLE	2,652	2,754	2,829	2,931	3,552	4,961
LAKE KIOWA SUD	891	921	938	957	964	976
LINDSAY	172	179	186	204	243	365
MOUNTAIN SPRINGS WSC	445	468	486	506	801	1,279
MUENSTER	268	261	263	260	267	267
WOODBINE WSC	600	651	706	769	839	911
COUNTY-OTHER	583	607	655	945	1,191	2,795
MANUFACTURING	116	128	128	128	128	128
MINING	1,583	900	378	446	511	586
STEAM ELECTRIC POWER	5	5	5	5	5	5
LIVESTOCK	700	700	700	700	700	700
IRRIGATION	768	768	768	768	768	768
TRINITY BASIN TOTAL	**8,983**	**8,542**	**8,243**	**8,823**	**10,178**	**13,954**
COOKE COUNTY TOTAL	**10,226**	**9,797**	**9,515**	**10,180**	**11,610**	**15,837**
ADDISON	6,137	6,486	6,856	7,248	7,657	8,069
BALCH SPRINGS	2,749	2,894	3,066	3,293	3,546	3,808
CARROLLTON	9,532	9,329	9,173	9,087	9,070	9,069
CEDAR HILL	10,660	12,810	14,994	16,201	16,186	16,184
COCKRELL HILL	417	431	415	405	536	1,140
COMBINE WSC	77	90	105	123	145	170
COPPELL	10,828	10,928	10,848	10,793	10,779	10,779
DALLAS	252,895	269,507	303,240	337,114	364,227	377,458
DESOTO	9,422	9,965	10,703	11,575	12,483	12,856
DUNCANVILLE	6,091	6,464	6,322	6,244	6,230	6,229
EAST FORK SUD	454	435	386	472	558	646
FARMERS BRANCH	9,031	9,448	9,901	10,446	11,020	11,606
FERRIS	1	2	2	3	3	4

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
GARLAND	41,055	43,805	45,269	45,349	45,528	45,506
GLENN HEIGHTS	1,513	2,002	2,516	3,083	3,644	4,783
GRAND PRAIRIE	26,811	32,615	36,061	35,851	35,799	35,792
HIGHLAND PARK	4,055	4,139	4,105	4,090	4,087	4,087
HUTCHINS	2,186	3,033	3,888	4,748	5,612	6,479
IRVING	55,798	62,288	63,021	62,619	62,535	62,524
LANCASTER	7,670	9,755	11,407	12,634	13,905	15,186
LEWISVILLE	158	155	153	152	152	152
MESQUITE	22,314	23,822	26,318	28,392	30,609	32,880
OVILLA	116	146	178	213	248	429
RICHARDSON	18,508	18,943	19,432	19,895	19,869	19,868
ROCKETT SUD	114	220	323	427	532	638
ROWLETT	9,163	9,793	10,480	11,062	11,534	12,183
SACHSE	3,742	3,702	3,679	3,664	3,659	3,658
SEAGOVILLE	2,061	2,412	2,778	3,161	3,569	3,567
SUNNYVALE	2,234	3,159	4,089	4,710	4,707	4,706
UNIVERSITY PARK	7,612	7,506	7,418	7,370	7,361	7,361
WILMER	423	455	702	1,293	2,027	3,680
WYLIE	350	355	361	369	378	396
COUNTY-OTHER	2,229	2,168	2,180	2,191	2,274	2,335
MANUFACTURING	21,834	23,073	23,073	23,073	23,073	23,073
MINING	3,038	2,656	2,279	1,930	1,922	1,916
STEAM ELECTRIC POWER	1,065	1,065	1,065	1,065	1,065	1,065
LIVESTOCK	758	758	758	758	758	758
IRRIGATION	10,122	10,122	10,122	10,122	10,122	10,122
TRINITY BASIN TOTAL	**563,223**	**606,936**	**657,666**	**701,225**	**737,409**	**761,162**
DALLAS COUNTY TOTAL	**563,223**	**606,936**	**657,666**	**701,225**	**737,409**	**761,162**
ARGYLE WSC	2,659	3,365	4,322	4,319	4,317	4,314
AUBREY	547	711	823	972	1,164	1,412
BLACK ROCK WSC	296	368	433	505	590	668
BOLIVAR WSC	885	1,028	1,212	1,429	1,697	2,007
CARROLLTON	14,723	14,861	14,613	14,476	14,448	14,446
CELINA	154	1,081	3,602	7,692	7,691	7,690
COPPELL	301	297	294	293	292	292
CORINTH	4,269	4,986	4,959	4,942	4,935	4,934
CROSS TIMBERS WSC	1,642	2,060	2,073	2,096	2,128	2,166
DALLAS	6,578	6,987	7,811	8,638	9,301	9,625
DENTON	26,174	33,012	40,885	56,228	80,557	99,143
DENTON COUNTY FWSD 10	1,485	3,128	3,690	3,689	3,687	3,686
DENTON COUNTY FWSD 1-A	3,659	6,493	7,776	7,773	7,771	7,769
DENTON COUNTY FWSD 7	3,418	3,405	3,403	3,401	3,399	3,397
FLOWER MOUND	18,988	20,956	21,288	21,714	22,184	22,855
FORT WORTH*	7,190	10,843	15,557	21,833	27,949	34,079
FRISCO	18,353	22,963	28,846	29,181	29,523	29,639
HACKBERRY	452	578	730	902	1,103	1,332
HIGHLAND VILLAGE	3,835	3,972	3,927	3,902	3,897	3,897
JUSTIN	712	1,242	1,775	1,771	1,770	1,770

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
KRUM	1,135	1,391	1,703	2,055	2,471	2,947
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	2,153	2,435	2,758	2,962	2,956	2,955
LEWISVILLE	19,984	22,285	25,176	28,536	31,821	31,817
LITTLE ELM	4,075	4,564	4,550	4,538	4,528	4,528
MOUNTAIN SPRINGS WSC	9	10	11	12	13	15
MUSTANG SUD	4,548	8,361	12,201	16,049	19,904	23,762
NORTHLAKE	1,923	4,402	6,197	8,591	10,986	10,985
PALOMA CREEK NORTH	1,700	2,303	2,302	2,301	2,299	2,298
PALOMA CREEK SOUTH	854	1,165	1,165	1,165	1,165	1,165
PILOT POINT	891	1,069	1,449	1,964	2,614	3,527
PLANO	1,918	1,968	1,997	1,986	1,984	1,984
PONDER	388	524	690	878	1,099	1,352
PROSPER	297	1,428	2,556	3,816	4,046	4,046
PROVIDENCE VILLAGE WCID	938	930	929	927	925	925
ROANOKE	2,255	2,797	3,345	3,339	3,337	3,336
SANGER	1,140	1,377	1,672	2,010	2,414	2,878
SOUTHLAKE	419	538	680	840	1,027	1,242
THE COLONY	8,071	8,631	9,105	9,857	9,844	9,841
TROPHY CLUB MUD 1	4,863	4,829	4,811	4,802	4,798	4,797
WESTLAKE	30	39	52	65	79	98
COUNTY-OTHER	1,199	1,537	1,878	4,108	7,241	13,671
MANUFACTURING	374	440	440	440	440	440
MINING	4,326	2,729	3,345	4,306	5,204	6,291
STEAM ELECTRIC POWER	173	173	173	173	173	173
LIVESTOCK	769	769	769	769	769	769
IRRIGATION	3,003	3,003	3,003	3,003	3,003	3,003
TRINITY BASIN TOTAL	**183,755**	**222,033**	**260,976**	**305,248**	**353,543**	**393,966**
DENTON COUNTY TOTAL	**183,755**	**222,033**	**260,976**	**305,248**	**353,543**	**393,966**
AVALON WATER SUPPLY & SEWER SERVICE	149	175	211	286	384	538
BRANDON IRENE WSC*	9	11	14	18	22	26
BUENA VISTA-BETHEL SUD	1,282	1,541	1,800	2,299	3,300	4,395
CEDAR HILL	139	174	215	275	275	275
EAST GARRETT WSC	246	306	377	483	592	1,411
ENNIS	4,026	4,625	5,234	7,401	11,887	19,761
FERRIS	460	787	1,069	1,206	1,348	1,492
FILES VALLEY WSC*	116	143	175	223	273	332
GLENN HEIGHTS	424	524	646	827	1,013	1,544
GRAND PRAIRIE	9	11	14	18	22	26
HILCO UNITED SERVICES*	21	22	22	24	25	26
ITALY	311	380	464	592	749	997
MANSFIELD*	30	35	44	64	79	97
MIDLOTHIAN	4,811	7,094	7,408	7,839	8,359	9,231
MOUNTAIN PEAK SUD*	2,971	3,733	3,938	5,636	6,517	7,308
OVILLA	954	1,192	1,473	1,891	2,317	4,264
PALMER	274	334	407	519	662	1,219
RED OAK	1,144	1,265	1,687	2,390	2,936	4,582
RICE WATER SUPPLY AND SEWER SERVICE	701	833	992	1,215	1,456	1,735

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**
ROCKETT SUD	4,505	5,606	6,028	8,000	10,638	13,816
SARDIS LONE ELM WSC	5,304	7,037	8,079	8,324	8,583	8,581
SOUTH ELLIS COUNTY WSC	401	476	579	784	1,053	1,469
VENUS*	15	19	23	30	37	45
WAXAHACHIE	6,872	7,702	9,226	11,299	13,749	16,715
COUNTY-OTHER	414	330	467	1,473	4,649	9,576
MANUFACTURING	5,414	6,549	6,549	6,549	6,549	6,549
MINING	931	547	164	123	82	55
STEAM ELECTRIC POWER	901	901	901	901	901	901
LIVESTOCK	1,140	1,140	1,140	1,140	1,140	1,140
IRRIGATION	1,367	1,367	1,367	1,367	1,367	1,367
TRINITY BASIN TOTAL	**45,341**	**54,859**	**60,713**	**73,196**	**90,964**	**119,473**
ELLIS COUNTY TOTAL	**45,341**	**54,859**	**60,713**	**73,196**	**90,964**	**119,473**
ARLEDGE RIDGE WSC	113	123	145	189	276	375
BOIS D ARC MUD	273	297	352	458	672	912
BONHAM	2,024	2,505	3,393	4,598	5,662	6,882
DESERT WSC	1	1	1	1	2	3
HONEY GROVE	61	60	58	58	58	58
LEONARD	3	3	3	3	3	3
SOUTHWEST FANNIN COUNTY SUD	388	413	432	453	542	643
TRENTON	0	0	0	1	2	2
WHITE SHED WSC	301	327	386	501	735	998
WHITEWRIGHT	1	1	2	2	2	2
COUNTY-OTHER	584	465	486	700	1,965	3,404
MANUFACTURING	12	12	12	12	12	12
MINING	435	266	97	97	97	97
LIVESTOCK	1,051	1,051	1,051	1,051	1,051	1,051
IRRIGATION	10,691	10,691	10,691	10,691	10,691	10,691
RED BASIN TOTAL	**15,938**	**16,215**	**17,109**	**18,815**	**21,770**	**25,133**
ARLEDGE RIDGE WSC	44	48	57	74	109	148
DELTA COUNTY MUD*	3	3	3	3	3	3
HICKORY CREEK SUD*	28	29	31	32	35	39
HONEY GROVE	231	224	219	217	216	216
LADONIA	248	304	332	376	451	451
LEONARD	6	7	7	7	7	7
NORTH HUNT SUD*	35	39	41	44	48	52
WOLFE CITY*	9	10	13	16	22	29
COUNTY-OTHER	36	29	30	43	121	210
MINING	139	85	31	31	31	31
LIVESTOCK	294	294	294	294	294	294
IRRIGATION	226	226	226	226	226	226
SULPHUR BASIN TOTAL	**1,299**	**1,298**	**1,284**	**1,363**	**1,563**	**1,706**
DESERT WSC	85	94	98	119	171	253
HICKORY CREEK SUD*	2	2	2	2	2	2
LEONARD	319	337	343	353	366	380
SOUTHWEST FANNIN COUNTY SUD	19	20	21	22	27	32
TRENTON	136	166	365	728	1,254	1,778

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WEST LEONARD WSC*	165	176	165	174	202	249
COUNTY-OTHER	43	35	36	52	146	252
LIVESTOCK	66	66	66	66	66	66
IRRIGATION	636	636	636	636	636	636
TRINITY BASIN TOTAL	**1,471**	**1,532**	**1,732**	**2,152**	**2,870**	**3,648**
FANNIN COUNTY TOTAL	**18,708**	**19,045**	**20,125**	**22,330**	**26,203**	**30,487**
POINT ENTERPRISE WSC*	46	47	48	49	51	52
SOUTH FREESTONE COUNTY WSC	40	39	41	55	78	128
TEAGUE	328	340	440	577	694	816
COUNTY-OTHER	49	47	42	51	121	313
MINING	588	562	577	581	589	614
STEAM ELECTRIC POWER	3,585	3,585	3,585	3,585	3,585	3,585
LIVESTOCK	14	14	14	14	14	14
IRRIGATION	61	61	61	61	61	61
BRAZOS BASIN TOTAL	**4,711**	**4,695**	**4,808**	**4,973**	**5,193**	**5,583**
BUTLER WSC	223	218	214	214	215	216
FAIRFIELD	955	948	987	1,730	2,073	2,786
FLO COMMUNITY WSC*	58	60	62	63	65	66
PLEASANT GROVE WSC	124	123	129	170	239	386
POINT ENTERPRISE WSC*	43	44	44	46	47	49
SOUTH FREESTONE COUNTY WSC	215	212	222	297	422	696
TEAGUE	355	368	477	624	751	883
WORTHAM	169	176	180	184	305	345
COUNTY-OTHER	373	358	319	388	930	2,403
MANUFACTURING	19	19	19	19	19	19
MINING	4,759	4,553	4,674	4,705	4,767	4,968
STEAM ELECTRIC POWER	30,847	30,847	30,847	30,847	30,847	30,847
LIVESTOCK	1,193	1,193	1,193	1,193	1,193	1,193
IRRIGATION	508	508	508	508	508	508
TRINITY BASIN TOTAL	**39,841**	**39,627**	**39,875**	**40,988**	**42,381**	**45,365**
FREESTONE COUNTY TOTAL	**44,552**	**44,322**	**44,683**	**45,961**	**47,574**	**50,948**
BELLS	182	206	232	250	580	783
DENISON	7,226	7,888	7,877	8,598	9,992	13,298
DORCHESTER	83	85	89	92	99	111
HOWE	77	86	95	104	117	130
KENTUCKYTOWN WSC	182	211	241	269	341	437
LUELLA SUD	338	376	415	444	499	583
NORTHWEST GRAYSON COUNTY WCID 1	194	194	199	221	298	418
OAK RIDGE SOUTH GALE WSC	221	209	224	249	335	459
PINK HILL WSC	228	242	236	263	355	486
POTTSBORO	518	655	791	1,030	1,624	2,920
RED RIVER AUTHORITY OF TEXAS*	358	392	421	454	487	467
SHERMAN	10,701	11,043	11,152	12,009	15,825	24,226
SOUTHMAYD	143	153	164	179	240	323
SOUTHWEST FANNIN COUNTY SUD	171	221	289	369	501	656
STARR WSC	242	255	245	273	368	504
TOM BEAN	30	34	37	41	50	75

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TWO WAY SUD	440	552	642	769	1,026	1,325
WHITESBORO	218	214	210	205	258	341
WHITEWRIGHT	258	252	247	235	248	276
COUNTY-OTHER	724	584	352	413	1,390	2,284
MANUFACTURING	2,942	3,000	3,000	3,000	3,000	3,000
MINING	312	210	107	123	142	163
LIVESTOCK	731	731	731	731	731	731
IRRIGATION	2,479	2,479	2,479	2,479	2,479	2,479
RED BASIN TOTAL	**28,998**	**30,272**	**30,475**	**32,800**	**40,985**	**56,475**
COLLINSVILLE	282	333	395	473	498	653
DESERT WSC	78	83	89	95	105	114
DORCHESTER	40	41	43	44	48	53
GUNTER	297	400	527	656	803	936
HOWE	197	220	244	266	299	334
KENTUCKYTOWN WSC	173	201	228	256	324	415
LUELLA SUD	49	54	60	64	72	84
MARILEE SUD	458	490	512	510	509	509
MUSTANG SUD	40	39	40	40	41	41
SOUTH GRAYSON SUD	355	373	420	435	458	472
TIOGA	165	175	184	196	430	589
TOM BEAN	207	230	252	279	344	515
TWO WAY SUD	242	303	353	423	564	728
VAN ALSTYNE	518	710	983	1,258	2,420	3,047
WESTMINSTER WSC	3	3	4	5	5	6
WHITESBORO	251	247	243	236	299	394
WHITEWRIGHT	2	2	2	2	2	2
WOODBINE WSC	8	9	10	10	12	13
COUNTY-OTHER	23	18	11	13	44	72
MANUFACTURING	9	9	9	9	9	9
STEAM ELECTRIC POWER	4,387	4,387	4,387	4,387	4,387	4,387
LIVESTOCK	412	412	412	412	412	412
IRRIGATION	1,998	1,998	1,998	1,998	1,998	1,998
TRINITY BASIN TOTAL	**10,194**	**10,737**	**11,406**	**12,067**	**14,083**	**15,783**
GRAYSON COUNTY TOTAL	**39,192**	**41,009**	**41,881**	**44,867**	**55,068**	**72,258**
ATHENS*	2,906	3,174	3,400	3,730	6,394	9,484
B B S WSC*	3	3	3	3	3	3
BETHEL ASH WSC*	215	234	251	276	300	323
CRESCENT HEIGHTS WSC	163	166	174	186	233	296
DOGWOOD ESTATES WATER	183	190	202	217	273	346
EAST CEDAR CREEK FWSD	1,351	1,500	1,669	1,853	2,059	2,288
EUSTACE	126	132	140	203	263	315
MABANK*	736	806	880	1,144	1,593	2,218
MALAKOFF	274	272	270	274	289	309
TRINIDAD	105	99	96	96	107	128
VIRGINIA HILL WSC*	230	251	270	300	330	371
WEST CEDAR CREEK MUD	938	968	996	1,046	1,311	1,647
COUNTY-OTHER*	304	220	226	139	53	113
MANUFACTURING	806	985	985	985	985	985

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MINING*	434	506	481	484	479	469
STEAM ELECTRIC POWER	3,709	3,709	3,709	3,709	3,709	3,709
LIVESTOCK*	1,261	1,261	1,261	1,261	1,261	1,261
IRRIGATION*	582	582	582	582	582	582
TRINITY BASIN TOTAL	**14,326**	**15,058**	**15,595**	**16,488**	**20,224**	**24,847**
HENDERSON COUNTY TOTAL	**14,326**	**15,058**	**15,595**	**16,488**	**20,224**	**24,847**
COUNTY-OTHER	237	244	247	247	250	253
MANUFACTURING	1	1	1	1	1	1
MINING	1,358	728	679	692	707	745
LIVESTOCK	226	226	226	226	226	226
IRRIGATION	24	24	24	24	24	24
BRAZOS BASIN TOTAL	**1,846**	**1,223**	**1,177**	**1,190**	**1,208**	**1,249**
JACKSBORO	682	707	720	726	735	741
COUNTY-OTHER	308	316	319	321	324	327
MINING	2,038	1,093	1,019	1,039	1,061	1,117
STEAM ELECTRIC POWER	3,772	3,772	3,772	3,772	3,772	3,772
LIVESTOCK	559	559	559	559	559	559
IRRIGATION	74	74	74	74	74	74
TRINITY BASIN TOTAL	**7,433**	**6,521**	**6,463**	**6,491**	**6,525**	**6,590**
JACK COUNTY TOTAL	**9,279**	**7,744**	**7,640**	**7,681**	**7,733**	**7,839**
ABLES SPRINGS WSC*	169	209	252	317	386	462
MACBEE SUD*	16	19	24	30	36	43
POETRY WSC*	50	61	74	97	131	177
COUNTY-OTHER	20	35	39	39	160	366
MINING	15	20	25	33	40	48
LIVESTOCK	48	48	48	48	48	48
IRRIGATION	1	1	1	1	1	1
SABINE BASIN TOTAL	**319**	**393**	**463**	**565**	**802**	**1,145**
ABLES SPRINGS WSC*	134	166	200	250	306	365
BECKER JIBA WSC	323	401	480	669	933	1,243
COLLEGE MOUND WSC	774	959	1,156	1,451	2,132	2,700
COMBINE WSC	275	318	365	442	526	616
CRANDALL	763	926	1,104	1,368	1,381	1,381
ELMO WSC	216	268	320	421	586	782
FORNEY	3,090	3,554	4,509	5,634	8,343	11,114
FORNEY LAKE WSC	1,137	1,391	1,666	2,083	3,552	5,102
GASTONIA SCURRY SUD	710	880	1,058	1,354	2,265	3,533
HIGH POINT WSC	391	462	542	668	1,003	1,296
KAUFMAN	1,280	1,533	1,841	2,875	3,752	4,602
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	879	1,120	1,361	1,804	2,520	3,361
KAUFMAN COUNTY MUD 11	608	730	883	1,077	1,318	1,616
KEMP	301	364	433	540	836	1,170
MABANK*	1,198	1,299	1,388	1,862	2,620	3,648
MACBEE SUD*	2	3	3	4	5	6
MARKOUT WSC	415	526	637	843	1,177	1,569
MESQUITE	20	25	29	36	44	52
NORTH KAUFMAN WSC	192	245	300	400	559	746

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
POETRY WSC*	50	60	72	96	129	173
ROSE HILL SUD	441	523	613	773	1,022	1,569
SEAGOVILLE	3	4	5	6	7	8
TALTY SUD	1,800	2,061	2,363	3,312	4,609	6,352
TERRELL	3,857	7,237	9,786	11,370	12,658	14,741
WEST CEDAR CREEK MUD	276	306	337	394	451	511
COUNTY-OTHER	152	275	301	303	1,247	2,854
MANUFACTURING	946	1,109	1,109	1,109	1,109	1,109
MINING	281	366	466	613	743	903
STEAM ELECTRIC POWER	9,793	9,793	9,793	9,793	9,793	9,793
LIVESTOCK	1,522	1,522	1,522	1,522	1,522	1,522
IRRIGATION	284	284	284	284	284	284
TRINITY BASIN TOTAL	**32,113**	**38,710**	**44,926**	**53,356**	**67,432**	**84,721**
KAUFMAN COUNTY TOTAL	**32,432**	**39,103**	**45,389**	**53,921**	**68,234**	**85,866**
B AND B WSC	242	242	255	293	355	440
BLOOMING GROVE	163	175	187	204	223	243
BRANDON IRENE WSC*	25	27	29	31	34	37
CHATFIELD WSC	428	465	503	544	591	639
CORBET WSC	250	264	280	303	331	361
CORSICANA	6,104	6,582	7,101	7,750	8,472	9,253
DAWSON	149	151	155	159	165	172
KERENS	216	227	241	263	288	314
M E N WSC	487	523	564	615	672	734
NAVARRO MILLS WSC	333	352	376	407	444	485
PLEASANT GROVE WSC	11	11	11	15	21	34
POST OAK SUD*	52	53	54	59	65	74
RICE WATER SUPPLY AND SEWER SERVICE	438	523	625	736	882	1,051
SOUTH ELLIS COUNTY WSC	15	18	22	29	38	54
COUNTY-OTHER	261	424	474	628	787	1,579
MANUFACTURING	894	1,062	1,062	1,062	1,062	1,062
MINING	1,193	1,238	1,282	1,572	1,806	2,076
LIVESTOCK	1,691	1,691	1,691	1,691	1,691	1,691
IRRIGATION	75	75	75	75	75	75
TRINITY BASIN TOTAL	**13,027**	**14,103**	**14,987**	**16,436**	**18,002**	**20,374**
NAVARRO COUNTY TOTAL	**13,027**	**14,103**	**14,987**	**16,436**	**18,002**	**20,374**
HORSESHOE BEND WATER SYSTEM	157	192	213	265	346	453
MINERAL WELLS*	343	330	318	308	300	292
NORTH RURAL WSC*	75	77	78	79	82	83
PARKER COUNTY SUD*	718	1,106	1,495	1,886	2,282	2,679
SANTO SUD*	12	12	13	13	14	15
WEATHERFORD	297	348	369	612	1,001	1,378
COUNTY-OTHER	3,860	3,660	2,934	4,568	7,090	10,370
MINING	1,973	2,498	2,484	2,525	2,557	2,706
LIVESTOCK	948	948	948	948	948	948
IRRIGATION	591	591	591	591	591	591
BRAZOS BASIN TOTAL	**8,974**	**9,762**	**9,443**	**11,795**	**15,211**	**19,515**
ALEDO	862	1,322	1,505	1,727	1,802	2,026

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
ANNETTA	431	496	565	637	712	787
AZLE	386	407	430	457	551	705
FORT WORTH*	12,462	19,277	21,579	24,131	25,713	27,314
HUDSON OAKS	1,375	1,875	1,922	1,919	1,918	1,918
RENO (Parker)	170	172	176	179	184	189
SPRINGTOWN	903	1,196	1,189	1,184	1,183	1,183
WALNUT CREEK SUD	1,331	1,517	1,581	2,254	3,326	4,353
WEATHERFORD	5,009	5,865	6,217	10,316	16,869	23,236
WILLOW PARK	856	1,243	1,509	1,853	2,367	2,661
COUNTY-OTHER	2,754	2,612	2,093	3,260	5,060	7,400
MANUFACTURING	87	103	103	103	103	103
MINING	1,209	1,531	1,522	1,548	1,567	1,658
STEAM ELECTRIC POWER	604	604	604	604	604	604
LIVESTOCK	686	686	686	686	686	686
IRRIGATION	182	182	182	182	182	182
TRINITY BASIN TOTAL	**29,307**	**39,088**	**41,863**	**51,040**	**62,827**	**75,005**
PARKER COUNTY TOTAL	**38,281**	**48,850**	**51,306**	**62,835**	**78,038**	**94,520**
B H P WSC*	23	26	32	41	54	73
BEAR CREEK SUD	41	50	68	88	176	371
BLACKLAND WSC*	393	437	463	472	531	572
CASH SUD*	140	176	217	260	309	362
FATE	1,513	1,947	2,615	3,449	4,191	4,652
NEVADA SUD	8	9	11	42	105	189
ROYSE CITY*	1,049	1,096	1,114	2,657	4,498	4,989
COUNTY-OTHER	147	206	210	196	217	336
MANUFACTURING	31	36	36	36	36	36
LIVESTOCK	55	55	55	55	55	55
IRRIGATION	54	54	54	54	54	54
SABINE BASIN TOTAL	**3,454**	**4,092**	**4,875**	**7,350**	**10,226**	**11,689**
BEAR CREEK SUD	38	46	62	81	161	340
BLACKLAND WSC*	463	515	546	558	628	676
DALLAS	17	22	28	34	41	49
EAST FORK SUD	151	203	263	325	403	484
FATE	1,305	1,679	2,254	2,973	3,612	4,011
FORNEY LAKE WSC	124	153	188	223	267	312
GARLAND	0	1	1	1	1	1
HEATH	3,946	5,563	6,992	7,078	7,397	7,718
HIGH POINT WSC	51	61	73	88	132	172
MOUNT ZION WSC	501	615	740	886	1,061	1,241
R C H WSC	900	1,234	1,432	1,736	2,246	2,737
ROCKWALL	9,902	14,346	21,079	22,002	23,798	25,611
ROWLETT	1,168	1,143	1,128	1,120	1,137	1,145
WYLIE	520	527	537	548	570	603
COUNTY-OTHER	254	356	363	338	375	581
LIVESTOCK	56	56	56	56	56	56
IRRIGATION	180	180	180	180	180	180

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRINITY BASIN TOTAL	**19,576**	**26,700**	**35,922**	**38,227**	**42,065**	**45,917**
ROCKWALL COUNTY TOTAL	**23,030**	**30,792**	**40,797**	**45,577**	**52,291**	**57,606**
ARLINGTON	66,810	68,113	68,511	69,419	69,282	69,277
AZLE	1,546	1,629	1,721	1,829	2,203	2,822
BEDFORD	9,202	9,679	10,191	10,785	10,768	10,768
BENBROOK WATER AUTHORITY	5,164	5,614	6,081	6,797	7,544	7,544
BETHESDA WSC*	2,225	2,448	2,678	2,914	3,164	3,412
BURLESON*	1,275	1,299	1,425	1,982	2,402	2,683
COLLEYVILLE	9,211	9,693	10,313	10,656	10,648	10,648
COMMUNITY WSC	338	360	384	419	455	490
CROWLEY*	2,409	2,753	3,244	3,874	4,945	5,647
DALWORTHINGTON GARDENS	908	918	929	943	962	980
EDGECLIFF	503	490	480	474	473	473
EULESS	9,062	9,298	9,116	9,016	8,997	8,996
EVERMAN	529	527	513	501	499	499
FLOWER MOUND	61	67	67	67	67	67
FOREST HILL	1,359	1,377	1,445	1,699	2,159	2,811
FORT WORTH*	167,062	201,103	244,833	265,334	283,569	302,202
GRAND PRAIRIE	8,366	8,180	8,079	8,032	8,021	8,019
GRAPEVINE	18,406	18,806	18,665	18,589	18,574	18,573
HALTOM CITY	5,238	5,179	5,260	5,619	6,039	6,581
HASLET	570	1,730	2,513	4,447	4,443	4,443
HURST	6,696	6,687	6,551	6,476	6,463	6,462
JOHNSON COUNTY SUD*	341	362	396	433	472	512
KELLER	12,339	13,148	13,073	13,028	13,013	13,012
KENNEDALE	1,420	1,596	1,850	2,133	2,425	2,720
LAKE WORTH	1,130	1,241	1,354	1,558	1,825	2,486
LAKESIDE	370	378	388	399	398	398
MANSFIELD*	18,494	23,328	27,730	34,279	39,293	44,295
NORTH RICHLAND HILLS	12,812	13,457	13,254	13,140	13,116	13,115
PANTEGO	686	674	664	658	657	657
PELICAN BAY	113	115	117	120	122	124
RENO (Parker)	1	1	2	2	3	3
RICHLAND HILLS	1,148	1,185	1,228	1,371	1,512	1,700
RIVER OAKS	856	823	796	781	778	778
SAGINAW	3,169	3,528	3,903	4,087	4,080	4,079
SANSOM PARK	534	544	591	617	649	683
SOUTHLAKE	11,036	12,275	14,265	16,269	18,287	20,314
WATAUGA	2,844	2,740	2,655	2,608	2,600	2,599
WESTLAKE	1,752	4,845	7,930	8,862	8,846	8,827
WESTOVER HILLS	929	949	968	990	1,013	1,033
WESTWORTH VILLAGE	401	423	447	475	506	538
WHITE SETTLEMENT	2,081	2,107	2,145	2,472	3,132	3,797
COUNTY-OTHER	7,212	6,774	6,296	9,847	12,753	17,316
MANUFACTURING	12,197	13,301	13,301	13,301	13,301	13,301
MINING	11,535	6,562	1,589	1,537	1,497	1,464
STEAM ELECTRIC POWER	1,157	4,948	4,948	4,948	4,948	4,948

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Region C Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
LIVESTOCK	627	627	627	627	627	627
IRRIGATION	4,926	4,926	4,926	4,926	4,926	4,926
TRINITY BASIN TOTAL	**427,050**	**476,807**	**528,442**	**569,340**	**602,456**	**637,649**
TARRANT COUNTY TOTAL	**427,050**	**476,807**	**528,442**	**569,340**	**602,456**	**637,649**
ALVORD	228	274	322	392	448	504
BOLIVAR WSC	79	87	96	107	120	134
BOYD	217	229	316	391	547	593
BRIDGEPORT	1,273	1,526	1,793	2,456	3,268	4,083
CHICO	278	286	296	551	700	875
DECATUR	2,319	3,149	4,060	5,240	6,157	7,156
FORT WORTH*	2,396	3,374	4,308	5,516	6,708	7,903
NEWARK	194	248	344	462	643	857
RHOME	397	552	712	1,135	1,523	1,943
RUNAWAY BAY	527	588	652	785	891	1,069
WALNUT CREEK SUD	265	343	425	518	763	985
WEST WISE SUD	478	478	481	490	506	523
COUNTY-OTHER	4,043	4,077	4,016	4,195	4,318	6,680
MANUFACTURING	454	501	501	501	501	501
MINING	10,320	11,159	12,337	13,975	15,378	17,694
STEAM ELECTRIC POWER	2,894	2,894	2,894	2,894	2,894	2,894
LIVESTOCK	1,198	1,198	1,198	1,198	1,198	1,198
IRRIGATION	1,406	1,406	1,406	1,406	1,406	1,406
TRINITY BASIN TOTAL	**28,966**	**32,369**	**36,157**	**42,212**	**47,969**	**56,998**
WISE COUNTY TOTAL	**28,966**	**32,369**	**36,157**	**42,212**	**47,969**	**56,998**
REGION C DEMAND TOTAL	**1,733,893**	**1,936,605**	**2,151,925**	**2,390,623**	**2,641,476**	**2,898,540**

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Region C Water User Group (WUG) Category Summary

MUNICIPAL	2020	2030	2040	2050	2060	2070
POPULATION	7,467,734	8,686,058	9,984,797	11,284,183	12,643,504	13,990,309
DEMAND (acre-feet per year)	1,488,059	1,691,127	1,912,520	2,137,840	2,366,973	2,585,738
EXISTING SUPPLIES (acre-feet per year)	1,452,218	1,423,482	1,428,942	1,425,984	1,425,749	1,414,983
NEEDS (acre-feet per year)*	40,783	271,651	487,110	714,717	943,197	1,171,862

COUNTY-OTHER	2020	2030	2040	2050	2060	2070
POPULATION	170,030	171,899	165,280	249,249	408,099	694,481
DEMAND (acre-feet per year)	26,596	26,159	24,759	35,313	54,213	88,091
EXISTING SUPPLIES (acre-feet per year)	27,926	26,672	25,559	28,844	34,382	42,380
NEEDS (acre-feet per year)*	1,876	2,586	2,745	8,312	19,933	45,711

MANUFACTURING	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	48,382	52,930	52,930	52,930	52,930	52,930
EXISTING SUPPLIES (acre-feet per year)	48,632	48,041	44,316	41,238	38,366	35,410
NEEDS (acre-feet per year)*	402	5,350	9,072	12,148	14,601	17,532

MINING	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	46,467	38,209	33,536	36,360	39,180	43,601
EXISTING SUPPLIES (acre-feet per year)	36,990	30,794	29,106	29,599	29,930	30,273
NEEDS (acre-feet per year)*	11,005	11,350	12,545	14,852	17,334	21,425

STEAM ELECTRIC POWER	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	62,932	66,723	66,723	66,723	66,723	66,723
EXISTING SUPPLIES (acre-feet per year)	62,771	62,771	60,297	58,956	57,958	57,102
NEEDS (acre-feet per year)*	6,824	10,569	12,957	14,233	15,195	16,023

LIVESTOCK	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	17,547	17,547	17,547	17,547	17,547	17,547
EXISTING SUPPLIES (acre-feet per year)	19,283	19,283	19,283	19,283	19,283	19,283
NEEDS (acre-feet per year)*	478	478	478	478	478	478

IRRIGATION	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	43,910	43,910	43,910	43,910	43,910	43,910
EXISTING SUPPLIES (acre-feet per year)	51,634	51,301	50,803	50,476	49,939	49,388
NEEDS (acre-feet per year)*	4,584	4,654	4,712	4,757	5,042	5,395

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Category Summary report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the Needs totals.

Region C Source Availability

GROUNDWATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
CARRIZO-WILCOX AQUIFER	FREESTONE	BRAZOS	FRESH	1,333	1,343	1,362	1,374	1,400	1,400
CARRIZO-WILCOX AQUIFER	FREESTONE	TRINITY	FRESH	7,713	7,924	8,122	8,290	8,498	8,498
CARRIZO-WILCOX AQUIFER	HENDERSON	TRINITY	FRESH	7,829	7,829	7,829	7,732	7,577	7,548
CARRIZO-WILCOX AQUIFER	NAVARRO	TRINITY	FRESH	15	15	15	15	15	15
CROSS TIMBERS AQUIFER	JACK	BRAZOS	FRESH	284	284	284	284	284	284
CROSS TIMBERS AQUIFER	JACK	TRINITY	FRESH	650	650	650	650	650	650
CROSS TIMBERS AQUIFER	PARKER	BRAZOS	FRESH	50	50	50	50	50	50
NACATOCH AQUIFER	ELLIS	TRINITY	FRESH	20	20	20	20	20	20
NACATOCH AQUIFER	KAUFMAN	SABINE	FRESH	49	49	49	49	49	49
NACATOCH AQUIFER	KAUFMAN	TRINITY	FRESH	877	877	877	877	877	877
NACATOCH AQUIFER	NAVARRO	TRINITY	FRESH	980	980	980	980	980	980
NACATOCH AQUIFER	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
NACATOCH AQUIFER	ROCKWALL	TRINITY	FRESH	13	13	13	13	13	13
OTHER AQUIFER	FANNIN	RED	FRESH	2,919	2,919	2,919	2,919	2,919	2,919
OTHER AQUIFER	NAVARRO	TRINITY	FRESH	435	435	435	435	435	435
QUEEN CITY AQUIFER	FREESTONE	TRINITY	FRESH	0	0	0	0	0	0
QUEEN CITY AQUIFER	HENDERSON	TRINITY	FRESH	3,345	3,345	3,345	3,345	3,345	3,345
TRINITY AQUIFER	COLLIN	SABINE	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	COLLIN	TRINITY	FRESH	5,807	5,792	5,807	5,792	5,807	5,792
TRINITY AQUIFER	COOKE	RED	FRESH	2,191	2,184	2,191	2,184	2,191	2,184
TRINITY AQUIFER	COOKE	TRINITY	FRESH	8,353	8,330	8,353	8,330	8,353	8,330
TRINITY AQUIFER	DALLAS	TRINITY	FRESH	3,699	3,688	3,699	3,688	3,699	3,688
TRINITY AQUIFER	DENTON	TRINITY	FRESH	30,151	30,068	30,151	30,068	30,151	30,068
TRINITY AQUIFER	ELLIS	TRINITY	FRESH	5,539	5,524	5,539	5,524	5,539	5,524
TRINITY AQUIFER	FANNIN	RED	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	FANNIN	SULPHUR	FRESH	2,092	2,087	2,092	2,087	2,092	2,087
TRINITY AQUIFER	FANNIN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	GRAYSON	RED	FRESH	6,678	6,660	6,678	6,660	6,678	6,660
TRINITY AQUIFER	GRAYSON	TRINITY	FRESH	4,059	4,048	4,059	4,048	4,059	4,048
TRINITY AQUIFER	KAUFMAN	SABINE	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	NAVARRO	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	PARKER	BRAZOS	FRESH	2,232	2,226	2,232	2,226	2,232	2,226
TRINITY AQUIFER	PARKER	TRINITY	FRESH	9,665	9,637	9,665	9,637	9,665	9,637
TRINITY AQUIFER	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	ROCKWALL	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	TARRANT	TRINITY	FRESH	17,964	17,915	17,964	17,915	17,964	17,915
TRINITY AQUIFER	WISE	TRINITY	FRESH	9,760	9,734	9,760	9,734	9,760	9,734
WOODBINE AQUIFER	COLLIN	SABINE	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	COLLIN	TRINITY	FRESH	4,263	4,251	4,263	4,251	4,263	4,251
WOODBINE AQUIFER	COOKE	RED	FRESH	262	261	262	261	262	261
WOODBINE AQUIFER	COOKE	TRINITY	FRESH	540	538	540	538	540	538
WOODBINE AQUIFER	DALLAS	TRINITY	FRESH	2,804	2,796	2,804	2,796	2,804	2,796
WOODBINE AQUIFER	DENTON	TRINITY	FRESH	3,616	3,607	3,616	3,607	3,616	3,607
WOODBINE AQUIFER	ELLIS	TRINITY	FRESH	2,078	2,073	2,078	2,073	2,078	2,073

* Salinity field indicates whether the source availability is considered ‘fresh’ (less than 1,000 mg/L), ‘brackish’ (1,000 to 10,000 mg/L), ‘saline’ (10,001 mg/L to 34,999 mg/L), or ‘seawater’ (35,000 mg/L or greater). Sources can also be labeled as ‘fresh/brackish’ or ‘brackish/saline’, if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, ‘reservoir’ is applied to all reservoir sources.

Region C Source Availability

GROUNDWATERSOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
WOODBINE AQUIFER	FANNIN	RED	FRESH	3,553	3,544	3,553	3,544	3,553	3,544
WOODBINE AQUIFER	FANNIN	SULPHUR	FRESH	551	550	551	550	551	550
WOODBINE AQUIFER	FANNIN	TRINITY	FRESH	829	827	829	827	829	827
WOODBINE AQUIFER	GRAYSON	RED	FRESH	5,615	5,599	5,615	5,599	5,615	5,599
WOODBINE AQUIFER	GRAYSON	TRINITY	FRESH	1,926	1,922	1,926	1,922	1,926	1,922
WOODBINE AQUIFER	KAUFMAN	SABINE	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	NAVARRO	TRINITY	FRESH	68	68	68	68	68	68
WOODBINE AQUIFER	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	ROCKWALL	TRINITY	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	TARRANT	TRINITY	FRESH	1,141	1,138	1,141	1,138	1,141	1,138
GROUNDWATERSOURCE AVAILABILITY TOTAl				**161,948**	**161,800**	**162,386**	**162,100**	**162,548**	**162,150**

REUSE SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
DIRECT REUSE	COLLIN	TRINITY	FRESH	3,498	3,498	3,498	3,498	3,498	3,498
DIRECT REUSE	COOKE	TRINITY	FRESH	4	4	4	4	4	4
DIRECT REUSE	DALLAS	TRINITY	FRESH	1,246	1,246	1,246	1,246	1,246	1,246
DIRECT REUSE	DENTON	TRINITY	FRESH	2,135	2,135	2,135	2,135	2,135	2,135
DIRECT REUSE	ELLIS	TRINITY	FRESH	919	919	919	919	919	919
DIRECT REUSE	HENDERSON	TRINITY	FRESH	32	32	32	32	32	32
DIRECT REUSE	JACK	TRINITY	FRESH	27	26	26	25	25	24
DIRECT REUSE	KAUFMAN	TRINITY	FRESH	9,642	9,737	9,841	9,862	9,862	9,862
DIRECT REUSE	PARKER	TRINITY	FRESH	397	463	503	641	660	680
DIRECT REUSE	ROCKWALL	TRINITY	FRESH	672	672	672	672	672	672
DIRECT REUSE	TARRANT	TRINITY	FRESH	4,666	4,723	4,723	4,723	4,723	4,723
INDIRECT REUSE	COLLIN	TRINITY	FRESH	48,896	58,626	69,999	73,014	73,014	73,014
INDIRECT REUSE	DALLAS	TRINITY	FRESH	36,511	64,050	64,050	64,050	64,050	64,050
INDIRECT REUSE	DENTON	TRINITY	FRESH	53,161	60,636	65,993	74,639	86,689	94,919
INDIRECT REUSE	ELLIS	TRINITY	FRESH	3,479	3,882	4,614	5,129	5,129	5,129
INDIRECT REUSE	KAUFMAN	TRINITY	FRESH	96,047	102,000	102,000	102,000	102,000	102,000
INDIRECT REUSE	NAVARRO	TRINITY	FRESH	100,465	100,465	100,465	100,465	100,465	100,465
INDIRECT REUSE	PARKER	TRINITY	FRESH	2,242	2,803	3,363	3,363	3,363	3,363
INDIRECT REUSE	TARRANT	TRINITY	FRESH	3,295	3,659	3,698	3,683	3,680	3,679
REUSE SOURCE AVAILABILITY TOTAl				**367,334**	**419,576**	**437,781**	**450,100**	**462,166**	**470,414**

SURFACE WATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
BARDWELL LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	9,600	9,295	8,863	8,432	8,000	7,568
BONHAM LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	5,340	5,340	5,340	5,340	5,340	5,340
BRAZOS LIVESTOCK LOCAL SUPPLY	FREESTONE	BRAZOS	FRESH	83	83	83	83	83	83
BRAZOS LIVESTOCK LOCAL SUPPLY	JACK	BRAZOS	FRESH	231	231	231	231	231	231
BRAZOS LIVESTOCK LOCAL SUPPLY	PARKER	BRAZOS	FRESH	903	903	903	903	903	903
BRAZOS OTHER LOCAL SUPPLY	PARKER	BRAZOS	FRESH	14	14	14	14	14	14
BRAZOS RUN-OF-RIVER	PARKER	BRAZOS	FRESH	117	117	117	117	117	117

* Salinity field indicates whether the source availability is considered ‘fresh’ (less than 1,000 mg/L), ‘brackish’ (1,000 to 10,000 mg/L), ‘saline’ (10,001 mg/L to 34,999 mg/L), or ‘seawater’ (35,000 mg/L or greater). Sources can also be labeled as ‘fresh/brackish’ or ‘brackish/saline’, if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, ‘reservoir’ is applied to all reservoir sources.

Region C Source Availability

SURFACE WATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	**COUNTY**	**BASIN**	**SALINITY ***	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
BRYSON LAKE/RESERVOIR	RESERVOIR**	BRAZOS	FRESH	0	0	0	0	0	0
CLARK LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	210	210	210	210	210	210
FAIRFIELD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	870	870	870	870	870	870
FOREST GROVE LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	8,653	8,590	8,527	8,463	8,400	8,337
GRAPEVINE LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	18,819	18,786	18,660	18,457	18,253	18,050
HALBERT LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
HUBERT H MOSS LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	7,410	7,410	7,410	7,410	7,410	7,410
JOE POOL LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	14,883	14,575	14,267	13,958	13,650	13,342
LEWISVILLE LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	7,817	7,817	7,817	7,817	7,698	7,550
LOST CREEK-JACKSBORO LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	1,597	1,597	1,597	1,597	1,597	1,597
MINERAL WELLS LAKE/RESERVOIR	RESERVOIR**	BRAZOS	FRESH	2,495	2,483	2,470	2,458	2,445	2,433
MOUNTAIN CREEK LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	6,400	6,400	6,400	6,400	6,400	6,400
MUENSTER LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	300	300	300	300	300	300
NAVARRO MILLS LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	18,333	17,325	16,317	15,308	14,300	13,292
NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	346,371	344,688	343,004	341,320	339,637	337,953
RANDELL LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	1,400	1,400	1,400	1,400	1,400	1,400
RAY HUBBARD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	55,730	54,828	53,926	53,024	52,122	51,220
RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	18,902	18,853	18,676	18,500	18,324	18,148
RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	180,342	172,947	165,552	157,933	150,292	142,651
RED LIVESTOCK LOCAL SUPPLY	COOKE	RED	FRESH	380	380	380	380	380	380
RED LIVESTOCK LOCAL SUPPLY	FANNIN	RED	FRESH	973	973	973	973	973	973
RED LIVESTOCK LOCAL SUPPLY	GRAYSON	RED	FRESH	688	688	688	688	688	688
RED RUN-OF-RIVER	FANNIN	RED	FRESH	4,685	4,685	4,685	4,685	4,685	4,685
RED RUN-OF-RIVER	GRAYSON	RED	FRESH	1,121	1,121	1,121	1,121	1,121	1,121
RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	13,863	13,855	13,847	13,838	13,830	13,822
SABINE LIVESTOCK LOCAL SUPPLY	COLLIN	SABINE	FRESH	31	31	31	31	31	31
SABINE LIVESTOCK LOCAL SUPPLY	KAUFMAN	SABINE	FRESH	98	98	98	98	98	98
SABINE LIVESTOCK LOCAL SUPPLY	ROCKWALL	SABINE	FRESH	58	58	58	58	58	58
SULPHUR LIVESTOCK LOCAL SUPPLY	FANNIN	SULPHUR	FRESH	272	272	272	272	272	272
SULPHUR RUN-OF-RIVER	FANNIN	SULPHUR	FRESH	49	49	49	49	49	49
TEAGUE CITY LAKE/RESERVOIR	RESERVOIR**	BRAZOS	FRESH	189	189	189	189	189	189
TERRELL LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	2,267	2,250	2,233	2,217	2,200	2,183
TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	RED	FRESH	126,250	126,250	126,250	126,250	126,250	126,250
TRINIDAD CITY LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	450	450	450	450	450	450
TRINIDAD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	3,050	3,050	3,050	3,050	3,050	3,050
TRINITY LIVESTOCK LOCAL SUPPLY	COLLIN	TRINITY	FRESH	971	971	971	971	971	971
TRINITY LIVESTOCK LOCAL SUPPLY	COOKE	TRINITY	FRESH	807	807	807	807	807	807
TRINITY LIVESTOCK LOCAL SUPPLY	DALLAS	TRINITY	FRESH	198	198	198	198	198	198
TRINITY LIVESTOCK LOCAL SUPPLY	DENTON	TRINITY	FRESH	622	622	622	622	622	622
TRINITY LIVESTOCK LOCAL SUPPLY	ELLIS	TRINITY	FRESH	1,112	1,112	1,112	1,112	1,112	1,112

* Salinity field indicates whether the source availability is considered ‘fresh’ (less than 1,000 mg/L), ‘brackish’ (1,000 to 10,000 mg/L), ‘saline’ (10,001 mg/L to 34,999 mg/L), or ‘seawater’ (35,000 mg/L or greater). Sources can also be labeled as ‘fresh/brackish’ or ‘brackish/saline’, if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, ‘reservoir’ is applied to all reservoir sources.

Region C Source Availability

SURFACE WATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	**COUNTY**	**BASIN**	**SALINITY ***	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRINITY LIVESTOCK LOCAL SUPPLY	FANNIN	TRINITY	FRESH	61	61	61	61	61	61
TRINITY LIVESTOCK LOCAL SUPPLY	FREESTONE	TRINITY	FRESH	960	960	960	960	960	960
TRINITY LIVESTOCK LOCAL SUPPLY	GRAYSON	TRINITY	FRESH	388	388	388	388	388	388
TRINITY LIVESTOCK LOCAL SUPPLY	HENDERSON	TRINITY	FRESH	345	345	345	345	345	345
TRINITY LIVESTOCK LOCAL SUPPLY	JACK	TRINITY	FRESH	571	571	571	571	571	571
TRINITY LIVESTOCK LOCAL SUPPLY	KAUFMAN	TRINITY	FRESH	1,524	1,524	1,524	1,524	1,524	1,524
TRINITY LIVESTOCK LOCAL SUPPLY	NAVARRO	TRINITY	FRESH	1,603	1,603	1,603	1,603	1,603	1,603
TRINITY LIVESTOCK LOCAL SUPPLY	PARKER	TRINITY	FRESH	1,019	1,019	1,019	1,019	1,019	1,019
TRINITY LIVESTOCK LOCAL SUPPLY	ROCKWALL	TRINITY	FRESH	59	59	59	59	59	59
TRINITY LIVESTOCK LOCAL SUPPLY	TARRANT	TRINITY	FRESH	442	442	442	442	442	442
TRINITY LIVESTOCK LOCAL SUPPLY	WISE	TRINITY	FRESH	1,117	1,117	1,117	1,117	1,117	1,117
TRINITY OTHER LOCAL SUPPLY	DALLAS	TRINITY	FRESH	1,525	1,525	1,525	1,525	1,525	1,525
TRINITY OTHER LOCAL SUPPLY	DENTON	TRINITY	FRESH	1,366	1,366	1,366	1,366	1,366	1,366
TRINITY OTHER LOCAL SUPPLY	FREESTONE	TRINITY	FRESH	120	120	120	120	120	120
TRINITY OTHER LOCAL SUPPLY	JACK	TRINITY	FRESH	370	370	370	370	370	370
TRINITY OTHER LOCAL SUPPLY	KAUFMAN	TRINITY	FRESH	86	86	86	86	86	86
TRINITY OTHER LOCAL SUPPLY	PARKER	TRINITY	FRESH	6	6	6	6	6	6
TRINITY OTHER LOCAL SUPPLY	TARRANT	TRINITY	FRESH	342	342	342	342	342	342
TRINITY OTHER LOCAL SUPPLY	WISE	TRINITY	FRESH	6,261	6,261	6,261	6,261	6,076	6,076
TRINITY RUN-OF-RIVER	COLLIN	TRINITY	FRESH	408	408	408	408	408	408
TRINITY RUN-OF-RIVER	DALLAS	TRINITY	FRESH	1,159	1,159	1,159	1,159	1,159	1,159
TRINITY RUN-OF-RIVER	ELLIS	TRINITY	FRESH	3	3	3	3	3	3
TRINITY RUN-OF-RIVER	FREESTONE	TRINITY	FRESH	128	128	128	128	128	128
TRINITY RUN-OF-RIVER	HENDERSON	TRINITY	FRESH	415	415	415	415	415	415
TRINITY RUN-OF-RIVER	JACK	TRINITY	FRESH	110	110	110	110	110	110
TRINITY RUN-OF-RIVER	KAUFMAN	TRINITY	FRESH	64	64	64	64	64	64
TRINITY RUN-OF-RIVER	NAVARRO	TRINITY	FRESH	478	478	478	478	478	478
TRINITY RUN-OF-RIVER	PARKER	TRINITY	FRESH	122	122	122	122	122	122
TRINITY RUN-OF-RIVER	TARRANT	TRINITY	FRESH	1,508	1,508	1,508	1,508	1,508	1,508
TRINITY RUN-OF-RIVER	WISE	TRINITY	FRESH	272	272	272	272	272	272
TRWD LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	451,094	443,301	435,510	427,719	419,926	412,135
WAXAHACHIE LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	2,800	2,695	2,590	2,485	2,380	2,275
WEATHERFORD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	2,923	2,880	2,837	2,793	2,750	2,707
WHITE ROCK LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	3,200	3,200	3,200	3,200	3,200	3,200
SURFACE WATER SOURCE AVAILABILITY TOTAI				**1,347,803**	**1,328,079**	**1,308,007**	**1,287,633**	**1,266,933**	**1,246,392**

REGION C SOURCE AVAILABILITY TOTAI	**1,877,085**	**1,909,455**	**1,908,174**	**1,899,833**	**1,891,647**	**1,878,956**

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
B H P WSC*	D	FORK LAKE/RESERVOIR	3	0	0	0	0	0
B H P WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	19	26	29	26	24	21
B H P WSC*	D	TAWAKONI LAKE/RESERVOIR	2	1	1	1	1	1
B H P WSC*	C	TRINITY INDIRECT REUSE	14	20	23	22	19	17
CADDO BASIN SUD*	D	FORK LAKE/RESERVOIR	11	0	0	0	0	0
CADDO BASIN SUD*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	79	87	104	124	143	163
CADDO BASIN SUD*	D	TAWAKONI LAKE/RESERVOIR	8	4	6	7	7	8
CADDO BASIN SUD*	C	TRINITY INDIRECT REUSE	56	67	87	103	120	137
FARMERSVILLE	D	FORK LAKE/RESERVOIR	0	0	0	0	0	0
FARMERSVILLE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1	1	3	4	5	7
FARMERSVILLE	D	TAWAKONI LAKE/RESERVOIR	0	0	0	0	0	0
FARMERSVILLE	C	TRINITY INDIRECT REUSE	0	1	2	3	5	5
JOSEPHINE*	D	FORK LAKE/RESERVOIR	23	0	0	0	0	0
JOSEPHINE*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	156	225	283	328	308	281
JOSEPHINE*	D	TAWAKONI LAKE/RESERVOIR	16	11	14	16	15	14
JOSEPHINE*	C	TRINITY INDIRECT REUSE	110	174	231	274	258	237
NEVADA SUD	D	FORK LAKE/RESERVOIR	6	0	0	0	0	0
NEVADA SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	41	45	47	136	288	474
NEVADA SUD	D	TAWAKONI LAKE/RESERVOIR	4	2	2	7	14	24
NEVADA SUD	C	TRINITY INDIRECT REUSE	29	35	39	113	241	398
ROYSE CITY*	D	FORK LAKE/RESERVOIR	20	0	0	0	0	0
ROYSE CITY*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	131	554	893	1,249	1,498	1,806
ROYSE CITY*	D	TAWAKONI LAKE/RESERVOIR	14	29	45	62	74	90
ROYSE CITY*	C	TRINITY INDIRECT REUSE	94	428	732	1,041	1,255	1,519
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	0	0	0	0	0	0
COUNTY-OTHER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	0	0	0	0	0
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	0	0	0	0	0	0
COUNTY-OTHER	C	TRINITY AQUIFER | COLLIN COUNTY	0	0	0	0	0	0
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	0	0	0	0	0	0
COUNTY-OTHER	C	WOODBINE AQUIFER | COLLIN COUNTY	0	0	0	0	0	0
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	100	100	100	100	100	100
IRRIGATION	C	DIRECT REUSE	59	59	59	59	59	59
IRRIGATION	C	RAY HUBBARD LAKE/RESERVOIR	77	73	66	61	58	56
IRRIGATION	C	TRINITY AQUIFER | COLLIN COUNTY	11	11	11	11	11	11
IRRIGATION	C	TRINITY RUN-OF-RIVER	12	12	12	12	12	12
IRRIGATION	C	WOODBINE AQUIFER | COLLIN COUNTY	3	3	3	3	3	3
		SABINE BASIN TOTAL	**1,099**	**1,968**	**2,792**	**3,762**	**4,518**	**5,443**
ALLEN	D	FORK LAKE/RESERVOIR	1,642	0	0	0	0	0
ALLEN	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	11,126	10,904	9,948	9,054	8,272	7,703
ALLEN	D	TAWAKONI LAKE/RESERVOIR	1,136	558	500	452	411	381
ALLEN	C	TRINITY INDIRECT REUSE	7,865	8,419	8,146	7,551	6,927	6,479
ANNA	D	FORK LAKE/RESERVOIR	92	0	0	0	0	0
ANNA	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	627	915	893	886	884	881
ANNA	D	TAWAKONI LAKE/RESERVOIR	64	47	45	44	44	44
ANNA	C	TRINITY AQUIFER | COLLIN COUNTY	445	445	445	445	445	445
ANNA	C	TRINITY INDIRECT REUSE	443	706	730	738	740	743
ANNA	C	WOODBINE AQUIFER | COLLIN COUNTY	709	709	709	709	709	709
BEAR CREEK SUD	D	FORK LAKE/RESERVOIR	46	0	0	0	0	0

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
BEAR CREEK SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	310	440	561	701	790	911
BEAR CREEK SUD	D	TAWAKONI LAKE/RESERVOIR	32	23	29	34	39	45
BEAR CREEK SUD	C	TRINITY INDIRECT REUSE	219	339	459	583	659	767
BLUE RIDGE	C	WOODBINE AQUIFER | COLLIN COUNTY	400	400	400	400	400	400
CADDO BASIN SUD*	D	FORK LAKE/RESERVOIR	8	0	0	0	0	0
CADDO BASIN SUD*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	52	58	69	82	95	108
CADDO BASIN SUD*	D	TAWAKONI LAKE/RESERVOIR	6	3	3	4	5	6
CADDO BASIN SUD*	C	TRINITY INDIRECT REUSE	36	45	56	69	80	91
CARROLLTON	D	FORK LAKE/RESERVOIR	0	1	0	0	0	1
CARROLLTON	C	RAY HUBBARD LAKE/RESERVOIR	0	0	0	0	0	1
CARROLLTON	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	0	0	0	0	1	1
CARROLLTON	D	TAWAKONI LAKE/RESERVOIR	1	1	0	1	1	1
CARROLLTON	C	TRINITY AQUIFER | DALLAS COUNTY	0	0	0	0	0	0
CARROLLTON	C	TRINITY INDIRECT REUSE	1	1	1	0	0	1
CELINA	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	915	1,413	1,448	1,364	1,475	1,556
CELINA	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	3,197	5,403	5,326	4,725	4,955	5,119
CELINA	C	TRINITY INDIRECT REUSE	308	503	544	540	583	615
COPEVILLE SUD	D	FORK LAKE/RESERVOIR	25	0	0	0	0	0
COPEVILLE SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	166	179	195	240	378	594
COPEVILLE SUD	D	TAWAKONI LAKE/RESERVOIR	17	9	9	12	19	29
COPEVILLE SUD	C	TRINITY INDIRECT REUSE	118	139	159	199	318	500
CULLEOKA WSC	D	FORK LAKE/RESERVOIR	45	0	0	0	0	0
CULLEOKA WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	303	276	376	410	418	477
CULLEOKA WSC	D	TAWAKONI LAKE/RESERVOIR	31	14	19	21	21	24
CULLEOKA WSC	C	TRINITY INDIRECT REUSE	214	213	309	343	350	402
DALLAS	D	FORK LAKE/RESERVOIR	1,753	1,872	1,852	1,836	1,857	1,906
DALLAS	C	RAY HUBBARD LAKE/RESERVOIR	1,807	1,733	1,555	1,406	1,302	1,228
DALLAS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	4,004	3,485	3,011	2,626	2,307	2,046
DALLAS	D	TAWAKONI LAKE/RESERVOIR	6,087	5,749	5,064	4,496	4,093	3,798
DALLAS	C	TRINITY INDIRECT REUSE	1,520	1,672	1,620	1,624	1,839	1,977
DESERT WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	47	47	50	54	56	55
DESERT WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	46	47	50	54	56	55
EAST FORK SUD	D	FORK LAKE/RESERVOIR	99	0	0	0	0	0
EAST FORK SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	664	652	661	593	553	524
EAST FORK SUD	D	TAWAKONI LAKE/RESERVOIR	68	34	33	30	28	26
EAST FORK SUD	C	TRINITY INDIRECT REUSE	471	502	540	495	463	441
FAIRVIEW	D	FORK LAKE/RESERVOIR	338	0	0	0	0	0
FAIRVIEW	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	2,287	2,392	2,872	2,682	2,439	2,233
FAIRVIEW	D	TAWAKONI LAKE/RESERVOIR	233	122	144	134	121	111
FAIRVIEW	C	TRINITY INDIRECT REUSE	1,616	1,846	2,351	2,236	2,043	1,879
FARMERSVILLE	D	FORK LAKE/RESERVOIR	78	0	0	0	0	0
FARMERSVILLE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	525	1,159	2,364	3,239	4,140	5,481
FARMERSVILLE	D	TAWAKONI LAKE/RESERVOIR	54	59	119	162	206	272
FARMERSVILLE	C	TRINITY INDIRECT REUSE	373	895	1,937	2,701	3,468	4,612
FRISCO	C	DIRECT REUSE	839	772	749	871	919	939

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
FRISCO	D	FORK LAKE/RESERVOIR	1,976	0	0	0	0	0
FRISCO	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	13,389	12,538	13,335	17,424	18,382	18,080
FRISCO	D	TAWAKONI LAKE/RESERVOIR	1,367	642	671	870	914	894
FRISCO	C	TRINITY AQUIFER | COLLIN COUNTY	39	36	35	40	43	44
FRISCO	C	TRINITY INDIRECT REUSE	9,465	9,678	10,922	14,531	15,397	15,209
FRISCO	C	WOODBINE AQUIFER | COLLIN COUNTY	45	41	40	47	49	50
FROGNOT WSC*	C	WOODBINE AQUIFER | COLLIN COUNTY	366	366	366	366	366	366
GARLAND	D	FORK LAKE/RESERVOIR	4	0	0	0	0	0
GARLAND	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	26	29	32	36	39	43
GARLAND	D	TAWAKONI LAKE/RESERVOIR	3	1	2	2	2	2
GARLAND	C	TRINITY INDIRECT REUSE	18	22	27	29	33	36
HICKORY CREEK SUD*	D	WOODBINE AQUIFER | HUNT COUNTY	6	5	6	6	6	5
LUCAS	D	FORK LAKE/RESERVOIR	174	0	0	0	0	0
LUCAS	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,177	1,211	1,436	1,497	1,504	1,378
LUCAS	D	TAWAKONI LAKE/RESERVOIR	120	62	72	75	75	68
LUCAS	C	TRINITY INDIRECT REUSE	833	935	1,177	1,249	1,260	1,159
MARILEE SUD	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	116	124	137	134	109	66
MARILEE SUD	C	TRINITY AQUIFER | COLLIN COUNTY	368	355	350	349	349	349
MARILEE SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	192	185	182	182	182	182
MCKINNEY	D	FORK LAKE/RESERVOIR	3,066	0	0	0	0	0
MCKINNEY	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	20,769	20,583	20,466	22,226	23,932	23,758
MCKINNEY	D	TAWAKONI LAKE/RESERVOIR	2,120	1,054	1,030	1,109	1,191	1,175
MCKINNEY	C	TRINITY INDIRECT REUSE	14,681	15,889	16,762	18,535	20,046	19,986
MELISSA	D	FORK LAKE/RESERVOIR	257	0	0	0	0	0
MELISSA	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,742	1,825	1,759	1,724	1,701	1,681
MELISSA	D	TAWAKONI LAKE/RESERVOIR	178	93	89	86	84	84
MELISSA	C	TRINITY INDIRECT REUSE	1,233	1,408	1,442	1,438	1,425	1,415
MELISSA	C	WOODBINE AQUIFER | COLLIN COUNTY	175	175	175	175	175	175
MILLIGAN WSC	D	FORK LAKE/RESERVOIR	34	0	0	0	0	0
MILLIGAN WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	229	236	256	288	293	297
MILLIGAN WSC	D	TAWAKONI LAKE/RESERVOIR	23	12	13	14	15	15
MILLIGAN WSC	C	TRINITY INDIRECT REUSE	161	183	211	240	246	251
MURPHY	D	FORK LAKE/RESERVOIR	333	0	0	0	0	0
MURPHY	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	2,259	2,045	1,839	1,649	1,481	1,357
MURPHY	D	TAWAKONI LAKE/RESERVOIR	230	105	93	82	74	67
MURPHY	C	TRINITY INDIRECT REUSE	1,595	1,579	1,506	1,374	1,241	1,141
NEVADA SUD	D	FORK LAKE/RESERVOIR	12	0	0	0	0	0
NEVADA SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	82	89	93	268	569	937
NEVADA SUD	D	TAWAKONI LAKE/RESERVOIR	8	5	5	13	28	47
NEVADA SUD	C	TRINITY INDIRECT REUSE	58	69	76	223	476	789
NORTH COLLIN SUD	D	FORK LAKE/RESERVOIR	61	0	0	0	0	0
NORTH COLLIN SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	417	427	441	470	494	521
NORTH COLLIN SUD	D	TAWAKONI LAKE/RESERVOIR	42	22	22	24	25	26
NORTH COLLIN SUD	C	TRINITY INDIRECT REUSE	294	329	361	393	414	439
NORTH FARMERSVILLE WSC	D	FORK LAKE/RESERVOIR	7	0	0	0	0	0
NORTH FARMERSVILLE WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	46	48	53	59	61	61
NORTH FARMERSVILLE WSC	D	TAWAKONI LAKE/RESERVOIR	5	2	3	3	3	3
NORTH FARMERSVILLE WSC	C	TRINITY INDIRECT REUSE	33	38	42	50	51	52

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
PARKER	D	FORK LAKE/RESERVOIR	211	0	0	0	0	0
PARKER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,433	1,404	1,330	1,378	1,357	1,410
PARKER	D	TAWAKONI LAKE/RESERVOIR	146	72	67	69	68	70
PARKER	C	TRINITY INDIRECT REUSE	1,013	1,083	1,089	1,149	1,136	1,187
PLANO	D	FORK LAKE/RESERVOIR	5,394	0	0	0	0	0
PLANO	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	36,544	33,349	30,215	27,073	24,365	22,551
PLANO	D	TAWAKONI LAKE/RESERVOIR	3,731	1,707	1,520	1,352	1,212	1,116
PLANO	C	TRINITY INDIRECT REUSE	25,833	25,745	24,746	22,578	20,407	18,971
PRINCETON	D	FORK LAKE/RESERVOIR	89	0	0	0	0	0
PRINCETON	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	602	1,837	3,322	3,497	3,141	2,876
PRINCETON	D	TAWAKONI LAKE/RESERVOIR	61	94	167	175	156	142
PRINCETON	C	TRINITY INDIRECT REUSE	426	1,418	2,721	2,917	2,631	2,419
PROSPER	D	FORK LAKE/RESERVOIR	365	0	0	0	0	0
PROSPER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	2,471	2,450	2,139	1,936	2,041	2,038
PROSPER	D	TAWAKONI LAKE/RESERVOIR	253	125	108	97	102	101
PROSPER	C	TRINITY INDIRECT REUSE	1,746	1,891	1,750	1,614	1,710	1,714
RICHARDSON	D	FORK LAKE/RESERVOIR	672	0	0	0	0	0
RICHARDSON	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	4,550	4,078	3,628	3,312	3,111	3,110
RICHARDSON	D	TAWAKONI LAKE/RESERVOIR	465	209	183	165	155	154
RICHARDSON	C	TRINITY INDIRECT REUSE	3,216	3,148	2,971	2,761	2,606	2,616
SACHSE	D	FORK LAKE/RESERVOIR	110	0	0	0	0	0
SACHSE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	748	670	602	564	512	469
SACHSE	D	TAWAKONI LAKE/RESERVOIR	76	34	30	28	25	23
SACHSE	C	TRINITY INDIRECT REUSE	528	517	493	470	429	395
SEIS LAGOS UD	D	FORK LAKE/RESERVOIR	43	0	0	0	0	0
SEIS LAGOS UD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	293	265	238	222	201	185
SEIS LAGOS UD	D	TAWAKONI LAKE/RESERVOIR	30	14	12	11	10	9
SEIS LAGOS UD	C	TRINITY INDIRECT REUSE	207	205	196	185	170	156
SOUTH GRAYSON SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	119	132	146	161	171	180
SOUTH GRAYSON SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	32	35	39	43	45	48
VERONA SUD	C	WOODBINE AQUIFER | COLLIN COUNTY	266	266	266	266	266	266
WEST LEONARD WSC*	C	WOODBINE AQUIFER | FANNIN COUNTY	81	84	101	119	136	142
WESTMINSTER WSC	C	WOODBINE AQUIFER | COLLIN COUNTY	253	253	253	253	253	253
WESTMINSTER WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	293	293	293	293	293	293
WYLIE	D	FORK LAKE/RESERVOIR	468	0	0	0	0	0
WYLIE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	3,170	3,064	2,894	2,785	2,603	2,626
WYLIE	D	TAWAKONI LAKE/RESERVOIR	324	157	145	139	129	130
WYLIE	C	TRINITY INDIRECT REUSE	2,241	2,366	2,371	2,323	2,180	2,210
WYLIE NORTHEAST SUD	D	FORK LAKE/RESERVOIR	51	0	0	0	0	0
WYLIE NORTHEAST SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	342	368	386	562	755	1,019
WYLIE NORTHEAST SUD	D	TAWAKONI LAKE/RESERVOIR	35	19	19	28	38	50
WYLIE NORTHEAST SUD	C	TRINITY INDIRECT REUSE	243	285	317	469	633	858
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	10	0	0	0	0	0
COUNTY-OTHER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	64	53	44	36	231	413
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	7	3	2	2	11	20
COUNTY-OTHER	C	TRINITY AQUIFER | COLLIN COUNTY	250	250	250	250	250	250
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	45	41	36	29	192	348
COUNTY-OTHER	C	WOODBINE AQUIFER | COLLIN COUNTY	250	250	250	250	250	250

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
MANUFACTURING	D	FORK LAKE/RESERVOIR	161	0	0	0	0	0
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,083	1,144	1,030	928	839	766
MANUFACTURING	D	TAWAKONI LAKE/RESERVOIR	110	59	53	45	39	37
MANUFACTURING	C	TRINITY INDIRECT REUSE	768	884	847	772	699	643
MANUFACTURING	C	WOODBINE AQUIFER | COLLIN COUNTY	130	130	130	130	130	130
STEAM ELECTRIC POWER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	40	40	40	40	40	40
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	902	902	902	902	902	902
IRRIGATION	C	DIRECT REUSE	2,038	2,038	2,038	2,038	2,038	2,038
IRRIGATION	C	RAY HUBBARD LAKE/RESERVOIR	2,653	2,525	2,288	2,110	2,009	1,932
IRRIGATION	C	TRINITY AQUIFER | COLLIN COUNTY	393	393	393	393	393	393
IRRIGATION	C	TRINITY RUN-OF-RIVER	396	396	396	396	396	396
IRRIGATION	C	WOODBINE AQUIFER | COLLIN COUNTY	94	94	94	94	94	94
		TRINITY BASIN TOTAL	**241,910**	**224,486**	**225,428**	**229,535**	**229,204**	**227,264**
		COLLIN COUNTY TOTAL	**243,009**	**226,454**	**228,220**	**233,297**	**233,722**	**232,707**
CALLISBURG WSC	C	TRINITY AQUIFER | COOKE COUNTY	54	55	54	55	54	55
GAINESVILLE	C	HUBERT H MOSS LAKE/RESERVOIR	2	1	1	1	1	2
GAINESVILLE	C	TRINITY AQUIFER | COOKE COUNTY	2	3	3	3	3	3
LINDSAY	C	TRINITY AQUIFER | COOKE COUNTY	1	1	2	2	1	1
TWO WAY SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	11	10	8	7	6	5
WOODBINE WSC	C	TRINITY AQUIFER | COOKE COUNTY	51	51	52	51	51	51
COUNTY-OTHER	C	HUBERT H MOSS LAKE/RESERVOIR	11	11	11	84	107	200
COUNTY-OTHER	C	TRINITY AQUIFER | COOKE COUNTY	166	166	165	166	165	166
COUNTY-OTHER	C	WOODBINE AQUIFER | COOKE COUNTY	10	10	10	10	10	10
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	562	562	562	562	562	562
LIVESTOCK	C	TRINITY AQUIFER | COOKE COUNTY	85	85	85	85	85	85
LIVESTOCK	C	WOODBINE AQUIFER | COOKE COUNTY	28	28	28	28	28	28
IRRIGATION	C	DIRECT REUSE	1	1	1	1	1	1
IRRIGATION	C	HUBERT H MOSS LAKE/RESERVOIR	263	263	263	263	187	89
IRRIGATION	C	TRINITY AQUIFER | COOKE COUNTY	53	53	53	53	53	53
IRRIGATION	C	WOODBINE AQUIFER | COOKE COUNTY	15	15	15	15	15	15
		RED BASIN TOTAL	**1,315**	**1,315**	**1,313**	**1,386**	**1,329**	**1,326**
BOLIVAR WSC	C	TRINITY AQUIFER | COOKE COUNTY	19	18	15	14	13	11
BOLIVAR WSC	C	TRINITY AQUIFER | DENTON COUNTY	93	83	73	65	57	51
BOLIVAR WSC	C	TRINITY AQUIFER | WISE COUNTY	12	10	8	8	7	6
CALLISBURG WSC	C	TRINITY AQUIFER | COOKE COUNTY	96	95	96	95	96	95
GAINESVILLE	C	HUBERT H MOSS LAKE/RESERVOIR	1,034	736	805	855	1,033	970
GAINESVILLE	C	TRINITY AQUIFER | COOKE COUNTY	1,618	2,018	2,024	2,029	2,017	2,045
LAKE KIOWA SUD	C	TRINITY AQUIFER | COOKE COUNTY	985	985	985	985	985	985
LINDSAY	C	TRINITY AQUIFER | COOKE COUNTY	172	172	171	171	172	172
MOUNTAIN SPRINGS WSC	C	TRINITY AQUIFER | COOKE COUNTY	510	509	508	508	512	514
MUENSTER	C	TRINITY AQUIFER | COOKE COUNTY	268	268	268	268	268	268
WOODBINE WSC	C	TRINITY AQUIFER | COOKE COUNTY	595	595	594	595	595	595
COUNTY-OTHER	C	HUBERT H MOSS LAKE/RESERVOIR	39	39	39	306	393	732
COUNTY-OTHER	C	TRINITY AQUIFER | COOKE COUNTY	603	603	604	603	604	603
COUNTY-OTHER	C	WOODBINE AQUIFER | COOKE COUNTY	35	35	35	35	35	35
MANUFACTURING	C	HUBERT H MOSS LAKE/RESERVOIR	112	124	124	124	88	42
MANUFACTURING	C	TRINITY AQUIFER | COOKE COUNTY	4	4	4	4	4	4
MINING	C	TRINITY AQUIFER | COOKE COUNTY	1,000	750	230	300	350	450

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
STEAM ELECTRIC POWER	C	TRINITY AQUIFER | COOKE COUNTY	5	5	5	5	5	5
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	625	625	625	625	625	625
LIVESTOCK	C	TRINITY AQUIFER | COOKE COUNTY	95	95	95	95	95	95
LIVESTOCK	C	WOODBINE AQUIFER | COOKE COUNTY	32	32	32	32	32	32
IRRIGATION	C	DIRECT REUSE	3	3	3	3	3	3
IRRIGATION	C	HUBERT H MOSS LAKE/RESERVOIR	609	609	609	609	433	207
IRRIGATION	C	TRINITY AQUIFER | COOKE COUNTY	122	122	122	122	122	122
IRRIGATION	C	WOODBINE AQUIFER | COOKE COUNTY	34	34	34	34	34	34
		TRINITY BASIN TOTAL	**8,720**	**8,569**	**8,108**	**8,490**	**8,578**	**8,701**
		COOKE COUNTY TOTAL	**10,035**	**9,884**	**9,421**	**9,876**	**9,907**	**10,027**
ADDISON	D	FORK LAKE/RESERVOIR	681	764	802	847	906	980
ADDISON	C	RAY HUBBARD LAKE/RESERVOIR	702	707	674	649	635	632
ADDISON	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,553	1,423	1,303	1,212	1,126	1,052
ADDISON	D	TAWAKONI LAKE/RESERVOIR	2,364	2,347	2,192	2,074	1,997	1,953
ADDISON	C	TRINITY INDIRECT REUSE	590	682	702	750	898	1,017
BALCH SPRINGS	D	FORK LAKE/RESERVOIR	305	341	358	384	419	462
BALCH SPRINGS	C	RAY HUBBARD LAKE/RESERVOIR	314	316	301	295	294	298
BALCH SPRINGS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	697	635	583	550	520	496
BALCH SPRINGS	D	TAWAKONI LAKE/RESERVOIR	1,059	1,047	980	942	924	921
BALCH SPRINGS	C	TRINITY INDIRECT REUSE	264	304	314	340	415	479
CARROLLTON	D	FORK LAKE/RESERVOIR	1,057	1,099	1,073	1,062	1,074	1,102
CARROLLTON	C	RAY HUBBARD LAKE/RESERVOIR	1,090	1,018	902	814	753	710
CARROLLTON	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,414	2,047	1,745	1,520	1,334	1,183
CARROLLTON	D	TAWAKONI LAKE/RESERVOIR	3,671	3,376	2,935	2,601	2,367	2,197
CARROLLTON	C	TRINITY AQUIFER | DALLAS COUNTY	10	10	10	10	10	10
CARROLLTON	C	TRINITY INDIRECT REUSE	916	981	939	940	1,064	1,143
CEDAR HILL	D	FORK LAKE/RESERVOIR	1,163	1,489	1,733	1,873	1,896	1,946
CEDAR HILL	C	RAY HUBBARD LAKE/RESERVOIR	1,198	1,378	1,456	1,436	1,329	1,254
CEDAR HILL	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,654	2,771	2,818	2,680	2,354	2,089
CEDAR HILL	D	TAWAKONI LAKE/RESERVOIR	4,037	4,572	4,740	4,587	4,179	3,878
CEDAR HILL	C	TRINITY AQUIFER | DALLAS COUNTY	178	178	177	177	177	177
CEDAR HILL	C	TRINITY INDIRECT REUSE	1,008	1,329	1,517	1,658	1,878	2,019
COCKRELL HILL	D	FORK LAKE/RESERVOIR	46	51	48	47	63	139
COCKRELL HILL	C	RAY HUBBARD LAKE/RESERVOIR	48	47	41	36	44	89
COCKRELL HILL	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	105	95	79	69	79	149
COCKRELL HILL	D	TAWAKONI LAKE/RESERVOIR	161	156	133	116	140	276
COCKRELL HILL	C	TRINITY INDIRECT REUSE	40	45	42	42	63	144
COMBINE WSC	D	FORK LAKE/RESERVOIR	8	9	11	12	14	17
COMBINE WSC	C	RAY HUBBARD LAKE/RESERVOIR	9	9	9	9	10	11
COMBINE WSC	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	19	17	17	17	18	18
COMBINE WSC	D	TAWAKONI LAKE/RESERVOIR	29	28	29	30	32	34
COMBINE WSC	C	TRINITY INDIRECT REUSE	7	8	9	11	14	18
COPPELL	D	FORK LAKE/RESERVOIR	1,201	1,288	1,270	1,262	1,276	1,310
COPPELL	C	RAY HUBBARD LAKE/RESERVOIR	1,239	1,193	1,066	967	895	844

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
COPPELL	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,742	2,398	2,063	1,805	1,585	1,407
COPPELL	D	TAWAKONI LAKE/RESERVOIR	4,171	3,955	3,470	3,090	2,814	2,611
COPPELL	C	TRINITY INDIRECT REUSE	1,041	1,150	1,111	1,117	1,265	1,359
DALLAS	D	FORK LAKE/RESERVOIR	28,043	31,768	35,480	39,405	43,122	45,889
DALLAS	C	RAY HUBBARD LAKE/RESERVOIR	28,917	29,398	29,803	30,190	30,238	29,568
DALLAS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	64,056	59,132	57,673	56,369	53,586	49,255
DALLAS	D	TAWAKONI LAKE/RESERVOIR	97,402	97,541	97,004	96,513	95,070	91,435
DALLAS	C	TRINITY INDIRECT REUSE	24,313	28,359	31,049	34,883	42,722	47,594
DESOTO	D	FORK LAKE/RESERVOIR	1,045	1,175	1,252	1,353	1,478	1,563
DESOTO	C	RAY HUBBARD LAKE/RESERVOIR	1,077	1,087	1,052	1,037	1,036	1,007
DESOTO	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,386	2,187	2,036	1,935	1,837	1,678
DESOTO	D	TAWAKONI LAKE/RESERVOIR	3,629	3,606	3,424	3,313	3,258	3,114
DESOTO	C	TRINITY INDIRECT REUSE	906	1,048	1,096	1,198	1,464	1,621
DUNCANVILLE	D	FORK LAKE/RESERVOIR	675	761	739	729	737	757
DUNCANVILLE	C	RAY HUBBARD LAKE/RESERVOIR	696	704	621	559	517	488
DUNCANVILLE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,543	1,418	1,200	1,043	915	813
DUNCANVILLE	D	TAWAKONI LAKE/RESERVOIR	2,346	2,337	2,020	1,785	1,624	1,508
DUNCANVILLE	C	TRINITY INDIRECT REUSE	586	679	647	645	730	785
EAST FORK SUD	D	FORK LAKE/RESERVOIR	34	0	0	0	0	0
EAST FORK SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	231	201	161	177	188	200
EAST FORK SUD	D	TAWAKONI LAKE/RESERVOIR	23	10	8	9	9	10
EAST FORK SUD	C	TRINITY INDIRECT REUSE	163	156	132	148	158	168
FARMERS BRANCH	D	FORK LAKE/RESERVOIR	1,001	1,114	1,158	1,221	1,305	1,411
FARMERS BRANCH	C	RAY HUBBARD LAKE/RESERVOIR	1,033	1,031	973	936	915	909
FARMERS BRANCH	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,288	2,073	1,883	1,746	1,621	1,515
FARMERS BRANCH	D	TAWAKONI LAKE/RESERVOIR	3,478	3,419	3,167	2,991	2,876	2,811
FARMERS BRANCH	C	TRINITY INDIRECT REUSE	868	994	1,014	1,081	1,293	1,463
FERRIS	C	JOE POOL LAKE/RESERVOIR	0	1	0	1	0	0
FERRIS	C	TRWD LAKE/RESERVOIR SYSTEM	1	1	1	1	1	1
GARLAND	D	FORK LAKE/RESERVOIR	3,080	0	0	0	0	0
GARLAND	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	20,870	20,296	18,915	17,019	15,373	14,076
GARLAND	D	TAWAKONI LAKE/RESERVOIR	2,130	1,040	951	849	765	696
GARLAND	C	TRINITY INDIRECT REUSE	14,753	15,669	15,490	14,194	12,875	11,841
GLENN HEIGHTS	D	FORK LAKE/RESERVOIR	158	225	284	350	421	571
GLENN HEIGHTS	C	RAY HUBBARD LAKE/RESERVOIR	163	208	239	268	295	368
GLENN HEIGHTS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	361	420	461	501	523	613
GLENN HEIGHTS	D	TAWAKONI LAKE/RESERVOIR	549	692	776	857	928	1,138
GLENN HEIGHTS	C	TRINITY AQUIFER | DALLAS COUNTY	53	54	54	54	53	51
GLENN HEIGHTS	C	TRINITY INDIRECT REUSE	137	201	248	310	417	593
GLENN HEIGHTS	C	WOODBINE AQUIFER | DALLAS COUNTY	35	36	36	35	35	34
GRAND PRAIRIE	D	FORK LAKE/RESERVOIR	2,740	3,136	3,494	3,467	3,506	3,598
GRAND PRAIRIE	C	RAY HUBBARD LAKE/RESERVOIR	2,825	2,902	2,935	2,656	2,457	2,318
GRAND PRAIRIE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	6,257	5,836	5,680	4,959	4,356	3,863

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
GRAND PRAIRIE	D	TAWAKONI LAKE/RESERVOIR	9,515	9,627	9,554	8,492	7,728	7,171
GRAND PRAIRIE	C	TRINITY AQUIFER	DALLAS COUNTY	231	0	0	0	0	0
GRAND PRAIRIE	C	TRINITY INDIRECT REUSE	2,375	2,799	3,059	3,068	3,473	3,732
GRAND PRAIRIE	C	TRWD LAKE/RESERVOIR SYSTEM	1,817	3,359	3,118	2,959	2,766	2,570
HIGHLAND PARK	C	GRAPEVINE LAKE/RESERVOIR NON-SYSTEM PORTION	4,055	4,139	4,105	4,090	4,087	4,087
HUTCHINS	D	FORK LAKE/RESERVOIR	242	357	455	555	664	788
HUTCHINS	C	RAY HUBBARD LAKE/RESERVOIR	250	331	382	425	466	507
HUTCHINS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	554	666	740	795	826	846
HUTCHINS	D	TAWAKONI LAKE/RESERVOIR	842	1,097	1,244	1,359	1,465	1,569
HUTCHINS	C	TRINITY INDIRECT REUSE	210	319	398	491	658	817
IRVING	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	38,186	37,833	37,604	37,374	37,145	36,916
IRVING	D	FORK LAKE/RESERVOIR	1,891	589	585	584	592	608
IRVING	C	RAY HUBBARD LAKE/RESERVOIR	1,950	545	491	448	415	392
IRVING	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	4,319	1,098	951	837	736	652
IRVING	D	TAWAKONI LAKE/RESERVOIR	6,568	1,810	1,600	1,431	1,305	1,211
IRVING	C	TRINITY INDIRECT REUSE	1,639	526	512	517	586	630
LANCASTER	D	FORK LAKE/RESERVOIR	851	1,150	1,335	1,477	1,646	1,846
LANCASTER	C	RAY HUBBARD LAKE/RESERVOIR	877	1,064	1,121	1,131	1,154	1,190
LANCASTER	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,943	2,141	2,169	2,113	2,046	1,981
LANCASTER	D	TAWAKONI LAKE/RESERVOIR	2,954	3,530	3,649	3,617	3,629	3,679
LANCASTER	C	TRINITY INDIRECT REUSE	737	1,026	1,168	1,307	1,631	1,915
LEWISVILLE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	152	136	118	105	95	95
MESQUITE	D	FORK LAKE/RESERVOIR	1,674	0	0	0	0	0
MESQUITE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	11,343	11,037	10,996	10,654	10,335	10,171
MESQUITE	D	TAWAKONI LAKE/RESERVOIR	1,158	565	553	532	514	503
MESQUITE	C	TRINITY INDIRECT REUSE	8,018	8,521	9,006	8,886	8,658	8,555
OVILLA	D	FORK LAKE/RESERVOIR	13	17	21	25	29	52
OVILLA	C	RAY HUBBARD LAKE/RESERVOIR	13	16	17	19	21	34
OVILLA	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	29	32	34	36	36	56
OVILLA	D	TAWAKONI LAKE/RESERVOIR	45	53	57	61	65	104
OVILLA	C	TRINITY INDIRECT REUSE	11	15	18	22	29	54
RICHARDSON	D	FORK LAKE/RESERVOIR	1,388	0	0	0	0	0
RICHARDSON	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	9,409	8,776	8,119	7,466	6,709	6,146
RICHARDSON	D	TAWAKONI LAKE/RESERVOIR	960	449	408	373	334	304
RICHARDSON	C	TRINITY INDIRECT REUSE	6,651	6,776	6,650	6,227	5,619	5,170
ROCKETT SUD	C	JOE POOL LAKE/RESERVOIR	39	60	80	83	77	65
ROCKETT SUD	C	TRWD LAKE/RESERVOIR SYSTEM	75	141	190	206	192	162
ROWLETT	D	FORK LAKE/RESERVOIR	687	0	0	0	0	0
ROWLETT	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	4,658	4,537	4,379	4,152	3,894	3,769
ROWLETT	D	TAWAKONI LAKE/RESERVOIR	475	232	220	207	194	186
ROWLETT	C	TRINITY INDIRECT REUSE	3,292	3,503	3,587	3,463	3,263	3,170
SACHSE	D	FORK LAKE/RESERVOIR	281	0	0	0	0	0
SACHSE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,895	1,703	1,529	1,375	1,235	1,131
SACHSE	D	TAWAKONI LAKE/RESERVOIR	194	87	77	69	62	56

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
SACHSE	C	TRINITY INDIRECT REUSE	1,343	1,314	1,252	1,146	1,035	952
SEAGOVILLE	D	FORK LAKE/RESERVOIR	221	247	270	286	297	311
SEAGOVILLE	C	RAY HUBBARD LAKE/RESERVOIR	229	230	226	221	209	201
SEAGOVILLE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	504	459	438	410	370	334
SEAGOVILLE	D	TAWAKONI LAKE/RESERVOIR	767	758	737	702	657	620
SEAGOVILLE	C	TRINITY INDIRECT REUSE	192	221	236	254	294	322
SUNNYVALE	D	FORK LAKE/RESERVOIR	168	0	0	0	0	0
SUNNYVALE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,135	1,464	1,693	1,743	1,584	1,455
SUNNYVALE	D	TAWAKONI LAKE/RESERVOIR	116	75	85	87	79	72
SUNNYVALE	C	TRINITY INDIRECT REUSE	803	1,130	1,388	1,455	1,326	1,225
UNIVERSITY PARK	C	GRAPEVINE LAKE/RESERVOIR NON-SYSTEM PORTION	7,612	7,506	7,418	7,370	7,361	7,361
WILMER	D	FORK LAKE/RESERVOIR	47	54	82	151	240	447
WILMER	C	RAY HUBBARD LAKE/RESERVOIR	48	50	69	116	168	288
WILMER	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	107	99	133	216	299	481
WILMER	D	TAWAKONI LAKE/RESERVOIR	163	165	225	370	529	891
WILMER	C	TRINITY INDIRECT REUSE	41	48	72	134	238	464
WYLIE	D	FORK LAKE/RESERVOIR	26	0	0	0	0	0
WYLIE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	178	164	151	138	128	123
WYLIE	D	TAWAKONI LAKE/RESERVOIR	18	8	8	7	6	6
WYLIE	C	TRINITY INDIRECT REUSE	125	127	123	115	107	103
COUNTY-OTHER	C	DIRECT REUSE	33	33	100	100	100	100
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	162	165	165	166	178	190
COUNTY-OTHER	C	RAY HUBBARD LAKE/RESERVOIR	167	153	139	128	125	122
COUNTY-OTHER	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	371	307	268	238	221	206
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	563	506	452	407	394	379
COUNTY-OTHER	C	TRINITY AQUIFER | DALLAS COUNTY	50	50	50	50	50	50
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	140	148	145	147	177	197
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	634	559	443	401	369	341
COUNTY-OTHER	C	WOODBINE AQUIFER | DALLAS COUNTY	50	50	50	50	50	50
MANUFACTURING	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	2,183	2,307	2,307	2,307	2,307	2,307
MANUFACTURING	D	FORK LAKE/RESERVOIR	2,052	2,016	2,003	2,000	2,026	2,081
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,664	1,603	1,447	1,300	1,169	1,071
MANUFACTURING	C	RAY HUBBARD LAKE/RESERVOIR	1,862	1,864	1,682	1,534	1,421	1,340
MANUFACTURING	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	4,125	3,752	3,255	2,861	2,517	2,232
MANUFACTURING	D	TAWAKONI LAKE/RESERVOIR	6,444	6,270	5,546	4,962	4,525	4,199
MANUFACTURING	C	TRINITY AQUIFER | DALLAS COUNTY	530	530	530	530	530	530
MANUFACTURING	C	TRINITY INDIRECT REUSE	2,743	3,038	2,936	2,854	2,987	3,057
MANUFACTURING	C	WOODBINE AQUIFER | DALLAS COUNTY	43	43	43	43	43	43
MINING	C	LOCAL SURFACE WATER SUPPLY	1,525	1,525	1,525	1,525	1,525	1,525
MINING	C	TRINITY AQUIFER | DALLAS COUNTY	1,800	1,800	1,800	1,800	1,800	1,800
MINING	C	WOODBINE AQUIFER | DALLAS COUNTY	253	253	253	253	253	253
STEAM ELECTRIC POWER	C	MOUNTAIN CREEK LAKE/RESERVOIR	6,400	6,400	6,400	6,400	6,400	6,400
STEAM ELECTRIC POWER	C	RAY HUBBARD LAKE/RESERVOIR	960	914	828	763	727	699
STEAM ELECTRIC POWER	C	TRINITY RUN-OF-RIVER	368	368	368	368	368	368
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	198	198	198	198	198	198

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
LIVESTOCK	C	WOODBINE AQUIFER | DALLAS COUNTY	658	658	658	658	658	658
IRRIGATION	C	DIRECT REUSE	1,246	1,246	1,246	1,246	1,246	1,246
IRRIGATION	C	JOE POOL LAKE/RESERVOIR	300	300	300	300	300	300
IRRIGATION	C	TRINITY AQUIFER | DALLAS COUNTY	700	700	700	700	700	700
IRRIGATION	C	TRINITY INDIRECT REUSE	8,000	8,000	8,000	8,000	8,000	8,000
IRRIGATION	C	TRINITY RUN-OF-RIVER	791	791	791	791	791	791
IRRIGATION	C	WHITE ROCK LAKE/RESERVOIR	2,574	2,574	2,574	2,574	2,574	2,574
IRRIGATION	C	WOODBINE AQUIFER | DALLAS COUNTY	700	700	700	700	700	700
		TRINITY BASIN TOTAL	**558,240**	**544,780**	**543,615**	**539,124**	**538,300**	**533,000**
		DALLAS COUNTY TOTAL	**558,240**	**544,780**	**543,615**	**539,124**	**538,300**	**533,000**
ARGYLE WSC	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	409	370	427	393	358	318
ARGYLE WSC	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,429	1,415	1,571	1,360	1,202	1,046
ARGYLE WSC	C	TRINITY AQUIFER | DENTON COUNTY	683	683	683	683	683	683
ARGYLE WSC	C	TRINITY INDIRECT REUSE	138	132	161	155	141	126
AUBREY	C	TRINITY AQUIFER | DENTON COUNTY	559	559	559	559	559	559
BLACK ROCK WSC	C	TRINITY AQUIFER | DENTON COUNTY	468	468	468	468	468	468
BOLIVAR WSC	C	TRINITY AQUIFER | COOKE COUNTY	166	168	171	173	175	177
BOLIVAR WSC	C	TRINITY AQUIFER | DENTON COUNTY	787	799	813	823	834	843
BOLIVAR WSC	C	TRINITY AQUIFER | WISE COUNTY	94	96	98	99	100	101
CARROLLTON	D	FORK LAKE/RESERVOIR	1,633	1,751	1,710	1,692	1,711	1,756
CARROLLTON	C	RAY HUBBARD LAKE/RESERVOIR	1,684	1,621	1,436	1,296	1,200	1,131
CARROLLTON	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	3,729	3,261	2,779	2,422	2,125	1,885
CARROLLTON	D	TAWAKONI LAKE/RESERVOIR	5,670	5,378	4,675	4,144	3,771	3,499
CARROLLTON	C	TRINITY AQUIFER | DALLAS COUNTY	15	15	15	15	15	15
CARROLLTON	C	TRINITY INDIRECT REUSE	1,415	1,563	1,496	1,498	1,695	1,821
CELINA	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	32	145	327	481	411	358
CELINA	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	111	556	1,200	1,668	1,381	1,178
CELINA	C	TRINITY INDIRECT REUSE	11	52	123	190	163	142
COPPELL	D	FORK LAKE/RESERVOIR	33	35	34	34	35	36
COPPELL	C	RAY HUBBARD LAKE/RESERVOIR	34	32	29	26	24	23
COPPELL	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	76	65	56	49	43	38
COPPELL	D	TAWAKONI LAKE/RESERVOIR	116	108	94	84	76	71
COPPELL	C	TRINITY INDIRECT REUSE	29	31	30	30	34	37
CORINTH	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	884	671	561	505	451	402
CORINTH	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	3,087	2,565	2,064	1,749	1,518	1,322
CORINTH	C	TRINITY INDIRECT REUSE	298	239	211	200	179	159
CROSS TIMBERS WSC	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	206	198	173	167	159	145
CROSS TIMBERS WSC	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	718	759	635	577	535	476
CROSS TIMBERS WSC	C	TRINITY AQUIFER | DENTON COUNTY	649	584	520	452	389	389
CROSS TIMBERS WSC	C	TRINITY INDIRECT REUSE	69	71	65	66	63	57
DALLAS	D	FORK LAKE/RESERVOIR	729	824	914	1,010	1,101	1,170

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
DALLAS	C	RAY HUBBARD LAKE/RESERVOIR	752	762	768	774	772	754
DALLAS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,666	1,533	1,486	1,444	1,368	1,256
DALLAS	D	TAWAKONI LAKE/RESERVOIR	2,534	2,529	2,499	2,473	2,428	2,332
DALLAS	C	TRINITY INDIRECT REUSE	632	735	800	894	1,091	1,214
DENTON	C	LEWISVILLE LAKE/RESERVOIR NON-SYSTEM PORTION	6,412	6,132	5,870	5,386	5,311	5,275
DENTON	C	RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	15,506	14,789	14,024	12,746	12,644	12,681
DENTON	C	TRINITY INDIRECT REUSE	4,709	5,720	6,806	8,624	8,845	8,864
DENTON COUNTY FWSD 10	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	307	421	418	377	338	301
DENTON COUNTY FWSD 10	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,074	1,609	1,536	1,306	1,134	988
DENTON COUNTY FWSD 10	C	TRINITY INDIRECT REUSE	104	150	157	149	133	118
DENTON COUNTY FWSD 1-A	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	508	586	590	532	477	424
DENTON COUNTY FWSD 1-A	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,931	4,114	4,147	3,609	3,199	2,992
DENTON COUNTY FWSD 1-A	C	TRINITY INDIRECT REUSE	171	208	221	210	188	168
DENTON COUNTY FWSD 7	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	708	458	385	348	311	277
DENTON COUNTY FWSD 7	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,472	1,752	1,416	1,203	1,045	910
DENTON COUNTY FWSD 7	C	TRINITY INDIRECT REUSE	238	163	145	137	123	109
FLOWER MOUND	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	2,547	1,918	1,651	1,533	1,417	1,315
FLOWER MOUND	D	FORK LAKE/RESERVOIR	682	724	718	716	724	745
FLOWER MOUND	C	RAY HUBBARD LAKE/RESERVOIR	703	669	602	548	507	480
FLOWER MOUND	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	10,452	8,678	7,235	6,339	5,661	5,128
FLOWER MOUND	D	TAWAKONI LAKE/RESERVOIR	2,367	2,221	1,961	1,754	1,597	1,485
FLOWER MOUND	C	TRINITY INDIRECT REUSE	1,448	1,329	1,248	1,240	1,278	1,293
FORT WORTH*	C	TRINITY INDIRECT REUSE	1,366	1,859	2,416	3,372	4,359	5,454
FORT WORTH*	C	TRWD LAKE/RESERVOIR SYSTEM	5,590	6,674	7,824	9,545	10,880	11,712
FRISCO	C	DIRECT REUSE	562	629	652	530	482	462
FRISCO	D	FORK LAKE/RESERVOIR	1,325	0	0	0	0	0
FRISCO	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	8,977	10,224	11,614	10,594	9,646	8,885
FRISCO	D	TAWAKONI LAKE/RESERVOIR	917	524	584	529	480	440
FRISCO	C	TRINITY AQUIFER | COLLIN COUNTY	26	29	30	25	22	21
FRISCO	C	TRINITY INDIRECT REUSE	6,346	7,893	9,511	8,835	8,079	7,474
FRISCO	C	WOODBINE AQUIFER | COLLIN COUNTY	30	34	35	28	26	25
HACKBERRY	D	FORK LAKE/RESERVOIR	34	0	0	0	0	0
HACKBERRY	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	230	268	306	338	372	412
HACKBERRY	D	TAWAKONI LAKE/RESERVOIR	23	14	15	17	19	20
HACKBERRY	C	TRINITY INDIRECT REUSE	162	207	250	283	312	347
HIGHLAND VILLAGE	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	502	364	313	298	280	249
HIGHLAND VILLAGE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,753	1,389	1,149	1,033	938	817
HIGHLAND VILLAGE	C	TRINITY AQUIFER | DENTON COUNTY	1,411	1,411	1,411	1,411	1,411	1,411
HIGHLAND VILLAGE	C	TRINITY INDIRECT REUSE	169	129	117	118	110	98
JUSTIN	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	47	108	157	146	136	120

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
JUSTIN	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	163	414	576	507	454	397
JUSTIN	C	TRINITY AQUIFER | DENTON COUNTY	242	242	242	242	242	242
JUSTIN	C	TRINITY INDIRECT REUSE	16	39	59	58	53	48
KRUM	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	100	108	127	145	167	182
KRUM	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	351	414	469	505	562	598
KRUM	C	TRINITY AQUIFER | DENTON COUNTY	448	448	448	448	448	448
KRUM	C	TRINITY INDIRECT REUSE	34	39	48	58	66	72
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	446	327	312	302	271	241
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,557	1,253	1,148	1,048	909	792
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	TRINITY INDIRECT REUSE	150	117	117	120	107	95
LEWISVILLE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	19,181	19,511	19,425	19,652	19,830	19,830
LITTLE ELM	D	FORK LAKE/RESERVOIR	305	0	0	0	0	0
LITTLE ELM	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	2,069	2,088	1,874	1,690	1,530	1,400
LITTLE ELM	D	TAWAKONI LAKE/RESERVOIR	211	107	94	84	76	69
LITTLE ELM	C	TRINITY INDIRECT REUSE	1,462	1,613	1,534	1,409	1,280	1,179
MOUNTAIN SPRINGS WSC	C	TRINITY AQUIFER | COOKE COUNTY	10	11	12	12	8	6
MUSTANG SUD	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	598	924	1,229	1,520	1,730	1,855
MUSTANG SUD	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,089	3,530	4,520	5,268	5,812	6,098
MUSTANG SUD	C	TRINITY AQUIFER | DENTON COUNTY	1,590	1,597	1,599	1,600	1,601	1,601
MUSTANG SUD	C	TRINITY INDIRECT REUSE	201	328	462	602	684	733
MUSTANG SUD	C	WOODBINE AQUIFER | DENTON COUNTY	70	71	71	71	71	71
NORTHLAKE	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	252	386	460	578	664	591
NORTHLAKE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	882	1,477	1,693	2,005	2,233	1,946
NORTHLAKE	C	TRINITY INDIRECT REUSE	85	138	173	229	263	234
NORTHLAKE	C	TRWD LAKE/RESERVOIR SYSTEM	609	1,265	1,590	1,997	2,357	2,181
NORTHLAKE	C	WOODBINE AQUIFER | DENTON COUNTY	95	95	95	95	95	95
PALOMA CREEK NORTH	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	353	310	260	235	211	187
PALOMA CREEK NORTH	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,229	1,185	958	814	707	616
PALOMA CREEK NORTH	C	TRINITY INDIRECT REUSE	118	110	98	93	83	74
PALOMA CREEK SOUTH	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	176	157	131	119	107	95
PALOMA CREEK SOUTH	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	618	599	485	412	358	312
PALOMA CREEK SOUTH	C	TRINITY INDIRECT REUSE	60	56	50	47	42	38
PILOT POINT	C	TRINITY AQUIFER | DENTON COUNTY	571	571	571	571	571	571
PLANO	D	FORK LAKE/RESERVOIR	144	0	0	0	0	0
PLANO	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	975	912	834	745	670	614
PLANO	D	TAWAKONI LAKE/RESERVOIR	100	47	42	37	33	30
PLANO	C	TRINITY INDIRECT REUSE	689	704	683	621	561	516
PONDER	C	TRINITY AQUIFER | DENTON COUNTY	385	385	385	385	385	385

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
PROSPER	D	FORK LAKE/RESERVOIR	22	0	0	0	0	0
PROSPER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	151	625	860	1,039	928	927
PROSPER	D	TAWAKONI LAKE/RESERVOIR	15	32	43	52	46	46
PROSPER	C	TRINITY INDIRECT REUSE	107	482	705	867	778	779
PROVIDENCE VILLAGE WCID	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	195	125	106	95	84	75
PROVIDENCE VILLAGE WCID	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	678	478	386	328	285	248
PROVIDENCE VILLAGE WCID	C	TRINITY INDIRECT REUSE	65	45	39	37	34	30
ROANOKE	C	TRWD LAKE/RESERVOIR SYSTEM	2,255	2,424	2,539	2,354	2,167	2,004
SANGER	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	65	85	109	130	154	169
SANGER	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	228	326	401	452	518	558
SANGER	C	TRINITY AQUIFER | DENTON COUNTY	825	825	825	825	825	825
SANGER	C	TRINITY INDIRECT REUSE	22	30	41	52	61	67
SOUTHLAKE	C	TRWD LAKE/RESERVOIR SYSTEM	419	474	531	592	667	746
THE COLONY	D	FORK LAKE/RESERVOIR	739	661	688	775	783	805
THE COLONY	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	610	927	920	827	742	680
THE COLONY	C	RAY HUBBARD LAKE/RESERVOIR	670	612	578	594	549	518
THE COLONY	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,483	1,232	1,120	1,109	974	864
THE COLONY	D	TAWAKONI LAKE/RESERVOIR	2,318	2,078	1,928	1,939	1,764	1,637
THE COLONY	C	TRINITY AQUIFER | DENTON COUNTY	1,015	1,015	1,015	1,015	1,015	1,015
THE COLONY	C	TRINITY INDIRECT REUSE	995	1,305	1,355	1,374	1,399	1,407
TROPHY CLUB MUD 1	C	TRINITY AQUIFER | DENTON COUNTY	555	555	555	555	555	555
TROPHY CLUB MUD 1	C	TRWD LAKE/RESERVOIR SYSTEM	4,308	3,766	3,326	2,995	2,754	2,549
WESTLAKE	C	TRWD LAKE/RESERVOIR SYSTEM	30	34	39	44	50	59
COUNTY-OTHER	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	186	155	180	357	563	991
COUNTY-OTHER	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	650	594	664	1,236	1,892	3,260
COUNTY-OTHER	C	TRINITY AQUIFER | DENTON COUNTY	1,004	1,004	1,004	1,004	1,004	1,004
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	63	55	68	141	223	392
COUNTY-OTHER	C	WOODBINE AQUIFER | DENTON COUNTY	500	500	500	500	500	500
MANUFACTURING	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	4	5	6	5	4	4
MANUFACTURING	D	FORK LAKE/RESERVOIR	5	3	3	3	3	3
MANUFACTURING	C	LEWISVILLE LAKE/RESERVOIR NON-SYSTEM PORTION	67	61	45	30	21	17
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	14	12	10	10	10	8
MANUFACTURING	C	RAY HUBBARD LAKE/RESERVOIR	3	3	2	2	2	2
MANUFACTURING	C	RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	161	146	107	71	49	40
MANUFACTURING	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	20	23	25	23	20	17
MANUFACTURING	D	TAWAKONI LAKE/RESERVOIR	11	11	9	7	7	6
MANUFACTURING	C	TRINITY INDIRECT REUSE	62	70	66	60	46	39
MANUFACTURING	C	TRWD LAKE/RESERVOIR SYSTEM	26	23	20	18	17	15
MINING	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	287	31	129	244	328	393
MINING	C	LOCAL SURFACE WATER SUPPLY	1,366	1,366	1,366	1,366	1,366	1,366
MINING	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,004	119	475	848	1,103	1,292

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
MINING	C	TRINITY AQUIFER | DENTON COUNTY	1,572	1,572	1,572	1,572	1,572	1,572
MINING	C	TRINITY INDIRECT REUSE	97	11	49	97	130	155
STEAM ELECTRIC POWER	C	DIRECT REUSE	173	173	173	173	173	173
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	622	622	622	622	622	622
LIVESTOCK	C	TRINITY AQUIFER | DENTON COUNTY	240	240	240	240	240	240
LIVESTOCK	C	WOODBINE AQUIFER | DENTON COUNTY	490	490	490	490	490	490
IRRIGATION	C	DIRECT REUSE	1,962	1,962	1,962	1,962	1,962	1,962
IRRIGATION	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,516	1,443	1,307	1,205	1,148	1,103
IRRIGATION	C	TRINITY AQUIFER | DENTON COUNTY	400	400	400	400	400	400
IRRIGATION	C	WOODBINE AQUIFER | DENTON COUNTY	1,000	1,000	1,000	1,000	1,000	1,000
		TRINITY BASIN TOTAL	**184,263**	**185,978**	**188,642**	**188,572**	**187,010**	**185,558**
		DENTON COUNTY TOTAL	**184,263**	**185,978**	**188,642**	**188,572**	**187,010**	**185,558**
AVALON WATER SUPPLY & SEWER SERVICE	C	TRINITY AQUIFER | ELLIS COUNTY	149	149	149	149	149	149
BRANDON IRENE WSC*	G	BRAZOS RIVER AUTHORITY AQUILLA LAKE/RESERVOIR SYSTEM	8	11	13	15	18	19
BRANDON IRENE WSC*	G	TRINITY AQUIFER | HILL COUNTY	8	10	11	14	17	18
BUENA VISTA-BETHEL SUD	C	BARDWELL LAKE/RESERVOIR	489	510	462	460	498	511
BUENA VISTA-BETHEL SUD	C	TRINITY AQUIFER | ELLIS COUNTY	50	50	100	100	100	100
BUENA VISTA-BETHEL SUD	C	TRINITY INDIRECT REUSE	394	474	535	622	710	769
BUENA VISTA-BETHEL SUD	C	TRWD LAKE/RESERVOIR SYSTEM	32	178	242	413	795	838
BUENA VISTA-BETHEL SUD	C	WAXAHACHIE LAKE/RESERVOIR	317	329	300	301	330	341
CEDAR HILL	D	FORK LAKE/RESERVOIR	15	20	25	32	32	33
CEDAR HILL	C	RAY HUBBARD LAKE/RESERVOIR	16	19	21	24	23	21
CEDAR HILL	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	35	38	40	45	40	35
CEDAR HILL	D	TAWAKONI LAKE/RESERVOIR	53	62	68	78	71	66
CEDAR HILL	C	TRINITY AQUIFER | DALLAS COUNTY	2	2	3	3	3	3
CEDAR HILL	C	TRINITY INDIRECT REUSE	13	18	22	28	32	34
EAST GARRETT WSC	C	BARDWELL LAKE/RESERVOIR	246	273	284	251	186	250
EAST GARRETT WSC	C	TRWD LAKE/RESERVOIR SYSTEM	0	29	72	119	103	160
ENNIS	C	BARDWELL LAKE/RESERVOIR	4,026	4,119	3,950	3,851	3,735	3,504
ENNIS	C	TRWD LAKE/RESERVOIR SYSTEM	0	445	1,004	1,820	2,062	2,245
FERRIS	C	JOE POOL LAKE/RESERVOIR	157	216	265	233	195	152
FERRIS	C	TRWD LAKE/RESERVOIR SYSTEM	303	503	629	584	487	378
FILES VALLEY WSC*	G	BRAZOS RIVER AUTHORITY AQUILLA LAKE/RESERVOIR SYSTEM	262	338	385	445	498	522
GLENN HEIGHTS	D	FORK LAKE/RESERVOIR	44	59	73	94	117	184
GLENN HEIGHTS	C	RAY HUBBARD LAKE/RESERVOIR	46	55	61	72	82	119
GLENN HEIGHTS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	101	110	118	134	145	198
GLENN HEIGHTS	D	TAWAKONI LAKE/RESERVOIR	154	181	199	230	258	367
GLENN HEIGHTS	C	TRINITY AQUIFER | DALLAS COUNTY	15	14	14	14	15	17
GLENN HEIGHTS	C	TRINITY INDIRECT REUSE	38	53	64	83	116	191
GLENN HEIGHTS	C	WOODBINE AQUIFER | DALLAS COUNTY	10	9	9	10	10	11
GRAND PRAIRIE	D	FORK LAKE/RESERVOIR	1	1	1	2	2	3
GRAND PRAIRIE	C	RAY HUBBARD LAKE/RESERVOIR	1	1	1	1	2	2
GRAND PRAIRIE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2	2	2	2	3	3

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WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
GRAND PRAIRIE	D	TAWAKONI LAKE/RESERVOIR	3	3	4	4	5	5
GRAND PRAIRIE	C	TRINITY INDIRECT REUSE	1	1	1	2	2	3
GRAND PRAIRIE	C	TRWD LAKE/RESERVOIR SYSTEM	0	1	0	2	2	2
HILCO UNITED SERVICES*	G	BRAZOS RIVER AUTHORITY AQUILLA LAKE/RESERVOIR SYSTEM	4	4	4	4	4	4
HILCO UNITED SERVICES*	G	TRINITY AQUIFER | HILL COUNTY	22	22	22	23	22	23
HILCO UNITED SERVICES*	C	WOODBINE AQUIFER | ELLIS COUNTY	21	26	31	26	31	26
ITALY	C	TRINITY AQUIFER | ELLIS COUNTY	113	11	11	11	11	11
ITALY	C	WOODBINE AQUIFER | ELLIS COUNTY	198	198	198	198	198	198
MANSFIELD*	C	TRWD LAKE/RESERVOIR SYSTEM	28	25	27	34	37	42
MIDLOTHIAN	C	JOE POOL LAKE/RESERVOIR	2,470	2,349	2,228	3,228	3,107	2,987
MIDLOTHIAN	C	TRWD LAKE/RESERVOIR SYSTEM	1,938	2,397	2,226	2,041	2,215	2,461
MOUNTAIN PEAK SUD*	C	JOE POOL LAKE/RESERVOIR	1,121	1,121	1,121	0	0	0
MOUNTAIN PEAK SUD*	C	TRINITY AQUIFER | ELLIS COUNTY	1,200	1,200	1,200	1,200	1,200	1,200
OVILLA	D	FORK LAKE/RESERVOIR	106	141	172	221	275	519
OVILLA	C	RAY HUBBARD LAKE/RESERVOIR	109	130	145	169	192	334
OVILLA	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	242	261	281	316	341	555
OVILLA	D	TAWAKONI LAKE/RESERVOIR	367	431	471	541	605	1,033
OVILLA	C	TRINITY INDIRECT REUSE	92	126	151	196	272	538
PALMER	C	JOE POOL LAKE/RESERVOIR	93	92	101	100	96	124
PALMER	C	TRWD LAKE/RESERVOIR SYSTEM	181	213	239	251	239	309
RED OAK	D	FORK LAKE/RESERVOIR	70	149	197	279	348	557
RED OAK	C	RAY HUBBARD LAKE/RESERVOIR	72	138	166	214	244	359
RED OAK	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	159	277	321	400	432	598
RED OAK	D	TAWAKONI LAKE/RESERVOIR	242	458	540	684	766	1,110
RED OAK	C	TRINITY INDIRECT REUSE	60	133	173	247	344	578
RED OAK	C	WOODBINE AQUIFER | ELLIS COUNTY	516	0	0	0	0	0
RICE WATER SUPPLY AND SEWER SERVICE	C	BARDWELL LAKE/RESERVOIR	31	28	23	16	10	6
RICE WATER SUPPLY AND SEWER SERVICE	C	NAVARRO MILLS LAKE/RESERVOIR	558	668	798	893	972	1,016
RICE WATER SUPPLY AND SEWER SERVICE	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	112	134	160	179	194	203
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD LAKE/RESERVOIR SYSTEM	0	3	6	7	6	4
ROCKETT SUD	C	JOE POOL LAKE/RESERVOIR	1,533	1,541	1,489	1,547	1,536	1,400
ROCKETT SUD	C	TRWD LAKE/RESERVOIR SYSTEM	2,972	3,581	3,546	3,869	3,842	3,504
SARDIS LONE ELM WSC	C	JOE POOL LAKE/RESERVOIR	381	308	277	217	162	114
SARDIS LONE ELM WSC	C	TRINITY AQUIFER | ELLIS COUNTY	956	450	450	450	450	450
SARDIS LONE ELM WSC	C	TRWD LAKE/RESERVOIR SYSTEM	1,668	1,849	2,037	1,962	1,757	1,547
SARDIS LONE ELM WSC	C	WOODBINE AQUIFER | ELLIS COUNTY	898	898	898	898	898	898
SOUTH ELLIS COUNTY WSC	C	TRINITY AQUIFER | ELLIS COUNTY	401	476	579	580	580	580
VENUS*	C	TRWD LAKE/RESERVOIR SYSTEM	9	8	8	9	10	10
WAXAHACHIE	C	BARDWELL LAKE/RESERVOIR	2,726	2,636	2,510	2,363	2,143	1,988
WAXAHACHIE	C	TRINITY INDIRECT REUSE	2,195	2,446	2,903	3,195	3,052	2,994
WAXAHACHIE	C	TRWD LAKE/RESERVOIR SYSTEM	184	922	1,315	2,120	3,414	3,259
WAXAHACHIE	C	WAXAHACHIE LAKE/RESERVOIR	1,767	1,698	1,629	1,549	1,416	1,328
COUNTY-OTHER	C	BARDWELL LAKE/RESERVOIR	16	24	49	162	469	634

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
COUNTY-OTHER	G	BRAZOS RIVER AUTHORITY AQUILLA LAKE/RESERVOIR SYSTEM	84	84	84	84	84	84
COUNTY-OTHER	C	JOE POOL LAKE/RESERVOIR	39	24	30	61	176	387
COUNTY-OTHER	C	TRINITY AQUIFER | ELLIS COUNTY	89	89	89	89	809	811
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	7	8	16	85	398	622
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	461	453	348	465	1,171	1,944
COUNTY-OTHER	C	WAXAHACHIE LAKE/RESERVOIR	5	6	9	41	185	276
MANUFACTURING	C	BARDWELL LAKE/RESERVOIR	1,430	1,350	1,104	809	555	383
MANUFACTURING	C	TRINITY AQUIFER | ELLIS COUNTY	546	763	763	763	763	763
MANUFACTURING	C	TRINITY INDIRECT REUSE	716	712	705	634	498	402
MANUFACTURING	C	TRWD LAKE/RESERVOIR SYSTEM	1,854	1,655	1,570	1,742	1,776	1,543
MANUFACTURING	C	WAXAHACHIE LAKE/RESERVOIR	576	494	396	307	231	178
MANUFACTURING	C	WOODBINE AQUIFER | ELLIS COUNTY	270	270	270	270	270	270
MINING	C	TRINITY AQUIFER | ELLIS COUNTY	931	547	164	123	82	55
STEAM ELECTRIC POWER	C	DIRECT REUSE	621	621	621	621	621	621
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	232	141	120	124	118	110
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	1,112	1,112	1,112	1,112	1,112	1,112
LIVESTOCK	C	WOODBINE AQUIFER | ELLIS COUNTY	28	28	28	28	28	28
IRRIGATION	C	TRINITY AQUIFER | ELLIS COUNTY	469	469	469	469	469	469
IRRIGATION	C	TRINITY RUN-OF-RIVER	3	3	3	3	3	3
IRRIGATION	C	WOODBINE AQUIFER | ELLIS COUNTY	147	147	147	147	147	147
		TRINITY BASIN TOTAL	**42,442**	**44,831**	**45,877**	**48,613**	**52,229**	**54,962**
		ELLIS COUNTY TOTAL	**42,442**	**44,831**	**45,877**	**48,613**	**52,229**	**54,962**
ARLEDGE RIDGE WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	134	134	134	134	134	134
BOIS D ARC MUD	C	WOODBINE AQUIFER | FANNIN COUNTY	271	271	271	271	271	271
BONHAM	C	BONHAM LAKE/RESERVOIR	2,024	2,505	3,184	3,187	3,188	3,189
DESERT WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	1	1	1	0	1	1
DESERT WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	2	0	1	0	1	2
HONEY GROVE	C	WOODBINE AQUIFER | FANNIN COUNTY	61	61	61	61	61	61
LEONARD	C	WOODBINE AQUIFER | FANNIN COUNTY	3	261	249	242	232	219
SOUTHWEST FANNIN COUNTY SUD	C	WOODBINE AQUIFER | FANNIN COUNTY	321	319	318	316	315	314
SOUTHWEST FANNIN COUNTY SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	100	94	87	80	75	72
TRENTON	C	WOODBINE AQUIFER | FANNIN COUNTY	0	0	0	0	0	0
WHITE SHED WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	301	301	301	301	301	301
WHITEWRIGHT	C	WOODBINE AQUIFER | GRAYSON COUNTY	1	2	3	2	3	2
COUNTY-OTHER	C	SULPHUR RUN-OF-RIVER	43	43	43	43	43	43
COUNTY-OTHER	C	TRINITY AQUIFER | FANNIN COUNTY	162	162	162	162	162	162
COUNTY-OTHER	C	WOODBINE AQUIFER | FANNIN COUNTY	379	378	379	379	379	379
MANUFACTURING	C	BONHAM LAKE/RESERVOIR	12	12	11	8	7	6
MINING	C	RED RUN-OF-RIVER	55	55	55	55	55	55
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	971	971	971	971	971	971
LIVESTOCK	C	OTHER AQUIFER | FANNIN COUNTY	9	9	9	9	9	9
LIVESTOCK	C	TRINITY AQUIFER | FANNIN COUNTY	47	47	47	47	47	47
LIVESTOCK	C	WOODBINE AQUIFER | FANNIN COUNTY	24	24	24	24	24	24
IRRIGATION	C	OTHER AQUIFER | FANNIN COUNTY	2,692	2,692	2,692	2,692	2,692	2,692
IRRIGATION	C	RED RUN-OF-RIVER	4,269	4,269	4,269	4,269	4,269	4,269
IRRIGATION	C	WOODBINE AQUIFER | FANNIN COUNTY	180	180	180	180	180	180

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
		RED BASIN TOTAL	**12,062**	**12,791**	**13,452**	**13,433**	**13,420**	**13,403**
ARLEDGE RIDGE WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	53	53	53	53	53	53
DELTA COUNTY MUD*	D	BIG CREEK LAKE/RESERVOIR	3	3	3	3	3	3
HICKORY CREEK SUD*	D	WOODBINE AQUIFER | HUNT COUNTY	21	16	12	9	7	7
HONEY GROVE	C	WOODBINE AQUIFER | FANNIN COUNTY	231	231	231	231	231	231
LADONIA	C	TRINITY AQUIFER | FANNIN COUNTY	248	248	248	248	248	248
LEONARD	C	WOODBINE AQUIFER | FANNIN COUNTY	6	64	75	83	93	106
NORTH HUNT SUD*	D	TAWAKONI LAKE/RESERVOIR	18	16	13	11	9	7
NORTH HUNT SUD*	D	WOODBINE AQUIFER | HUNT COUNTY	6	6	5	4	4	3
WOLFE CITY*	D	TURKEY CREEK LAKE/RESERVOIR	10	10	10	10	10	10
WOLFE CITY*	C	WOODBINE AQUIFER | FANNIN COUNTY	4	3	4	4	4	4
COUNTY-OTHER	C	SULPHUR RUN-OF-RIVER	3	3	3	3	3	3
COUNTY-OTHER	C	TRINITY AQUIFER | FANNIN COUNTY	10	10	10	10	10	10
COUNTY-OTHER	C	WOODBINE AQUIFER | FANNIN COUNTY	23	24	23	23	23	23
MINING	C	RED RUN-OF-RIVER	17	17	17	17	17	17
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	273	273	273	273	273	273
LIVESTOCK	C	OTHER AQUIFER | FANNIN COUNTY	1	1	1	1	1	1
LIVESTOCK	C	TRINITY AQUIFER | FANNIN COUNTY	13	13	13	13	13	13
LIVESTOCK	C	WOODBINE AQUIFER | FANNIN COUNTY	7	7	7	7	7	7
IRRIGATION	C	OTHER AQUIFER | FANNIN COUNTY	57	57	57	57	57	57
IRRIGATION	C	RED RUN-OF-RIVER	90	90	90	90	90	90
IRRIGATION	C	WOODBINE AQUIFER | FANNIN COUNTY	4	4	4	4	4	4
		SULPHUR BASIN TOTAL	**1,098**	**1,149**	**1,152**	**1,154**	**1,160**	**1,170**
DESERT WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	77	79	76	79	86	96
DESERT WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	77	79	76	79	86	96
HICKORY CREEK SUD*	D	WOODBINE AQUIFER | HUNT COUNTY	2	1	1	1	1	1
LEONARD	C	WOODBINE AQUIFER | FANNIN COUNTY	319	3	4	3	3	3
SOUTHWEST FANNIN COUNTY SUD	C	WOODBINE AQUIFER | FANNIN COUNTY	16	16	16	16	16	16
SOUTHWEST FANNIN COUNTY SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	5	5	4	4	4	4
TRENTON	C	WOODBINE AQUIFER | FANNIN COUNTY	136	136	136	136	136	136
WEST LEONARD WSC*	C	WOODBINE AQUIFER | FANNIN COUNTY	317	315	295	275	256	249
COUNTY-OTHER	C	SULPHUR RUN-OF-RIVER	3	3	3	3	3	3
COUNTY-OTHER	C	TRINITY AQUIFER | FANNIN COUNTY	12	12	12	12	12	12
COUNTY-OTHER	C	WOODBINE AQUIFER | FANNIN COUNTY	28	28	28	28	28	28
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	62	62	62	62	62	62
LIVESTOCK	C	TRINITY AQUIFER | FANNIN COUNTY	3	3	3	3	3	3
LIVESTOCK	C	WOODBINE AQUIFER | FANNIN COUNTY	1	1	1	1	1	1
IRRIGATION	C	OTHER AQUIFER | FANNIN COUNTY	160	160	160	160	160	160
IRRIGATION	C	RED RUN-OF-RIVER	254	254	254	254	254	254
IRRIGATION	C	WOODBINE AQUIFER | FANNIN COUNTY	11	11	11	11	11	11
		TRINITY BASIN TOTAL	**1,483**	**1,168**	**1,142**	**1,127**	**1,122**	**1,135**
		FANNIN COUNTY TOTAL	**14,643**	**15,108**	**15,746**	**15,714**	**15,702**	**15,708**
POINT ENTERPRISE WSC*	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	52	52	52	51	52	52
SOUTH FREESTONE COUNTY WSC	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	37	37	37	37	37	37
TEAGUE	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	297	297	297	297	297	297
COUNTY-OTHER	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	98	98	98	98	98	98

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
COUNTY-OTHER	C	NAVARRO MILLS LAKE/RESERVOIR	4	4	3	4	8	19
COUNTY-OTHER	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	1	1	1	1	2	4
COUNTY-OTHER	C	TRINITY RUN-OF-RIVER	5	5	5	5	5	5
MINING	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	98	98	98	98	98	98
MINING	C	LOCAL SURFACE WATER SUPPLY	13	13	13	13	13	13
STEAM ELECTRIC POWER	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	7	7	7	7	7	7
STEAM ELECTRIC POWER	C	FAIRFIELD LAKE/RESERVOIR	91	91	91	91	91	91
STEAM ELECTRIC POWER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,082	2,082	2,082	2,082	2,082	2,082
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	700	617	547	494	455	421
LIVESTOCK	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	2	2	2	2	2	2
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	12	12	12	12	12	12
IRRIGATION	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	66	66	66	66	66	66
IRRIGATION	C	TRINITY RUN-OF-RIVER	9	9	9	9	9	9
		BRAZOS BASIN TOTAL	**3,574**	**3,491**	**3,420**	**3,367**	**3,334**	**3,313**
BUTLER WSC	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	223	223	223	223	223	223
FAIRFIELD	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	1,100	1,100	1,100	1,100	1,100	1,100
FLO COMMUNITY WSC*	H	CARRIZO-WILCOX AQUIFER | LEON COUNTY	58	60	62	63	65	66
PLEASANT GROVE WSC	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	355	354	356	355	355	355
POINT ENTERPRISE WSC*	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	48	48	48	49	48	49
SOUTH FREESTONE COUNTY WSC	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	200	200	200	200	200	200
TEAGUE	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	322	322	322	322	322	322
WORTHAM	G	CARRIZO-WILCOX AQUIFER | LIMESTONE COUNTY	157	157	157	157	157	157
COUNTY-OTHER	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	750	750	750	750	750	750
COUNTY-OTHER	C	NAVARRO MILLS LAKE/RESERVOIR	31	30	27	29	64	143
COUNTY-OTHER	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	6	6	5	6	12	29
COUNTY-OTHER	C	TRINITY RUN-OF-RIVER	36	36	36	36	36	36
MANUFACTURING	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	19	19	19	19	19	19
MINING	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	794	794	794	794	794	794
MINING	C	LOCAL SURFACE WATER SUPPLY	107	107	107	107	107	107
STEAM ELECTRIC POWER	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	63	63	63	63	63	63
STEAM ELECTRIC POWER	C	FAIRFIELD LAKE/RESERVOIR	779	779	779	779	779	779
STEAM ELECTRIC POWER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	17,918	17,918	17,918	17,918	17,918	17,918
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	6,022	5,310	4,710	4,249	3,912	3,619
LIVESTOCK	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	162	162	162	162	162	162
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	1,031	1,031	1,031	1,031	1,031	1,031
IRRIGATION	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	547	547	547	547	547	547
IRRIGATION	C	TRINITY RUN-OF-RIVER	78	78	78	78	78	78
		TRINITY BASIN TOTAL	**30,806**	**30,094**	**29,494**	**29,037**	**28,742**	**28,547**
		FREESTONE COUNTY TOTAL	**34,380**	**33,585**	**32,914**	**32,404**	**32,076**	**31,860**
BELLS	C	TRINITY AQUIFER | GRAYSON COUNTY	175	175	175	175	175	175
BELLS	C	WOODBINE AQUIFER | GRAYSON COUNTY	107	107	107	107	107	107
DENISON	C	RANDELL LAKE/RESERVOIR	852	855	854	860	865	873
DENISON	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	5,542	5,530	5,438	5,362	5,175	5,321
DENISON	C	WOODBINE AQUIFER | GRAYSON COUNTY	84	84	84	84	84	84
DORCHESTER	C	TRINITY AQUIFER | GRAYSON COUNTY	57	57	57	57	57	57
DORCHESTER	C	WOODBINE AQUIFER | GRAYSON COUNTY	76	76	76	76	76	76

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
HOWE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	3	7	9	13	16
HOWE	C	TRINITY INDIRECT REUSE	0	2	5	7	10	14
HOWE	C	WOODBINE AQUIFER | GRAYSON COUNTY	80	80	79	80	80	79
KENTUCKYTOWN WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	187	187	188	187	187	187
LUELLA SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	340	341	340	340	340	340
NORTHWEST GRAYSON COUNTY WCID 1	C	TRINITY AQUIFER | GRAYSON COUNTY	163	163	163	163	163	163
OAK RIDGE SOUTH GALE WSC	C	RANDELL LAKE/RESERVOIR	37	32	34	34	38	41
OAK RIDGE SOUTH GALE WSC	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	170	147	155	155	173	184
PINK HILL WSC	C	TRINITY AQUIFER | GRAYSON COUNTY	128	128	128	128	128	128
PINK HILL WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	100	100	100	100	100	100
POTTSBORO	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	311	381	469	572	783	673
POTTSBORO	C	WOODBINE AQUIFER | GRAYSON COUNTY	112	112	112	112	112	112
RED RIVER AUTHORITY OF TEXAS*	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	358	392	421	454	487	467
SHERMAN	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	4,967	5,309	5,418	6,275	8,569	9,391
SHERMAN	C	TRINITY AQUIFER | GRAYSON COUNTY	4,738	4,738	4,738	4,738	4,738	4,738
SHERMAN	C	WOODBINE AQUIFER | GRAYSON COUNTY	996	996	996	996	996	996
SOUTHMAYD	C	WOODBINE AQUIFER | GRAYSON COUNTY	94	94	94	94	94	94
SOUTHWEST FANNIN COUNTY SUD	C	WOODBINE AQUIFER | FANNIN COUNTY	141	143	144	146	147	148
SOUTHWEST FANNIN COUNTY SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	44	50	58	65	70	73
STARR WSC	C	TRINITY AQUIFER | GRAYSON COUNTY	504	504	504	504	504	504
TOM BEAN	C	WOODBINE AQUIFER | GRAYSON COUNTY	30	31	30	30	30	30
TWO WAY SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	437	438	439	439	440	441
WHITESBORO	C	TRINITY AQUIFER | GRAYSON COUNTY	254	254	254	254	254	254
WHITEWRIGHT	C	WOODBINE AQUIFER | GRAYSON COUNTY	302	301	300	300	300	301
COUNTY-OTHER	C	RANDELL LAKE/RESERVOIR	66	60	59	53	45	34
COUNTY-OTHER	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	1,369	1,377	1,400	1,405	1,263	1,180
COUNTY-OTHER	C	TRINITY AQUIFER | GRAYSON COUNTY	73	73	73	73	73	73
COUNTY-OTHER	C	WOODBINE AQUIFER | GRAYSON COUNTY	73	73	73	73	73	73
MANUFACTURING	D	FORK LAKE/RESERVOIR	2	0	0	0	0	0
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	15	14	12	11	9	10
MANUFACTURING	C	RANDELL LAKE/RESERVOIR	442	450	450	450	450	450
MANUFACTURING	C	RED RUN-OF-RIVER	30	30	30	30	30	30
MANUFACTURING	D	TAWAKONI LAKE/RESERVOIR	2	1	1	1	1	0
MANUFACTURING	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	2,206	2,250	2,250	2,250	1,834	1,110
MANUFACTURING	C	TRINITY INDIRECT REUSE	11	11	10	9	9	7
MANUFACTURING	C	WOODBINE AQUIFER | GRAYSON COUNTY	692	692	692	692	692	692
MINING	C	TRINITY AQUIFER | GRAYSON COUNTY	212	212	212	212	212	212
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	688	688	688	688	688	688
LIVESTOCK	C	WOODBINE AQUIFER | GRAYSON COUNTY	138	138	138	138	138	138
IRRIGATION	C	RED RUN-OF-RIVER	604	604	604	604	604	604
IRRIGATION	C	TRINITY AQUIFER | GRAYSON COUNTY	653	653	653	653	653	653
IRRIGATION	C	WOODBINE AQUIFER | GRAYSON COUNTY	1,222	1,222	1,222	1,222	1,222	1,222
		RED BASIN TOTAL	**29,884**	**30,358**	**30,534**	**31,467**	**33,291**	**33,343**
COLLINSVILLE	C	TRINITY AQUIFER | GRAYSON COUNTY	297	242	242	242	242	242
DESERT WSC	C	WOODBINE AQUIFER | FANNIN COUNTY	71	69	69	63	53	44

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
DESERT WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	71	70	69	63	53	43
DORCHESTER	C	TRINITY AQUIFER | GRAYSON COUNTY	27	27	27	27	27	27
DORCHESTER	C	WOODBINE AQUIFER | GRAYSON COUNTY	37	37	37	37	37	37
GUNTER	C	TRINITY AQUIFER | GRAYSON COUNTY	173	173	173	173	173	173
HOWE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	8	17	24	32	40
HOWE	D	TAWAKONI LAKE/RESERVOIR	0	1	1	2	2	3
HOWE	C	TRINITY INDIRECT REUSE	0	6	15	20	28	34
HOWE	C	WOODBINE AQUIFER | GRAYSON COUNTY	202	202	203	202	202	203
KENTUCKYTOWN WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	178	178	177	178	178	178
LUELLA SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	50	49	50	50	50	50
MARILEE SUD	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	78	92	105	103	83	50
MARILEE SUD	C	TRINITY AQUIFER | COLLIN COUNTY	249	262	267	268	268	268
MARILEE SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	130	137	140	140	140	140
MUSTANG SUD	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	5	4	4	4	4	3
MUSTANG SUD	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	18	16	15	13	12	11
MUSTANG SUD	C	TRINITY AQUIFER | DENTON COUNTY	14	7	5	4	3	3
MUSTANG SUD	C	TRINITY INDIRECT REUSE	2	2	2	1	1	1
MUSTANG SUD	C	WOODBINE AQUIFER | DENTON COUNTY	1	0	0	0	0	0
SOUTH GRAYSON SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	281	268	254	239	229	220
SOUTH GRAYSON SUD	C	WOODBINE AQUIFER | GRAYSON COUNTY	74	71	67	63	61	58
TIOGA	C	TRINITY AQUIFER | GRAYSON COUNTY	165	165	165	165	165	165
TOM BEAN	C	WOODBINE AQUIFER | GRAYSON COUNTY	207	206	207	207	207	207
TWO WAY SUD	C	TRINITY AQUIFER | GRAYSON COUNTY	240	240	241	242	242	242
VAN ALSTYNE	D	FORK LAKE/RESERVOIR	1	0	0	0	0	0
VAN ALSTYNE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	5	94	199	281	614	682
VAN ALSTYNE	D	TAWAKONI LAKE/RESERVOIR	1	5	10	14	30	34
VAN ALSTYNE	C	TRINITY AQUIFER | GRAYSON COUNTY	300	300	300	300	300	300
VAN ALSTYNE	C	TRINITY INDIRECT REUSE	3	72	162	235	513	575
VAN ALSTYNE	C	WOODBINE AQUIFER | GRAYSON COUNTY	208	208	208	208	208	208
WESTMINSTER WSC	C	WOODBINE AQUIFER | COLLIN COUNTY	3	3	3	3	3	3
WESTMINSTER WSC	C	WOODBINE AQUIFER | GRAYSON COUNTY	3	3	3	3	3	3
WHITESBORO	C	TRINITY AQUIFER | GRAYSON COUNTY	293	293	293	293	293	293
WHITEWRIGHT	C	WOODBINE AQUIFER | GRAYSON COUNTY	2	2	2	3	2	2
WOODBINE WSC	C	TRINITY AQUIFER | COOKE COUNTY	8	8	8	8	8	8
COUNTY-OTHER	C	RANDELL LAKE/RESERVOIR	2	2	2	2	1	1
COUNTY-OTHER	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	43	42	44	45	40	37
COUNTY-OTHER	C	TRINITY AQUIFER | GRAYSON COUNTY	2	2	2	2	2	2
COUNTY-OTHER	C	WOODBINE AQUIFER | GRAYSON COUNTY	2	2	2	2	2	2
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	0	0	0	0	0
MANUFACTURING	C	RANDELL LAKE/RESERVOIR	1	1	1	1	1	1
MANUFACTURING	C	RED RUN-OF-RIVER	0	0	0	0	0	0
MANUFACTURING	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	7	7	7	7	6	3
MANUFACTURING	C	TRINITY INDIRECT REUSE	0	0	0	0	0	0
MANUFACTURING	C	WOODBINE AQUIFER | GRAYSON COUNTY	2	2	2	2	2	2
STEAM ELECTRIC POWER	C	TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	4,387	4,387	4,387	4,387	4,387	4,387
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	387	387	387	387	387	387
LIVESTOCK	C	WOODBINE AQUIFER | GRAYSON COUNTY	77	77	77	77	77	77

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
IRRIGATION	C	RED RUN-OF-RIVER	487	487	487	487	487	487
IRRIGATION	C	TRINITY AQUIFER | GRAYSON COUNTY	526	526	526	526	526	526
IRRIGATION	C	WOODBINE AQUIFER | GRAYSON COUNTY	985	985	985	985	985	985
		TRINITY BASIN TOTAL	**10,305**	**10,427**	**10,649**	**10,788**	**11,369**	**11,447**
		GRAYSON COUNTY TOTAL	**40,189**	**40,785**	**41,183**	**42,255**	**44,660**	**44,790**
ATHENS*	I	ATHENS LAKE/RESERVOIR	897	1,170	1,377	1,685	2,837	3,373
ATHENS*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	1,368	1,368	1,368	1,368	1,368	1,368
ATHENS*	I	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	648	649	671	697	786	820
B B S WSC*	I	CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	3	3	3	3	3	3
BETHEL ASH WSC*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	323	323	323	323	323	323
CRESCENT HEIGHTS WSC	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	296	296	296	296	296	296
DOGWOOD ESTATES WATER	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	195	195	195	195	195	195
EAST CEDAR CREEK FWSD	C	TRWD LAKE/RESERVOIR SYSTEM	1,155	1,155	1,155	1,155	1,155	1,155
EUSTACE	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	159	159	159	159	159	159
MABANK*	C	TRWD LAKE/RESERVOIR SYSTEM	474	477	483	474	471	471
MALAKOFF	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	246	244	244	244	244	244
MALAKOFF	C	TRWD LAKE/RESERVOIR SYSTEM	28	25	20	21	30	39
TRINIDAD	C	TRINIDAD CITY LAKE/RESERVOIR	450	450	450	450	450	450
VIRGINIA HILL WSC*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	215	215	215	215	216	219
VIRGINIA HILL WSC*	I	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	149	149	149	149	150	152
WEST CEDAR CREEK MUD	C	TRWD LAKE/RESERVOIR SYSTEM	938	853	779	737	851	989
COUNTY-OTHER*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	53	53	53	53	53	53
COUNTY-OTHER*	C	TRWD LAKE/RESERVOIR SYSTEM	251	147	135	61	0	36
MANUFACTURING	I	ATHENS LAKE/RESERVOIR	278	378	396	418	499	531
MANUFACTURING	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	404	406	406	406	406	406
MANUFACTURING	I	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	206	213	195	173	92	60
MINING*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	354	354	354	354	354	354
MINING*	I	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	0	2	0	0	0	0
MINING*	C	TRWD LAKE/RESERVOIR SYSTEM	130	133	113	102	93	85
STEAM ELECTRIC POWER	C	TRINIDAD LAKE/RESERVOIR	3,050	3,050	3,050	3,050	3,050	3,050
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	659	581	516	464	428	396
LIVESTOCK*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	13	13	13	13	13	13
LIVESTOCK*	C	LOCAL SURFACE WATER SUPPLY	345	345	345	345	345	345
LIVESTOCK*	C	QUEEN CITY AQUIFER | HENDERSON COUNTY	500	500	500	500	500	500
IRRIGATION*	C	CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	135	135	135	135	135	135
IRRIGATION*	C	DIRECT REUSE	32	32	32	32	32	32
IRRIGATION*	C	TRINITY RUN-OF-RIVER	415	415	415	415	415	415
		TRINITY BASIN TOTAL	**14,369**	**14,488**	**14,545**	**14,692**	**15,949**	**16,667**
		HENDERSON COUNTY TOTAL	**14,369**	**14,488**	**14,545**	**14,692**	**15,949**	**16,667**
COUNTY-OTHER	C	CROSS TIMBERS AQUIFER | JACK COUNTY	204	204	204	204	204	204
COUNTY-OTHER	G	GRAHAM/EDDLEMAN LAKE/RESERVOIR	20	20	20	20	20	20
MANUFACTURING	C	LOST CREEK-JACKSBORO LAKE/RESERVOIR SYSTEM	1	1	1	1	1	1
MINING	C	CROSS TIMBERS AQUIFER | JACK COUNTY	82	82	82	82	82	82
MINING	C	LOCAL SURFACE WATER SUPPLY	148	148	148	148	148	148
MINING	C	TRWD LAKE/RESERVOIR SYSTEM	1,076	389	304	283	269	271
LIVESTOCK	C	CROSS TIMBERS AQUIFER | JACK COUNTY	38	38	38	38	38	38
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	231	231	231	231	231	231
IRRIGATION	C	CROSS TIMBERS AQUIFER | JACK COUNTY	14	14	14	14	14	14

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
IRRIGATION	C	DIRECT REUSE	7	6	6	6	6	6
IRRIGATION	C	TRINITY RUN-OF-RIVER	27	27	27	27	27	27
		BRAZOS BASIN TOTAL	**1,848**	**1,160**	**1,075**	**1,054**	**1,040**	**1,042**
JACKSBORO	C	LOST CREEK-JACKSBORO LAKE/RESERVOIR SYSTEM	682	707	720	726	733	733
COUNTY-OTHER	C	CROSS TIMBERS AQUIFER | JACK COUNTY	265	265	265	265	265	265
COUNTY-OTHER	G	GRAHAM/EDDLEMAN LAKE/RESERVOIR	26	26	26	26	26	26
MINING	C	CROSS TIMBERS AQUIFER | JACK COUNTY	122	122	122	122	122	122
MINING	C	LOCAL SURFACE WATER SUPPLY	222	222	222	222	222	222
MINING	C	TRWD LAKE/RESERVOIR SYSTEM	1,614	583	457	425	404	406
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	3,772	3,324	2,948	2,660	2,449	2,266
LIVESTOCK	C	CROSS TIMBERS AQUIFER | JACK COUNTY	92	92	92	92	92	92
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	571	571	571	571	571	571
IRRIGATION	C	CROSS TIMBERS AQUIFER | JACK COUNTY	41	41	41	41	41	41
IRRIGATION	C	DIRECT REUSE	20	20	20	19	19	18
IRRIGATION	C	TRINITY RUN-OF-RIVER	83	83	83	83	83	83
		TRINITY BASIN TOTAL	**7,510**	**6,056**	**5,567**	**5,252**	**5,027**	**4,845**
		JACK COUNTY TOTAL	**9,358**	**7,216**	**6,642**	**6,306**	**6,067**	**5,887**
ABLES SPRINGS WSC*	D	FORK LAKE/RESERVOIR	13	0	0	0	0	0
ABLES SPRINGS WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	86	96	105	119	131	143
ABLES SPRINGS WSC*	D	TAWAKONI LAKE/RESERVOIR	9	5	5	6	6	7
ABLES SPRINGS WSC*	C	TRINITY INDIRECT REUSE	61	75	86	98	110	121
MACBEE SUD*	D	TAWAKONI LAKE/RESERVOIR	16	19	24	30	36	43
POETRY WSC*	D	FORK LAKE/RESERVOIR	4	0	0	0	0	0
POETRY WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	26	28	31	36	44	54
POETRY WSC*	D	TAWAKONI LAKE/RESERVOIR	3	1	1	2	3	2
POETRY WSC*	C	TRINITY INDIRECT REUSE	18	22	25	30	38	46
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	2	0	0	0	0	0
COUNTY-OTHER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	10	15	15	14	52	108
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	1	0	0	0	2	5
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	7	13	12	12	43	91
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	2	1	1	1	1	1
MINING	C	LOCAL SURFACE WATER SUPPLY	4	4	4	4	4	4
MINING	C	NACATOCH AQUIFER | KAUFMAN COUNTY	30	30	30	30	30	30
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	50	50	50	50	50	50
LIVESTOCK	C	NACATOCH AQUIFER | KAUFMAN COUNTY	3	3	3	3	3	3
IRRIGATION	C	DIRECT REUSE	2	2	2	2	2	2
IRRIGATION	C	NACATOCH AQUIFER | KAUFMAN COUNTY	0	0	0	0	0	0
IRRIGATION	C	RAY HUBBARD LAKE/RESERVOIR	0	0	0	0	0	0
IRRIGATION	C	TRINITY RUN-OF-RIVER	1	1	1	1	1	1
IRRIGATION	C	TRWD LAKE/RESERVOIR SYSTEM	0	0	0	0	0	0
		SABINE BASIN TOTAL	**348**	**365**	**395**	**438**	**556**	**711**
ABLES SPRINGS WSC*	D	FORK LAKE/RESERVOIR	10	0	0	0	0	0
ABLES SPRINGS WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	68	77	84	94	103	113
ABLES SPRINGS WSC*	D	TAWAKONI LAKE/RESERVOIR	7	4	4	5	5	6
ABLES SPRINGS WSC*	C	TRINITY INDIRECT REUSE	48	60	69	79	87	95
BECKER JIBA WSC	D	FORK LAKE/RESERVOIR	24	0	0	0	0	0
BECKER JIBA WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	164	186	200	251	314	384
BECKER JIBA WSC	D	TAWAKONI LAKE/RESERVOIR	17	10	10	13	16	19

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
BECKER JIBA WSC	C	TRINITY INDIRECT REUSE	116	143	164	209	264	324
COLLEGE MOUND WSC	D	FORK LAKE/RESERVOIR	58	0	0	0	0	0
COLLEGE MOUND WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	394	445	477	516	622	690
COLLEGE MOUND WSC	D	TAWAKONI LAKE/RESERVOIR	40	23	24	25	30	34
COLLEGE MOUND WSC	C	TRINITY INDIRECT REUSE	278	343	391	429	520	581
COMBINE WSC	D	FORK LAKE/RESERVOIR	30	33	36	44	53	61
COMBINE WSC	C	RAY HUBBARD LAKE/RESERVOIR	30	30	30	34	37	40
COMBINE WSC	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	67	61	60	63	65	66
COMBINE WSC	D	TAWAKONI LAKE/RESERVOIR	102	101	100	107	116	122
COMBINE WSC	C	TRINITY INDIRECT REUSE	26	29	32	39	52	63
CRANDALL	D	FORK LAKE/RESERVOIR	46	0	0	0	0	0
CRANDALL	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	308	332	324	321	321	320
CRANDALL	D	TAWAKONI LAKE/RESERVOIR	32	17	16	16	16	16
CRANDALL	C	TRINITY INDIRECT REUSE	219	256	265	268	268	269
ELMO WSC	D	FORK LAKE/RESERVOIR	16	0	0	0	0	0
ELMO WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	111	124	133	157	198	241
ELMO WSC	D	TAWAKONI LAKE/RESERVOIR	11	6	7	8	10	12
ELMO WSC	C	TRINITY INDIRECT REUSE	77	96	110	132	166	204
FORNEY	D	FORK LAKE/RESERVOIR	232	0	0	0	0	0
FORNEY	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,571	1,641	1,854	2,054	2,668	2,884
FORNEY	D	TAWAKONI LAKE/RESERVOIR	160	84	93	103	133	143
FORNEY	C	TRINITY INDIRECT REUSE	1,109	1,268	1,519	1,713	2,236	2,426
FORNEY LAKE WSC	D	FORK LAKE/RESERVOIR	86	0	0	0	0	0
FORNEY LAKE WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	578	643	696	782	1,200	1,578
FORNEY LAKE WSC	D	TAWAKONI LAKE/RESERVOIR	59	33	35	39	60	78
FORNEY LAKE WSC	C	TRINITY INDIRECT REUSE	408	498	570	652	1,004	1,328
GASTONIA SCURRY SUD	D	FORK LAKE/RESERVOIR	53	0	0	0	0	0
GASTONIA SCURRY SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	361	408	442	508	765	1,093
GASTONIA SCURRY SUD	D	TAWAKONI LAKE/RESERVOIR	37	21	22	25	38	54
GASTONIA SCURRY SUD	C	TRINITY INDIRECT REUSE	255	315	362	424	640	919
HIGH POINT WSC	D	FORK LAKE/RESERVOIR	30	0	0	0	0	0
HIGH POINT WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	198	215	228	252	338	400
HIGH POINT WSC	D	TAWAKONI LAKE/RESERVOIR	20	10	10	12	18	20
HIGH POINT WSC	C	TRINITY INDIRECT REUSE	142	164	187	208	283	338
KAUFMAN	D	FORK LAKE/RESERVOIR	96	0	0	0	0	0
KAUFMAN	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	651	711	769	1,079	1,267	1,424
KAUFMAN	D	TAWAKONI LAKE/RESERVOIR	66	36	39	54	63	70
KAUFMAN	C	TRINITY INDIRECT REUSE	460	548	629	899	1,061	1,197
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	D	FORK LAKE/RESERVOIR	66	0	0	0	0	0
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	446	519	568	677	852	1,039
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	D	TAWAKONI LAKE/RESERVOIR	46	27	29	34	42	51
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	TRINITY INDIRECT REUSE	316	401	466	564	712	875
KAUFMAN COUNTY MUD 11	D	FORK LAKE/RESERVOIR	46	0	0	0	0	0
KAUFMAN COUNTY MUD 11	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	307	339	368	404	445	500
KAUFMAN COUNTY MUD 11	D	TAWAKONI LAKE/RESERVOIR	32	17	19	20	22	25

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
KAUFMAN COUNTY MUD 11	C	TRINITY INDIRECT REUSE	219	261	302	337	372	420
KEMP	C	TRWD LAKE/RESERVOIR SYSTEM	112	112	112	112	112	112
MABANK*	C	TRWD LAKE/RESERVOIR SYSTEM	771	768	761	771	774	774
MACBEE SUD*	D	TAWAKONI LAKE/RESERVOIR	2	3	3	4	5	6
MARKOUT WSC	D	FORK LAKE/RESERVOIR	23	0	0	0	0	0
MARKOUT WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	157	172	171	171	173	172
MARKOUT WSC	D	TAWAKONI LAKE/RESERVOIR	16	9	9	9	9	9
MARKOUT WSC	C	TRINITY INDIRECT REUSE	112	134	140	144	144	146
MESQUITE	D	FORK LAKE/RESERVOIR	2	0	0	0	0	0
MESQUITE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	10	12	12	14	15	16
MESQUITE	D	TAWAKONI LAKE/RESERVOIR	1	1	1	1	1	1
MESQUITE	C	TRINITY INDIRECT REUSE	7	9	10	12	12	14
NORTH KAUFMAN WSC	D	FORK LAKE/RESERVOIR	14	0	0	0	0	0
NORTH KAUFMAN WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	97	114	126	150	188	230
NORTH KAUFMAN WSC	D	TAWAKONI LAKE/RESERVOIR	10	6	6	7	9	12
NORTH KAUFMAN WSC	C	TRINITY INDIRECT REUSE	70	88	102	125	158	194
POETRY WSC*	D	FORK LAKE/RESERVOIR	4	0	0	0	0	0
POETRY WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	25	28	30	36	44	54
POETRY WSC*	D	TAWAKONI LAKE/RESERVOIR	3	2	2	2	2	3
POETRY WSC*	C	TRINITY INDIRECT REUSE	18	22	25	30	36	45
ROSE HILL SUD	D	FORK LAKE/RESERVOIR	33	0	0	0	0	0
ROSE HILL SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	224	243	257	290	345	486
ROSE HILL SUD	D	TAWAKONI LAKE/RESERVOIR	23	12	13	14	17	24
ROSE HILL SUD	C	TRINITY INDIRECT REUSE	159	187	209	242	290	408
SEAGOVILLE	D	FORK LAKE/RESERVOIR	0	0	0	1	1	1
SEAGOVILLE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1	1	1	1	1	1
SEAGOVILLE	D	TAWAKONI LAKE/RESERVOIR	1	1	1	1	1	1
SEAGOVILLE	C	TRINITY INDIRECT REUSE	0	0	0	0	1	1
TALTY SUD	D	FORK LAKE/RESERVOIR	135	0	0	0	0	0
TALTY SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	915	955	987	1,243	1,557	1,965
TALTY SUD	D	TAWAKONI LAKE/RESERVOIR	93	49	50	62	77	97
TALTY SUD	C	TRINITY INDIRECT REUSE	647	737	808	1,036	1,304	1,653
TERRELL	D	FORK LAKE/RESERVOIR	289	0	0	0	0	0
TERRELL	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	1,960	2,957	2,430	2,251	1,787	1,246
TERRELL	D	TAWAKONI LAKE/RESERVOIR	200	168	181	178	177	176
TERRELL	C	TRINITY INDIRECT REUSE	1,385	2,535	2,947	2,977	2,985	2,992
WEST CEDAR CREEK MUD	C	TRWD LAKE/RESERVOIR SYSTEM	276	269	263	278	293	307
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	10	0	0	0	0	0
COUNTY-OTHER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	73	121	120	108	401	838
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	7	7	7	6	20	42
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	51	92	98	90	335	705
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	11	12	12	12	12	12
MANUFACTURING	D	FORK LAKE/RESERVOIR	71	0	0	0	0	0
MANUFACTURING	C	NACATOCH AQUIFER | KAUFMAN COUNTY	98	98	98	98	98	98
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	482	514	464	416	374	343
MANUFACTURING	D	TAWAKONI LAKE/RESERVOIR	49	26	23	20	19	17
MANUFACTURING	C	TRINITY INDIRECT REUSE	340	397	379	347	313	289

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
MINING	C	LOCAL SURFACE WATER SUPPLY	82	82	82	82	82	82
MINING	C	NACATOCH AQUIFER | KAUFMAN COUNTY	560	559	560	560	560	560
STEAM ELECTRIC POWER	C	DIRECT REUSE	8,672	8,672	8,672	8,672	8,672	8,672
STEAM ELECTRIC POWER	D	FORK LAKE/RESERVOIR	84	0	0	0	0	0
STEAM ELECTRIC POWER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	570	519	468	421	378	346
STEAM ELECTRIC POWER	D	TAWAKONI LAKE/RESERVOIR	58	27	24	21	19	17
STEAM ELECTRIC POWER	C	TRINITY INDIRECT REUSE	403	401	383	351	317	292
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	1,572	1,572	1,572	1,572	1,572	1,572
LIVESTOCK	C	NACATOCH AQUIFER | KAUFMAN COUNTY	97	97	97	97	97	97
IRRIGATION	C	DIRECT REUSE	444	539	643	664	664	664
IRRIGATION	C	NACATOCH AQUIFER | KAUFMAN COUNTY	89	89	89	89	89	89
IRRIGATION	C	RAY HUBBARD LAKE/RESERVOIR	27	26	23	21	20	19
IRRIGATION	C	TRINITY RUN-OF-RIVER	63	63	63	63	63	63
IRRIGATION	C	TRWD LAKE/RESERVOIR SYSTEM	125	111	98	88	81	75
		TRINITY BASIN TOTAL	**32,182**	**34,153**	**35,375**	**37,610**	**42,186**	**46,560**
		KAUFMAN COUNTY TOTAL	**32,530**	**34,518**	**35,770**	**38,048**	**42,742**	**47,271**
B AND B WSC	C	NAVARRO MILLS LAKE/RESERVOIR	202	202	212	221	242	262
B AND B WSC	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	40	40	42	44	49	53
BLOOMING GROVE	C	NAVARRO MILLS LAKE/RESERVOIR	136	146	155	154	152	145
BLOOMING GROVE	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	27	29	31	31	31	29
BRANDON IRENE WSC*	G	BRAZOS RIVER AUTHORITY AQUILLA LAKE/RESERVOIR SYSTEM	22	25	26	27	28	27
BRANDON IRENE WSC*	G	TRINITY AQUIFER | HILL COUNTY	22	23	24	25	26	27
CHATFIELD WSC	C	NAVARRO MILLS LAKE/RESERVOIR	357	387	417	411	403	381
CHATFIELD WSC	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	71	78	84	82	81	76
CORBET WSC	C	NAVARRO MILLS LAKE/RESERVOIR	208	220	232	228	226	215
CORBET WSC	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	42	44	47	46	45	43
CORSICANA	C	NAVARRO MILLS LAKE/RESERVOIR	5,088	5,487	5,897	5,851	5,780	5,521
CORSICANA	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	1,016	1,095	1,178	1,166	1,155	1,101
DAWSON	C	NAVARRO MILLS LAKE/RESERVOIR	124	126	128	120	112	102
DAWSON	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	25	25	26	24	23	21
KERENS	C	NAVARRO MILLS LAKE/RESERVOIR	180	189	200	198	197	187
KERENS	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	36	38	40	40	39	38
M E N WSC	C	NAVARRO MILLS LAKE/RESERVOIR	406	436	468	464	458	437
M E N WSC	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	81	87	94	93	92	88
NAVARRO MILLS WSC	C	NAVARRO MILLS LAKE/RESERVOIR	277	293	309	307	303	289
NAVARRO MILLS WSC	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	56	59	62	62	61	58
NAVARRO MILLS WSC	C	WOODBINE AQUIFER | NAVARRO COUNTY	20	20	20	20	20	20
PLEASANT GROVE WSC	C	CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	31	32	30	31	31	31
POST OAK SUD*	C	NAVARRO MILLS LAKE/RESERVOIR	44	45	44	31	19	7
POST OAK SUD*	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	8	8	7	6	3	1

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
RICE WATER SUPPLY AND SEWER SERVICE	C	BARDWELL LAKE/RESERVOIR	19	17	15	10	6	3
RICE WATER SUPPLY AND SEWER SERVICE	C	NAVARRO MILLS LAKE/RESERVOIR	349	420	502	541	589	616
RICE WATER SUPPLY AND SEWER SERVICE	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	70	84	100	108	118	123
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD LAKE/RESERVOIR SYSTEM	0	2	4	5	3	2
SOUTH ELLIS COUNTY WSC	C	TRINITY AQUIFER | ELLIS COUNTY	15	18	22	21	21	21
COUNTY-OTHER	C	NAVARRO MILLS LAKE/RESERVOIR	185	300	334	403	457	800
COUNTY-OTHER	C	OTHER AQUIFER | NAVARRO COUNTY	200	200	200	200	200	200
COUNTY-OTHER	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	37	60	67	81	91	160
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	39	56	56	67	76	142
MANUFACTURING	C	NAVARRO MILLS LAKE/RESERVOIR	741	881	877	797	721	630
MANUFACTURING	C	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	148	176	175	160	144	126
MANUFACTURING	C	TRWD LAKE/RESERVOIR SYSTEM	5	5	3	4	4	3
MINING	C	CARRIZO-WILCOX AQUIFER | NAVARRO COUNTY	6	6	6	6	6	6
MINING	C	NACATOCH AQUIFER | NAVARRO COUNTY	970	970	970	970	970	970
LIVESTOCK	C	CARRIZO-WILCOX AQUIFER | NAVARRO COUNTY	9	9	9	9	9	9
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	1,603	1,603	1,603	1,603	1,603	1,603
LIVESTOCK	C	NACATOCH AQUIFER | NAVARRO COUNTY	10	10	10	10	10	10
LIVESTOCK	C	OTHER AQUIFER | NAVARRO COUNTY	69	69	69	69	69	69
IRRIGATION	C	TRINITY RUN-OF-RIVER	226	226	226	226	226	226
		TRINITY BASIN TOTAL	**13,220**	**14,246**	**15,021**	**14,972**	**14,899**	**14,878**
		NAVARRO COUNTY TOTAL	**13,220**	**14,246**	**15,021**	**14,972**	**14,899**	**14,878**
HORSESHOE BEND WATER SYSTEM	C	TRINITY AQUIFER | PARKER COUNTY	453	453	453	453	453	453
MINERAL WELLS*	G	PALO PINTO LAKE/RESERVOIR	348	286	257	230	206	185
NORTH RURAL WSC*	G	PALO PINTO LAKE/RESERVOIR	104	104	104	104	104	103
PARKER COUNTY SUD*	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	389	389	389	389	389	389
PARKER COUNTY SUD*	G	PALO PINTO LAKE/RESERVOIR	444	445	445	445	445	445
PARKER COUNTY SUD*	C	TRINITY AQUIFER | PARKER COUNTY	36	36	36	36	36	36
SANTO SUD*	G	PALO PINTO LAKE/RESERVOIR	15	14	14	13	14	14
WEATHERFORD	C	TRWD LAKE/RESERVOIR SYSTEM	155	155	155	155	155	155
WEATHERFORD	C	WEATHERFORD LAKE/RESERVOIR	130	127	125	123	120	118
COUNTY-OTHER	C	CROSS TIMBERS AQUIFER | PARKER COUNTY	29	29	29	29	29	29
COUNTY-OTHER	G	PALO PINTO LAKE/RESERVOIR	387	387	387	387	387	387
COUNTY-OTHER	C	TRINITY AQUIFER | PARKER COUNTY	2,908	2,908	2,908	2,908	2,908	2,908
MINING	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	620	620	620	620	620	620
MINING	C	LOCAL SURFACE WATER SUPPLY	13	13	13	13	13	13
MINING	C	TRINITY AQUIFER | PARKER COUNTY	1,687	1,686	1,687	1,686	1,686	1,687
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	1,115	1,115	1,115	1,115	1,115	1,115
LIVESTOCK	C	TRINITY AQUIFER | PARKER COUNTY	133	133	133	133	133	133
IRRIGATION	C	BRAZOS RUN-OF-RIVER	89	89	89	89	89	89
IRRIGATION	C	DIRECT REUSE	304	355	385	491	505	521
IRRIGATION	C	TRINITY AQUIFER | PARKER COUNTY	141	141	141	141	141	141
IRRIGATION	C	TRINITY RUN-OF-RIVER	93	93	93	93	93	93

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
		BRAZOS BASIN TOTAL	**9,593**	**9,578**	**9,578**	**9,653**	**9,641**	**9,634**
ALEDO	C	TRINITY AQUIFER | PARKER COUNTY	207	207	207	207	207	207
ALEDO	C	TRWD LAKE/RESERVOIR SYSTEM	690	1,012	1,042	1,088	1,119	1,158
ANNETTA	C	TRINITY AQUIFER | PARKER COUNTY	787	787	787	787	787	787
AZLE	C	TRWD LAKE/RESERVOIR SYSTEM	336	336	336	322	336	336
FORT WORTH*	C	TRINITY INDIRECT REUSE	2,368	3,303	3,351	3,727	4,012	4,371
FORT WORTH*	C	TRWD LAKE/RESERVOIR SYSTEM	9,690	11,867	10,853	10,549	10,011	9,388
HUDSON OAKS	C	TRINITY AQUIFER | PARKER COUNTY	400	400	400	400	400	400
HUDSON OAKS	C	TRWD LAKE/RESERVOIR SYSTEM	650	866	794	714	657	608
RENO (Parker)	C	TRINITY AQUIFER | PARKER COUNTY	131	131	131	131	130	130
RENO (Parker)	C	TRINITY AQUIFER | TARRANT COUNTY	10	10	10	10	10	10
RENO (Parker)	C	TRWD LAKE/RESERVOIR SYSTEM	39	33	29	21	15	11
SPRINGTOWN	C	TRINITY AQUIFER | PARKER COUNTY	95	95	95	95	95	95
SPRINGTOWN	C	TRWD LAKE/RESERVOIR SYSTEM	340	340	340	340	340	340
WALNUT CREEK SUD	C	TRWD LAKE/RESERVOIR SYSTEM	1,035	1,006	915	951	1,005	996
WEATHERFORD	C	TRWD LAKE/RESERVOIR SYSTEM	2,615	2,615	2,615	2,615	2,615	2,615
WEATHERFORD	C	WEATHERFORD LAKE/RESERVOIR	2,189	2,149	2,108	2,066	2,026	1,985
WILLOW PARK	C	TRINITY AQUIFER | PARKER COUNTY	690	690	690	690	690	690
COUNTY-OTHER	C	CROSS TIMBERS AQUIFER | PARKER COUNTY	21	21	21	21	21	21
COUNTY-OTHER	G	PALO PINTO LAKE/RESERVOIR	276	276	276	276	276	276
COUNTY-OTHER	C	TRINITY AQUIFER | PARKER COUNTY	2,075	2,075	2,075	2,075	2,075	2,075
MANUFACTURING	G	PALO PINTO LAKE/RESERVOIR	25	25	25	25	25	25
MANUFACTURING	C	TRINITY AQUIFER | PARKER COUNTY	43	43	43	43	43	43
MANUFACTURING	C	TRWD LAKE/RESERVOIR SYSTEM	30	27	24	20	19	15
MINING	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	380	380	380	380	380	380
MINING	C	LOCAL SURFACE WATER SUPPLY	7	7	7	7	7	7
MINING	C	TRINITY AQUIFER | PARKER COUNTY	1,033	1,034	1,033	1,034	1,034	1,033
STEAM ELECTRIC POWER	C	WEATHERFORD LAKE/RESERVOIR	604	604	604	604	604	604
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	807	807	807	807	807	807
LIVESTOCK	C	TRINITY AQUIFER | PARKER COUNTY	96	96	96	96	96	96
IRRIGATION	C	BRAZOS RUN-OF-RIVER	28	28	28	28	28	28
IRRIGATION	C	DIRECT REUSE	93	108	118	150	155	159
IRRIGATION	C	TRINITY AQUIFER | PARKER COUNTY	44	44	44	44	44	44
IRRIGATION	C	TRINITY RUN-OF-RIVER	29	29	29	29	29	29
		TRINITY BASIN TOTAL	**27,863**	**31,451**	**30,313**	**30,352**	**30,098**	**29,769**
		PARKER COUNTY TOTAL	**37,456**	**41,029**	**39,891**	**40,005**	**39,739**	**39,403**
B H P WSC*	D	FORK LAKE/RESERVOIR	2	0	0	0	0	0
B H P WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	12	12	13	15	18	23
B H P WSC*	D	TAWAKONI LAKE/RESERVOIR	1	1	1	1	1	1
B H P WSC*	C	TRINITY INDIRECT REUSE	8	9	11	12	15	19
BEAR CREEK SUD	D	FORK LAKE/RESERVOIR	3	0	0	0	0	0
BEAR CREEK SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	21	23	28	33	59	115
BEAR CREEK SUD	D	TAWAKONI LAKE/RESERVOIR	2	1	1	2	3	6
BEAR CREEK SUD	C	TRINITY INDIRECT REUSE	15	18	23	28	50	96
BLACKLAND WSC*	D	FORK LAKE/RESERVOIR	29	0	0	0	0	0
BLACKLAND WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	199	203	194	177	179	178
BLACKLAND WSC*	D	TAWAKONI LAKE/RESERVOIR	21	11	10	9	9	9

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
BLACKLAND WSC*	C	TRINITY INDIRECT REUSE	142	156	158	148	151	149
CASH SUD*	D	FORK LAKE/RESERVOIR	6	0	0	0	0	230
CASH SUD*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	44	53	60	63	56	51
CASH SUD*	D	TAWAKONI LAKE/RESERVOIR	83	84	76	95	143	21
CASH SUD*	C	TRINITY INDIRECT REUSE	32	42	49	52	48	43
FATE	D	FORK LAKE/RESERVOIR	113	0	0	0	0	0
FATE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	769	902	1,093	1,295	1,415	1,439
FATE	D	TAWAKONI LAKE/RESERVOIR	78	46	55	64	70	71
FATE	C	TRINITY INDIRECT REUSE	544	696	895	1,079	1,186	1,211
NEVADA SUD	D	FORK LAKE/RESERVOIR	1	0	0	0	0	0
NEVADA SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	4	4	4	15	35	58
NEVADA SUD	D	TAWAKONI LAKE/RESERVOIR	1	0	0	1	2	2
NEVADA SUD	C	TRINITY INDIRECT REUSE	3	3	3	14	30	50
ROYSE CITY*	D	FORK LAKE/RESERVOIR	78	0	0	0	0	0
ROYSE CITY*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	533	508	465	997	1,519	1,544
ROYSE CITY*	D	TAWAKONI LAKE/RESERVOIR	54	26	24	50	76	76
ROYSE CITY*	C	TRINITY INDIRECT REUSE	376	392	381	832	1,272	1,297
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	11	0	0	0	0	0
COUNTY-OTHER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	74	96	88	73	73	104
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	8	5	4	4	4	5
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	53	74	72	62	62	87
MANUFACTURING	D	FORK LAKE/RESERVOIR	2	0	0	0	0	0
MANUFACTURING	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	16	17	15	13	12	11
MANUFACTURING	D	TAWAKONI LAKE/RESERVOIR	2	1	1	1	1	1
MANUFACTURING	C	TRINITY INDIRECT REUSE	11	13	12	11	10	9
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	58	58	58	58	58	58
IRRIGATION	C	DIRECT REUSE	155	155	155	155	155	155
IRRIGATION	C	RAY HUBBARD LAKE/RESERVOIR	77	73	66	61	58	56
		SABINE BASIN TOTAL	**3,641**	**3,682**	**4,015**	**5,420**	**6,770**	**7,175**
BEAR CREEK SUD	D	FORK LAKE/RESERVOIR	3	0	0	0	0	0
BEAR CREEK SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	19	21	26	30	54	105
BEAR CREEK SUD	D	TAWAKONI LAKE/RESERVOIR	2	1	1	2	3	5
BEAR CREEK SUD	C	TRINITY INDIRECT REUSE	14	16	22	26	46	89
BLACKLAND WSC*	D	FORK LAKE/RESERVOIR	35	0	0	0	0	0
BLACKLAND WSC*	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	235	238	228	210	212	209
BLACKLAND WSC*	D	TAWAKONI LAKE/RESERVOIR	24	12	11	10	11	10
BLACKLAND WSC*	C	TRINITY INDIRECT REUSE	166	184	187	175	177	175
DALLAS	D	FORK LAKE/RESERVOIR	2	3	3	4	5	6
DALLAS	C	RAY HUBBARD LAKE/RESERVOIR	2	2	3	3	3	4
DALLAS	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	4	5	5	6	6	6
DALLAS	D	TAWAKONI LAKE/RESERVOIR	7	8	9	10	11	12
DALLAS	C	TRINITY INDIRECT REUSE	2	2	3	4	5	6
EAST FORK SUD	D	FORK LAKE/RESERVOIR	11	0	0	0	0	0
EAST FORK SUD	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	77	94	110	122	136	150
EAST FORK SUD	D	TAWAKONI LAKE/RESERVOIR	8	5	6	6	7	7
EAST FORK SUD	C	TRINITY INDIRECT REUSE	54	73	90	101	115	125
FATE	D	FORK LAKE/RESERVOIR	98	0	0	0	0	0

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
FATE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	664	778	942	1,116	1,220	1,240
FATE	D	TAWAKONI LAKE/RESERVOIR	68	40	47	56	61	62
FATE	C	TRINITY INDIRECT REUSE	469	601	771	930	1,021	1,043
FORNEY LAKE WSC	D	FORK LAKE/RESERVOIR	9	0	0	0	0	0
FORNEY LAKE WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	63	71	79	84	90	96
FORNEY LAKE WSC	D	TAWAKONI LAKE/RESERVOIR	6	4	4	4	4	5
FORNEY LAKE WSC	C	TRINITY INDIRECT REUSE	45	55	64	70	75	81
GARLAND	D	FORK LAKE/RESERVOIR	0	0	0	0	0	0
GARLAND	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	0	0	0	0	0
GARLAND	D	TAWAKONI LAKE/RESERVOIR	0	0	0	0	0	0
GARLAND	C	TRINITY INDIRECT REUSE	0	0	0	0	0	0
HEATH	D	FORK LAKE/RESERVOIR	296	0	0	0	0	0
HEATH	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	2,006	2,578	2,921	2,656	2,498	2,387
HEATH	D	TAWAKONI LAKE/RESERVOIR	205	132	147	133	124	118
HEATH	C	TRINITY INDIRECT REUSE	1,418	1,989	2,393	2,215	2,092	2,008
HIGH POINT WSC	D	FORK LAKE/RESERVOIR	4	0	0	0	0	0
HIGH POINT WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	26	28	30	34	44	54
HIGH POINT WSC	D	TAWAKONI LAKE/RESERVOIR	2	2	2	2	2	2
HIGH POINT WSC	C	TRINITY INDIRECT REUSE	18	22	24	28	38	44
MOUNT ZION WSC	D	FORK LAKE/RESERVOIR	38	0	0	0	0	0
MOUNT ZION WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	254	284	309	331	358	384
MOUNT ZION WSC	D	TAWAKONI LAKE/RESERVOIR	26	15	16	17	18	19
MOUNT ZION WSC	C	TRINITY INDIRECT REUSE	180	220	253	278	300	323
R C H WSC	D	FORK LAKE/RESERVOIR	68	0	0	0	0	0
R C H WSC	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	457	573	599	650	759	847
R C H WSC	D	TAWAKONI LAKE/RESERVOIR	47	29	30	33	38	42
R C H WSC	C	TRINITY INDIRECT REUSE	323	441	489	544	635	712
ROCKWALL	D	FORK LAKE/RESERVOIR	743	0	0	0	0	0
ROCKWALL	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	5,032	6,580	8,511	7,946	7,715	7,595
ROCKWALL	D	TAWAKONI LAKE/RESERVOIR	514	337	428	397	384	376
ROCKWALL	C	TRINITY INDIRECT REUSE	3,557	5,080	6,971	6,628	6,462	6,390
ROWLETT	D	FORK LAKE/RESERVOIR	88	0	0	0	0	0
ROWLETT	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	594	530	471	420	384	354
ROWLETT	D	TAWAKONI LAKE/RESERVOIR	61	27	24	21	19	18
ROWLETT	C	TRINITY INDIRECT REUSE	420	409	386	350	321	298
WYLIE	D	FORK LAKE/RESERVOIR	39	0	0	0	0	0
WYLIE	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	264	244	224	206	193	187
WYLIE	D	TAWAKONI LAKE/RESERVOIR	27	13	11	10	10	9
WYLIE	C	TRINITY INDIRECT REUSE	187	189	184	172	161	156
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	19	0	0	0	0	0
COUNTY-OTHER	C	NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	129	165	151	127	126	180
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	13	8	8	6	6	9
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	92	126	124	105	106	151
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	59	59	59	59	59	59
IRRIGATION	C	DIRECT REUSE	517	517	517	517	517	517
IRRIGATION	C	RAY HUBBARD LAKE/RESERVOIR	256	244	221	204	194	186
		TRINITY BASIN TOTAL	**20,066**	**23,054**	**28,114**	**27,058**	**26,825**	**26,861**
		ROCKWALL COUNTY TOTAL	**23,707**	**26,736**	**32,129**	**32,478**	**33,595**	**34,036**

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
ARLINGTON	C	TRWD LAKE/RESERVOIR SYSTEM	66,819	60,028	53,553	48,960	44,990	41,625
AZLE	C	TRWD LAKE/RESERVOIR SYSTEM	1,344	1,344	1,344	1,290	1,344	1,344
BEDFORD	C	TRINITY AQUIFER | TARRANT COUNTY	445	445	445	445	445	445
BEDFORD	C	TRWD LAKE/RESERVOIR SYSTEM	8,757	8,137	7,617	7,292	6,702	6,201
BENBROOK WATER AUTHORITY	C	TRINITY AQUIFER | TARRANT COUNTY	199	199	199	199	199	199
BENBROOK WATER AUTHORITY	C	TRWD LAKE/RESERVOIR SYSTEM	3,380	3,380	3,380	3,380	3,380	3,380
BETHESDA WSC*	G	TRINITY AQUIFER | JOHNSON COUNTY	214	210	207	202	198	193
BETHESDA WSC*	C	TRINITY AQUIFER | TARRANT COUNTY	646	636	626	612	599	584
BETHESDA WSC*	C	TRWD LAKE/RESERVOIR SYSTEM	1,364	1,400	1,429	1,461	1,515	1,510
BURLESON*	C	TRWD LAKE/RESERVOIR SYSTEM	1,272	1,073	1,039	1,290	1,477	1,541
COLLEYVILLE	C	TRWD LAKE/RESERVOIR SYSTEM	9,211	8,542	8,059	7,514	6,913	6,396
COMMUNITY WSC	C	TRWD LAKE/RESERVOIR SYSTEM	338	317	300	295	295	294
CROWLEY*	C	TRINITY AQUIFER | TARRANT COUNTY	169	169	169	169	169	169
CROWLEY*	C	TRWD LAKE/RESERVOIR SYSTEM	2,234	2,231	2,229	2,228	2,228	2,228
DALWORTHINGTON GARDENS	C	TRWD LAKE/RESERVOIR SYSTEM	907	809	725	664	624	589
EDGECLIFF	C	TRWD LAKE/RESERVOIR SYSTEM	503	432	375	334	307	284
EULESS	C	DIRECT REUSE	368	368	368	368	368	368
EULESS	C	TRINITY AQUIFER | TARRANT COUNTY	2,106	2,106	2,106	2,106	2,106	2,106
EULESS	C	TRWD LAKE/RESERVOIR SYSTEM	6,588	6,013	5,191	4,614	4,235	3,919
EVERMAN	C	TRINITY AQUIFER | TARRANT COUNTY	529	529	529	529	529	529
FLOWER MOUND	D	CHAPMAN/COOPER LAKE/RESERVOIR NON-SYSTEM PORTION	8	6	5	5	4	4
FLOWER MOUND	D	FORK LAKE/RESERVOIR	2	2	2	2	2	2
FLOWER MOUND	C	RAY HUBBARD LAKE/RESERVOIR	2	2	2	2	2	1
FLOWER MOUND	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	34	27	23	19	17	15
FLOWER MOUND	D	TAWAKONI LAKE/RESERVOIR	8	7	6	5	5	4
FLOWER MOUND	C	TRINITY INDIRECT REUSE	5	4	4	4	4	4
FOREST HILL	C	TRWD LAKE/RESERVOIR SYSTEM	1,357	1,214	1,129	1,199	1,381	1,565
FORT WORTH*	C	TRINITY INDIRECT REUSE	31,742	34,462	38,019	40,979	44,242	48,366
FORT WORTH*	C	TRWD LAKE/RESERVOIR SYSTEM	129,898	123,797	123,139	115,991	110,399	103,864
GRAND PRAIRIE	D	FORK LAKE/RESERVOIR	855	786	783	777	785	806
GRAND PRAIRIE	C	RAY HUBBARD LAKE/RESERVOIR	881	728	658	595	551	520
GRAND PRAIRIE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	1,953	1,464	1,273	1,111	976	866
GRAND PRAIRIE	D	TAWAKONI LAKE/RESERVOIR	2,969	2,415	2,141	1,902	1,731	1,606
GRAND PRAIRIE	C	TRINITY AQUIFER | DALLAS COUNTY	72	0	0	0	0	0
GRAND PRAIRIE	C	TRINITY INDIRECT REUSE	741	702	685	688	778	836
GRAND PRAIRIE	C	TRWD LAKE/RESERVOIR SYSTEM	567	842	698	664	620	575
GRAPEVINE	C	GRAPEVINE LAKE/RESERVOIR NON-SYSTEM PORTION	1,919	1,886	1,852	1,818	1,784	1,750
GRAPEVINE	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	2,666	2,601	2,235	2,042	1,960	1,907
GRAPEVINE	C	TRINITY INDIRECT REUSE	2,174	2,538	2,577	2,562	2,559	2,558
GRAPEVINE	C	TRWD LAKE/RESERVOIR SYSTEM	10,584	9,156	8,222	7,560	7,138	6,905
HALTOM CITY	C	TRWD LAKE/RESERVOIR SYSTEM	5,238	4,564	4,111	3,962	3,921	3,953
HASLET	C	TRINITY AQUIFER | TARRANT COUNTY	63	63	63	63	63	63
HASLET	C	TRWD LAKE/RESERVOIR SYSTEM	507	1,469	1,869	3,136	2,885	2,669
HURST	C	TRINITY AQUIFER | TARRANT COUNTY	378	378	378	378	378	378
HURST	C	TRWD LAKE/RESERVOIR SYSTEM	6,318	5,559	4,824	4,300	3,951	3,655

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
JOHNSON COUNTY SUD*	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	278	188	187	187	187	187
JOHNSON COUNTY SUD*	C	TRWD LAKE/RESERVOIR SYSTEM	44	169	205	161	142	135
KELLER	C	TRWD LAKE/RESERVOIR SYSTEM	12,339	11,586	10,217	9,187	8,448	7,817
KENNEDALE	C	TRINITY AQUIFER | TARRANT COUNTY	814	811	811	811	811	811
KENNEDALE	C	TRWD LAKE/RESERVOIR SYSTEM	606	445	594	734	864	945
LAKE WORTH	C	TRINITY AQUIFER | TARRANT COUNTY	169	169	169	169	169	169
LAKE WORTH	C	TRWD LAKE/RESERVOIR SYSTEM	961	944	926	980	1,075	1,392
LAKESIDE	C	TRINITY AQUIFER | TARRANT COUNTY	291	291	291	291	291	291
MANSFIELD*	C	TRWD LAKE/RESERVOIR SYSTEM	17,236	16,602	16,993	17,988	18,538	18,978
NORTH RICHLAND HILLS	C	TRWD LAKE/RESERVOIR SYSTEM	12,812	11,858	10,359	9,267	8,516	7,878
PANTEGO	C	TRINITY AQUIFER | TARRANT COUNTY	732	732	732	732	732	732
PELICAN BAY	C	TRINITY AQUIFER | TARRANT COUNTY	117	117	117	117	117	117
RENO (Parker)	C	TRINITY AQUIFER | PARKER COUNTY	1	1	1	1	2	2
RENO (Parker)	C	TRWD LAKE/RESERVOIR SYSTEM	0	0	0	0	0	0
RICHLAND HILLS	C	TRINITY AQUIFER | TARRANT COUNTY	242	242	242	242	242	242
RICHLAND HILLS	C	TRWD LAKE/RESERVOIR SYSTEM	906	831	770	796	825	875
RIVER OAKS	C	TRWD LAKE/RESERVOIR SYSTEM	856	725	623	551	505	467
SAGINAW	C	TRWD LAKE/RESERVOIR SYSTEM	3,169	3,109	3,050	2,882	2,648	2,451
SANSOM PARK	C	TRINITY AQUIFER | TARRANT COUNTY	578	578	578	578	578	578
SANSOM PARK	C	TRWD LAKE/RESERVOIR SYSTEM	0	0	10	27	45	63
SOUTHLAKE	C	TRWD LAKE/RESERVOIR SYSTEM	11,036	10,817	11,149	11,473	11,872	12,203
WATAUGA	C	TRWD LAKE/RESERVOIR SYSTEM	2,844	2,415	2,075	1,839	1,688	1,561
WESTLAKE	C	TRWD LAKE/RESERVOIR SYSTEM	1,752	4,269	5,912	5,945	5,640	5,303
WESTOVER HILLS	C	TRWD LAKE/RESERVOIR SYSTEM	929	836	756	699	658	621
WESTWORTH VILLAGE	C	TRWD LAKE/RESERVOIR SYSTEM	401	373	349	334	328	323
WHITE SETTLEMENT	C	TRINITY AQUIFER | TARRANT COUNTY	610	610	610	610	610	610
WHITE SETTLEMENT	C	TRWD LAKE/RESERVOIR SYSTEM	1,471	1,320	1,200	1,313	1,638	1,915
COUNTY-OTHER	C	DIRECT REUSE	33	33	100	100	100	100
COUNTY-OTHER	D	FORK LAKE/RESERVOIR	148	157	156	156	158	162
COUNTY-OTHER	C	RAY HUBBARD LAKE/RESERVOIR	153	146	131	120	111	104
COUNTY-OTHER	C	RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	338	293	254	223	196	175
COUNTY-OTHER	D	TAWAKONI LAKE/RESERVOIR	514	483	427	382	349	323
COUNTY-OTHER	C	TRINITY AQUIFER | TARRANT COUNTY	600	600	600	600	600	600
COUNTY-OTHER	C	TRINITY INDIRECT REUSE	128	140	137	138	157	168
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	5,245	4,235	3,329	5,509	6,959	9,181
MANUFACTURING	C	TRINITY AQUIFER | TARRANT COUNTY	280	283	283	283	283	283
MANUFACTURING	C	TRWD LAKE/RESERVOIR SYSTEM	11,885	11,385	10,083	9,088	8,364	7,737
MINING	C	DIRECT REUSE	1,754	1,811	1,677	1,677	1,677	1,677
MINING	C	LOCAL SURFACE WATER SUPPLY	342	342	342	342	342	342
MINING	C	TRINITY AQUIFER | TARRANT COUNTY	5,768	5,768	5,768	5,768	5,768	5,768
MINING	C	TRWD LAKE/RESERVOIR SYSTEM	3,671	993	82	74	68	63
STEAM ELECTRIC POWER	C	TRINITY RUN-OF-RIVER	959	959	959	959	959	959
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	198	2,168	1,273	1,149	1,057	979
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	442	442	442	442	442	442
LIVESTOCK	C	TRINITY AQUIFER | TARRANT COUNTY	110	110	110	110	110	110
IRRIGATION	C	DIRECT REUSE	2,478	2,478	2,478	2,478	2,478	2,478
IRRIGATION	C	TRINITY AQUIFER | TARRANT COUNTY	752	752	752	752	752	752

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Region C Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
IRRIGATION	C	TRINITY INDIRECT REUSE	1,121	1,121	1,121	1,121	1,121	1,121
IRRIGATION	C	TRINITY RUN-OF-RIVER	549	549	549	549	549	549
IRRIGATION	C	TRWD LAKE/RESERVOIR SYSTEM	1,581	1,394	1,236	1,115	1,026	950
IRRIGATION	C	WOODBINE AQUIFER | TARRANT COUNTY	632	632	632	632	632	632
		TRINITY BASIN TOTAL	**419,209**	**400,352**	**386,435**	**375,397**	**366,186**	**359,097**
		TARRANT COUNTY TOTAL	**419,209**	**400,352**	**386,435**	**375,397**	**366,186**	**359,097**
ALVORD	C	TRINITY AQUIFER | WISE COUNTY	228	228	228	228	228	228
BOLIVAR WSC	C	TRINITY AQUIFER | COOKE COUNTY	15	14	14	13	12	12
BOLIVAR WSC	C	TRINITY AQUIFER | DENTON COUNTY	70	68	64	62	59	56
BOLIVAR WSC	C	TRINITY AQUIFER | WISE COUNTY	8	8	8	7	7	7
BOYD	C	TRINITY AQUIFER | WISE COUNTY	153	153	153	153	153	153
BOYD	C	TRWD LAKE/RESERVOIR SYSTEM	50	50	94	100	119	100
BRIDGEPORT	C	TRWD LAKE/RESERVOIR SYSTEM	1,273	1,345	1,395	1,630	1,700	1,700
CHICO	C	TRINITY AQUIFER | WISE COUNTY	194	194	194	194	194	194
CHICO	C	TRWD LAKE/RESERVOIR SYSTEM	84	81	79	111	111	111
DECATUR	C	TRWD LAKE/RESERVOIR SYSTEM	1,805	1,806	1,810	1,814	1,818	1,820
FORT WORTH*	C	TRINITY INDIRECT REUSE	455	578	669	852	1,047	1,265
FORT WORTH*	C	TRWD LAKE/RESERVOIR SYSTEM	1,863	2,077	2,167	2,411	2,612	2,716
NEWARK	C	TRINITY AQUIFER | WISE COUNTY	125	125	125	125	125	125
RHOME	C	TRINITY AQUIFER | WISE COUNTY	169	169	169	169	169	169
RHOME	C	TRWD LAKE/RESERVOIR SYSTEM	177	254	314	408	409	405
RUNAWAY BAY	C	TRWD LAKE/RESERVOIR SYSTEM	493	471	460	485	493	519
WALNUT CREEK SUD	C	TRWD LAKE/RESERVOIR SYSTEM	206	227	246	218	230	225
WEST WISE SUD	C	TRWD LAKE/RESERVOIR SYSTEM	452	396	363	338	320	304
COUNTY-OTHER	C	TRINITY AQUIFER | WISE COUNTY	2,584	2,584	2,584	2,584	2,584	2,584
COUNTY-OTHER	C	TRWD LAKE/RESERVOIR SYSTEM	646	587	531	406	314	327
MANUFACTURING	C	TRINITY AQUIFER | WISE COUNTY	250	250	250	250	250	250
MANUFACTURING	C	TRWD LAKE/RESERVOIR SYSTEM	45	44	40	36	32	30
MINING	C	TRINITY AQUIFER | WISE COUNTY	2,155	2,155	2,155	2,155	2,155	2,155
MINING	C	TRINITY RUN-OF-RIVER	133	133	133	133	133	133
MINING	C	TRWD LAKE/RESERVOIR SYSTEM	2,896	2,896	2,896	2,896	2,896	2,896
STEAM ELECTRIC POWER	C	TRWD LAKE/RESERVOIR SYSTEM	2,894	2,550	2,261	2,041	1,879	1,738
LIVESTOCK	C	LOCAL SURFACE WATER SUPPLY	1,117	1,117	1,117	1,117	1,117	1,117
LIVESTOCK	C	TRINITY AQUIFER | WISE COUNTY	458	458	458	458	458	458
IRRIGATION	C	TRINITY AQUIFER | WISE COUNTY	680	680	680	680	680	680
IRRIGATION	C	TRINITY RUN-OF-RIVER	139	139	139	139	139	139
IRRIGATION	C	TRWD LAKE/RESERVOIR SYSTEM	587	517	459	414	381	352
		TRINITY BASIN TOTAL	**22,404**	**22,354**	**22,255**	**22,627**	**22,824**	**22,968**
		WISE COUNTY TOTAL	**22,404**	**22,354**	**22,255**	**22,627**	**22,824**	**22,968**
		REGION C EXISTING WATER SUPPLY TOTAL	**1,699,454**	**1,662,344**	**1,658,306**	**1,654,380**	**1,655,607**	**1,648,819**

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Region C Water User Group (WUG) Needs/Surplus

WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

	(NEEDS)/SURPLUS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
COLLIN COUNTY - SABINE BASIN						
B H P WSC*	0	(8)	(15)	(19)	(25)	(30)
CADDO BASIN SUD*	(1)	(30)	(54)	(97)	(155)	(219)
FARMERSVILLE	0	(1)	(2)	(4)	(6)	(11)
JOSEPHINE*	(2)	(75)	(148)	(256)	(329)	(378)
NEVADA SUD	(1)	(15)	(24)	(105)	(309)	(636)
ROYSE CITY*	1	(186)	(467)	(976)	(1,610)	(2,423)
COUNTY-OTHER	0	0	0	0	(1)	(1)
LIVESTOCK	9	9	9	9	9	9
IRRIGATION	68	64	57	52	49	47
COLLIN COUNTY - TRINITY BASIN						
ALLEN	(118)	(3,655)	(5,212)	(7,068)	(8,886)	(10,339)
ANNA	(9)	(1,225)	(3,607)	(5,514)	(7,994)	(11,231)
BEAR CREEK SUD	(3)	(146)	(293)	(548)	(848)	(1,224)
BLUE RIDGE	(13)	(287)	(6,003)	(14,335)	(20,625)	(28,742)
CADDO BASIN SUD*	(1)	(18)	(38)	(65)	(102)	(144)
CARROLLTON	1	2	(1)	(1)	(1)	2
CELINA	0	(3,196)	(8,662)	(15,155)	(20,583)	(26,115)
COPEVILLE SUD	(1)	(60)	(102)	(187)	(408)	(798)
CULLEOKA WSC	(4)	(93)	(197)	(320)	(448)	(643)
DALLAS	(636)	(1,375)	(2,728)	(3,718)	(4,283)	(4,724)
DESERT WSC	42	38	36	27	2	(34)
EAST FORK SUD	(6)	(219)	(346)	(463)	(594)	(702)
FAIRVIEW	(24)	(802)	(1,504)	(2,094)	(2,620)	(2,999)
FARMERSVILLE	(5)	(388)	(1,238)	(2,527)	(4,446)	(7,356)
FRISCO	(253)	(4,452)	(7,370)	(14,211)	(20,561)	(25,100)
FROGNOT WSC*	195	173	134	77	37	0
GARLAND	0	(10)	(15)	(27)	(41)	(56)
HICKORY CREEK SUD*	(4)	(9)	(14)	(22)	(34)	(52)
LUCAS	(12)	(405)	(753)	(1,169)	(1,616)	(1,849)
MARILEE SUD	1	(1)	0	(1)	(25)	(68)
MCKINNEY	(220)	(6,898)	(10,726)	(17,353)	(25,710)	(31,888)
MELISSA	(361)	(8,917)	(13,900)	(18,219)	(21,501)	(22,390)
MILLIGAN WSC	(3)	(80)	(134)	(224)	(316)	(400)
MURPHY	(24)	(685)	(964)	(1,288)	(1,592)	(1,822)
NEVADA SUD	(1)	(29)	(48)	(209)	(612)	(1,258)
NORTH COLLIN SUD	(4)	(143)	(231)	(367)	(530)	(699)
NORTH FARMERSVILLE WSC	0	(16)	(28)	(46)	(65)	(83)
PARKER	(320)	(537)	(816)	(1,256)	(1,678)	(2,176)
PLANO	(388)	(11,177)	(15,833)	(21,136)	(26,174)	(30,269)
PRINCETON	(6)	(615)	(1,741)	(2,731)	(3,375)	(3,861)
PROSPER	(37)	(1,134)	(2,356)	(3,462)	(5,043)	(5,042)
RICHARDSON	(48)	(1,366)	(1,901)	(2,586)	(3,343)	(4,175)
SACHSE	(11)	(236)	(323)	(440)	(550)	(629)

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Region C Water User Group (WUG) Needs/Surplus

SEIS LAGOS UD	(4)	(89)	(125)	(174)	(217)	(248)
SOUTH GRAYSON SUD	0	(17)	(57)	(89)	(125)	(160)
VERONA SUD	0	(35)	(94)	(182)	(243)	(297)
WEST LEONARD WSC*	39	37	45	44	29	0
WESTMINSTER WSC	290	255	196	109	48	(6)
WYLIE	(33)	(1,027)	(1,516)	(2,174)	(2,798)	(3,525)
WYLIE NORTHEAST SUD	(3)	(123)	(202)	(439)	(812)	(1,368)
COUNTY-OTHER	(1)	(18)	(24)	(29)	(246)	(553)
MANUFACTURING	6	(385)	(542)	(727)	(895)	(1,026)
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	81	81	81	81	81	81
IRRIGATION	2,328	2,200	1,963	1,785	1,684	1,607
COOKE COUNTY - RED BASIN						
CALLISBURG WSC	0	2	2	3	2	2
GAINESVILLE	0	0	0	0	(1)	(3)
LINDSAY	0	0	0	0	(1)	(2)
TWO WAY SUD	0	(2)	(4)	(5)	(7)	(8)
WOODBINE WSC	0	(5)	(9)	(15)	(21)	(27)
COUNTY-OTHER	27	20	7	1	(44)	(390)
LIVESTOCK	45	45	45	45	45	45
IRRIGATION	0	0	0	0	(76)	(174)
COOKE COUNTY - TRINITY BASIN						
BOLIVAR WSC	20	4	(13)	(26)	(40)	(53)
CALLISBURG WSC	0	2	4	4	4	3
GAINESVILLE	0	0	0	(47)	(502)	(1,946)
LAKE KIOWA SUD	94	64	47	28	21	9
LINDSAY	0	(7)	(15)	(33)	(71)	(193)
MOUNTAIN SPRINGS WSC	65	41	22	2	(289)	(765)
MUENSTER	0	7	5	8	1	1
WOODBINE WSC	(5)	(56)	(112)	(174)	(244)	(316)
COUNTY-OTHER	94	70	23	(1)	(159)	(1,425)
MANUFACTURING	0	0	0	0	(36)	(82)
MINING	(583)	(150)	(148)	(146)	(161)	(136)
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	52	52	52	52	52	52
IRRIGATION	0	0	0	0	(176)	(402)
DALLAS COUNTY - TRINITY BASIN						
ADDISON	(247)	(563)	(1,183)	(1,716)	(2,095)	(2,435)
BALCH SPRINGS	(110)	(251)	(530)	(782)	(974)	(1,152)
CARROLLTON	(374)	(798)	(1,569)	(2,140)	(2,468)	(2,724)
CEDAR HILL	(422)	(1,093)	(2,553)	(3,790)	(4,373)	(4,821)
COCKRELL HILL	(17)	(37)	(72)	(95)	(147)	(343)
COMBINE WSC	(5)	(19)	(30)	(44)	(57)	(72)
COPPELL	(434)	(944)	(1,868)	(2,552)	(2,944)	(3,248)
DALLAS	(10,164)	(23,309)	(52,231)	(79,754)	(99,489)	(113,717)
DESOTO	(379)	(862)	(1,843)	(2,739)	(3,410)	(3,873)
DUNCANVILLE	(245)	(565)	(1,095)	(1,483)	(1,707)	(1,878)
EAST FORK SUD	(3)	(68)	(85)	(138)	(203)	(268)
FARMERS BRANCH	(363)	(817)	(1,706)	(2,471)	(3,010)	(3,497)
FERRIS	0	0	(1)	(1)	(2)	(3)

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Region C Water User Group (WUG) Needs/Surplus

GARLAND	(222)	(6,800)	(9,913)	(13,287)	(16,515)	(18,893)
GLENN HEIGHTS	(57)	(166)	(418)	(708)	(972)	(1,415)
GRAND PRAIRIE	(1,051)	(4,956)	(8,221)	(10,250)	(11,513)	(12,540)
HIGHLAND PARK	0	0	0	0	0	0
HUTCHINS	(88)	(263)	(669)	(1,123)	(1,533)	(1,952)
IRVING	(1,245)	(19,887)	(21,278)	(21,428)	(21,756)	(22,115)
LANCASTER	(308)	(844)	(1,965)	(2,989)	(3,799)	(4,575)
LEWISVILLE	(6)	(19)	(35)	(47)	(57)	(57)
MESQUITE	(121)	(3,699)	(5,763)	(8,320)	(11,102)	(13,651)
OVILLA	(5)	(13)	(31)	(50)	(68)	(129)
RICHARDSON	(100)	(2,942)	(4,255)	(5,829)	(7,207)	(8,248)
ROCKETT SUD	0	(19)	(53)	(138)	(263)	(411)
ROWLETT	(51)	(1,521)	(2,294)	(3,240)	(4,183)	(5,058)
SACHSE	(29)	(598)	(821)	(1,074)	(1,327)	(1,519)
SEAGOVILLE	(148)	(497)	(871)	(1,288)	(1,742)	(1,779)
SUNNYVALE	(12)	(490)	(923)	(1,425)	(1,718)	(1,954)
UNIVERSITY PARK	0	0	0	0	0	0
WILMER	(17)	(39)	(121)	(306)	(553)	(1,109)
WYLIE	(3)	(56)	(79)	(109)	(137)	(164)
COUNTY-OTHER	(59)	(197)	(368)	(504)	(610)	(700)
MANUFACTURING	(188)	(1,650)	(3,324)	(4,682)	(5,548)	(6,213)
MINING	540	922	1,299	1,648	1,656	1,662
STEAM ELECTRIC POWER	6,663	6,617	6,531	6,466	6,430	6,402
LIVESTOCK	98	98	98	98	98	98
IRRIGATION	4,189	4,189	4,189	4,189	4,189	4,189
DENTON COUNTY - TRINITY BASIN						
ARGYLE WSC	0	(765)	(1,480)	(1,728)	(1,933)	(2,141)
AUBREY	12	(152)	(264)	(413)	(605)	(853)
BLACK ROCK WSC	172	100	35	(37)	(122)	(200)
BOLIVAR WSC	162	35	(130)	(334)	(588)	(886)
CARROLLTON	(577)	(1,272)	(2,502)	(3,409)	(3,931)	(4,339)
CELINA	0	(328)	(1,952)	(5,353)	(5,736)	(6,012)
COPPELL	(13)	(26)	(51)	(70)	(80)	(87)
CORINTH	0	(1,511)	(2,123)	(2,488)	(2,787)	(3,051)
CROSS TIMBERS WSC	0	(448)	(680)	(834)	(982)	(1,099)
DALLAS	(265)	(604)	(1,344)	(2,043)	(2,541)	(2,899)
DENTON	453	(6,371)	(14,185)	(29,472)	(53,757)	(72,323)
DENTON COUNTY FWSD 10	0	(948)	(1,579)	(1,857)	(2,082)	(2,279)
DENTON COUNTY FWSD 1-A	(49)	(1,585)	(2,818)	(3,422)	(3,907)	(4,185)
DENTON COUNTY FWSD 7	0	(1,032)	(1,457)	(1,713)	(1,920)	(2,101)
FLOWER MOUND	(789)	(5,417)	(7,873)	(9,584)	(11,000)	(12,409)
FORT WORTH*	(234)	(2,310)	(5,317)	(8,916)	(12,710)	(16,913)
FRISCO	(170)	(3,630)	(6,420)	(8,640)	(10,788)	(12,332)
HACKBERRY	(3)	(89)	(159)	(264)	(400)	(553)
HIGHLAND VILLAGE	0	(679)	(937)	(1,042)	(1,158)	(1,322)
JUSTIN	(244)	(439)	(741)	(818)	(885)	(963)
KRUM	(202)	(382)	(611)	(899)	(1,228)	(1,647)
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	0	(738)	(1,181)	(1,492)	(1,669)	(1,827)
LEWISVILLE	(803)	(2,774)	(5,751)	(8,884)	(11,991)	(11,987)
LITTLE ELM	(28)	(756)	(1,048)	(1,355)	(1,642)	(1,880)

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Region C Water User Group (WUG) Needs/Surplus

MOUNTAIN SPRINGS WSC	1	1	1	0	(5)	(9)
MUSTANG SUD	0	(1,911)	(4,320)	(6,988)	(10,006)	(13,404)
NORTHLAKE	0	(1,041)	(2,186)	(3,687)	(5,374)	(5,938)
PALOMA CREEK NORTH	0	(698)	(986)	(1,159)	(1,298)	(1,421)
PALOMA CREEK SOUTH	0	(353)	(499)	(587)	(658)	(720)
PILOT POINT	(320)	(498)	(878)	(1,393)	(2,043)	(2,956)
PLANO	(10)	(305)	(438)	(583)	(720)	(824)
PONDER	(3)	(139)	(305)	(493)	(714)	(967)
PROSPER	(2)	(289)	(948)	(1,858)	(2,294)	(2,294)
PROVIDENCE VILLAGE WCID	0	(282)	(398)	(467)	(522)	(572)
ROANOKE	0	(373)	(806)	(985)	(1,170)	(1,332)
SANGER	0	(111)	(296)	(551)	(856)	(1,259)
SOUTHLAKE	0	(64)	(149)	(248)	(360)	(496)
THE COLONY	(241)	(801)	(1,501)	(2,224)	(2,618)	(2,915)
TROPHY CLUB MUD 1	0	(508)	(930)	(1,252)	(1,489)	(1,693)
WESTLAKE	0	(5)	(13)	(21)	(29)	(39)
COUNTY-OTHER	1,204	771	538	(870)	(3,059)	(7,524)
MANUFACTURING	(1)	(83)	(147)	(211)	(261)	(289)
MINING	0	370	246	(179)	(705)	(1,513)
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	583	583	583	583	583	583
IRRIGATION	1,875	1,802	1,666	1,564	1,507	1,462
ELLIS COUNTY - TRINITY BASIN						
AVALON WATER SUPPLY & SEWER SERVICE	0	(26)	(62)	(137)	(235)	(389)
BRANDON IRENE WSC*	7	10	10	11	13	11
BUENA VISTA-BETHEL SUD	0	0	(161)	(403)	(867)	(1,836)
CEDAR HILL	(5)	(15)	(36)	(65)	(74)	(83)
EAST GARRETT WSC	0	(4)	(21)	(113)	(303)	(1,001)
ENNIS	0	(61)	(280)	(1,730)	(6,090)	(14,012)
FERRIS	0	(68)	(175)	(389)	(666)	(962)
FILES VALLEY WSC*	146	195	210	222	225	190
GLENN HEIGHTS	(16)	(43)	(108)	(190)	(270)	(457)
GRAND PRAIRIE	(1)	(2)	(5)	(5)	(6)	(8)
HILCO UNITED SERVICES*	26	30	35	29	32	27
ITALY	0	(171)	(255)	(383)	(540)	(788)
MANSFIELD*	(2)	(10)	(17)	(30)	(42)	(55)
MIDLOTHIAN	(403)	(2,348)	(2,954)	(2,570)	(3,037)	(3,783)
MOUNTAIN PEAK SUD*	(650)	(1,412)	(1,617)	(4,436)	(5,317)	(6,108)
OVILLA	(38)	(103)	(253)	(448)	(632)	(1,285)
PALMER	0	(29)	(67)	(168)	(327)	(786)
RED OAK	(25)	(110)	(290)	(566)	(802)	(1,380)
RICE WATER SUPPLY AND SEWER SERVICE	0	0	(5)	(120)	(274)	(506)
ROCKETT SUD	0	(484)	(993)	(2,584)	(5,260)	(8,912)
SARDIS LONE ELM WSC	(1,401)	(3,532)	(4,417)	(4,797)	(5,316)	(5,572)
SOUTH ELLIS COUNTY WSC	0	0	0	(204)	(473)	(889)
VENUS*	(6)	(11)	(15)	(21)	(27)	(35)
WAXAHACHIE	0	0	(869)	(2,072)	(3,724)	(7,146)
COUNTY-OTHER	287	358	158	(486)	(1,357)	(4,818)
MANUFACTURING	(22)	(1,305)	(1,741)	(2,024)	(2,456)	(3,010)
MINING	0	0	0	0	0	0

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STEAM ELECTRIC POWER	(48)	(139)	(160)	(156)	(162)	(170)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(748)	(748)	(748)	(748)	(748)	(748)
FANNIN COUNTY - RED BASIN						
ARLEDGE RIDGE WSC	21	11	(11)	(55)	(142)	(241)
BOIS D ARC MUD	(2)	(26)	(81)	(187)	(401)	(641)
BONHAM	0	0	(209)	(1,411)	(2,474)	(3,693)
DESERT WSC	2	0	1	(1)	0	0
HONEY GROVE	0	1	3	3	3	3
LEONARD	0	258	246	239	229	216
SOUTHWEST FANNIN COUNTY SUD	33	0	(27)	(57)	(152)	(257)
TRENTON	0	0	0	(1)	(2)	(2)
WHITE SHED WSC	0	(26)	(85)	(200)	(434)	(697)
WHITEWRIGHT	0	1	1	0	1	0
COUNTY-OTHER	0	118	98	(116)	(1,381)	(2,820)
MANUFACTURING	0	0	(1)	(4)	(5)	(6)
MINING	(380)	(211)	(42)	(42)	(42)	(42)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(3,550)	(3,550)	(3,550)	(3,550)	(3,550)	(3,550)
FANNIN COUNTY - SULPHUR BASIN						
ARLEDGE RIDGE WSC	9	5	(4)	(21)	(56)	(95)
DELTA COUNTY MUD*	0	0	0	0	0	0
HICKORY CREEK SUD*	(7)	(13)	(19)	(23)	(28)	(32)
HONEY GROVE	0	7	12	14	15	15
LADONIA	0	(56)	(84)	(128)	(203)	(203)
LEONARD	0	57	68	76	86	99
NORTH HUNT SUD*	(11)	(17)	(23)	(29)	(35)	(42)
WOLFE CITY*	5	3	1	(2)	(8)	(15)
COUNTY-OTHER	0	8	6	(7)	(85)	(174)
MINING	(122)	(68)	(14)	(14)	(14)	(14)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(75)	(75)	(75)	(75)	(75)	(75)
FANNIN COUNTY - TRINITY BASIN						
DESERT WSC	69	64	54	39	1	(61)
HICKORY CREEK SUD*	0	(1)	(1)	(1)	(1)	(1)
LEONARD	0	(334)	(339)	(350)	(363)	(377)
SOUTHWEST FANNIN COUNTY SUD	2	1	(1)	(2)	(7)	(12)
TRENTON	0	(30)	(229)	(592)	(1,118)	(1,642)
WEST LEONARD WSC*	152	139	130	101	54	0
COUNTY-OTHER	0	8	7	(9)	(103)	(209)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(211)	(211)	(211)	(211)	(211)	(211)
FREESTONE COUNTY - BRAZOS BASIN						
POINT ENTERPRISE WSC*	6	5	4	2	1	0
SOUTH FREESTONE COUNTY WSC	(3)	(2)	(4)	(18)	(41)	(91)
TEAGUE	(31)	(43)	(143)	(280)	(397)	(519)
COUNTY-OTHER	59	61	65	57	(8)	(187)
MINING	(477)	(451)	(466)	(470)	(478)	(503)
STEAM ELECTRIC POWER	(705)	(788)	(858)	(911)	(950)	(984)
LIVESTOCK	0	0	0	0	0	0

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IRRIGATION	14	14	14	14	14	14
FREESTONE COUNTY - TRINITY BASIN						
BUTLER WSC	0	5	9	9	8	7
FAIRFIELD	145	152	113	(630)	(973)	(1,686)
FLO COMMUNITY WSC*	0	0	0	0	0	0
PLEASANT GROVE WSC	231	231	227	185	116	(31)
POINT ENTERPRISE WSC*	5	4	4	3	1	0
SOUTH FREESTONE COUNTY WSC	(15)	(12)	(22)	(97)	(222)	(496)
TEAGUE	(33)	(46)	(155)	(302)	(429)	(561)
WORTHAM	(12)	(19)	(23)	(27)	(148)	(188)
COUNTY-OTHER	450	464	499	433	(68)	(1,445)
MANUFACTURING	0	0	0	0	0	0
MINING	(3,858)	(3,652)	(3,773)	(3,804)	(3,866)	(4,067)
STEAM ELECTRIC POWER	(6,065)	(6,777)	(7,377)	(7,838)	(8,175)	(8,468)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	117	117	117	117	117	117
GRAYSON COUNTY - RED BASIN						
BELLS	100	76	50	32	(298)	(501)
DENISON	(748)	(1,419)	(1,501)	(2,292)	(3,868)	(7,020)
DORCHESTER	50	48	44	41	34	22
HOWE	3	(1)	(4)	(8)	(14)	(21)
KENTUCKYTOWN WSC	5	(24)	(53)	(82)	(154)	(250)
LUELLA SUD	2	(35)	(75)	(104)	(159)	(243)
NORTHWEST GRAYSON COUNTY WCID 1	(31)	(31)	(36)	(58)	(135)	(255)
OAK RIDGE SOUTH GALE WSC	(14)	(30)	(35)	(60)	(124)	(234)
PINK HILL WSC	0	(14)	(8)	(35)	(127)	(258)
POTTSBORO	(95)	(162)	(210)	(346)	(729)	(2,135)
RED RIVER AUTHORITY OF TEXAS*	0	0	0	0	0	0
SHERMAN	0	0	0	0	(1,522)	(9,101)
SOUTHMAYD	(49)	(59)	(70)	(85)	(146)	(229)
SOUTHWEST FANNIN COUNTY SUD	14	(28)	(87)	(158)	(284)	(435)
STARR WSC	262	249	259	231	136	0
TOM BEAN	0	(3)	(7)	(11)	(20)	(45)
TWO WAY SUD	(3)	(114)	(203)	(330)	(586)	(884)
WHITESBORO	36	40	44	49	(4)	(87)
WHITEWRIGHT	44	49	53	65	52	25
COUNTY-OTHER	857	999	1,253	1,191	64	(924)
MANUFACTURING	458	448	445	443	25	(701)
MINING	(100)	2	105	89	70	49
LIVESTOCK	95	95	95	95	95	95
IRRIGATION	0	0	0	0	0	0
GRAYSON COUNTY - TRINITY BASIN						
COLLINSVILLE	15	(91)	(153)	(231)	(256)	(411)
DESERT WSC	64	56	49	31	1	(27)
DORCHESTER	24	23	21	20	16	11
GUNTER	(124)	(227)	(354)	(483)	(630)	(763)
HOWE	5	(3)	(8)	(18)	(35)	(54)
KENTUCKYTOWN WSC	5	(23)	(51)	(78)	(146)	(237)
LUELLA SUD	1	(5)	(10)	(14)	(22)	(34)
MARILEE SUD	(1)	1	0	1	(18)	(51)

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MUSTANG SUD	0	(10)	(14)	(18)	(21)	(23)
SOUTH GRAYSON SUD	0	(34)	(99)	(133)	(168)	(194)
TIOGA	0	(10)	(19)	(31)	(265)	(424)
TOM BEAN	0	(24)	(45)	(72)	(137)	(308)
TWO WAY SUD	(2)	(63)	(112)	(181)	(322)	(486)
VAN ALSTYNE	0	(31)	(104)	(220)	(755)	(1,248)
WESTMINSTER WSC	3	3	2	1	1	0
WHITESBORO	42	46	50	57	(6)	(101)
WHITEWRIGHT	0	0	0	1	0	0
WOODBINE WSC	0	(1)	(2)	(2)	(4)	(5)
COUNTY-OTHER	26	30	39	38	1	(30)
MANUFACTURING	1	1	1	1	0	(3)
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	52	52	52	52	52	52
IRRIGATION	0	0	0	0	0	0
HENDERSON COUNTY - TRINITY BASIN						
ATHENS*	7	13	16	20	(1,403)	(3,923)
B B S WSC*	0	0	0	0	0	0
BETHEL ASH WSC*	108	89	72	47	23	0
CRESCENT HEIGHTS WSC	133	130	122	110	63	0
DOGWOOD ESTATES WATER	12	5	(7)	(22)	(78)	(151)
EAST CEDAR CREEK FWSD	(196)	(345)	(514)	(698)	(904)	(1,133)
EUSTACE	33	27	19	(44)	(104)	(156)
MABANK*	(262)	(329)	(397)	(670)	(1,122)	(1,747)
MALAKOFF	0	(3)	(6)	(9)	(15)	(26)
TRINIDAD	345	351	354	354	343	322
VIRGINIA HILL WSC*	134	113	94	64	36	0
WEST CEDAR CREEK MUD	0	(115)	(217)	(309)	(460)	(658)
COUNTY-OTHER*	0	(20)	(38)	(25)	0	(24)
MANUFACTURING	82	12	12	12	12	12
MINING*	50	(17)	(14)	(28)	(32)	(30)
STEAM ELECTRIC POWER	0	(78)	(143)	(195)	(231)	(263)
LIVESTOCK*	(403)	(403)	(403)	(403)	(403)	(403)
IRRIGATION*	0	0	0	0	0	0
JACK COUNTY - BRAZOS BASIN						
COUNTY-OTHER	(13)	(20)	(23)	(23)	(26)	(29)
MANUFACTURING	0	0	0	0	0	0
MINING	(52)	(109)	(145)	(179)	(208)	(244)
LIVESTOCK	43	43	43	43	43	43
IRRIGATION	24	23	23	23	23	23
JACK COUNTY - TRINITY BASIN						
JACKSBORO	0	0	0	0	(2)	(8)
COUNTY-OTHER	(17)	(25)	(28)	(30)	(33)	(36)
MINING	(80)	(166)	(218)	(270)	(313)	(367)
STEAM ELECTRIC POWER	0	(448)	(824)	(1,112)	(1,323)	(1,506)
LIVESTOCK	104	104	104	104	104	104
IRRIGATION	70	70	70	69	69	68
KAUFMAN COUNTY - SABINE BASIN						
ABLES SPRINGS WSC*	0	(33)	(56)	(94)	(139)	(191)
MACBEE SUD*	0	0	0	0	0	0

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Region C Water User Group (WUG) Needs/Surplus

POETRY WSC*	1	(10)	(17)	(29)	(46)	(75)
COUNTY-OTHER	2	(6)	(11)	(12)	(62)	(161)
MINING	19	14	9	1	(6)	(14)
LIVESTOCK	5	5	5	5	5	5
IRRIGATION	2	2	2	2	2	2
KAUFMAN COUNTY - TRINITY BASIN						
ABLES SPRINGS WSC*	(1)	(25)	(43)	(72)	(111)	(151)
BECKER JIBA WSC	(2)	(62)	(106)	(196)	(339)	(516)
COLLEGE MOUND WSC	(4)	(148)	(264)	(481)	(960)	(1,395)
COMBINE WSC	(20)	(64)	(107)	(155)	(203)	(264)
CRANDALL	(158)	(321)	(499)	(763)	(776)	(776)
ELMO WSC	(1)	(42)	(70)	(124)	(212)	(325)
FORNEY	(18)	(561)	(1,043)	(1,764)	(3,306)	(5,661)
FORNEY LAKE WSC	(6)	(217)	(365)	(610)	(1,288)	(2,118)
GASTONIA SCURRY SUD	(4)	(136)	(232)	(397)	(822)	(1,467)
HIGH POINT WSC	(1)	(73)	(117)	(196)	(364)	(538)
KAUFMAN	(7)	(238)	(404)	(843)	(1,361)	(1,911)
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	(5)	(173)	(298)	(529)	(914)	(1,396)
KAUFMAN COUNTY MUD 11	(4)	(113)	(194)	(316)	(479)	(671)
KEMP	(189)	(252)	(321)	(428)	(724)	(1,058)
MABANK*	(427)	(531)	(627)	(1,091)	(1,846)	(2,874)
MACBEE SUD*	0	0	0	0	0	0
MARKOUT WSC	(107)	(211)	(317)	(519)	(851)	(1,242)
MESQUITE	0	(3)	(6)	(9)	(16)	(21)
NORTH KAUFMAN WSC	(1)	(37)	(66)	(118)	(204)	(310)
POETRY WSC*	0	(8)	(15)	(28)	(47)	(71)
ROSE HILL SUD	(2)	(81)	(134)	(227)	(370)	(651)
SEAGOVILLE	(1)	(2)	(3)	(3)	(3)	(4)
TALTY SUD	(10)	(320)	(518)	(971)	(1,671)	(2,637)
TERRELL	(23)	(1,577)	(4,228)	(5,964)	(7,709)	(10,327)
WEST CEDAR CREEK MUD	0	(37)	(74)	(116)	(158)	(204)
COUNTY-OTHER	0	(43)	(64)	(87)	(479)	(1,257)
MANUFACTURING	94	(74)	(145)	(228)	(305)	(362)
MINING	361	275	176	29	(101)	(261)
STEAM ELECTRIC POWER	(6)	(174)	(246)	(328)	(407)	(466)
LIVESTOCK	147	147	147	147	147	147
IRRIGATION	464	544	632	641	633	626
NAVARRO COUNTY - TRINITY BASIN						
B AND B WSC	0	0	(1)	(28)	(64)	(125)
BLOOMING GROVE	0	0	(1)	(19)	(40)	(69)
BRANDON IRENE WSC*	19	21	21	21	20	17
CHATFIELD WSC	0	0	(2)	(51)	(107)	(182)
CORBET WSC	0	0	(1)	(29)	(60)	(103)
CORSICANA	0	0	(26)	(733)	(1,537)	(2,631)
DAWSON	0	0	(1)	(15)	(30)	(49)
KERENS	0	0	(1)	(25)	(52)	(89)
M E N WSC	0	0	(2)	(58)	(122)	(209)
NAVARRO MILLS WSC	20	20	15	(18)	(60)	(118)
PLEASANT GROVE WSC	20	21	19	16	10	(3)
POST OAK SUD*	0	0	(3)	(22)	(43)	(66)

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Region C Water User Group (WUG) Needs/Surplus

RICE WATER SUPPLY AND SEWER SERVICE	0	0	(4)	(72)	(166)	(307)
SOUTH ELLIS COUNTY WSC	0	0	0	(8)	(17)	(33)
COUNTY-OTHER	200	192	183	123	37	(277)
MANUFACTURING	0	0	(7)	(101)	(193)	(303)
MINING	(217)	(262)	(306)	(596)	(830)	(1,100)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	151	151	151	151	151	151
PARKER COUNTY - BRAZOS BASIN						
HORSESHOE BEND WATER SYSTEM	296	261	240	188	107	0
MINERAL WELLS*	5	(44)	(61)	(78)	(94)	(107)
NORTH RURAL WSC*	29	27	26	25	22	20
PARKER COUNTY SUD*	151	(236)	(625)	(1,016)	(1,412)	(1,809)
SANTO SUD*	3	2	1	0	0	(1)
WEATHERFORD	(12)	(66)	(89)	(334)	(726)	(1,105)
COUNTY-OTHER	(536)	(336)	390	(1,244)	(3,766)	(7,046)
MINING	347	(179)	(164)	(206)	(238)	(386)
LIVESTOCK	300	300	300	300	300	300
IRRIGATION	36	87	117	223	237	253
PARKER COUNTY - TRINITY BASIN						
ALEDO	35	(103)	(256)	(432)	(476)	(661)
ANNETTA	356	291	222	150	75	0
AZLE	(50)	(71)	(94)	(135)	(215)	(369)
FORT WORTH*	(404)	(4,107)	(7,375)	(9,855)	(11,690)	(13,555)
HUDSON OAKS	(325)	(609)	(728)	(805)	(861)	(910)
RENO (Parker)	10	2	(6)	(17)	(29)	(38)
SPRINGTOWN	(468)	(761)	(754)	(749)	(748)	(748)
WALNUT CREEK SUD	(296)	(511)	(666)	(1,303)	(2,321)	(3,357)
WEATHERFORD	(205)	(1,101)	(1,494)	(5,635)	(12,228)	(18,636)
WILLOW PARK	(166)	(553)	(819)	(1,163)	(1,677)	(1,971)
COUNTY-OTHER	(382)	(240)	279	(888)	(2,688)	(5,028)
MANUFACTURING	11	(8)	(11)	(15)	(16)	(20)
MINING	211	(110)	(102)	(127)	(146)	(238)
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	217	217	217	217	217	217
IRRIGATION	12	27	37	69	74	78
ROCKWALL COUNTY - SABINE BASIN						
B H P WSC*	0	(4)	(7)	(13)	(20)	(30)
BEAR CREEK SUD	0	(8)	(16)	(25)	(64)	(154)
BLACKLAND WSC*	(2)	(67)	(101)	(138)	(192)	(236)
CASH SUD*	25	3	(32)	(50)	(62)	(17)
FATE	(9)	(303)	(572)	(1,011)	(1,520)	(1,931)
NEVADA SUD	1	(2)	(4)	(12)	(38)	(79)
ROYSE CITY*	(8)	(170)	(244)	(778)	(1,631)	(2,072)
COUNTY-OTHER	(1)	(31)	(46)	(57)	(78)	(140)
MANUFACTURING	0	(5)	(8)	(11)	(13)	(15)
LIVESTOCK	3	3	3	3	3	3
IRRIGATION	178	174	167	162	159	157
ROCKWALL COUNTY - TRINITY BASIN						
BEAR CREEK SUD	0	(8)	(13)	(23)	(58)	(141)
BLACKLAND WSC*	(3)	(81)	(120)	(163)	(228)	(282)

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Region C Water User Group (WUG) Needs/Surplus

DALLAS	0	(2)	(5)	(7)	(11)	(15)
EAST FORK SUD	(1)	(31)	(57)	(96)	(145)	(202)
FATE	(6)	(260)	(494)	(871)	(1,310)	(1,666)
FORNEY LAKE WSC	(1)	(23)	(41)	(65)	(98)	(130)
GARLAND	0	(1)	(1)	(1)	(1)	(1)
HEATH	(21)	(864)	(1,531)	(2,074)	(2,683)	(3,205)
HIGH POINT WSC	(1)	(9)	(17)	(24)	(48)	(72)
MOUNT ZION WSC	(3)	(96)	(162)	(260)	(385)	(515)
R C H WSC	(5)	(191)	(314)	(509)	(814)	(1,136)
ROCKWALL	(56)	(2,349)	(5,169)	(7,031)	(9,237)	(11,250)
ROWLETT	(5)	(177)	(247)	(329)	(413)	(475)
WYLIE	(3)	(81)	(118)	(160)	(206)	(251)
COUNTY-OTHER	(1)	(57)	(80)	(100)	(137)	(241)
LIVESTOCK	3	3	3	3	3	3
IRRIGATION	593	581	558	541	531	523
TARRANT COUNTY - TRINITY BASIN						
ARLINGTON	9	(8,085)	(14,958)	(20,459)	(24,292)	(27,652)
AZLE	(202)	(285)	(377)	(539)	(859)	(1,478)
BEDFORD	0	(1,097)	(2,129)	(3,048)	(3,621)	(4,122)
BENBROOK WATER AUTHORITY	(1,585)	(2,035)	(2,502)	(3,218)	(3,965)	(3,965)
BETHESDA WSC*	(1)	(202)	(416)	(639)	(852)	(1,125)
BURLESON*	(3)	(226)	(386)	(692)	(925)	(1,142)
COLLEYVILLE	0	(1,151)	(2,254)	(3,142)	(3,735)	(4,252)
COMMUNITY WSC	0	(43)	(84)	(124)	(160)	(196)
CROWLEY*	(6)	(353)	(846)	(1,477)	(2,548)	(3,250)
DALWORTHINGTON GARDENS	(1)	(109)	(204)	(279)	(338)	(391)
EDGECLIFF	0	(58)	(105)	(140)	(166)	(189)
EULESS	0	(811)	(1,451)	(1,928)	(2,288)	(2,603)
EVERMAN	0	2	16	28	30	30
FLOWER MOUND	(2)	(19)	(25)	(30)	(33)	(37)
FOREST HILL	(2)	(163)	(316)	(500)	(778)	(1,246)
FORT WORTH*	(5,422)	(42,844)	(83,675)	(108,364)	(128,928)	(149,972)
GRAND PRAIRIE	(328)	(1,243)	(1,841)	(2,295)	(2,580)	(2,810)
GRAPEVINE	(1,063)	(2,625)	(3,779)	(4,607)	(5,133)	(5,453)
HALTOM CITY	0	(615)	(1,149)	(1,657)	(2,118)	(2,628)
HASLET	0	(198)	(581)	(1,248)	(1,495)	(1,711)
HURST	0	(750)	(1,349)	(1,798)	(2,134)	(2,429)
JOHNSON COUNTY SUD*	(19)	(5)	(4)	(85)	(143)	(190)
KELLER	0	(1,562)	(2,856)	(3,841)	(4,565)	(5,195)
KENNEDALE	0	(340)	(445)	(588)	(750)	(964)
LAKE WORTH	0	(128)	(259)	(409)	(581)	(925)
LAKESIDE	(79)	(87)	(97)	(108)	(107)	(107)
MANSFIELD*	(1,258)	(6,726)	(10,737)	(16,291)	(20,755)	(25,317)
NORTH RICHLAND HILLS	0	(1,599)	(2,895)	(3,873)	(4,600)	(5,237)
PANTEGO	46	58	68	74	75	75
PELICAN BAY	4	2	0	(3)	(5)	(7)
RENO (Parker)	0	0	(1)	(1)	(1)	(1)
RICHLAND HILLS	0	(112)	(216)	(333)	(445)	(583)
RIVER OAKS	0	(98)	(173)	(230)	(273)	(311)
SAGINAW	0	(419)	(853)	(1,205)	(1,432)	(1,628)

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Region C Water User Group (WUG) Needs/Surplus

SANSOM PARK	44	34	(3)	(12)	(26)	(42)
SOUTHLAKE	0	(1,458)	(3,116)	(4,796)	(6,415)	(8,111)
WATAUGA	0	(325)	(580)	(769)	(912)	(1,038)
WESTLAKE	0	(576)	(2,018)	(2,917)	(3,206)	(3,524)
WESTOVER HILLS	0	(113)	(212)	(291)	(355)	(412)
WESTWORTH VILLAGE	0	(50)	(98)	(141)	(178)	(215)
WHITE SETTLEMENT	0	(177)	(335)	(549)	(884)	(1,272)
COUNTY-OTHER	(53)	(687)	(1,162)	(2,619)	(4,123)	(6,503)
MANUFACTURING	(32)	(1,633)	(2,935)	(3,930)	(4,654)	(5,281)
MINING	0	2,352	6,280	6,324	6,358	6,386
STEAM ELECTRIC POWER	0	(1,821)	(2,716)	(2,840)	(2,932)	(3,010)
LIVESTOCK	(75)	(75)	(75)	(75)	(75)	(75)
IRRIGATION	2,187	2,000	1,842	1,721	1,632	1,556
WISE COUNTY - TRINITY BASIN						
ALVORD	0	(46)	(94)	(164)	(220)	(276)
BOLIVAR WSC	14	3	(10)	(25)	(42)	(59)
BOYD	(14)	(26)	(69)	(138)	(275)	(340)
BRIDGEPORT	0	(181)	(398)	(826)	(1,568)	(2,383)
CHICO	0	(11)	(23)	(246)	(395)	(570)
DECATUR	(514)	(1,343)	(2,250)	(3,426)	(4,339)	(5,336)
FORT WORTH*	(78)	(719)	(1,472)	(2,253)	(3,049)	(3,922)
NEWARK	(69)	(123)	(219)	(337)	(518)	(732)
RHOME	(51)	(129)	(229)	(558)	(945)	(1,369)
RUNAWAY BAY	(34)	(117)	(192)	(300)	(398)	(550)
WALNUT CREEK SUD	(59)	(116)	(179)	(300)	(533)	(760)
WEST WISE SUD	(26)	(82)	(118)	(152)	(186)	(219)
COUNTY-OTHER	(813)	(906)	(901)	(1,205)	(1,420)	(3,769)
MANUFACTURING	(159)	(207)	(211)	(215)	(219)	(221)
MINING	(5,136)	(5,975)	(7,153)	(8,791)	(10,194)	(12,510)
STEAM ELECTRIC POWER	0	(344)	(633)	(853)	(1,015)	(1,156)
LIVESTOCK	377	377	377	377	377	377
IRRIGATION	0	(70)	(128)	(173)	(206)	(235)

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

Second-tier needs are WUG split needs adjusted to include the implementation of recommended demand reduction and direct reuse water management strategies.

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
COLLIN COUNTY - SABINE BASIN						
B H P WSC*	0	7	14	18	24	28
CADDO BASIN SUD*	0	28	52	93	148	208
FARMERSVILLE	0	0	1	3	4	10
JOSEPHINE*	0	56	123	221	289	335
NEVADA SUD	0	11	21	91	268	557
ROYSE CITY*	0	171	441	922	1,527	2,292
COUNTY-OTHER	0	0	0	0	1	1
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
COLLIN COUNTY - TRINITY BASIN						
ALLEN	0	2,063	3,729	5,494	7,196	8,526
ANNA	0	420	3,527	5,382	7,787	10,915
BEAR CREEK SUD	0	109	238	463	732	1,068
BLUE RIDGE	0	241	5,580	13,293	19,067	26,487
CADDO BASIN SUD*	1	16	36	62	97	137
CARROLLTON	0	0	0	0	0	0
CELINA	0	2,521	7,663	13,721	18,674	23,693
COPEVILLE SUD	0	49	88	166	367	718
CULLEOKA WSC	0	86	188	304	424	608
DALLAS	0	36	915	1,819	2,416	2,859
DESERT WSC	0	0	0	0	0	31
EAST FORK SUD	0	147	265	378	496	596
FAIRVIEW	0	543	1,173	1,726	2,224	2,579
FARMERSVILLE	0	356	1,168	2,391	4,212	6,958
FRISCO	0	2,399	4,935	10,569	16,050	20,122
FROGNOT WSC*	0	0	0	0	0	0
GARLAND	0	6	13	23	34	47
HICKORY CREEK SUD*	4	9	14	22	34	52
LUCAS	0	109	363	695	1,072	1,290
MARILEE SUD	0	0	0	0	14	55
MCKINNEY	0	3,619	6,973	12,534	19,950	25,492
MELISSA	185	8,306	13,075	17,119	20,153	20,910
MILLIGAN WSC	0	74	128	214	301	381
MURPHY	0	437	723	1,032	1,322	1,537
NEVADA SUD	0	22	41	177	528	1,098
NORTH COLLIN SUD	0	132	220	350	504	661
NORTH FARMERSVILLE WSC	0	9	20	36	53	69
PARKER	142	335	605	997	1,373	1,804
PLANO	0	7,191	11,568	17,095	21,890	25,703
PRINCETON	0	559	1,641	2,584	3,197	3,652
PROSPER	0	858	2,054	3,100	4,562	4,530
RICHARDSON	0	900	1,457	2,104	2,809	3,559
SACHSE	0	120	211	318	424	498
SEIS LAGOS UD	0	62	99	145	186	215

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
COLLIN COUNTY - TRINITY BASIN						
SOUTH GRAYSON SUD	0	14	55	86	119	152
VERONA SUD	0	31	90	176	235	286
WEST LEONARD WSC*	0	0	0	0	0	0
WESTMINSTER WSC	0	0	0	0	0	0
WYLIE	0	644	1,124	1,732	2,310	2,969
WYLIE NORTHEAST SUD	0	114	193	417	769	1,294
COUNTY-OTHER	0	11	18	21	226	516
MANUFACTURING	0	385	542	727	895	1,026
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
COOKE COUNTY - RED BASIN						
CALLISBURG WSC	0	0	0	0	0	0
GAINESVILLE	0	0	0	0	1	3
LINDSAY	0	0	0	0	0	2
TWO WAY SUD	0	2	4	5	7	8
WOODBINE WSC	0	5	8	14	20	25
COUNTY-OTHER	0	0	0	0	39	375
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	48	138
COOKE COUNTY - TRINITY BASIN						
BOLIVAR WSC	0	0	12	24	38	50
CALLISBURG WSC	0	0	0	0	0	0
GAINESVILLE	0	0	0	1	434	1,835
LAKE KIOWA SUD	0	0	0	0	0	0
LINDSAY	0	5	13	30	68	186
MOUNTAIN SPRINGS WSC	0	0	0	0	242	675
MUENSTER	0	0	0	0	0	0
WOODBINE WSC	0	47	105	164	230	297
COUNTY-OTHER	0	0	0	0	139	1,369
MANUFACTURING	0	0	0	0	36	82
MINING	484	83	77	72	84	56
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	110	321
DALLAS COUNTY - TRINITY BASIN						
ADDISON	0	162	762	1,241	1,560	1,837
BALCH SPRINGS	15	139	414	648	817	971
CARROLLTON	0	267	1,063	1,607	1,906	2,132
CEDAR HILL	0	84	1,393	2,457	2,986	3,381
COCKRELL HILL	0	6	65	90	138	319
COMBINE WSC	4	17	30	41	54	68
COPPELL	0	100	1,048	1,702	2,057	2,326
DALLAS	0	607	17,548	39,045	56,068	68,788
DESOTO	0	112	1,051	1,843	2,400	2,786
DUNCANVILLE	4	285	883	1,258	1,464	1,614
EAST FORK SUD	0	45	66	113	169	227

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
DALLAS COUNTY - TRINITY BASIN						
FARMERS BRANCH	0	42	957	1,651	2,104	2,501
FERRIS	0	0	0	1	2	3
GARLAND	0	3,722	7,119	10,353	13,423	15,651
GLENN HEIGHTS	43	137	387	659	903	1,307
GRAND PRAIRIE	0	2,896	6,365	8,284	9,430	10,338
HIGHLAND PARK	0	0	0	0	0	0
HUTCHINS	0	101	467	861	1,205	1,552
IRVING	0	15,894	17,425	17,399	17,526	17,677
LANCASTER	0	269	1,313	2,223	2,907	3,549
LEWISVILLE	0	11	28	38	50	47
MESQUITE	0	2,201	4,168	6,506	9,046	11,332
OVILLA	0	0	4	18	31	61
RICHARDSON	0	1,940	3,257	4,743	6,058	7,036
ROCKETT SUD	0	16	48	131	254	397
ROWLETT	0	1,087	1,849	2,734	3,616	4,417
SACHSE	0	307	536	780	1,020	1,203
SEAGOVILLE	77	405	769	1,160	1,585	1,611
SUNNYVALE	0	342	734	1,185	1,463	1,683
UNIVERSITY PARK	0	0	0	0	0	0
WILMER	0	34	114	287	514	1,026
WYLIE	0	34	58	86	114	138
COUNTY-OTHER	0	107	281	409	504	583
MANUFACTURING	188	1,650	3,324	4,682	5,548	6,213
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
DENTON COUNTY - TRINITY BASIN						
ARGYLE WSC	0	505	1,044	1,277	1,468	1,663
AUBREY	0	143	256	400	585	821
BLACK ROCK WSC	0	0	0	8	82	154
BOLIVAR WSC	0	0	114	312	555	841
CARROLLTON	0	427	1,695	2,561	3,035	3,394
CELINA	0	259	1,727	4,846	5,204	5,454
COPPELL	0	2	29	46	57	63
CORINTH	0	1,181	1,758	2,108	2,391	2,638
CROSS TIMBERS WSC	0	337	556	701	837	943
DALLAS	0	15	452	1,000	1,432	1,754
DENTON	0	4,013	11,386	25,471	47,777	64,638
DENTON COUNTY FWSD 10	0	740	1,301	1,567	1,780	1,964
DENTON COUNTY FWSD 1-A	0	1,169	2,332	2,911	3,370	3,623
DENTON COUNTY FWSD 7	0	798	1,197	1,442	1,638	1,808
FLOWER MOUND	0	3,834	6,308	7,929	9,244	10,541
FORT WORTH*	0	474	3,518	6,667	10,093	14,022
FRISCO	0	1,955	4,301	6,425	8,420	9,887
HACKBERRY	0	47	106	197	314	442
HIGHLAND VILLAGE	0	229	465	560	663	814

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
DENTON COUNTY - TRINITY BASIN						
JUSTIN	234	419	721	790	851	924
KRUM	144	296	509	769	1,061	1,434
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	0	704	1,146	1,446	1,613	1,761
LEWISVILLE	0	1,652	4,521	7,393	10,218	10,111
LITTLE ELM	0	518	817	1,110	1,383	1,605
MOUNTAIN SPRINGS WSC	0	0	0	0	4	8
MUSTANG SUD	0	1,794	4,168	6,734	9,625	12,869
NORTHLAKE	0	843	1,892	3,250	4,779	5,306
PALOMA CREEK NORTH	0	544	813	978	1,110	1,225
PALOMA CREEK SOUTH	0	276	412	496	564	622
PILOT POINT	313	486	862	1,362	1,992	2,876
PLANO	0	197	320	471	603	699
PONDER	0	133	298	481	696	938
PROSPER	0	219	827	1,664	2,074	2,062
PROVIDENCE VILLAGE WCID	0	271	389	455	507	553
ROANOKE	0	0	166	333	507	658
SANGER	0	52	225	459	738	1,108
SOUTHLAKE	0	34	114	199	299	414
THE COLONY	117	626	1,332	2,010	2,371	2,635
TROPHY CLUB MUD 1	0	222	653	959	1,180	1,368
WESTLAKE	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	815	2,938	7,251
MANUFACTURING	1	83	147	211	261	289
MINING	0	0	0	179	705	1,513
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
ELLIS COUNTY - TRINITY BASIN						
AVALON WATER SUPPLY & SEWER SERVICE	0	24	60	133	229	378
BRANDON IRENE WSC*	0	0	0	0	0	0
BUENA VISTA-BETHEL SUD	0	0	67	257	643	1,517
CEDAR HILL	0	1	19	42	51	58
EAST GARRETT WSC	0	0	0	83	262	902
ENNIS	0	0	0	802	4,554	11,389
FERRIS	0	59	165	373	643	930
FILES VALLEY WSC*	0	0	0	0	0	0
GLENN HEIGHTS	12	36	99	177	249	422
GRAND PRAIRIE	0	1	1	4	4	6
HILCO UNITED SERVICES*	0	0	0	0	0	0
ITALY	0	166	250	375	528	768
MANSFIELD*	1	4	10	22	31	45
MIDLOTHIAN	85	1,791	2,370	1,914	2,304	2,939
MOUNTAIN PEAK SUD*	412	871	1,049	3,585	4,307	4,951
OVILLA	0	0	40	166	273	602
PALMER	0	25	63	161	316	760
RED OAK	15	96	271	528	746	1,277
RICE WATER SUPPLY AND SEWER SERVICE	0	0	0	101	247	468

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
ELLIS COUNTY - TRINITY BASIN						
ROCKETT SUD	0	404	918	2,458	5,055	8,601
SARDIS LONE ELM WSC	960	2,877	3,666	3,982	4,441	4,668
SOUTH ELLIS COUNTY WSC	0	0	0	59	0	209
VENUS*	6	8	11	15	19	26
WAXAHACHIE	0	0	360	1,317	2,760	5,917
COUNTY-OTHER	0	0	0	466	1,280	4,626
MANUFACTURING	22	1,297	1,741	2,024	2,456	3,010
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	48	139	160	156	162	170
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	747	729	711	701	692	684
FANNIN COUNTY - RED BASIN						
ARLEDGE RIDGE WSC	0	0	10	52	138	234
BOIS D ARC MUD	0	23	77	181	390	623
BONHAM	0	0	167	1,339	2,366	3,538
DESERT WSC	0	0	0	0	0	0
HONEY GROVE	0	0	0	0	0	0
LEONARD	0	0	0	0	0	0
SOUTHWEST FANNIN COUNTY SUD	0	0	23	51	142	243
TRENTON	0	0	0	1	2	2
WHITE SHED WSC	0	22	81	193	422	676
WHITEWRIGHT	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	107	1,348	2,752
MANUFACTURING	0	0	1	4	5	6
MINING	380	211	42	42	42	42
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	3,549	3,533	3,519	3,511	3,504	3,496
FANNIN COUNTY - SULPHUR BASIN						
ARLEDGE RIDGE WSC	0	0	3	20	54	92
DELTA COUNTY MUD*	0	0	0	0	0	0
HICKORY CREEK SUD*	7	13	19	23	28	32
HONEY GROVE	0	0	0	0	0	0
LADONIA	0	50	81	123	195	194
LEONARD	0	0	0	0	0	0
NORTH HUNT SUD*	11	17	23	28	34	41
WOLFE CITY*	0	0	0	2	8	14
COUNTY-OTHER	0	0	0	6	83	170
MINING	122	68	14	14	14	14
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	75	75	74	74	74	74
FANNIN COUNTY - TRINITY BASIN						
DESERT WSC	0	0	0	0	0	56
HICKORY CREEK SUD*	0	1	1	1	1	1
LEONARD	0	330	335	345	357	369
SOUTHWEST FANNIN COUNTY SUD	0	0	1	2	7	11
TRENTON	0	22	207	545	1,034	1,515
WEST LEONARD WSC*	0	0	0	0	0	0

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
FANNIN COUNTY - TRINITY BASIN						
COUNTY-OTHER	0	0	0	8	101	204
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	211	210	209	209	208	208
FREESTONE COUNTY - BRAZOS BASIN						
POINT ENTERPRISE WSC*	0	0	0	0	0	0
SOUTH FREESTONE COUNTY WSC	3	2	4	17	40	89
TEAGUE	6	0	81	197	294	395
COUNTY-OTHER	0	0	0	0	6	181
MINING	477	451	466	470	478	503
STEAM ELECTRIC POWER	705	788	858	911	950	984
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FREESTONE COUNTY - TRINITY BASIN						
BUTLER WSC	0	0	0	0	0	0
FAIRFIELD	0	0	0	534	832	1,483
FLO COMMUNITY WSC*	0	0	0	0	0	0
PLEASANT GROVE WSC	0	0	0	0	0	24
POINT ENTERPRISE WSC*	0	0	0	0	0	0
SOUTH FREESTONE COUNTY WSC	13	9	19	93	215	482
TEAGUE	7	0	88	212	319	427
WORTHAM	10	17	21	25	143	181
COUNTY-OTHER	0	0	0	0	52	1,397
MANUFACTURING	0	0	0	0	0	0
MINING	3,858	3,652	3,773	3,804	3,866	4,067
STEAM ELECTRIC POWER	6,065	6,777	7,377	7,838	8,175	8,468
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
GRAYSON COUNTY - RED BASIN						
BELLS	0	0	0	0	288	485
DENISON	236	489	586	1,262	2,633	5,325
DORCHESTER	0	0	0	0	0	0
HOWE	0	0	3	7	12	18
KENTUCKYTOWN WSC	0	22	51	79	148	241
LUELLA SUD	0	31	70	97	149	231
NORTHWEST GRAYSON COUNTY WCID 1	29	29	34	55	130	247
OAK RIDGE SOUTH GALE WSC	12	28	33	57	118	225
PINK HILL WSC	0	11	6	31	121	248
POTTSBORO	68	122	162	280	619	1,924
RED RIVER AUTHORITY OF TEXAS*	0	0	0	0	0	0
SHERMAN	0	0	0	0	474	7,233
SOUTHMAYD	48	57	68	83	142	223
SOUTHWEST FANNIN COUNTY SUD	0	26	84	153	275	420
STARR WSC	0	0	0	0	0	0
TOM BEAN	0	0	0	0	6	24
TWO WAY SUD	0	107	197	318	566	854
WHITESBORO	0	0	0	0	0	80
WHITEWRIGHT	0	0	0	0	0	0

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

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	2020	2030	2040	2050	2060	2070
GRAYSON COUNTY - RED BASIN						
COUNTY-OTHER	0	0	0	0	0	878
MANUFACTURING	0	0	0	0	0	701
MINING	100	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
GRAYSON COUNTY - TRINITY BASIN						
COLLINSVILLE	0	87	149	225	248	398
DESERT WSC	0	0	0	0	0	25
DORCHESTER	0	0	0	0	0	0
GUNTER	100	162	349	474	617	744
HOWE	0	1	6	14	30	48
KENTUCKYTOWN WSC	0	20	48	74	141	229
LUELLA SUD	0	4	10	14	22	33
MARILEE SUD	0	0	0	0	9	41
MUSTANG SUD	0	8	13	17	20	22
SOUTH GRAYSON SUD	0	30	94	126	161	185
TIOGA	0	0	0	10	197	329
TOM BEAN	0	0	0	0	40	161
TWO WAY SUD	0	60	108	175	311	470
VAN ALSTYNE	0	0	59	159	624	1,067
WESTMINSTER WSC	0	0	0	0	0	0
WHITESBORO	0	0	0	0	1	93
WHITEWRIGHT	0	0	0	0	0	0
WOODBINE WSC	0	1	2	2	4	5
COUNTY-OTHER	0	0	0	0	0	29
MANUFACTURING	0	0	0	0	0	3
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
HENDERSON COUNTY - TRINITY BASIN						
ATHENS*	0	0	0	0	920	3,170
B B S WSC*	0	0	0	0	0	0
BETHEL ASH WSC*	0	0	0	0	0	0
CRESCENT HEIGHTS WSC	0	0	0	0	0	0
DOGWOOD ESTATES WATER	0	0	5	19	73	144
EAST CEDAR CREEK FWSD	182	323	493	668	865	1,081
EUSTACE	0	0	0	41	100	150
MABANK*	222	275	338	590	1,002	1,572
MALAKOFF	0	0	3	5	10	20
TRINIDAD	0	0	0	0	0	0
VIRGINIA HILL WSC*	0	0	0	0	0	0
WEST CEDAR CREEK MUD	0	102	205	293	435	621
COUNTY-OTHER*	0	18	36	23	0	22
MANUFACTURING	0	0	0	0	0	0
MINING*	0	17	14	28	32	30
STEAM ELECTRIC POWER	0	78	143	195	231	263
LIVESTOCK*	403	403	403	403	403	403

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HENDERSON COUNTY - TRINITY BASIN						
IRRIGATION*	0	0	0	0	0	0
JACK COUNTY - BRAZOS BASIN						
COUNTY-OTHER	11	17	20	20	22	22
MANUFACTURING	0	0	0	0	0	0
MINING	52	109	145	179	208	244
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
JACK COUNTY - TRINITY BASIN						
JACKSBORO	0	0	0	0	0	0
COUNTY-OTHER	14	21	25	25	27	31
MINING	80	166	218	270	313	367
STEAM ELECTRIC POWER	0	448	824	1,112	1,323	1,506
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
KAUFMAN COUNTY - SABINE BASIN						
ABLES SPRINGS WSC*	0	31	53	91	136	188
MACBEE SUD*	0	0	0	0	0	0
POETRY WSC*	0	9	16	27	44	71
COUNTY-OTHER	0	6	11	11	59	154
MINING	0	0	0	0	6	14
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
KAUFMAN COUNTY - TRINITY BASIN						
ABLES SPRINGS WSC*	0	24	42	70	108	145
BECKER JIBA WSC	0	57	101	187	322	488
COLLEGE MOUND WSC	0	135	249	458	919	1,334
COMBINE WSC	18	61	102	150	195	252
CRANDALL	119	263	433	677	684	679
ELMO WSC	0	39	67	118	202	308
FORNEY	0	436	892	1,558	2,977	5,187
FORNEY LAKE WSC	0	138	271	483	1,056	1,769
GASTONIA SCURRY SUD	0	124	218	376	778	1,387
HIGH POINT WSC	0	68	113	187	345	510
KAUFMAN	0	163	381	795	1,283	1,801
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	0	104	216	415	743	1,153
KAUFMAN COUNTY MUD 11	0	67	141	248	391	557
KEMP	168	211	272	365	623	914
MABANK*	360	441	532	957	1,650	2,585
MACBEE SUD*	0	0	0	0	0	0
MARKOUT WSC	87	177	279	466	772	1,133
MESQUITE	0	2	4	7	12	19
NORTH KAUFMAN WSC	0	34	63	113	195	294
POETRY WSC*	0	7	15	27	45	68
ROSE HILL SUD	0	75	128	217	352	616
SEAGOVILLE	0	0	1	2	2	2
TALTY SUD	0	188	370	754	1,352	2,176
TERRELL	0	1,222	3,763	5,386	7,023	9,479

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

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	2020	2030	2040	2050	2060	2070
KAUFMAN COUNTY - TRINITY BASIN						
WEST CEDAR CREEK MUD	0	33	70	109	150	193
COUNTY-OTHER	0	39	61	83	459	1,200
MANUFACTURING	0	74	145	228	305	362
MINING	0	0	0	0	101	261
STEAM ELECTRIC POWER	6	174	246	328	407	466
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
NAVARRO COUNTY - TRINITY BASIN						
B AND B WSC	0	0	0	24	58	116
BLOOMING GROVE	0	0	0	7	25	52
BRANDON IRENE WSC*	0	0	0	0	0	0
CHATFIELD WSC	0	0	0	44	97	169
CORBET WSC	0	0	0	25	54	96
CORSICANA	0	0	0	286	952	1,960
DAWSON	0	0	0	13	27	46
KERENS	0	0	0	21	47	83
M E N WSC	0	0	0	50	111	194
NAVARRO MILLS WSC	0	0	0	13	53	108
PLEASANT GROVE WSC	0	0	0	0	0	2
POST OAK SUD*	0	0	2	21	42	65
RICE WATER SUPPLY AND SEWER SERVICE	0	0	0	60	148	282
SOUTH ELLIS COUNTY WSC	0	0	0	1	0	8
COUNTY-OTHER	0	0	0	0	0	245
MANUFACTURING	0	0	7	101	193	303
MINING	217	262	306	596	830	1,100
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
PARKER COUNTY - BRAZOS BASIN						
HORSESHOE BEND WATER SYSTEM	0	0	0	0	0	0
MINERAL WELLS*	0	23	58	74	89	101
NORTH RURAL WSC*	0	0	0	0	0	0
PARKER COUNTY SUD*	0	222	606	986	1,368	1,749
SANTO SUD*	0	0	0	0	0	1
WEATHERFORD	0	43	59	281	635	975
COUNTY-OTHER	504	293	0	1,183	3,648	6,839
MINING	0	179	164	206	238	386
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
PARKER COUNTY - TRINITY BASIN						
ALEDO	0	87	239	405	441	615
ANNETTA	0	0	0	0	0	0
AZLE	45	63	88	129	204	354
FORT WORTH*	0	838	4,881	7,371	9,282	11,242
HUDSON OAKS	248	482	602	672	722	765
RENO (Parker)	0	0	5	16	27	35
SPRINGTOWN	353	460	456	448	444	440
WALNUT CREEK SUD	284	491	647	1,268	2,258	3,261

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Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
PARKER COUNTY - TRINITY BASIN						
WEATHERFORD	0	692	981	4,749	10,717	16,474
WILLOW PARK	155	533	802	1,133	1,632	1,911
COUNTY-OTHER	359	210	0	845	2,603	4,880
MANUFACTURING	0	8	11	15	16	20
MINING	0	110	102	127	146	238
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
ROCKWALL COUNTY - SABINE BASIN						
B H P WSC*	0	4	7	13	19	29
BEAR CREEK SUD	0	6	12	19	55	135
BLACKLAND WSC*	0	41	74	109	158	198
CASH SUD*	0	0	23	39	48	0
FATE	0	191	427	805	1,257	1,623
NEVADA SUD	0	1	1	9	33	68
ROYSE CITY*	0	154	230	737	1,546	1,961
COUNTY-OTHER	0	23	38	48	67	123
MANUFACTURING	0	5	8	11	13	15
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
ROCKWALL COUNTY - TRINITY BASIN						
BEAR CREEK SUD	0	4	11	21	51	124
BLACKLAND WSC*	0	49	88	127	185	234
DALLAS	0	0	1	3	6	7
EAST FORK SUD	0	21	44	76	122	170
FATE	0	163	366	695	1,083	1,401
FORNEY LAKE WSC	0	15	30	50	81	109
GARLAND	0	0	0	0	0	0
HEATH	0	492	1,074	1,588	2,151	2,624
HIGH POINT WSC	0	8	15	23	47	67
MOUNT ZION WSC	0	67	128	216	329	446
R C H WSC	0	114	226	397	660	934
ROCKWALL	0	1,422	3,898	5,591	7,571	9,339
ROWLETT	0	128	199	278	357	416
WYLIE	0	51	88	126	171	211
COUNTY-OTHER	0	41	65	86	120	212
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
TARRANT COUNTY - TRINITY BASIN						
ARLINGTON	0	2,887	9,806	15,082	18,686	21,815
AZLE	179	254	356	509	817	1,413
BEDFORD	0	0	1,670	2,526	3,065	3,530
BENBROOK WATER AUTHORITY	1,292	1,640	2,081	2,721	3,387	3,362
BETHESDA WSC*	0	83	289	491	680	929
BURLESON*	0	172	329	605	807	1,001
COLLEYVILLE	0	510	1,549	2,377	2,936	3,417
COMMUNITY WSC	0	39	80	118	152	186

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TARRANT COUNTY - TRINITY BASIN						
CROWLEY*	0	232	711	1,302	2,307	2,957
DALWORTHINGTON GARDENS	0	65	158	229	284	333
EDGECLIFF	0	36	82	116	140	162
EULESS	0	0	682	1,483	1,814	2,099
EVERMAN	0	0	0	0	0	0
FLOWER MOUND	0	12	19	23	27	31
FOREST HILL	0	144	298	473	737	1,183
FORT WORTH*	0	8,744	55,363	81,039	102,377	124,375
GRAND PRAIRIE	0	726	1,425	1,854	2,113	2,316
GRAPEVINE	9	1,443	2,650	3,426	3,891	4,150
HALTOM CITY	0	297	836	1,304	1,717	2,169
HASLET	0	0	0	280	507	708
HURST	0	359	1,029	1,470	1,784	2,058
JOHNSON COUNTY SUD*	16	1	0	79	135	180
KELLER	0	616	2,002	2,948	3,630	4,217
KENNEDALE	0	263	348	467	603	789
LAKE WORTH	0	71	193	327	480	774
LAKESIDE	58	61	71	80	77	76
MANSFIELD*	516	5,617	9,463	14,600	18,691	22,842
NORTH RICHLAND HILLS	0	802	2,133	3,073	3,760	4,354
PANTEGO	0	0	0	0	0	0
PELICAN BAY	0	0	0	1	3	5
RENO (Parker)	0	0	0	0	0	0
RICHLAND HILLS	0	98	204	313	416	545
RIVER OAKS	0	85	165	220	260	295
SAGINAW	0	176	608	938	1,152	1,334
SANSOM PARK	0	0	0	4	15	28
SOUTHLAKE	0	776	2,344	3,864	5,306	6,813
WATAUGA	0	204	466	649	784	902
WESTLAKE	0	0	0	0	0	0
WESTOVER HILLS	0	42	107	180	239	290
WESTWORTH VILLAGE	0	45	94	135	170	204
WHITE SETTLEMENT	0	147	309	510	824	1,187
COUNTY-OTHER	0	405	910	2,193	3,527	5,638
MANUFACTURING	32	1,633	2,935	3,930	4,654	5,281
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	293	356	480	572	650
LIVESTOCK	75	75	75	75	75	75
IRRIGATION	0	0	0	0	0	0
WISE COUNTY - TRINITY BASIN						
ALVORD	0	43	91	159	213	266
BOLIVAR WSC	0	0	9	23	40	56
BOYD	11	8	29	133	266	328
BRIDGEPORT	0	99	288	664	1,343	2,087
CHICO	0	0	5	211	348	508
DECATUR	396	1,145	1,996	3,081	3,913	4,817
FORT WORTH*	0	146	972	1,684	2,422	3,253

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WISE COUNTY - TRINITY BASIN						
NEWARK	67	120	216	331	507	715
RHOME	31	94	187	486	844	1,231
RUNAWAY BAY	6	79	150	248	336	473
WALNUT CREEK SUD	56	110	173	291	518	736
WEST WISE SUD	22	77	113	145	178	209
COUNTY-OTHER	780	859	861	1,149	1,348	3,635
MANUFACTURING	159	207	211	215	219	221
MINING	0	0	805	1,296	1,717	2,412
STEAM ELECTRIC POWER	0	344	633	853	1,015	1,156
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	69	125	169	202	230

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Second-Tier Identified Water Needs Summary

Second-tier needs are WUG split needs adjusted to include the implementation of recommended demand reduction and direct reuse water management strategies.

WUG CATEGORY	NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MUNICIPAL	8,224	137,951	340,762	547,641	756,488	966,837
COUNTY-OTHER	1,668	2,050	2,326	7,498	18,597	43,333
MANUFACTURING	402	5,342	9,072	12,148	14,601	17,532
MINING	5,770	5,308	6,126	7,283	8,780	11,247
STEAM ELECTRIC POWER	6,824	9,041	10,597	11,873	12,835	13,663
LIVESTOCK	478	478	478	478	478	478
IRRIGATION	4,582	4,616	4,638	4,664	4,838	5,151

Region C Source Water Balance (Availability - WUG Supply)

GROUNDWATER SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
CARRIZO-WILCOX AQUIFER	FREESTONE	BRAZOS	FRESH	0	10	29	41	67	67
CARRIZO-WILCOX AQUIFER	FREESTONE	TRINITY	FRESH	3,681	3,892	4,090	4,258	4,466	4,466
CARRIZO-WILCOX AQUIFER	HENDERSON	TRINITY	FRESH	3,832	3,832	3,832	3,735	3,580	3,551
CARRIZO-WILCOX AQUIFER	NAVARRO	TRINITY	FRESH	0	0	0	0	0	0
CROSS TIMBERS AQUIFER	JACK	BRAZOS	FRESH	0	0	0	0	0	0
CROSS TIMBERS AQUIFER	JACK	TRINITY	FRESH	76	76	76	76	76	76
CROSS TIMBERS AQUIFER	PARKER	BRAZOS	FRESH	0	0	0	0	0	0
NACATOCH AQUIFER	ELLIS	TRINITY	FRESH	20	20	20	20	20	20
NACATOCH AQUIFER	KAUFMAN	SABINE	FRESH	49	49	49	49	49	49
NACATOCH AQUIFER	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
NACATOCH AQUIFER	NAVARRO	TRINITY	FRESH	0	0	0	0	0	0
NACATOCH AQUIFER	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
NACATOCH AQUIFER	ROCKWALL	TRINITY	FRESH	13	13	13	13	13	13
OTHER AQUIFER	FANNIN	RED	FRESH	0	0	0	0	0	0
OTHER AQUIFER	NAVARRO	TRINITY	FRESH	166	166	166	166	166	166
QUEEN CITY AQUIFER	FREESTONE	TRINITY	FRESH	0	0	0	0	0	0
QUEEN CITY AQUIFER	HENDERSON	TRINITY	FRESH	2,845	2,845	2,845	2,845	2,845	2,845
TRINITY AQUIFER	COLLIN	SABINE	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	COLLIN	TRINITY	FRESH	4,026	4,011	4,026	4,011	4,026	4,011
TRINITY AQUIFER	COOKE	RED	FRESH	1,817	1,810	1,817	1,810	1,817	1,810
TRINITY AQUIFER	COOKE	TRINITY	FRESH	1,540	1,517	1,540	1,517	1,540	1,517
TRINITY AQUIFER	DALLAS	TRINITY	FRESH	43	32	43	32	43	32
TRINITY AQUIFER	DENTON	TRINITY	FRESH	15,655	15,572	15,655	15,572	15,655	15,572
TRINITY AQUIFER	ELLIS	TRINITY	FRESH	620	1,302	1,543	1,210	905	915
TRINITY AQUIFER	FANNIN	RED	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	FANNIN	SULPHUR	FRESH	1,597	1,592	1,597	1,592	1,597	1,592
TRINITY AQUIFER	FANNIN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	GRAYSON	RED	FRESH	489	471	489	471	489	471
TRINITY AQUIFER	GRAYSON	TRINITY	FRESH	98	142	153	142	153	142
TRINITY AQUIFER	KAUFMAN	SABINE	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	NAVARRO	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	PARKER	BRAZOS	FRESH	6	0	6	0	6	0
TRINITY AQUIFER	PARKER	TRINITY	FRESH	931	903	931	903	931	903
TRINITY AQUIFER	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	ROCKWALL	TRINITY	FRESH	0	0	0	0	0	0
TRINITY AQUIFER	TARRANT	TRINITY	FRESH	1,246	1,199	1,248	1,199	1,248	1,199
TRINITY AQUIFER	WISE	TRINITY	FRESH	2,449	2,423	2,449	2,423	2,449	2,423
WOODBINE AQUIFER	COLLIN	SABINE	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	COLLIN	TRINITY	FRESH	1,533	1,521	1,533	1,521	1,533	1,521
WOODBINE AQUIFER	COOKE	RED	FRESH	202	201	202	201	202	201
WOODBINE AQUIFER	COOKE	TRINITY	FRESH	446	444	446	444	446	444
WOODBINE AQUIFER	DALLAS	TRINITY	FRESH	1,055	1,047	1,055	1,047	1,055	1,047
WOODBINE AQUIFER	DENTON	TRINITY	FRESH	1,460	1,451	1,460	1,451	1,460	1,451
WOODBINE AQUIFER	ELLIS	TRINITY	FRESH	0	0	0	0	0	0

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.
** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region C Source Water Balance (Availability - WUG Supply)

GROUNDWATER SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	**COUNTY**	**BASIN**	**SALINITY***	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
WOODBINE AQUIFER	FANNIN	RED	FRESH	1,525	1,516	1,525	1,516	1,525	1,516
WOODBINE AQUIFER	FANNIN	SULPHUR	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	FANNIN	TRINITY	FRESH	25	23	25	23	25	23
WOODBINE AQUIFER	GRAYSON	RED	FRESH	206	190	206	190	206	190
WOODBINE AQUIFER	GRAYSON	TRINITY	FRESH	4	0	4	0	4	0
WOODBINE AQUIFER	KAUFMAN	SABINE	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	NAVARRO	TRINITY	FRESH	48	48	48	48	48	48
WOODBINE AQUIFER	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	ROCKWALL	TRINITY	FRESH	0	0	0	0	0	0
WOODBINE AQUIFER	TARRANT	TRINITY	FRESH	509	506	509	506	509	506
GROUNDWATER SOURCE WATER BALANCE TOTAL				**48,212**	**48,824**	**49,630**	**49,032**	**49,154**	**48,787**

REUSE SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	**COUNTY**	**BASIN**	**SALINITY***	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
DIRECT REUSE	COLLIN	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	COOKE	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	DALLAS	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	DENTON	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	ELLIS	TRINITY	FRESH	298	298	298	298	298	298
DIRECT REUSE	HENDERSON	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	JACK	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	KAUFMAN	TRINITY	FRESH	217	217	217	217	217	217
DIRECT REUSE	PARKER	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	ROCKWALL	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	TARRANT	TRINITY	FRESH	0	0	0	0	0	0
INDIRECT REUSE	COLLIN	TRINITY	FRESH	0	0	0	0	0	0
INDIRECT REUSE	DALLAS	TRINITY	FRESH	28,511	56,050	56,050	56,050	56,050	56,050
INDIRECT REUSE	DENTON	TRINITY	FRESH	0	0	0	0	0	0
INDIRECT REUSE	ELLIS	TRINITY	FRESH	0	0	0	0	0	0
INDIRECT REUSE	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
INDIRECT REUSE	NAVARRO	TRINITY	FRESH	64,534	60,263	56,010	51,387	46,566	40,703
INDIRECT REUSE	PARKER	TRINITY	FRESH	2,242	2,803	3,363	3,363	3,363	3,363
INDIRECT REUSE	TARRANT	TRINITY	FRESH	0	0	0	0	0	0
REUSE SOURCE WATER BALANCE TOTAL				**95,802**	**119,631**	**115,938**	**111,315**	**106,494**	**100,631**

SURFACE WATER SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	**COUNTY**	**BASIN**	**SALINITY***	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
BARDWELL LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
BONHAM LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	0	0	0	0	0	0
BRAZOS LIVESTOCK LOCAL SUPPLY	FREESTONE	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS LIVESTOCK LOCAL SUPPLY	JACK	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS LIVESTOCK LOCAL SUPPLY	PARKER	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS OTHER LOCAL SUPPLY	PARKER	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS RUN-OF-RIVER	PARKER	BRAZOS	FRESH	0	0	0	0	0	0

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.
** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region C Source Water Balance (Availability - WUG Supply)

SURFACE WATERSOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
BRYSON LAKE/RESERVOIR	RESERVOIR**	BRAZOS	FRESH	0	0	0	0	0	0
CLARK LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	210	210	210	210	210	210
FAIRFIELD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
FOREST GROVE LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	8,653	8,590	8,527	8,463	8,400	8,337
GRAPEVINE LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
HALBERT LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
HUBERT H MOSS LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	0	0	0	0	0	0
JOE POOL LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
LEWISVILLE LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
LOST CREEK-JACKSBORO LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	863	863	863	863	863	863
MINERAL WELLS LAKE/RESERVOIR	RESERVOIR**	BRAZOS	FRESH	2,495	2,483	2,470	2,458	2,445	2,433
MOUNTAIN CREEK LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
MUENSTER LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	300	300	300	300	300	300
NAVARRO MILLS LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
RANDELL LAKE/RESERVOIR	RESERVOIR**	RED	FRESH	0	0	0	0	0	0
RAY HUBBARD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
RED LIVESTOCK LOCAL SUPPLY	COOKE	RED	FRESH	0	0	0	0	0	0
RED LIVESTOCK LOCAL SUPPLY	FANNIN	RED	FRESH	0	0	0	0	0	0
RED LIVESTOCK LOCAL SUPPLY	GRAYSON	RED	FRESH	0	0	0	0	0	0
RED RUN-OF-RIVER	FANNIN	RED	FRESH	0	0	0	0	0	0
RED RUN-OF-RIVER	GRAYSON	RED	FRESH	0	0	0	0	0	0
RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	TRINITY	FRESH	11,977	11,776	11,605	11,596	11,588	11,580
SABINE LIVESTOCK LOCAL SUPPLY	COLLIN	SABINE	FRESH	0	0	0	0	0	0
SABINE LIVESTOCK LOCAL SUPPLY	KAUFMAN	SABINE	FRESH	0	0	0	0	0	0
SABINE LIVESTOCK LOCAL SUPPLY	ROCKWALL	SABINE	FRESH	0	0	0	0	0	0
SULPHUR LIVESTOCK LOCAL SUPPLY	FANNIN	SULPHUR	FRESH	0	0	0	0	0	0
SULPHUR RUN-OF-RIVER	FANNIN	SULPHUR	FRESH	0	0	0	0	0	0
TEAGUE CITY LAKE/RESERVOIR	RESERVOIR**	BRAZOS	FRESH	189	189	189	189	189	189
TERRELL LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	2,267	2,250	2,233	2,217	2,200	2,183
TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	RESERVOIR**	RED	FRESH	17,801	17,767	17,738	17,705	17,672	17,692
TRINIDAD CITY LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
TRINIDAD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	COLLIN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	COOKE	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	DALLAS	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	DENTON	TRINITY	FRESH	0	0	0	0	0	0

* Salinity field indicates whether the source availability is considered ‘fresh’ (less than 1,000 mg/L), ‘brackish’ (1,000 to 10,000 mg/L), ‘saline’ (10,001 mg/L to 34,999 mg/L), or ‘seawater’ (35,000 mg/L or greater). Sources can also be labeled as ‘fresh/brackish’ or ‘brackish/saline’, if a combination of the salinity types is appropriate.
** Since reservoir sources can exist across multiple counties, the county field value, ‘reservoir’ is applied to all reservoir sources.

Region C Source Water Balance (Availability - WUG Supply)

SURFACE WATERSOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	**COUNTY**	**BASIN**	**SALINITY***	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRINITY LIVESTOCK LOCAL SUPPLY	ELLIS	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	FANNIN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	FREESTONE	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	GRAYSON	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	HENDERSON	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	JACK	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	NAVARRO	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	PARKER	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	ROCKWALL	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	TARRANT	TRINITY	FRESH	0	0	0	0	0	0
TRINITY LIVESTOCK LOCAL SUPPLY	WISE	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	DALLAS	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	DENTON	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	FREESTONE	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	JACK	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	PARKER	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	TARRANT	TRINITY	FRESH	0	0	0	0	0	0
TRINITY OTHER LOCAL SUPPLY	WISE	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	COLLIN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	DALLAS	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	ELLIS	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	FREESTONE	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	HENDERSON	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	JACK	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	KAUFMAN	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	NAVARRO	TRINITY	FRESH	252	252	252	252	252	252
TRINITY RUN-OF-RIVER	PARKER	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	TARRANT	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	WISE	TRINITY	FRESH	0	0	0	0	0	0
TRWD LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
WAXAHACHIE LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
WEATHERFORD LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
WHITE ROCK LAKE/RESERVOIR	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
SURFACE WATERSOURCE WATER BALANCE TOTAI				**45,007**	**44,680**	**44,387**	**44,253**	**44,119**	**44,039**

REGION C SOURCE WATER BALANCE TOTAL	**189,021**	**213,135**	**209,955**	**204,600**	**199,767**	**193,457**

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.
** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region C Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
COLLIN COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,525	626	-59.0%	7,074	1,281	-81.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,613	627	-61.1%	11,885	1,835	-84.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	88	1	-98.9%	4,811	554	-88.5%
COLLIN COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	5,538	5,736	3.6%	4,966	4,994	0.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,995	3,340	11.5%	2,995	3,340	11.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
COLLIN COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,002	1,002	0.0%	1,002	1,002	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	860	912	6.0%	860	912	6.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
COLLIN COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,223	2,252	-30.1%	3,245	1,576	-51.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,456	2,246	-35.0%	5,547	2,602	-53.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	233	0	-100.0%	2,302	1,026	-55.4%
COLLIN COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	196,112	233,353	19.0%	190,579	223,814	17.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	214,383	235,340	9.8%	390,724	459,981	17.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	18,488	2,556	-86.2%	200,236	236,169	17.9%
COLLIN COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	659	40	-93.9%	418	40	-90.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	715	40	-94.4%	724	40	-94.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	56	0	-100.0%	306	0	-100.0%
COOKE COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,123	864	-23.1%	2,412	1,746	-27.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,123	743	-33.8%	3,767	3,561	-5.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1,355	1,815	33.9%
COOKE COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	234	1,100	370.1%	234	524	123.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	300	1,100	266.7%	300	1,100	266.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	66	0	-100.0%	66	576	772.7%
COOKE COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,554	1,427	-8.2%	1,554	1,427	-8.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,494	1,330	-11.0%	1,494	1,330	-11.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
COOKE COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	226	116	-48.7%	158	46	-70.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	226	116	-48.7%	336	128	-61.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	178	82	-53.9%
COOKE COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	800	1,000	25.0%	300	450	50.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,583	1,583	0.0%	586	586	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	783	583	-25.5%	286	136	-52.4%

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Region C Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
COOKE COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	5,146	5,523	7.3%	5,772	5,829	1.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,999	5,349	7.0%	8,883	9,127	2.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	5	100.0%	3,132	3,313	5.8%
COOKE COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	0	5	100.0%	0	5	100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	0	5	100.0%	0	5	100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
DALLAS COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,098	2,170	-30.0%	1,618	1,635	1.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,106	2,229	-28.2%	2,413	2,335	-3.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	8	59	637.5%	795	700	-11.9%
DALLAS COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	12,665	14,311	13.0%	12,665	14,311	13.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	9,134	10,122	10.8%	9,134	10,122	10.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
DALLAS COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	961	856	-10.9%	961	856	-10.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	854	758	-11.2%	854	758	-11.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
DALLAS COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	35,744	21,646	-39.4%	30,623	16,860	-44.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	37,791	21,834	-42.2%	47,265	23,073	-51.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	2,047	188	-90.8%	16,642	6,213	-62.7%
DALLAS COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,989	3,578	19.7%	2,099	3,578	70.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,038	3,038	0.0%	1,916	1,916	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	49	0	-100.0%	0	0	0.0%
DALLAS COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	478,295	507,951	6.2%	447,344	488,293	9.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	518,862	524,177	1.0%	709,405	721,893	1.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	40,570	16,226	-60.0%	262,061	233,600	-10.9%
DALLAS COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	11,536	7,728	-33.0%	9,949	7,467	-24.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	5,000	1,065	-78.7%	11,066	1,065	-90.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1,117	0	-100.0%
DENTON COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	4,844	2,403	-50.4%	9,733	6,147	-36.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,785	1,199	-68.3%	19,480	13,671	-29.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	9,747	7,524	-22.8%
DENTON COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,132	4,878	55.7%	2,989	4,465	49.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,137	3,003	40.5%	2,137	3,003	40.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%

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	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
DENTON COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,352	1,352	0.0%	1,352	1,352	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,045	769	-26.4%	1,045	769	-26.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
DENTON COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,330	373	-72.0%	814	151	-81.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,446	374	-74.1%	2,383	440	-81.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	116	1	-99.1%	1,569	289	-81.6%
DENTON COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	4,326	4,326	0.0%	3,604	4,778	32.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,326	4,326	0.0%	6,291	6,291	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	2,687	1,513	-43.7%
DENTON COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	160,815	170,758	6.2%	157,638	168,492	6.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	172,325	173,911	0.9%	359,918	369,619	2.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	12,125	3,953	-67.4%	202,280	201,127	-0.6%
DENTON COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	646	173	-73.2%	1,088	173	-84.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	646	173	-73.2%	1,088	173	-84.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
ELLIS COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,156	701	-67.5%	2,699	4,758	76.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	745	414	-44.4%	11,645	9,576	-17.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	8,946	4,818	-46.1%
ELLIS COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	572	619	8.2%	572	619	8.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	572	1,367	139.0%	572	1,367	139.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	748	100.0%	0	748	100.0%
ELLIS COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,209	1,140	-5.7%	1,209	1,140	-5.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	905	1,140	26.0%	905	1,140	26.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
ELLIS COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,247	5,392	-13.7%	4,337	3,539	-18.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	5,247	5,414	3.2%	5,716	6,549	14.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	22	100.0%	1,379	3,010	118.3%
ELLIS COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	213	931	337.1%	213	55	-74.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	147	931	533.3%	55	55	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
ELLIS COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	32,708	32,806	0.3%	44,179	44,120	-0.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	31,941	35,174	10.1%	97,494	99,885	2.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,611	2,547	58.1%	53,565	55,993	4.5%

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	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
ELLIS COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,620	853	-47.3%	1,122	731	-34.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	698	901	29.1%	10,786	901	-91.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	48	100.0%	9,664	170	-98.2%
FANNIN COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,466	663	-54.8%	1,394	663	-52.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,466	663	-54.8%	6,503	3,866	-40.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	5,109	3,203	-37.3%
FANNIN COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	8,302	7,717	-7.0%	8,302	7,717	-7.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,301	11,553	39.2%	8,301	11,553	39.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	3,836	100.0%	0	3,836	100.0%
FANNIN COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,668	1,411	-15.4%	1,668	1,411	-15.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,668	1,411	-15.4%	1,668	1,411	-15.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
FANNIN COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	88	12	-86.4%	55	6	-89.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	88	12	-86.4%	135	12	-91.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	80	6	-92.5%
FANNIN COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	72	72	0.0%	72	72	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	128	574	348.4%	128	128	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	56	502	796.4%	56	56	0.0%
FANNIN COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,574	4,768	33.4%	4,188	5,839	39.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,503	4,495	28.3%	10,503	13,517	28.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	20	100.0%	6,319	8,011	26.8%
FANNIN COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,563	0	-100.0%	6,563	0	-100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	6,363	0	-100.0%	13,775	0	-100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	7,212	0	-100.0%
FREESTONE COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,010	931	-7.8%	1,078	1,084	0.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,208	422	-65.1%	4,644	2,716	-41.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	198	0	-100.0%	3,566	1,632	-54.2%
FREESTONE COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	385	700	81.8%	385	700	81.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	298	569	90.9%	298	569	90.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
FREESTONE COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,852	1,207	-34.8%	1,852	1,207	-34.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,852	1,207	-34.8%	1,852	1,207	-34.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%

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Region C Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
FREESTONE COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	100	19	-81.0%	142	19	-86.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	100	19	-81.0%	142	19	-86.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
FREESTONE COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,012	1,012	0.0%	1,012	1,012	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	5,347	5,347	0.0%	5,582	5,582	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	4,335	4,335	0.0%	4,570	4,570	0.0%
FREESTONE COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,077	2,849	37.2%	1,887	2,858	51.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,268	2,556	101.6%	3,267	6,423	96.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	11	94	754.5%	1,380	3,572	158.8%
FREESTONE COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	27,748	27,662	-0.3%	24,828	24,980	0.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	25,000	34,432	37.7%	40,175	34,432	-14.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	6,770	100.0%	15,347	9,452	-38.4%
GRAYSON COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,913	1,630	-76.4%	5,317	1,402	-73.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,746	747	-72.8%	5,801	2,356	-59.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	484	954	97.1%
GRAYSON COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	4,909	4,477	-8.8%	4,909	4,477	-8.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,438	4,477	83.6%	3,519	4,477	27.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
GRAYSON COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,539	1,290	-16.2%	1,539	1,290	-16.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,458	1,143	-21.6%	1,458	1,143	-21.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
GRAYSON COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	5,630	3,410	-39.4%	4,443	2,305	-48.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,905	2,951	-39.8%	7,147	3,009	-57.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	2,704	704	-74.0%
GRAYSON COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	122	212	73.8%	122	212	73.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	79	312	294.9%	163	163	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	100	100.0%	41	0	-100.0%
GRAYSON COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	24,075	24,783	2.9%	27,965	30,717	9.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	22,834	25,175	10.3%	54,318	56,723	4.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	86	1,067	1140.7%	26,467	26,064	-1.5%
GRAYSON COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,163	4,387	-28.8%	6,163	4,387	-28.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	6,163	4,387	-28.8%	12,711	4,387	-65.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	6,548	0	-100.0%

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	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
HENDERSON COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	314	304	-3.2%	116	89	-23.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	314	304	-3.2%	147	113	-23.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	31	24	-22.6%
HENDERSON COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	0	582	100.0%	0	582	100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	0	582	100.0%	0	582	100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
HENDERSON COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	854	858	0.5%	854	858	0.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	490	1,261	157.3%	490	1,261	157.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	403	100.0%	0	403	100.0%
HENDERSON COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	743	888	19.5%	582	997	71.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	575	806	40.2%	671	985	46.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	89	0	-100.0%
HENDERSON COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	607	484	-20.3%	528	439	-16.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	607	434	-28.5%	607	469	-22.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	79	30	-62.0%
HENDERSON COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,289	7,544	3.5%	9,726	10,256	5.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	7,476	7,230	-3.3%	19,487	17,728	-9.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	896	458	-48.9%	10,100	7,794	-22.8%
HENDERSON COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,050	3,709	21.6%	3,050	3,446	13.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,000	3,709	-7.3%	11,000	3,709	-66.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	950	0	-100.0%	7,950	263	-96.7%
JACK COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	495	515	4.0%	495	515	4.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	482	545	13.1%	512	580	13.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	30	100.0%	17	65	282.4%
JACK COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	192	192	0.0%	189	189	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	101	98	-3.0%	101	98	-3.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
JACK COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	932	932	0.0%	932	932	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	932	785	-15.8%	932	785	-15.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
JACK COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2	1	-50.0%	2	1	-50.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	2	1	-50.0%	2	1	-50.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%

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	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
JACK COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	574	3,264	468.6%	574	1,251	117.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,555	3,396	118.4%	1,862	1,862	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	981	132	-86.5%	1,288	611	-52.6%
JACK COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	828	682	-17.6%	828	733	-11.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	761	682	-10.4%	825	741	-10.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	7	8	14.3%
JACK COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,665	3,772	41.5%	2,119	2,266	6.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,665	3,772	41.5%	3,745	3,772	0.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1,626	1,506	-7.4%
KAUFMAN COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,608	174	-89.2%	5,175	1,802	-65.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,742	172	-90.1%	9,310	3,220	-65.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	134	0	-100.0%	4,135	1,418	-65.7%
KAUFMAN COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,125	751	-33.2%	1,151	913	-20.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	179	285	59.2%	179	285	59.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
KAUFMAN COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,722	1,722	0.0%	1,722	1,722	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,717	1,570	-8.6%	1,717	1,570	-8.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
KAUFMAN COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,238	1,040	-16.0%	1,053	747	-29.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	813	946	16.4%	1,134	1,109	-2.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	81	362	346.9%
KAUFMAN COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	436	676	55.0%	436	676	55.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	296	296	0.0%	951	951	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	515	275	-46.6%
KAUFMAN COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	14,731	18,380	24.8%	24,416	32,084	31.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	16,457	19,370	17.7%	57,705	68,938	19.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,726	991	-42.6%	33,382	36,854	10.4%
KAUFMAN COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	10,012	9,787	-2.2%	9,626	9,327	-3.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,000	9,793	22.4%	8,000	9,793	22.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	6	100.0%	0	466	100.0%
NAVARRO COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	623	461	-26.0%	1,657	1,302	-21.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	623	261	-58.1%	3,685	1,579	-57.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	2,028	277	-86.3%

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	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
NAVARRO COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	226	226	0.0%	226	226	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	58	75	29.3%	58	75	29.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
NAVARRO COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,622	1,691	4.3%	1,622	1,691	4.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,544	1,691	9.5%	1,544	1,691	9.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
NAVARRO COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,114	894	-19.7%	730	759	4.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,114	894	-19.7%	1,789	1,062	-40.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1,059	303	-71.4%
NAVARRO COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,076	976	-53.0%	2,076	976	-53.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	883	1,193	35.1%	2,076	2,076	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	217	100.0%	0	1,100	100.0%
NAVARRO COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	8,694	8,972	3.2%	5,353	9,924	85.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,461	8,913	5.3%	12,522	13,891	10.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	7,177	3,984	-44.5%
NAVARRO COUNTY | STEAM ELECTRIC POWER WUG TYPE						
PROJECTED DEMAND TOTAL (acre-feet per year)	8,000	0	-100.0%	13,440	0	-100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	8,000	0	-100.0%	13,440	0	-100.0%
PARKER COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,532	5,696	-24.4%	7,606	5,696	-25.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	7,027	6,614	-5.9%	22,058	17,770	-19.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	918	100.0%	14,452	12,074	-16.5%
PARKER COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,095	821	-25.0%	1,095	1,104	0.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	490	773	57.8%	490	773	57.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
PARKER COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,151	2,151	0.0%	2,151	2,151	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,544	1,634	5.8%	1,544	1,634	5.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
PARKER COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	978	98	-90.0%	600	83	-86.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	638	87	-86.4%	1,095	103	-90.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	495	20	-96.0%
PARKER COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	4,408	3,740	-15.2%	4,364	3,740	-14.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,182	3,182	0.0%	4,364	4,364	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	624	100.0%
PARKER COUNTY | MUNICIPAL WUG TYPE						

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EXISTING WUG SUPPLY TOTAL (acre-feet per year)	21,158	24,346	15.1%	33,475	26,025	-22.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	23,644	25,387	7.4%	68,440	69,272	1.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	3,349	1,926	-42.5%	36,714	43,267	17.8%
PARKER COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	380	604	58.9%	172	604	251.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	260	604	132.3%	260	604	132.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	88	0	-100.0%
ROCKWALL COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	523	399	-23.7%	1,814	536	-70.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	568	401	-29.4%	3,139	917	-70.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	45	2	-95.6%	1,325	381	-71.2%
ROCKWALL COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	361	1,005	178.4%	273	914	234.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	374	234	-37.4%	374	234	-37.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	13	0	-100.0%	101	0	-100.0%
ROCKWALL COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	117	117	0.0%	117	117	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	117	111	-5.1%	117	111	-5.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
ROCKWALL COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	32	31	-3.1%	35	21	-40.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	35	31	-11.4%	61	36	-41.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	3	0	-100.0%	26	15	-42.3%
ROCKWALL COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	17,751	22,155	24.8%	28,490	32,448	13.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	19,325	22,253	15.2%	49,383	56,308	14.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,584	124	-92.2%	20,893	23,860	14.2%
TARRANT COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,923	7,159	-9.6%	10,739	10,813	0.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,008	7,212	-9.9%	19,178	17,316	-9.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	85	53	-37.6%	8,439	6,503	-22.9%
TARRANT COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,694	7,113	6.3%	6,112	6,482	6.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,466	4,926	10.3%	4,466	4,926	10.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
TARRANT COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	723	552	-23.7%	723	552	-23.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	723	627	-13.3%	723	627	-13.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	75	100.0%	0	75	100.0%
TARRANT COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	21,015	12,165	-42.1%	19,310	8,020	-58.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	20,444	12,197	-40.3%	35,210	13,301	-62.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	32	100.0%	15,900	5,281	-66.8%
TARRANT COUNTY | MINING WUG TYPE						

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Data Comparison to 2016 RWP report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG county and category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the Needs totals.

Region C Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,709	11,535	49.6%	1,518	7,850	417.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	7,367	11,535	56.6%	1,464	1,464	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
TARRANT COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	365,118	379,528	3.9%	314,715	323,442	2.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	388,462	389,396	0.2%	593,358	595,067	0.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	24,045	9,971	-58.5%	278,933	271,730	-2.6%
TARRANT COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,407	1,157	-66.0%	2,344	1,938	-17.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,448	1,157	-52.7%	5,000	4,948	-1.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	2,656	3,010	13.3%
WISE COUNTY | COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,200	3,230	0.9%	3,418	2,911	-14.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,667	4,043	10.3%	7,794	6,680	-14.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	467	813	74.1%	4,376	3,769	-13.9%
WISE COUNTY | IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	943	1,406	49.1%	943	1,171	24.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,324	1,406	6.2%	1,324	1,406	6.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	381	0	-100.0%	381	235	-38.3%
WISE COUNTY | LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,575	1,575	0.0%	1,575	1,575	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,575	1,198	-23.9%	1,575	1,198	-23.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WISE COUNTY | MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,410	295	-87.8%	2,347	280	-88.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,660	454	-82.9%	4,206	501	-88.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	250	159	-36.4%	1,859	221	-88.1%
WISE COUNTY | MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	11,445	5,184	-54.7%	11,260	5,184	-54.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	10,320	10,320	0.0%	17,694	17,694	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	5,136	100.0%	6,434	12,510	94.4%
WISE COUNTY | MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,445	7,820	5.0%	11,328	10,109	-10.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,606	8,651	0.5%	26,640	26,625	-0.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,202	845	-29.7%	15,694	16,516	5.2%
WISE COUNTY | STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,494	2,894	93.7%	2,078	1,738	-16.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,494	2,894	93.7%	3,673	2,894	-21.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1,595	1,156	-27.5%
REGION C						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,650,227	1,699,454	3.0%	1,602,246	1,648,819	2.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,723,325	1,733,893	0.6%	2,939,880	2,898,540	-1.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	125,037	65,952	-47.3%	1,356,372	1,278,426	-5.7%

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Region C Source Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
COLLIN COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	4,613	10,070	118.3%	4,613	10,043	117.7%
REUSE AVAILABILITY TOTAL (acre-feet per year)	49,722	52,394	5.4%	74,186	76,512	3.1%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,605	1,410	-12.1%	1,605	1,410	-12.1%
COOKE COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	7,004	11,346	62.0%	7,004	11,313	61.5%
REUSE AVAILABILITY TOTAL (acre-feet per year)	9	4	-55.6%	9	4	-55.6%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,424	1,187	-16.6%	1,424	1,187	-16.6%
DALLAS COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	7,771	6,503	-16.3%	7,771	6,484	-16.6%
REUSE AVAILABILITY TOTAL (acre-feet per year)	56,488	37,757	-33.2%	111,583	65,296	-41.5%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	2,882	2,882	0.0%	2,882	2,882	0.0%
DENTON COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	23,459	33,767	43.9%	23,459	33,675	43.5%
REUSE AVAILABILITY TOTAL (acre-feet per year)	42,074	55,296	31.4%	103,385	97,054	-6.1%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	725	1,988	174.2%	725	1,988	174.2%
ELLIS COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	9,420	7,637	-18.9%	9,420	7,617	-19.1%
REUSE AVAILABILITY TOTAL (acre-feet per year)	4,388	4,398	0.2%	6,038	6,048	0.2%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,115	1,115	0.0%	1,115	1,115	0.0%
FANNIN COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	6,916	9,944	43.8%	6,916	9,927	43.5%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	6,060	6,040	-0.3%	6,060	6,040	-0.3%
FREESTONE COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	5,305	9,046	70.5%	5,223	9,898	89.5%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,291	1,291	0.0%	1,291	1,291	0.0%
GRAYSON COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	21,487	18,278	-14.9%	21,487	18,229	-15.2%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	2,196	2,197	0.0%	2,196	2,197	0.0%
HENDERSON COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	8,720	11,174	28.1%	8,720	10,893	24.9%
REUSE AVAILABILITY TOTAL (acre-feet per year)	32	32	0.0%	32	32	0.0%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	756	760	0.5%	756	760	0.5%
JACK COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	934	934	0.0%	934	934	0.0%
REUSE AVAILABILITY TOTAL (acre-feet per year)	27	27	0.0%	24	24	0.0%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,282	1,282	0.0%	1,282	1,282	0.0%
KAUFMAN COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	2,307	926	-59.9%	2,307	926	-59.9%
REUSE AVAILABILITY TOTAL (acre-feet per year)	9,526	105,689	1009.5%	9,737	111,862	1048.8%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,772	1,772	0.0%	1,772	1,772	0.0%
NAVARRO COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	3,168	1,498	-52.7%	3,168	1,498	-52.7%
REUSE AVAILABILITY TOTAL (acre-feet per year)	100,465	100,465	0.0%	100,465	100,465	0.0%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	2,081	2,081	0.0%	2,081	2,081	0.0%
PARKER COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	15,298	11,947	-21.9%	15,298	11,913	-22.1%

* Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region C Source Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
REUSE AVAILABILITY TOTAL (acre-feet per year)	110	2,639	2299.1%	110	4,043	3575.5%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	2,214	2,181	-1.5%	2,214	2,181	-1.5%
RESERVOIR* COUNTY						
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,258,038	1,311,558	4.3%	1,197,950	1,210,332	1.0%
ROCKWALL COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	1,115	13	-98.8%	1,115	13	-98.8%
REUSE AVAILABILITY TOTAL (acre-feet per year)	672	672	0.0%	672	672	0.0%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	150	117	-22.0%	150	117	-22.0%
TARRANT COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	19,379	19,105	-1.4%	19,379	19,053	-1.7%
REUSE AVAILABILITY TOTAL (acre-feet per year)	7,977	7,961	-0.2%	8,421	8,402	-0.2%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	2,292	2,292	0.0%	2,292	2,292	0.0%
WISE COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	9,282	9,760	5.1%	9,282	9,734	4.9%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,389	7,650	450.8%	1,389	7,465	437.4%
REGION C						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	146,178	161,948	10.8%	146,096	162,150	11.0%
REUSE AVAILABILITY TOTAL (acre-feet per year)	271,490	367,334	35.3%	414,662	470,414	13.4%
SURFACE WATERAVAILABILITY TOTAL (acre-feet per year)	1,287,272	1,347,803	4.7%	1,227,184	1,246,392	1.6%

* Since reservoir sources can exist across multiple counties, the county field value, ‘reservoir’ is applied to all reservoir sources.

Region C Water User Group (WUG) Unmet Needs

WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The unmet needs shown in the WUG Unmet Needs report are calculated by first deducting the WUG split's projected demand from the sum of its total existing water supply volume and all associated recommended water management strategy water volumes. If the WUG split has a greater future supply volume than projected demand in any given decade, this amount is considered a surplus volume. In order to display only unmet needs associated with the WUG split, these surplus volumes are updated to a zero and the unmet needs water volumes are shown as absolute values.

	WUG UNMET NEEDS (ACRE-FEET PER YEAR)					
	2020	**2030**	**2040**	**2050**	**2060**	**2070**
COLLIN COUNTY - TRINITY BASIN						
HICKORY CREEK SUD*	4	9	14	22	34	52
ELLIS COUNTY - TRINITY BASIN						
IRRIGATION	747	729	711	701	692	684
FANNIN COUNTY - RED BASIN						
MINING	380	211	42	42	42	42
IRRIGATION	2,076	2,060	2,046	2,038	2,031	2,023
FANNIN COUNTY - SULPHUR BASIN						
HICKORY CREEK SUD*	7	13	19	23	28	32
MINING	122	68	14	14	14	14
IRRIGATION	44	44	43	43	43	43
FANNIN COUNTY - TRINITY BASIN						
HICKORY CREEK SUD*	0	1	1	1	1	1
IRRIGATION	123	122	121	121	120	120
FREESTONE COUNTY - BRAZOS BASIN						
MINING	477	451	466	470	478	503
STEAM ELECTRIC POWER	705	704	705	705	704	704
FREESTONE COUNTY - TRINITY BASIN						
MINING	3,858	3,652	3,773	3,804	3,866	4,067
STEAM ELECTRIC POWER	6,061	6,062	6,061	6,061	6,062	6,062
KAUFMAN COUNTY - SABINE BASIN						
MINING	0	0	0	0	3	12
KAUFMAN COUNTY - TRINITY BASIN						
MINING	0	0	0	0	55	214
NAVARRO COUNTY - TRINITY BASIN						
MINING	217	262	306	596	830	1,100

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Water User Group (WUG) Unmet Needs Summary

WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The unmet needs shown in the WUG Unmet Needs Summary report are calculated by first deducting the WUG split's projected demand from the sum of its total existing water supply volume and all associated recommended water management strategy water volumes. If the WUG split has a greater future supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG category level, calculated surpluses are updated to zerc so that only the WUGs with unmet needs in the decade are included with the Needs totals. Unmet needs water volumes are shown as absolute values.

WUG CATEGORY	NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MUNICIPAL	11	23	34	46	63	85
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	5,054	4,644	4,601	4,926	5,288	5,952
STEAM ELECTRIC POWER	6,766	6,766	6,766	6,766	6,766	6,766
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	2,990	2,955	2,921	2,903	2,886	2,870

Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ABLES SPRINGS WSC*	C	CONSERVATION - ABLES SPRINGS WSC	DEMAND REDUCTION	N/A	$34	0	1	4	5	6	9
ABLES SPRINGS WSC*	C	CONSERVATION, WATER LOSS CONTROL - ABLES SPRINGS WSC	DEMAND REDUCTION	$513	N/A	2	2	0	0	0	0
ABLES SPRINGS WSC*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	62	91	94
ABLES SPRINGS WSC*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	5	14	22
ABLES SPRINGS WSC*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	5	6	5	6	5
ABLES SPRINGS WSC*	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	47	60	44	63	66
ABLES SPRINGS WSC*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	3	9	9	18	22
ABLES SPRINGS WSC*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	28
ABLES SPRINGS WSC*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	20	36	52	64
ABLES SPRINGS WSC*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	32
ADDISON	C	CONSERVATION - ADDISON	DEMAND REDUCTION	$76	$36	127	174	215	258	305	356
ADDISON	C	CONSERVATION, IRRIGATION RESTRICTIONS – ADDISON	DEMAND REDUCTION	$44	$35	166	195	206	217	230	242
ADDISON	C	CONSERVATION, WATER LOSS CONTROL - ADDISON	DEMAND REDUCTION	$2986	N/A	31	32	0	0	0	0
ADDISON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	7	16	14	15	14
ADDISON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	39	214	681	769	795
ADDISON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	116	532	546	532	510
ADDISON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	281
ADDISON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	244	237
ALEDO	C	CONSERVATION - ALEDO	DEMAND REDUCTION	$0	$35	3	9	17	27	35	46
ALEDO	C	CONSERVATION, WATER LOSS CONTROL - ALEDO	DEMAND REDUCTION	$479	N/A	4	7	0	0	0	0
ALEDO	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	111	168	151	206	220
ALEDO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	208	264	287
ALEDO	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	8	6	8	9
ALEDO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	3	4	5
ALEDO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	28	24	29	32

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ALEDO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	16	13	17	18
ALEDO	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	22	45	50	79	103
ALEDO	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	32	26	33	36
ALEDO	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	3	5	5	8	15
ALEDO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	97
ALLEN	C	CONSERVATION - ALLEN	DEMAND REDUCTION	$159	$43	670	768	769	850	955	1,066
ALLEN	C	CONSERVATION, IRRIGATION RESTRICTIONS – ALLEN	DEMAND REDUCTION	$0	$0	657	706	714	724	735	747
ALLEN	C	CONSERVATION, WATER LOSS CONTROL - ALLEN	DEMAND REDUCTION	$979	N/A	109	118	0	0	0	0
ALLEN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	2,140	2,684	2,415
ALLEN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	151	419	559
ALLEN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	193	243	146	168	137
ALLEN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	1,737	2,354	1,522	1,898	1,695
ALLEN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	133	357	314	500	540
ALLEN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	721
ALLEN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	775	1,221	1,527	1,642
ALLEN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	817
ALVORD	C	CONSERVATION - ALVORD	DEMAND REDUCTION	$0	$0	1	2	3	5	7	10
ALVORD	C	CONSERVATION, WATER LOSS CONTROL - ALVORD	DEMAND REDUCTION	$369	N/A	1	1	0	0	0	0
ALVORD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	34	51	49	66	71
ALVORD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	68	87	93
ALVORD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	2	2	3	3
ALVORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	1	1
ALVORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	9	8	10	11
ALVORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	4	6	6
ALVORD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	7	14	16	26	33

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ALVORD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	9	9	11	12
ALVORD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	2	3	5
ALVORD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	31
ANNA	C	ANNA - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | COLLIN COUNTY	$1665	$665	200	200	200	200	200	200
ANNA	C	CONSERVATION - ANNA	DEMAND REDUCTION	$835	$0	47	118	80	132	207	316
ANNA	C	CONSERVATION – WASTE PROHIBITION, ANNA	DEMAND REDUCTION	$731	N/A	10	19	0	0	0	0
ANNA	C	CONSERVATION, IRRIGATION RESTRICTIONS – ANNA	DEMAND REDUCTION	$112	N/A	65	121	0	0	0	0
ANNA	C	CONSERVATION, WATER LOSS CONTROL - ANNA	DEMAND REDUCTION	$756	N/A	116	547	0	0	0	0
ANNA	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$90	0	625	494	761	1,112	1,207
ANNA	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	2,096	2,905	3,091
ANNA	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	148	453	716
ANNA	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	39	230	143	182	175
ANNA	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	354	2,226	1,492	2,053	2,170
ANNA	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	27	338	307	542	692
ANNA	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	923
ANNA	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	733	1,196	1,652	2,102
ANNA	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	610	381	292	0	0
ANNA	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	1,046
ANNETTA	C	CONSERVATION - ANNETTA	DEMAND REDUCTION	$0	$0	1	3	6	8	12	16
ANNETTA	C	CONSERVATION, WATER LOSS CONTROL - ANNETTA	DEMAND REDUCTION	$395	N/A	2	2	0	0	0	0
ANNETTA	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	155	106	60	59	50
ANNETTA	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	82	77	64
ANNETTA	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	4	5	2	2	2
ANNETTA	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	3	1	1	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ANNETTA	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	18	10	9	8
ANNETTA	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	10	5	5	3
ANNETTA	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	31	29	20	23	23
ANNETTA	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	20	10	10	8
ANNETTA	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	5	3	2	2	3
ANNETTA	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	22
ARGYLE WSC	C	ARGYLE WSC - NEW WELL (S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1313	$482	250	250	250	250	250	250
ARGYLE WSC	C	CONSERVATION - ARGYLE WSC	DEMAND REDUCTION	$0	$303	12	80	140	155	169	183
ARGYLE WSC	C	CONSERVATION – WASTE PROHIBITION, ARGYLE WSC	DEMAND REDUCTION	N/A	$185	0	36	51	51	51	51
ARGYLE WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – ARGYLE WSC	DEMAND REDUCTION	N/A	$66	0	101	144	144	144	143
ARGYLE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARGYLE WSC	DEMAND REDUCTION	$1680	$1024	13	43	101	101	101	101
ARGYLE WSC	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	2	3	3	4	3
ARGYLE WSC	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	10	47	136	190	177
ARGYLE WSC	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	30	117	108	131	113
ARGYLE WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	356	391	388
ARGYLE WSC	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	141	154	205
ARGYLE WSC	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	392	737	530	582	577
ARGYLE WSC	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	139	276	210	230	228
ARGYLE WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	131
ARGYLE WSC	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	62
ARGYLE WSC	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	60	53
ARLEDGE RIDGE WSC	C	ARLEDGE RIDGE WSC - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | FANNIN COUNTY	N/A	$635	0	0	350	350	350	350
ARLEDGE RIDGE WSC	C	CONSERVATION - ARLEDGE RIDGE WSC	DEMAND REDUCTION	$0	$0	1	1	2	4	6	10
ARLEDGE RIDGE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARLEDGE RIDGE WSC	DEMAND REDUCTION	$194	N/A	1	1	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ARLINGTON	C	CONSERVATION - ARLINGTON	DEMAND REDUCTION	$24	$40	1,443	2,086	2,161	2,357	2,588	2,819
ARLINGTON	C	CONSERVATION, IRRIGATION RESTRICTIONS – ARLINGTON	DEMAND REDUCTION	N/A	$87	0	1,839	2,055	2,083	2,078	2,078
ARLINGTON	C	CONSERVATION, WATER LOSS CONTROL - ARLINGTON	DEMAND REDUCTION	$500	$0	1,231	1,273	936	937	940	940
ARLINGTON	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	2,297	5,403	4,703	5,927	5,855
ARLINGTON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	6,450	7,612	7,618
ARLINGTON	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	58	242	194	228	228
ARLINGTON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	128	102	120	121
ARLINGTON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	908	724	855	856
ARLINGTON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	508	405	478	478
ARLINGTON	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	463	1,449	1,541	2,273	2,728
ARLINGTON	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	1,017	811	957	958
ARLINGTON	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	69	151	152	236	396
ARLINGTON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	2,577
ATHENS*	C	ATHENS MWA - NEW WELL (S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	N/A	$942	0	0	0	0	408	1,383
ATHENS*	C	CONSERVATION - ATHENS	DEMAND REDUCTION	$0	$243	14	77	111	134	251	404
ATHENS*	C	CONSERVATION – WASTE PROHIBITION, ATHENS	DEMAND REDUCTION	N/A	$419	0	10	12	15	31	50
ATHENS*	C	CONSERVATION, IRRIGATION RESTRICTIONS – ATHENS	DEMAND REDUCTION	N/A	$70	0	89	105	116	201	299
ATHENS*	C	CONSERVATION, WATER LOSS CONTROL - ATHENS	DEMAND REDUCTION	$1963	N/A	15	16	0	0	0	0
ATHENS*	I	AMWA ATHENS FISH HATCHERY REUSE	I | NECHES INDIRECT REUSE	N/A	$33	0	0	0	0	532	1,803
AUBREY	C	CONSERVATION - AUBREY	DEMAND REDUCTION	$0	$41	2	5	8	13	20	32
AUBREY	C	CONSERVATION, WATER LOSS CONTROL - AUBREY	DEMAND REDUCTION	$1121	N/A	3	4	0	0	0	0
AUBREY	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	1	1	1	2	2
AUBREY	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	5	19	61	100	104
AUBREY	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	14	45	49	69	67
AUBREY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	161	205	230

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
AUBREY	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	64	81	122
AUBREY	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	173	285	242	305	344
AUBREY	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	62	107	95	121	136
AUBREY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	78
AUBREY	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	37
AUBREY	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	32	31
AVALON WATER SUPPLY & SEWER SERVICE	C	CONSERVATION - AVALON WATER SUPPLY AND SEWER SERVICE	DEMAND REDUCTION	N/A	$0	0	1	2	4	6	11
AVALON WATER SUPPLY & SEWER SERVICE	C	CONSERVATION, WATER LOSS CONTROL - AVALON WATER SUPPLY AND SEWER SERVICE	DEMAND REDUCTION	$607	N/A	1	1	0	0	0	0
AVALON WATER SUPPLY & SEWER SERVICE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	9	48	87
AVALON WATER SUPPLY & SEWER SERVICE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	12	61	114
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	0	2	3
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	0	1	2
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	1	8	13
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	1	3	7
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	3	18	41
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	1	8	14
AVALON WATER SUPPLY & SEWER SERVICE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	2	6
AVALON WATER SUPPLY & SEWER SERVICE	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	40	35	27
AVALON WATER SUPPLY & SEWER SERVICE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$25	0	0	23	22	14	8
AVALON WATER SUPPLY & SEWER SERVICE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$25	0	0	22	30	20	12
AVALON WATER SUPPLY & SEWER SERVICE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	24	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
AVALON WATER SUPPLY & SEWER SERVICE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$547	0	0	15	14	9	5
AVALON WATER SUPPLY & SEWER SERVICE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	39
AZLE	C	CONSERVATION - AZLE	DEMAND REDUCTION	$0	$0	8	19	27	36	53	80
AZLE	C	CONSERVATION, WATER LOSS CONTROL - AZLE	DEMAND REDUCTION	$947	N/A	20	20	0	0	0	0
AZLE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	252	244	200	325	474
AZLE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	273	416	617
AZLE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	6	11	8	12	18
AZLE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	6	4	7	10
AZLE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	41	30	46	69
AZLE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	23	18	26	39
AZLE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	51	66	65	124	221
AZLE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	46	34	52	78
AZLE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	224	8	7	6	13	32
AZLE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	209
B AND B WSC	C	CONSERVATION - B AND B WSC	DEMAND REDUCTION	$0	$0	1	2	3	4	6	9
B AND B WSC	C	CONSERVATION, WATER LOSS CONTROL - B AND B WSC	DEMAND REDUCTION	$389	N/A	1	1	0	0	0	0
B AND B WSC	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	24	58	116
B H P WSC*	C	CONSERVATION - B H P WSC	DEMAND REDUCTION	N/A	$0	0	1	1	1	2	3
B H P WSC*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	13	16	17
B H P WSC*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$834	0	0	0	1	2	4
B H P WSC*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	11	15	9	12	10
B H P WSC*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	0	2	1	4	4
B H P WSC*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	5
B H P WSC*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	4	7	9	11

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
B H P WSC*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	6
BALCH SPRINGS	C	CONSERVATION - BALCH SPRINGS	DEMAND REDUCTION	$0	$0	81	98	116	134	157	181
BALCH SPRINGS	C	CONSERVATION, WATER LOSS CONTROL - BALCH SPRINGS	DEMAND REDUCTION	$1155	N/A	14	14	0	0	0	0
BALCH SPRINGS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	$0	5	5	9	8	8	8
BALCH SPRINGS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$371	10	34	116	355	403	420
BALCH SPRINGS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	100	289	285	278	269
BALCH SPRINGS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	149
BALCH SPRINGS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	128	125
BEAR CREEK SUD	C	CONSERVATION - BEAR CREEK SUD	DEMAND REDUCTION	$0	$36	2	7	17	32	52	82
BEAR CREEK SUD	C	CONSERVATION, IRRIGATION RESTRICTIONS – BEAR CREEK SUD	DEMAND REDUCTION	$0	$0	21	31	44	61	80	110
BEAR CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - BEAR CREEK SUD	DEMAND REDUCTION	$1294	N/A	3	5	0	0	0	0
BEAR CREEK SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	196	313	376
BEAR CREEK SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	14	49	87
BEAR CREEK SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	11	17	13	20	21
BEAR CREEK SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	101	165	141	220	265
BEAR CREEK SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	7	25	28	58	84
BEAR CREEK SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	112
BEAR CREEK SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	54	111	178	255
BEAR CREEK SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	127
BECKER JIBA WSC	C	CONSERVATION - BECKER JIBA WSC	DEMAND REDUCTION	$0	$35	1	3	5	9	17	28
BECKER JIBA WSC	C	CONSERVATION, WATER LOSS CONTROL - BECKER JIBA WSC	DEMAND REDUCTION	$546	N/A	2	2	0	0	0	0
BECKER JIBA WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	73	120	138
BECKER JIBA WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	5	19	32
BECKER JIBA WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	5	7	5	8	8

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BECKER JIBA WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	49	63	52	85	97
BECKER JIBA WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	3	10	11	22	31
BECKER JIBA WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	41
BECKER JIBA WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	21	41	68	94
BECKER JIBA WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	47
BEDFORD	C	CONSERVATION - BEDFORD	DEMAND REDUCTION	$0	$102	31	113	153	198	233	269
BEDFORD	C	CONSERVATION, IRRIGATION RESTRICTIONS – BEDFORD	DEMAND REDUCTION	N/A	$80	0	261	306	324	323	323
BEDFORD	C	CONSERVATION, WATER LOSS CONTROL - BEDFORD	DEMAND REDUCTION	$128	N/A	966	1,016	0	0	0	0
BEDFORD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	920	789	973	948
BEDFORD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,080	1,248	1,233
BEDFORD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	41	32	37	37
BEDFORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	22	17	20	19
BEDFORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	155	121	141	138
BEDFORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	86	68	77	78
BEDFORD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	247	258	373	441
BEDFORD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	173	136	157	155
BEDFORD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	26	25	39	64
BEDFORD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	417
BELLS	C	BELLS - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | GRAYSON COUNTY	N/A	$873	0	55	55	55	55	55
BELLS	C	CONSERVATION - BELLS	DEMAND REDUCTION	$0	$0	1	1	2	3	10	16
BELLS	C	CONSERVATION, WATER LOSS CONTROL - BELLS	DEMAND REDUCTION	$20570	N/A	1	1	0	0	0	0
BELLS	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	4	19	37	374	571
BELLS	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	4	15	14	0	0
BENBROOK WATER AUTHORITY	C	CONSERVATION - BENBROOK	DEMAND REDUCTION	$563	$238	100	163	198	244	296	321
BENBROOK WATER AUTHORITY	C	CONSERVATION – WASTE PROHIBITION, BENBROOK	DEMAND REDUCTION	$0	$0	22	28	32	38	44	44

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BENBROOK WATER AUTHORITY	C	CONSERVATION, IRRIGATION RESTRICTIONS – BENBROOK	DEMAND REDUCTION	$78	$62	145	176	191	215	238	238
BENBROOK WATER AUTHORITY	C	CONSERVATION, WATER LOSS CONTROL - BENBROOK	DEMAND REDUCTION	$740	N/A	26	28	0	0	0	0
BENBROOK WATER AUTHORITY	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	1,304	1,147	849	1,073	903
BENBROOK WATER AUTHORITY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,164	1,380	1,174
BENBROOK WATER AUTHORITY	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	33	51	35	41	35
BENBROOK WATER AUTHORITY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	27	18	22	19
BENBROOK WATER AUTHORITY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	193	131	156	132
BENBROOK WATER AUTHORITY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	108	73	86	73
BENBROOK WATER AUTHORITY	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	263	307	278	412	420
BENBROOK WATER AUTHORITY	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	216	146	174	148
BENBROOK WATER AUTHORITY	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	1,292	40	32	27	43	61
BENBROOK WATER AUTHORITY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	397
BETHEL ASH WSC*	C	CONSERVATION - BETHEL-ASH WSC	DEMAND REDUCTION	$0	$0	2	3	3	4	5	6
BETHEL ASH WSC*	C	CONSERVATION, WATER LOSS CONTROL - BETHEL-ASH WSC	DEMAND REDUCTION	$358	N/A	1	1	0	0	0	0
BETHESDA WSC*	C	CONSERVATION - BETHESDA WSC	DEMAND REDUCTION	$344	$117	21	34	47	61	77	94
BETHESDA WSC*	C	CONSERVATION, IRRIGATION RESTRICTIONS – BETHESDA WSC	DEMAND REDUCTION	$90	$72	60	73	80	87	95	102
BETHESDA WSC*	C	CONSERVATION, WATER LOSS CONTROL - BETHESDA WSC	DEMAND REDUCTION	$1261	N/A	11	12	0	0	0	0
BETHESDA WSC*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	118	198	177	247	282
BETHESDA WSC*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	243	319	367
BETHESDA WSC*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	9	7	10	11
BETHESDA WSC*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	5	4	5	6
BETHESDA WSC*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	33	27	36	41
BETHESDA WSC*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	19	15	20	23

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BETHESDA WSC*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	24	53	58	95	132
BETHESDA WSC*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	37	30	40	46
BETHESDA WSC*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	6	6	10	19
BETHESDA WSC*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	125
BLACK ROCK WSC	C	BLACK ROCK WSC - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	N/A	$661	0	0	0	8	82	154
BLACK ROCK WSC	C	CONSERVATION - BLACK ROCK WSC	DEMAND REDUCTION	$0	$392	1	2	4	15	22	26
BLACK ROCK WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – BLACK ROCK WSC	DEMAND REDUCTION	N/A	$78	0	0	0	14	18	20
BLACK ROCK WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACK ROCK WSC	DEMAND REDUCTION	$1238	N/A	1	2	0	0	0	0
BLACKLAND WSC*	C	CONSERVATION - BLACKLAND WSC	DEMAND REDUCTION	$738	$357	16	24	29	34	42	49
BLACKLAND WSC*	C	CONSERVATION, IRRIGATION RESTRICTIONS – BLACKLAND WSC	DEMAND REDUCTION	$116	$75	23	29	30	31	35	37
BLACKLAND WSC*	C	CONSERVATION, WATER LOSS CONTROL - BLACKLAND WSC	DEMAND REDUCTION	$5143	N/A	4	5	0	0	0	0
BLACKLAND WSC*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	92	128	122
BLACKLAND WSC*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	7	20	29
BLACKLAND WSC*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	9	11	6	8	7
BLACKLAND WSC*	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	76	101	64	91	85
BLACKLAND WSC*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	5	16	14	24	27
BLACKLAND WSC*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	37
BLACKLAND WSC*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	34	53	72	83
BLACKLAND WSC*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	42
BLOOMING GROVE	C	CONSERVATION - BLOOMING GROVE	DEMAND REDUCTION	$0	$449	1	1	2	6	8	10
BLOOMING GROVE	C	CONSERVATION, IRRIGATION RESTRICTIONS – BLOOMING GROVE	DEMAND REDUCTION	N/A	$95	0	0	0	6	7	7
BLOOMING GROVE	C	CONSERVATION, WATER LOSS CONTROL - BLOOMING GROVE	DEMAND REDUCTION	$906	N/A	1	1	0	0	0	0
BLOOMING GROVE	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	7	25	52

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BLUE RIDGE	C	CONSERVATION - BLUE RIDGE	DEMAND REDUCTION	$983	$190	7	19	200	528	824	1,239
BLUE RIDGE	C	CONSERVATION – WASTE PROHIBITION, BLUE RIDGE	DEMAND REDUCTION	$0	$0	1	2	23	52	75	104
BLUE RIDGE	C	CONSERVATION, IRRIGATION RESTRICTIONS – BLUE RIDGE	DEMAND REDUCTION	$172	$77	11	22	198	457	652	903
BLUE RIDGE	C	CONSERVATION, WATER LOSS CONTROL - BLUE RIDGE	DEMAND REDUCTION	$1967	$61034	2	3	2	5	7	9
BLUE RIDGE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	567	5,930	13,663	19,437	26,857
BOIS D ARC MUD	C	CONSERVATION - BOIS D ARC MUD	DEMAND REDUCTION	$0	$0	1	2	4	6	11	18
BOIS D ARC MUD	C	CONSERVATION, WATER LOSS CONTROL - BOIS D ARC MUD	DEMAND REDUCTION	$612	N/A	1	1	0	0	0	0
BOIS D ARC MUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	23	77	181	390	623
BOLIVAR WSC	C	BOLIVAR WSC - NEW WELL (S) IN THE TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1313	$482	250	250	250	250	250	250
BOLIVAR WSC	C	CONSERVATION - BOLIVAR WSC	DEMAND REDUCTION	$0	$0	5	11	18	26	37	51
BOLIVAR WSC	C	CONSERVATION, WATER LOSS CONTROL - BOLIVAR WSC	DEMAND REDUCTION	$722	N/A	5	6	0	0	0	0
BOLIVAR WSC	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	3	3	3	3	3
BOLIVAR WSC	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$370	0	17	44	117	161	156
BOLIVAR WSC	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	52	111	93	111	99
BOLIVAR WSC	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	1	22	70
BOLIVAR WSC	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	49	74	97	100	76
BOLIVAR WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	307	332	341
BOLIVAR WSC	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	122	131	181
BOLIVAR WSC	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	667	700	459	496	507
BOLIVAR WSC	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	237	262	181	195	201
BOLIVAR WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	115
BOLIVAR WSC	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	55
BOLIVAR WSC	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	51	46
BONHAM	C	CONSERVATION - BONHAM	DEMAND REDUCTION	$0	$0	10	23	42	72	108	155
BONHAM	C	CONSERVATION, WATER LOSS CONTROL - BONHAM	DEMAND REDUCTION	$511	N/A	10	13	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BONHAM	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	0	167	1,339	2,366	3,538
BOYD	C	CONSERVATION - BOYD	DEMAND REDUCTION	$0	$0	1	5	9	5	9	12
BOYD	C	CONSERVATION, IRRIGATION RESTRICTIONS – BOYD	DEMAND REDUCTION	N/A	N/A	0	6	9	0	0	0
BOYD	C	CONSERVATION, WATER LOSS CONTROL - BOYD	DEMAND REDUCTION	$170	N/A	2	7	22	0	0	0
BOYD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	7	16	41	85	88
BOYD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	57	108	115
BOYD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	1	2	3	3
BOYD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	1	2	2
BOYD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	3	6	12	13
BOYD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	4	7	7
BOYD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	1	4	14	32	41
BOYD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	3	7	14	14
BOYD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	11	0	0	1	3	6
BOYD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	39
BRANDON IRENE WSC*	C	CONSERVATION - BRANDON-IRENE WSC	DEMAND REDUCTION	N/A	$0	0	0	0	1	1	1
BRIDGEPORT	C	CONSERVATION - BRIDGEPORT	DEMAND REDUCTION	$0	$373	4	33	56	88	127	174
BRIDGEPORT	C	CONSERVATION, IRRIGATION RESTRICTIONS – BRIDGEPORT	DEMAND REDUCTION	N/A	$86	0	41	54	74	98	122
BRIDGEPORT	C	CONSERVATION, WATER LOSS CONTROL - BRIDGEPORT	DEMAND REDUCTION	$464	N/A	6	8	0	0	0	0
BRIDGEPORT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	79	159	207	426	559
BRIDGEPORT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	284	547	729
BRIDGEPORT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	7	8	16	22
BRIDGEPORT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	4	9	12
BRIDGEPORT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	26	31	62	82
BRIDGEPORT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	15	19	34	45

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BRIDGEPORT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	16	43	68	163	261
BRIDGEPORT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	30	36	69	92
BRIDGEPORT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	4	7	17	38
BRIDGEPORT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	247
BUENA VISTA-BETHEL SUD	C	CONSERVATION - BUENA VISTA - BETHEL SUD	DEMAND REDUCTION	$0	$244	4	10	45	77	125	187
BUENA VISTA-BETHEL SUD	C	CONSERVATION, IRRIGATION RESTRICTIONS – BUENA VISTA-BETHEL SUD	DEMAND REDUCTION	N/A	$53	0	0	49	69	99	132
BUENA VISTA-BETHEL SUD	C	CONSERVATION, WATER LOSS CONTROL - BUENA VISTA - BETHEL SUD	DEMAND REDUCTION	$340	N/A	6	8	0	0	0	0
BUENA VISTA-BETHEL SUD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	16	134	351
BUENA VISTA-BETHEL SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	22	172	457
BUENA VISTA-BETHEL SUD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	1	5	14
BUENA VISTA-BETHEL SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	0	3	7
BUENA VISTA-BETHEL SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	2	19	51
BUENA VISTA-BETHEL SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	2	11	29
BUENA VISTA-BETHEL SUD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	5	51	164
BUENA VISTA-BETHEL SUD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	3	22	58
BUENA VISTA-BETHEL SUD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	1	4	24
BUENA VISTA-BETHEL SUD	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	78	98	109
BUENA VISTA-BETHEL SUD	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$25	0	0	26	42	40	31
BUENA VISTA-BETHEL SUD	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$25	0	0	24	57	57	46
BUENA VISTA-BETHEL SUD	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$547	0	0	17	28	27	21
BUENA VISTA-BETHEL SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	155
BURLESON*	C	CONSERVATION - BURLESON	DEMAND REDUCTION	$0	$37	4	9	14	28	46	61
BURLESON*	C	CONSERVATION, IRRIGATION RESTRICTIONS – BURLESON	DEMAND REDUCTION	$0	$0	38	39	43	59	72	80

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
BURLESON*	C	CONSERVATION, WATER LOSS CONTROL - BURLESON	DEMAND REDUCTION	$1556	N/A	6	6	0	0	0	0
BURLESON*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	137	182	190	277	296
BURLESON*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	260	356	385
BURLESON*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	8	8	11	12
BURLESON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	5	25	34
BURLESON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	30	29	40	43
BURLESON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	17	16	22	24
BURLESON*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	28	49	62	106	138
BURLESON*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	34	33	45	48
BURLESON*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	5	6	11	20
BURLESON*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	130
BUTLER WSC	C	CONSERVATION - BUTLER	DEMAND REDUCTION	$0	$0	1	1	2	3	4	4
BUTLER WSC	C	CONSERVATION, WATER LOSS CONTROL - BUTLER WSC	DEMAND REDUCTION	$310	N/A	1	1	0	0	0	0
CADDO BASIN SUD*	C	CONSERVATION - CADDO BASIN SUD	DEMAND REDUCTION	$0	$0	1	2	4	7	12	18
CADDO BASIN SUD*	C	CONSERVATION, WATER LOSS CONTROL - CADDO BASIN SUD	DEMAND REDUCTION	$359	N/A	1	2	0	0	0	0
CADDO BASIN SUD*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	62	95	102
CADDO BASIN SUD*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	5	15	23
CADDO BASIN SUD*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	5	6	5	6	6
CADDO BASIN SUD*	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	1	38	59	44	68	71
CADDO BASIN SUD*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	3	8	9	17	23
CADDO BASIN SUD*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	30
CADDO BASIN SUD*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	18	35	53	70
CADDO BASIN SUD*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	35
CALLISBURG WSC	C	CONSERVATION - CALLISBURG WSC	DEMAND REDUCTION	$0	$0	1	1	1	2	2	3

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
CALLISBURG WSC	C	CONSERVATION, WATER LOSS CONTROL - CALLISBURG WSC	DEMAND REDUCTION	$209	N/A	1	1	0	0	0	0
CARROLLTON	C	CONSERVATION - CARROLLTON	DEMAND REDUCTION	$108	$55	419	529	600	675	753	831
CARROLLTON	C	CONSERVATION, IRRIGATION RESTRICTIONS – CARROLLTON	DEMAND REDUCTION	$88	$81	655	726	714	707	706	706
CARROLLTON	C	CONSERVATION, WATER LOSS CONTROL - CARROLLTON	DEMAND REDUCTION	$1219	N/A	121	121	0	0	0	0
CARROLLTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	29	56	50	47	45
CARROLLTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	174	783	2,299	2,448	2,400
CARROLLTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	514	1,944	1,844	1,693	1,539
CARROLLTON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	849
CARROLLTON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	778	716
CASH SUD*	C	CONSERVATION - CASH	DEMAND REDUCTION	N/A	$0	0	1	2	3	5	7
CASH SUD*	C	CONSERVATION, IRRIGATION RESTRICTIONS – CASH SUD	DEMAND REDUCTION	$0	$0	4	5	7	8	9	11
CASH SUD*	C	CONSERVATION, WATER LOSS CONTROL - CASH SUD	DEMAND REDUCTION	$162	N/A	1	1	0	0	0	0
CASH SUD*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	19	22	19
CASH SUD*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	1	3	4
CASH SUD*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	17	21	12	14	14
CASH SUD*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	1	3	3	4	4
CASH SUD*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	6
CASH SUD*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	0	4	5	13
CASH SUD*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	6
CEDAR HILL	C	CONSERVATION - CEDAR HILL	DEMAND REDUCTION	$118	$53	220	325	432	533	587	642
CEDAR HILL	C	CONSERVATION – WASTE PROHIBITION, CEDAR HILL	DEMAND REDUCTION	$686	$493	36	53	67	74	74	74
CEDAR HILL	C	CONSERVATION, IRRIGATION RESTRICTIONS – CEDAR HILL	DEMAND REDUCTION	$85	$74	292	390	456	494	494	494
CEDAR HILL	C	CONSERVATION, WATER LOSS CONTROL - CEDAR HILL	DEMAND REDUCTION	$223	$0	212	255	222	255	255	255
CEDAR HILL	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	3	29	30	29	27
CEDAR HILL	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	21	397	1,370	1,497	1,488

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
CEDAR HILL	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	61	986	1,099	1,035	954
CEDAR HILL	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	526
CEDAR HILL	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	476	444
CELINA	C	CONSERVATION - CELINA	DEMAND REDUCTION	$617	$143	90	338	637	1,057	1,382	1,747
CELINA	C	CONSERVATION, IRRIGATION RESTRICTIONS – CELINA	DEMAND REDUCTION	$84	$70	123	348	587	884	1,059	1,233
CELINA	C	CONSERVATION, WATER LOSS CONTROL - CELINA	DEMAND REDUCTION	$1177	N/A	23	58	0	0	0	0
CELINA	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	8	27	37	50	49
CELINA	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	50	376	1,685	2,601	2,652
CELINA	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	147	933	1,352	1,798	1,700
CELINA	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	2,838	3,153	4,051	5,605	5,605
CELINA	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	6,400	7,219	7,252
CELINA	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	137	291	328
CELINA	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	140	195	133	117	80
CELINA	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	1,263	1,894	1,387	1,318	994
CELINA	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	97	288	285	348	317
CELINA	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	423
CELINA	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	623	1,111	1,061	963
CELINA	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	2,767	2,452	1,554	0	0
CELINA	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	1,761	2,117	3,088
CELINA	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	1,900	5,856	6,652	7,981	8,683
CELINA	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	675	2,198	2,627	3,151	3,435
CELINA	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1082	0	0	0	0	0	2,454
CELINA	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	938
CELINA	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	826	791
CHATFIELD WSC	C	CONSERVATION - CHATFIELD WSC	DEMAND REDUCTION	$0	$0	1	3	5	7	10	13
CHATFIELD WSC	C	CONSERVATION, WATER LOSS CONTROL - CHATFIELD WSC	DEMAND REDUCTION	$432	N/A	2	2	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
CHATFIELD WSC	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	44	97	169
CHICO	C	CONSERVATION - CHICO	DEMAND REDUCTION	$0	$363	1	6	9	18	26	36
CHICO	C	CONSERVATION, IRRIGATION RESTRICTIONS – CHICO	DEMAND REDUCTION	N/A	$78	0	8	9	17	21	26
CHICO	C	CONSERVATION, WATER LOSS CONTROL - CHICO	DEMAND REDUCTION	$497	N/A	1	1	0	0	0	0
CHICO	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	2	66	111	137
CHICO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	90	142	177
CHICO	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	3	4	5
CHICO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	1	2	3
CHICO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	10	16	21
CHICO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	6	9	10
CHICO	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	1	22	42	64
CHICO	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	1	11	18	22
CHICO	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	2	4	9
CHICO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	60
COCKRELL HILL	C	CONSERVATION - COCKRELL HILL	DEMAND REDUCTION	$0	$14	27	29	7	5	9	24
COCKRELL HILL	C	CONSERVATION, WATER LOSS CONTROL - COCKRELL HILL	DEMAND REDUCTION	$462	N/A	2	2	0	0	0	0
COCKRELL HILL	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	1	1	1	2	3
COCKRELL HILL	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$369	0	1	19	49	67	138
COCKRELL HILL	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	4	45	40	47	88
COCKRELL HILL	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	49
COCKRELL HILL	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	22	41
COLLEGE MOUND WSC	C	CONSERVATION - COLLEGE MOUND WSC	DEMAND REDUCTION	$0	$0	4	8	15	23	41	61
COLLEGE MOUND WSC	C	CONSERVATION, WATER LOSS CONTROL - COLLEGE MOUND WSC	DEMAND REDUCTION	$654	N/A	4	5	0	0	0	0
COLLEGE MOUND WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	179	343	378
COLLEGE MOUND WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	13	54	88

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COLLEGE MOUND WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	13	16	12	21	21
COLLEGE MOUND WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	114	157	127	241	266
COLLEGE MOUND WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	8	24	26	64	84
COLLEGE MOUND WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	113
COLLEGE MOUND WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	52	101	196	256
COLLEGE MOUND WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	128
COLLEYVILLE	C	CONSERVATION - COLLEYVILLE	DEMAND REDUCTION	$0	$42	141	241	288	332	367	403
COLLEYVILLE	C	CONSERVATION – WASTE PROHIBITION, COLLEYVILLE	DEMAND REDUCTION	N/A	$0	0	90	108	113	113	113
COLLEYVILLE	C	CONSERVATION, IRRIGATION RESTRICTIONS – COLLEYVILLE	DEMAND REDUCTION	N/A	$38	0	262	309	320	319	319
COLLEYVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLEYVILLE	DEMAND REDUCTION	$2471	N/A	46	48	0	0	0	0
COLLEYVILLE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	405	853	742	932	917
COLLEYVILLE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,016	1,196	1,193
COLLEYVILLE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	10	38	30	36	36
COLLEYVILLE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	20	16	19	19
COLLEYVILLE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	144	115	134	134
COLLEYVILLE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	80	63	75	75
COLLEYVILLE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	82	229	243	357	427
COLLEYVILLE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	161	128	150	150
COLLEYVILLE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	13	24	24	37	62
COLLEYVILLE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	404
COLLINSVILLE	C	CONSERVATION - COLLINSVILLE	DEMAND REDUCTION	$0	$0	1	2	4	6	8	13
COLLINSVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLINSVILLE	DEMAND REDUCTION	$1126	N/A	1	2	0	0	0	0
COLLINSVILLE	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	44	84	163	248	398

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
COLLINSVILLE	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	43	65	62	0	0
COMBINE WSC	C	CONSERVATION - COMBINE WSC	DEMAND REDUCTION	$0	$0	1	3	5	8	11	16
COMBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - COMBINE WSC	DEMAND REDUCTION	$1060	N/A	2	2	0	0	0	0
COMBINE WSC	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	2
COMBINE WSC	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	4	1	2	2	2	0
COMBINE WSC	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$375	7	8	21	69	84	95
COMBINE WSC	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	21	53	55	59	61
COMBINE WSC	C	SEAGOVILLE - UNALLOCATED SUPPLY UTILIZATION	D | TAWAKONI LAKE/RESERVOIR	$0	$0	11	48	56	65	77	99
COMBINE WSC	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	34
COMBINE WSC	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	27	29
COMMUNITY WSC	C	CONSERVATION - COMMUNITY WSC	DEMAND REDUCTION	$0	$0	1	2	4	6	8	10
COMMUNITY WSC	C	CONSERVATION, WATER LOSS CONTROL - COMMUNITY WSC	DEMAND REDUCTION	$242	N/A	2	2	0	0	0	0
COMMUNITY WSC	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	31	44	36	48	51
COMMUNITY WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	51	62	65
COMMUNITY WSC	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	2	2	2	2
COMMUNITY WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	1	1
COMMUNITY WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	8	5	8	8
COMMUNITY WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	4	3	3
COMMUNITY WSC	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	6	12	12	18	23
COMMUNITY WSC	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	8	6	8	8
COMMUNITY WSC	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	1	2	3
COMMUNITY WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	22
COPEVILLE SUD	C	CONSERVATION - COPEVILLE SUD	DEMAND REDUCTION	$0	$20	7	9	14	21	41	80
COPEVILLE SUD	C	CONSERVATION, WATER LOSS CONTROL - COPEVILLE SUD	DEMAND REDUCTION	$684	N/A	2	2	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COPEVILLE SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	65	137	204
COPEVILLE SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	5	21	47
COPEVILLE SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	5	6	5	8	12
COPEVILLE SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	41	55	45	97	144
COPEVILLE SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	3	9	10	26	45
COPEVILLE SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	61
COPEVILLE SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	18	36	78	137
COPEVILLE SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	68
COPPELL	C	CONSERVATION - COPPELL	DEMAND REDUCTION	$53	$36	414	475	508	541	578	614
COPPELL	C	CONSERVATION, IRRIGATION RESTRICTIONS – COPPELL	DEMAND REDUCTION	$64	$55	300	337	334	333	332	332
COPPELL	C	CONSERVATION, WATER LOSS CONTROL - COPPELL	DEMAND REDUCTION	$1718	N/A	56	56	0	0	0	0
COPPELL	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	4	22	21	19	20
COPPELL	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	25	303	958	1,043	1,033
COPPELL	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	73	752	769	721	663
COPPELL	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	365
COPPELL	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	331	308
CORBET WSC	C	CONSERVATION - CORBET WSC	DEMAND REDUCTION	$0	$0	1	2	3	4	6	7
CORBET WSC	C	CONSERVATION, WATER LOSS CONTROL - CORBET WSC	DEMAND REDUCTION	$320	N/A	1	1	0	0	0	0
CORBET WSC	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	25	54	96
CORINTH	C	CONSERVATION - CORINTH	DEMAND REDUCTION	$0	$330	20	120	161	177	193	210
CORINTH	C	CONSERVATION – WASTE PROHIBITION, CORINTH	DEMAND REDUCTION	N/A	$294	0	39	43	43	43	43
CORINTH	C	CONSERVATION, IRRIGATION RESTRICTIONS – CORINTH	DEMAND REDUCTION	N/A	$79	0	146	161	160	160	160
CORINTH	C	CONSERVATION, WATER LOSS CONTROL - CORINTH	DEMAND REDUCTION	$1123	N/A	21	25	0	0	0	0
CORINTH	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	4	5	4	5	4
CORINTH	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$370	0	22	71	192	260	241
CORINTH	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	63	175	153	180	154

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
CORINTH	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	506	536	528
CORINTH	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	200	212	280
CORINTH	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	805	1,096	755	799	784
CORINTH	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	287	411	298	316	311
CORINTH	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	179
CORINTH	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	85
CORINTH	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	83	72
CORSICANA	C	CONSERVATION - CORSICANA	DEMAND REDUCTION	$0	$226	28	60	89	238	331	393
CORSICANA	C	CONSERVATION, IRRIGATION RESTRICTIONS – CORSICANA	DEMAND REDUCTION	N/A	$66	0	0	0	209	254	278
CORSICANA	C	CONSERVATION, WATER LOSS CONTROL - CORSICANA	DEMAND REDUCTION	$1409	N/A	31	33	0	0	0	0
CORSICANA	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	286	952	1,960
COUNTY-OTHER, COLLIN	C	CONSERVATION - COLLIN COUNTY OTHER	DEMAND REDUCTION	$0	$0	2	4	6	8	20	37
COUNTY-OTHER, COLLIN	C	CONSERVATION, WATER LOSS CONTROL - COLLIN COUNTY OTHER	DEMAND REDUCTION	$450	N/A	3	3	0	0	0	0
COUNTY-OTHER, COLLIN	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	279	618	794	1,099	1,099
COUNTY-OTHER, COLLIN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	8	85	146
COUNTY-OTHER, COLLIN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	1	13	34
COUNTY-OTHER, COLLIN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	1	1	1	5	8
COUNTY-OTHER, COLLIN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	9	11	4	60	102
COUNTY-OTHER, COLLIN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	1	2	2	16	33
COUNTY-OTHER, COLLIN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	44
COUNTY-OTHER, COLLIN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	4	5	48	100
COUNTY-OTHER, COLLIN	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	271	481	305	0	0
COUNTY-OTHER, COLLIN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	50

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
COUNTY-OTHER, COOKE	C	CONSERVATION - COOKE COUNTY OTHER	DEMAND REDUCTION	$0	$0	2	5	8	16	25	71
COUNTY-OTHER, COOKE	C	CONSERVATION, WATER LOSS CONTROL - COOKE COUNTY OTHER	DEMAND REDUCTION	$312	N/A	4	4	0	0	0	0
COUNTY-OTHER, COOKE	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	0	32	834
COUNTY-OTHER, COOKE	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	0	0	0	146	910
COUNTY-OTHER, DALLAS	C	CONSERVATION - DALLAS COUNTY	DEMAND REDUCTION	$0	$0	7	14	22	29	38	47
COUNTY-OTHER, DALLAS	C	CONSERVATION, IRRIGATION RESTRICTIONS – COUNTY-OTHER, DALLAS	DEMAND REDUCTION	$22	$10	60	65	65	66	68	70
COUNTY-OTHER, DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS COUNTY	DEMAND REDUCTION	$367	N/A	11	11	0	0	0	0
COUNTY-OTHER, DALLAS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	1	3	3	3	4
COUNTY-OTHER, DALLAS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	8	44	133	151	153
COUNTY-OTHER, DALLAS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	23	109	106	104	98
COUNTY-OTHER, DALLAS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	60	69	52	64	62
COUNTY-OTHER, DALLAS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	71	81	79
COUNTY-OTHER, DALLAS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	3	2	2	2
COUNTY-OTHER, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	1	1	1
COUNTY-OTHER, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	12	9	9	9
COUNTY-OTHER, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	6	4	5	5
COUNTY-OTHER, DALLAS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	12	18	17	24	28
COUNTY-OTHER, DALLAS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	13	9	10	10
COUNTY-OTHER, DALLAS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	2	2	3	4
COUNTY-OTHER, DALLAS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	27
COUNTY-OTHER, DALLAS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	55
COUNTY-OTHER, DALLAS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	47	46
COUNTY-OTHER, DENTON	C	CONSERVATION - DENTON COUNTY	DEMAND REDUCTION	$0	$0	4	10	19	55	121	273
COUNTY-OTHER, DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY	DEMAND REDUCTION	$562	N/A	6	8	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1238	$486	504	504	504	504	504	504
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | DENTON COUNTY	$1202	$466	817	817	817	817	817	817
COUNTY-OTHER, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	1	2	3	7	12
COUNTY-OTHER, DENTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	6	27	155	366	659
COUNTY-OTHER, DENTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	18	66	124	253	423
COUNTY-OTHER, DENTON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	408	753	1,452
COUNTY-OTHER, DENTON	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	161	298	768
COUNTY-OTHER, DENTON	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	226	414	611	1,120	2,161
COUNTY-OTHER, DENTON	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	80	156	241	443	855
COUNTY-OTHER, DENTON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	491
COUNTY-OTHER, DENTON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	233
COUNTY-OTHER, DENTON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	116	197
COUNTY-OTHER, ELLIS	C	CONSERVATION - ELLIS COUNTY	DEMAND REDUCTION	$0	$0	1	2	5	20	77	192
COUNTY-OTHER, ELLIS	C	CONSERVATION, WATER LOSS CONTROL - ELLIS COUNTY	DEMAND REDUCTION	$250	N/A	2	2	0	0	0	0
COUNTY-OTHER, ELLIS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
COUNTY-OTHER, ELLIS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
COUNTY-OTHER, ELLIS	C	ENNIS - INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$386	0	0	3	34	202	232
COUNTY-OTHER, ELLIS	C	ENNIS - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	7	73	86
COUNTY-OTHER, ELLIS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	308	278	198	400	1,013
COUNTY-OTHER, ELLIS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	271	512	1,323
COUNTY-OTHER, ELLIS	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	53	118	151	129	111	102
COUNTY-OTHER, ELLIS	C	ROCKETT SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	27	237	975
COUNTY-OTHER, ELLIS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	8	11	8	15	41
COUNTY-OTHER, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	6	4	8	21

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	44	29	56	147
COUNTY-OTHER, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	25	16	31	81
COUNTY-OTHER, ELLIS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	62	74	64	153	475
COUNTY-OTHER, ELLIS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	53	35	65	167
COUNTY-OTHER, ELLIS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	8	10	8	7	15	70
COUNTY-OTHER, ELLIS	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	15	70	102
COUNTY-OTHER, ELLIS	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$25	0	0	2	8	28	29
COUNTY-OTHER, ELLIS	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$25	0	0	1	11	41	43
COUNTY-OTHER, ELLIS	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$547	0	0	1	5	19	19
COUNTY-OTHER, ELLIS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	447
COUNTY-OTHER, FANNIN	C	CONSERVATION - FANNIN COUNTY	DEMAND REDUCTION	$0	$0	2	4	6	11	37	77
COUNTY-OTHER, FANNIN	C	CONSERVATION, WATER LOSS CONTROL - FANNIN COUNTY	DEMAND REDUCTION	$325	N/A	3	3	0	0	0	0
COUNTY-OTHER, FANNIN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	43	44	305	1,778	3,433
COUNTY-OTHER, FREESTONE	C	CONSERVATION - FREESTONE COUNTY	DEMAND REDUCTION	$0	$0	1	3	4	6	18	54
COUNTY-OTHER, FREESTONE	C	CONSERVATION, WATER LOSS CONTROL - FREESTONE COUNTY	DEMAND REDUCTION	$322	N/A	2	2	0	0	0	0
COUNTY-OTHER, FREESTONE	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	3	17	72
COUNTY-OTHER, FREESTONE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	109	282	632
COUNTY-OTHER, FREESTONE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	149	362	822
COUNTY-OTHER, FREESTONE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	4	11	25
COUNTY-OTHER, FREESTONE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	2	6	13
COUNTY-OTHER, FREESTONE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	17	41	92
COUNTY-OTHER, FREESTONE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	10	22	52
COUNTY-OTHER, FREESTONE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	36	108	294
COUNTY-OTHER, FREESTONE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	19	46	103

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, FREESTONE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	3	11	43
COUNTY-OTHER, FREESTONE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	278
COUNTY-OTHER, GRAYSON	C	CONSERVATION - GRAYSON COUNTY	DEMAND REDUCTION	$0	$0	2	4	4	6	24	47
COUNTY-OTHER, GRAYSON	C	CONSERVATION, WATER LOSS CONTROL - GRAYSON COUNTY	DEMAND REDUCTION	$314	N/A	4	3	0	0	0	0
COUNTY-OTHER, GRAYSON	C	DENISON - TEXOMA WITH INFRASTRUCTURE IMPROVEMENTS	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	$0	$3575	25	58	63	96	147	205
COUNTY-OTHER, GRAYSON	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	385	484	694	1,174	1,719
COUNTY-OTHER, GRAYSON	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	375	376	266	0	0
COUNTY-OTHER, HENDERSON*	C	CONSERVATION - HENDERSON COUNTY	DEMAND REDUCTION	$0	$0	1	1	2	2	1	2
COUNTY-OTHER, HENDERSON*	C	CONSERVATION, WATER LOSS CONTROL - HENDERSON COUNTY	DEMAND REDUCTION	$169	N/A	2	1	0	0	0	0
COUNTY-OTHER, HENDERSON*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	15	19	8	0	6
COUNTY-OTHER, HENDERSON*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	10	0	8
COUNTY-OTHER, HENDERSON*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	1	0	0	0
COUNTY-OTHER, HENDERSON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$200	0	0	39	27	0	25
COUNTY-OTHER, HENDERSON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	3	1	0	1
COUNTY-OTHER, HENDERSON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	3	1	0	0
COUNTY-OTHER, HENDERSON*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	3	5	2	0	3
COUNTY-OTHER, HENDERSON*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	4	1	0	1
COUNTY-OTHER, HENDERSON*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	1	0	0	0
COUNTY-OTHER, HENDERSON*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	3
COUNTY-OTHER, JACK	C	CONSERVATION - JACK COUNTY	DEMAND REDUCTION	$0	$0	2	4	6	8	10	12
COUNTY-OTHER, JACK	C	CONSERVATION, WATER LOSS CONTROL - JACK COUNTY	DEMAND REDUCTION	$294	N/A	3	3	0	0	0	0
COUNTY-OTHER, JACK	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	10	10	8	10	9
COUNTY-OTHER, JACK	C	JACKSBORO - UNALLOCATED SUPPLY UTILIZATION	C | LOST CREEK-JACKSBORO LAKE/RESERVOIR SYSTEM	$0	$0	7	7	7	7	7	7

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, JACK	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	11	12	12
COUNTY-OTHER, JACK	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
COUNTY-OTHER, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
COUNTY-OTHER, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	1	1	1
COUNTY-OTHER, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	1	1
COUNTY-OTHER, JACK	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	2	3	3	4	4
COUNTY-OTHER, JACK	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	2	1	2	1
COUNTY-OTHER, JACK	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	7	0	0	0	0	1
COUNTY-OTHER, JACK	C	WALNUT CREEK SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	43	37	33	24	17	13
COUNTY-OTHER, JACK	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	4
COUNTY-OTHER, KAUFMAN	C	CONSERVATION - KAUFMAN COUNTY	DEMAND REDUCTION	$0	$0	1	2	3	5	23	64
COUNTY-OTHER, KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY	DEMAND REDUCTION	$191	N/A	1	2	0	0	0	0
COUNTY-OTHER, KAUFMAN	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	51	36	21	38	56
COUNTY-OTHER, KAUFMAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$759	0	0	0	63	219	415
COUNTY-OTHER, KAUFMAN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	2	27	79
COUNTY-OTHER, KAUFMAN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	4	5	2	10	20
COUNTY-OTHER, KAUFMAN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	36	41	26	123	240
COUNTY-OTHER, KAUFMAN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	3	7	5	33	77
COUNTY-OTHER, KAUFMAN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	102
COUNTY-OTHER, KAUFMAN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	15	20	97	232
COUNTY-OTHER, KAUFMAN	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	1	1	2	2
COUNTY-OTHER, KAUFMAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	0	1	1
COUNTY-OTHER, KAUFMAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	6	3	5	9
COUNTY-OTHER, KAUFMAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	2	3	4

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, KAUFMAN	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	11	10	7	14	26
COUNTY-OTHER, KAUFMAN	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	7	4	6	9
COUNTY-OTHER, KAUFMAN	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	58	1	1	0	2	4
COUNTY-OTHER, KAUFMAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$847	0	0	0	0	0	140
COUNTY-OTHER, NAVARRO	C	CONSERVATION - NAVARRO COUNTY	DEMAND REDUCTION	$0	$0	1	3	5	8	13	32
COUNTY-OTHER, NAVARRO	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO COUNTY	DEMAND REDUCTION	$373	N/A	1	2	0	0	0	0
COUNTY-OTHER, NAVARRO	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	43	110	355
COUNTY-OTHER, NAVARRO	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	6	9	9	13	24
COUNTY-OTHER, NAVARRO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	11	16	31
COUNTY-OTHER, NAVARRO	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	0	0	1
COUNTY-OTHER, NAVARRO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
COUNTY-OTHER, NAVARRO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	2	3
COUNTY-OTHER, NAVARRO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	1	3
COUNTY-OTHER, NAVARRO	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	1	2	3	5	11
COUNTY-OTHER, NAVARRO	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	1	1	2	4
COUNTY-OTHER, NAVARRO	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	1	2
COUNTY-OTHER, NAVARRO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	11
COUNTY-OTHER, PARKER	C	CONSERVATION - PARKER COUNTY	DEMAND REDUCTION	$0	$0	22	42	50	104	203	355
COUNTY-OTHER, PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY	DEMAND REDUCTION	$1787	N/A	33	31	0	0	0	0
COUNTY-OTHER, PARKER	C	COUNTY-OTHER, PARKER - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | PARKER COUNTY	$1105	$456	235	235	235	235	235	235
COUNTY-OTHER, PARKER	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	213	0	558	1,908	3,081
COUNTY-OTHER, PARKER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	767	2,450	4,010
COUNTY-OTHER, PARKER	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	5	0	23	73	120

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	12	39	63
COUNTY-OTHER, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	85	276	451
COUNTY-OTHER, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	49	154	252
COUNTY-OTHER, PARKER	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	43	0	184	731	1,436
COUNTY-OTHER, PARKER	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	97	308	505
COUNTY-OTHER, PARKER	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	628	7	0	18	77	209
COUNTY-OTHER, PARKER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	1,357
COUNTY-OTHER, ROCKWALL	C	CONSERVATION - ROCKWALL COUNTY	DEMAND REDUCTION	$0	$0	1	4	6	7	10	18
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, IRRIGATION RESTRICTIONS – COUNTY-OTHER, ROCKWALL	DEMAND REDUCTION	$175	$89	11	17	17	16	18	28
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL COUNTY	DEMAND REDUCTION	$368	N/A	2	3	0	0	0	0
COUNTY-OTHER, ROCKWALL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	52	70	95
COUNTY-OTHER, ROCKWALL	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	4	11	22
COUNTY-OTHER, ROCKWALL	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	6	7	4	4	5
COUNTY-OTHER, ROCKWALL	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	54	65	38	50	66
COUNTY-OTHER, ROCKWALL	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	10	7	13	22
COUNTY-OTHER, ROCKWALL	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	28
COUNTY-OTHER, ROCKWALL	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	21	29	39	65
COUNTY-OTHER, ROCKWALL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	32
COUNTY-OTHER, TARRANT	C	CONSERVATION - TARRANT COUNTY	DEMAND REDUCTION	$0	$0	24	45	63	131	213	346
COUNTY-OTHER, TARRANT	C	CONSERVATION, IRRIGATION RESTRICTIONS – COUNTY-OTHER, TARRANT	DEMAND REDUCTION	$78	$81	195	203	189	295	383	519
COUNTY-OTHER, TARRANT	C	CONSERVATION, WATER LOSS CONTROL - TARRANT COUNTY	DEMAND REDUCTION	$324	N/A	36	34	0	0	0	0
COUNTY-OTHER, TARRANT	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	2

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
COUNTY-OTHER, TARRANT	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	16	5	5	4	3	0
COUNTY-OTHER, TARRANT	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$369	38	28	64	173	180	175
COUNTY-OTHER, TARRANT	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	83	161	139	124	112
COUNTY-OTHER, TARRANT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	230	375	585	1,003	1,405
COUNTY-OTHER, TARRANT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	803	1,289	1,828
COUNTY-OTHER, TARRANT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	5	17	23	38	54
COUNTY-OTHER, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	9	13	20	29
COUNTY-OTHER, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	62	90	144	205
COUNTY-OTHER, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	36	51	82	115
COUNTY-OTHER, TARRANT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	46	100	192	385	655
COUNTY-OTHER, TARRANT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	70	101	162	230
COUNTY-OTHER, TARRANT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	8	11	19	40	95
COUNTY-OTHER, TARRANT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	619
COUNTY-OTHER, TARRANT	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	62
COUNTY-OTHER, TARRANT	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	57	52
COUNTY-OTHER, WISE	C	CONSERVATION - WISE COUNTY	DEMAND REDUCTION	$0	$0	13	27	40	56	72	134
COUNTY-OTHER, WISE	C	CONSERVATION, WATER LOSS CONTROL - WISE COUNTY	DEMAND REDUCTION	$432	N/A	20	20	0	0	0	0
COUNTY-OTHER, WISE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	232	232	199	256	524
COUNTY-OTHER, WISE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	270	328	681
COUNTY-OTHER, WISE	C	RUNAWAY BAY - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	652	567	442	516	542	1,685
COUNTY-OTHER, WISE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	5	10	8	10	20
COUNTY-OTHER, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	5	4	5	11
COUNTY-OTHER, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	39	30	37	77
COUNTY-OTHER, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	22	17	21	42

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, WISE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	47	62	65	98	244
COUNTY-OTHER, WISE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	43	34	41	86
COUNTY-OTHER, WISE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	145	8	6	6	10	35
COUNTY-OTHER, WISE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	230
CRANDALL	C	CONSERVATION - CRANDALL	DEMAND REDUCTION	$838	$390	14	25	33	45	51	56
CRANDALL	C	CONSERVATION, IRRIGATION RESTRICTIONS – CRANDALL	DEMAND REDUCTION	$127	$83	21	28	33	41	41	41
CRANDALL	C	CONSERVATION, WATER LOSS CONTROL - CRANDALL	DEMAND REDUCTION	$585	N/A	4	5	0	0	0	0
CRANDALL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	264	255	192
CRANDALL	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	19	40	45
CRANDALL	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	25	28	18	16	11
CRANDALL	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	119	221	274	186	180	135
CRANDALL	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	17	41	39	48	43
CRANDALL	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	57
CRANDALL	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	90	151	145	131
CRANDALL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	65
CRESCENT HEIGHTS WSC	C	CONSERVATION - CRESCENT HEIGHTS WSC	DEMAND REDUCTION	$0	$0	1	1	2	2	4	6
CRESCENT HEIGHTS WSC	C	CONSERVATION, WATER LOSS CONTROL - CRESCENT HEIGHTS WSC	DEMAND REDUCTION	$621	N/A	1	1	0	0	0	0
CROSS TIMBERS WSC	C	CONSERVATION - CROSS TIMBERS WSC	DEMAND REDUCTION	$0	$323	5	45	62	70	81	91
CROSS TIMBERS WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – CROSS TIMBERS WSC	DEMAND REDUCTION	N/A	$67	0	56	62	63	64	65
CROSS TIMBERS WSC	C	CONSERVATION, WATER LOSS CONTROL - CROSS TIMBERS WSC	DEMAND REDUCTION	$1413	N/A	8	10	0	0	0	0
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1313	$482	250	250	250	250	250	250
CROSS TIMBERS WSC	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	1	2	1	2	2
CROSS TIMBERS WSC	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	6	22	65	92	86
CROSS TIMBERS WSC	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	18	55	51	63	55

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
CROSS TIMBERS WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	168	188	189
CROSS TIMBERS WSC	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	66	74	100
CROSS TIMBERS WSC	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	230	347	251	279	280
CROSS TIMBERS WSC	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	82	130	99	110	111
CROSS TIMBERS WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	64
CROSS TIMBERS WSC	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	30
CROSS TIMBERS WSC	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	29	26
CROWLEY*	C	CONSERVATION - CROWLEY	DEMAND REDUCTION	$0	$0	11	24	39	60	94	125
CROWLEY*	C	CONSERVATION, IRRIGATION RESTRICTIONS – CROWLEY	DEMAND REDUCTION	$0	$0	72	83	96	115	147	168
CROWLEY*	C	CONSERVATION, WATER LOSS CONTROL - CROWLEY	DEMAND REDUCTION	$692	N/A	12	14	0	0	0	0
CROWLEY*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	184	391	406	732	794
CROWLEY*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	556	940	1,032
CROWLEY*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	5	18	17	28	31
CROWLEY*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	9	9	15	16
CROWLEY*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	67	63	106	116
CROWLEY*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	37	35	59	65
CROWLEY*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	37	104	133	280	370
CROWLEY*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	74	70	118	130
CROWLEY*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	6	11	13	29	54
CROWLEY*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	349
CULLEOKA WSC	C	CONSERVATION - CULLEOKA WSC	DEMAND REDUCTION	$0	$37	2	4	9	16	24	35
CULLEOKA WSC	C	CONSERVATION, WATER LOSS CONTROL - CULLEOKA WSC	DEMAND REDUCTION	$973	N/A	3	3	0	0	0	0
CULLEOKA WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	118	158	172
CULLEOKA WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	8	25	40

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
CULLEOKA WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	8	12	8	10	10
CULLEOKA WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	73	118	86	111	123
CULLEOKA WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	5	19	17	30	38
CULLEOKA WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	51
CULLEOKA WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	39	67	90	116
CULLEOKA WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	58
DALLAS	C	CONSERVATION - DALLAS	DEMAND REDUCTION	$47	$209	6,652	12,936	27,585	32,810	34,724	35,863
DALLAS	C	CONSERVATION, IRRIGATION RESTRICTIONS – DALLAS	DEMAND REDUCTION	$0	$0	8,259	8,772	9,807	10,845	11,678	12,084
DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS	DEMAND REDUCTION	$433	N/A	2,752	2,924	0	0	0	0
DALLAS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	27	378	504	569	587
DALLAS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	160	5,323	22,954	29,541	31,757
DALLAS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	471	13,215	18,409	20,424	20,362
DALLAS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	11,228
DALLAS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	9,388	9,474
DALWORTHINGTON GARDENS	C	CONSERVATION - DALWORTHINGTON GARDENS	DEMAND REDUCTION	$0	$72	3	11	14	18	21	25
DALWORTHINGTON GARDENS	C	CONSERVATION – WASTE PROHIBITION, DALWORTHINGTON GARDENS	DEMAND REDUCTION	N/A	$273	0	3	4	4	4	4
DALWORTHINGTON GARDENS	C	CONSERVATION, IRRIGATION RESTRICTIONS – DALWORTHINGTON GARDENS	DEMAND REDUCTION	N/A	$38	0	25	28	28	29	29
DALWORTHINGTON GARDENS	C	CONSERVATION, WATER LOSS CONTROL - DALWORTHINGTON GARDENS	DEMAND REDUCTION	$586	N/A	5	5	0	0	0	0
DALWORTHINGTON GARDENS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	52	88	72	89	88
DALWORTHINGTON GARDENS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	98	115	117
DALWORTHINGTON GARDENS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	4	2	4	4
DALWORTHINGTON GARDENS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	2	2	2
DALWORTHINGTON GARDENS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	15	11	14	13

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
DALWORTHINGTON GARDENS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	8	6	7	7
DALWORTHINGTON GARDENS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	10	23	23	35	42
DALWORTHINGTON GARDENS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	17	12	15	15
DALWORTHINGTON GARDENS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	1	2	1	3	3	5
DALWORTHINGTON GARDENS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	40
DAWSON	C	CONSERVATION - DAWSON	DEMAND REDUCTION	N/A	$0	0	1	2	2	3	3
DAWSON	C	CONSERVATION, WATER LOSS CONTROL - DAWSON	DEMAND REDUCTION	$667	N/A	1	1	0	0	0	0
DAWSON	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	13	27	46
DECATUR	C	CONSERVATION - DECATUR	DEMAND REDUCTION	$545	$235	43	88	132	188	241	304
DECATUR	C	CONSERVATION, IRRIGATION RESTRICTIONS – DECATUR	DEMAND REDUCTION	$72	$54	63	94	122	157	185	215
DECATUR	C	CONSERVATION, WATER LOSS CONTROL - DECATUR	DEMAND REDUCTION	$1634	N/A	12	16	0	0	0	0
DECATUR	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	876	1,078	949	1,231	1,284
DECATUR	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,302	1,581	1,672
DECATUR	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	22	48	39	47	50
DECATUR	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	26	21	25	26
DECATUR	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	182	147	177	188
DECATUR	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	100	81	100	105
DECATUR	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	176	289	311	472	599
DECATUR	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	203	164	199	210
DECATUR	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	351	27	30	31	49	87
DECATUR	C	WISE COUNTY WSD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$5	$3	45	44	40	36	32	30
DECATUR	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	566
DENISON	C	CONSERVATION - DENISON	DEMAND REDUCTION	$468	$181	141	231	257	308	392	565
DENISON	C	CONSERVATION – WASTE PROHIBITION, DENISON	DEMAND REDUCTION	$839	$449	15	21	21	25	32	50
DENISON	C	CONSERVATION, IRRIGATION RESTRICTIONS – DENISON	DEMAND REDUCTION	$68	$54	199	243	242	265	309	413

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
DENISON	C	CONSERVATION, WATER LOSS CONTROL - DENISON	DEMAND REDUCTION	$1099	$316	157	435	395	432	502	667
DENISON	C	DENISON - TEXOMA WITH INFRASTRUCTURE IMPROVEMENTS	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	$0	$3575	236	489	586	1,262	2,633	5,325
DENTON	C	CONSERVATION - DENTON	DEMAND REDUCTION	$275	$121	710	1,203	1,572	2,314	3,563	4,711
DENTON	C	CONSERVATION, IRRIGATION RESTRICTIONS – DENTON	DEMAND REDUCTION	$90	$82	707	990	1,227	1,687	2,417	2,974
DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON	DEMAND REDUCTION	$2491	N/A	131	165	0	0	0	0
DENTON	C	DENTON - UNALLOCATED SUPPLY UTILIZATION	C | LEWISVILLE LAKE/RESERVOIR NON-SYSTEM PORTION	$0	$0	1,338	1,609	1,884	2,386	2,356	2,250
DENTON	C	DENTON - UNALLOCATED SUPPLY UTILIZATION	C | RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	$0	$0	3,235	3,884	4,502	5,647	5,607	5,408
DENTON	C	DENTON - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$0	0	1,501	2,184	3,819	3,922	3,779
DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	0	1	116	285	365
DENTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$267	0	0	2,785	9,262	20,713	27,361
DENTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	0	30	4,241	10,204	12,632
DENTON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	6,966
DENTON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	4,690	5,877
DENTON COUNTY FWSD 10	C	CONSERVATION - DENTON COUNTY FWSD #10	DEMAND REDUCTION	$0	$339	5	72	120	132	144	157
DENTON COUNTY FWSD 10	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 10	DEMAND REDUCTION	N/A	$229	0	28	37	37	37	37
DENTON COUNTY FWSD 10	C	CONSERVATION, IRRIGATION RESTRICTIONS – DENTON COUNTY FWSD #10	DEMAND REDUCTION	N/A	$70	0	92	121	121	121	121
DENTON COUNTY FWSD 10	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #10	DEMAND REDUCTION	$9729	N/A	7	16	0	0	0	0
DENTON COUNTY FWSD 10	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	4	3
DENTON COUNTY FWSD 10	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	3	4	3	0	0
DENTON COUNTY FWSD 10	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	12	52	142	194	178
DENTON COUNTY FWSD 10	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	39	129	114	134	114
DENTON COUNTY FWSD 10	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	376	399	393
DENTON COUNTY FWSD 10	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	149	158	208
DENTON COUNTY FWSD 10	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	507	812	561	595	587
DENTON COUNTY FWSD 10	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	179	304	222	235	232

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
DENTON COUNTY FWSD 10	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	133
DENTON COUNTY FWSD 10	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	63
DENTON COUNTY FWSD 10	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	61	53
DENTON COUNTY FWSD 1-A	C	CONSERVATION - DENTON COUNTY FWSD #1A	DEMAND REDUCTION	$512	$213	72	189	253	278	304	329
DENTON COUNTY FWSD 1-A	C	CONSERVATION, IRRIGATION RESTRICTIONS – DENTON COUNTY FWSD 1 -A	DEMAND REDUCTION	$0	$0	110	195	233	233	233	233
DENTON COUNTY FWSD 1-A	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1A	DEMAND REDUCTION	$2212	N/A	18	32	0	0	0	0
DENTON COUNTY FWSD 1-A	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	12
DENTON COUNTY FWSD 1-A	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	8	13	13	13	0
DENTON COUNTY FWSD 1-A	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	51	196	552	670	596
DENTON COUNTY FWSD 1-A	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	148	487	443	463	383
DENTON COUNTY FWSD 1-A	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	547	579	569
DENTON COUNTY FWSD 1-A	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	216	229	301
DENTON COUNTY FWSD 1-A	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	710	1,190	817	862	846
DENTON COUNTY FWSD 1-A	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	252	446	323	341	335
DENTON COUNTY FWSD 1-A	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	193
DENTON COUNTY FWSD 1-A	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	210
DENTON COUNTY FWSD 1-A	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	213	178
DENTON COUNTY FWSD 7	C	CONSERVATION - DENTON COUNTY FWSD #7	DEMAND REDUCTION	$0	$248	15	83	111	122	133	144
DENTON COUNTY FWSD 7	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 7	DEMAND REDUCTION	N/A	$156	0	33	37	37	37	37
DENTON COUNTY FWSD 7	C	CONSERVATION, IRRIGATION RESTRICTIONS – DENTON COUNTY FWSD #7	DEMAND REDUCTION	N/A	$52	0	101	112	112	112	112
DENTON COUNTY FWSD 7	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #7	DEMAND REDUCTION	$739	N/A	17	17	0	0	0	0
DENTON COUNTY FWSD 7	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	3	3
DENTON COUNTY FWSD 7	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	2	3	3	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
DENTON COUNTY FWSD 7	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$370	0	14	47	131	178	166
DENTON COUNTY FWSD 7	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	42	119	105	123	105
DENTON COUNTY FWSD 7	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	346	367	362
DENTON COUNTY FWSD 7	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	137	145	192
DENTON COUNTY FWSD 7	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	546	748	516	549	538
DENTON COUNTY FWSD 7	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	194	280	204	216	213
DENTON COUNTY FWSD 7	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	122
DENTON COUNTY FWSD 7	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	58
DENTON COUNTY FWSD 7	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	57	49
DESERT WSC	C	CONSERVATION - DESERT WSC	DEMAND REDUCTION	$0	$0	1	2	3	4	6	10
DESERT WSC	C	CONSERVATION, WATER LOSS CONTROL - DESERT WSC	DEMAND REDUCTION	$843	N/A	1	1	0	0	0	0
DESERT WSC	C	DESERT WSC - NEW WELL (S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | FANNIN COUNTY	N/A	$1623	0	0	0	0	0	112
DESOTO	C	CONSERVATION - DESOTO	DEMAND REDUCTION	$165	$71	158	212	265	324	390	448
DESOTO	C	CONSERVATION – WASTE PROHIBITION, DESOTO	DEMAND REDUCTION	$782	$549	32	40	46	52	59	61
DESOTO	C	CONSERVATION, IRRIGATION RESTRICTIONS – DESOTO	DEMAND REDUCTION	$99	$87	254	299	321	347	374	386
DESOTO	C	CONSERVATION, WATER LOSS CONTROL - DESOTO	DEMAND REDUCTION	$2511	$1532	94	199	160	173	187	192
DESOTO	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	5	21	23	23	22
DESOTO	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	27	296	1,010	1,183	1,205
DESOTO	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	80	734	810	818	773
DESOTO	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	426
DESOTO	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	376	360
DOGWOOD ESTATES WATER	C	CONSERVATION - DOGWOOD ESTATES WATER	DEMAND REDUCTION	$0	$0	1	1	2	3	5	7
DOGWOOD ESTATES WATER	C	CONSERVATION, WATER LOSS CONTROL - DOGWOOD ESTATES WATER	DEMAND REDUCTION	$335	N/A	1	1	0	0	0	0
DOGWOOD ESTATES WATER	C	DOGWOOD ESTATES WATER - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	N/A	$521	0	0	5	19	73	144
DORCHESTER	C	CONSERVATION - DORCHESTER	DEMAND REDUCTION	N/A	$0	0	1	1	2	2	3

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
DORCHESTER	C	CONSERVATION, WATER LOSS CONTROL - DORCHESTER	DEMAND REDUCTION	$364	N/A	1	1	0	0	0	0
DORCHESTER	C	DORCHESTER - NEW WELL (S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | GRAYSON COUNTY	N/A	$619	0	90	90	90	90	90
DORCHESTER	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0
DORCHESTER	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0
DUNCANVILLE	C	CONSERVATION - DUNCANVILLE	DEMAND REDUCTION	$0	$0	211	248	212	225	243	264
DUNCANVILLE	C	CONSERVATION, WATER LOSS CONTROL - DUNCANVILLE	DEMAND REDUCTION	$1444	N/A	30	32	0	0	0	0
DUNCANVILLE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	$0	1	12	17	15	13	13
DUNCANVILLE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$371	3	69	249	690	723	698
DUNCANVILLE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	204	617	553	499	448
DUNCANVILLE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	247
DUNCANVILLE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	229	208
EAST CEDAR CREEK FWSD	C	CONSERVATION - EAST CEDAR CREEK FWSD	DEMAND REDUCTION	$0	$0	7	14	21	30	39	52
EAST CEDAR CREEK FWSD	C	CONSERVATION, WATER LOSS CONTROL - EAST CEDAR CREEK FWSD	DEMAND REDUCTION	$1108	N/A	7	8	0	0	0	0
EAST CEDAR CREEK FWSD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	257	271	207	275	291
EAST CEDAR CREEK FWSD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	286	352	377
EAST CEDAR CREEK FWSD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	6	12	9	11	11
EAST CEDAR CREEK FWSD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	6	5	6	6
EAST CEDAR CREEK FWSD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	45	32	39	42
EAST CEDAR CREEK FWSD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	27	18	22	24
EAST CEDAR CREEK FWSD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	52	73	68	105	135
EAST CEDAR CREEK FWSD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	51	36	44	47
EAST CEDAR CREEK FWSD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	182	8	8	7	11	20
EAST CEDAR CREEK FWSD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	128
EAST FORK SUD	C	CONSERVATION - EAST FORK SUD	DEMAND REDUCTION	$0	$0	20	34	46	59	77	94

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
EAST FORK SUD	C	CONSERVATION, IRRIGATION RESTRICTIONS – EAST FORK SUD	DEMAND REDUCTION	$0	$0	57	61	67	71	78	85
EAST FORK SUD	C	CONSERVATION, WATER LOSS CONTROL - EAST FORK SUD	DEMAND REDUCTION	$3703	N/A	10	10	0	0	0	0
EAST FORK SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	221	294	281
EAST FORK SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	16	46	65
EAST FORK SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	20	24	15	18	16
EAST FORK SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	179	237	157	207	197
EAST FORK SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	14	36	32	55	63
EAST FORK SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	84
EAST FORK SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	78	126	167	192
EAST FORK SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	95
EAST GARRETT WSC	C	CONSERVATION - EAST GARRETT WSC	DEMAND REDUCTION	$0	$439	1	7	12	16	22	56
EAST GARRETT WSC	C	CONSERVATION – WASTE PROHIBITION, EAST GARRETT WSC	DEMAND REDUCTION	N/A	$3831	0	0	0	0	1	1
EAST GARRETT WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – EAST GARRETT WSC	DEMAND REDUCTION	N/A	$91	0	8	11	14	18	42
EAST GARRETT WSC	C	CONSERVATION, WATER LOSS CONTROL - EAST GARRETT WSC	DEMAND REDUCTION	$435	N/A	1	2	0	0	0	0
EAST GARRETT WSC	C	ENNIS - INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$386	0	0	0	65	177	244
EAST GARRETT WSC	C	ENNIS - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	14	64	90
EAST GARRETT WSC	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	2	7	153
EAST GARRETT WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	2	8	198
EAST GARRETT WSC	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	0	0	6
EAST GARRETT WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	0	0	3
EAST GARRETT WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	1	23
EAST GARRETT WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	1	12
EAST GARRETT WSC	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	0	3	71
EAST GARRETT WSC	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	0	1	25

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
EAST GARRETT WSC	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	10
EAST GARRETT WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	67
EDGECLIFF	C	CONSERVATION - EDGECLIFF VILLAGE	DEMAND REDUCTION	$0	$187	2	5	7	8	10	11
EDGECLIFF	C	CONSERVATION – WASTE PROHIBITION, EDGECLIFF	DEMAND REDUCTION	N/A	$627	0	2	2	2	2	2
EDGECLIFF	C	CONSERVATION, IRRIGATION RESTRICTIONS – EDGECLIFF	DEMAND REDUCTION	N/A	$90	0	13	14	14	14	14
EDGECLIFF	C	CONSERVATION, WATER LOSS CONTROL - EDGECLIFF VILLAGE	DEMAND REDUCTION	$1786	N/A	3	2	0	0	0	0
EDGECLIFF	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	28	45	37	44	43
EDGECLIFF	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	50	57	57
EDGECLIFF	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	2	1	2	2
EDGECLIFF	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	1	1
EDGECLIFF	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	8	5	6	6
EDGECLIFF	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	3	4	4
EDGECLIFF	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	6	12	12	17	20
EDGECLIFF	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	9	6	7	7
EDGECLIFF	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	1	2	3
EDGECLIFF	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	19
ELMO WSC	C	CONSERVATION - ELMO WSC	DEMAND REDUCTION	$0	$19	1	2	3	6	10	17
ELMO WSC	C	CONSERVATION, WATER LOSS CONTROL - ELMO WSC	DEMAND REDUCTION	$268	N/A	1	1	0	0	0	0
ELMO WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	46	75	87
ELMO WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	3	12	20
ELMO WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	4	4	3	5	5
ELMO WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	33	42	33	53	61
ELMO WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	2	7	7	14	20
ELMO WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	26

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ELMO WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	14	26	43	59
ELMO WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	30
ENNIS	C	CONSERVATION - ENNIS	DEMAND REDUCTION	$0	$191	18	104	170	266	466	839
ENNIS	C	CONSERVATION – WASTE PROHIBITION, ENNIS	DEMAND REDUCTION	N/A	$638	0	9	13	22	41	74
ENNIS	C	CONSERVATION, IRRIGATION RESTRICTIONS – ENNIS	DEMAND REDUCTION	N/A	$80	0	125	157	222	357	593
ENNIS	C	CONSERVATION, WATER LOSS CONTROL - ENNIS	DEMAND REDUCTION	$2154	$354	20	110	296	418	672	1,117
ENNIS	C	ENNIS - INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$386	0	0	1,985	2,881	3,074	3,085
ENNIS	C	ENNIS - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	606	1,120	1,137
ENNIS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	60	112	1,924
ENNIS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	85	147	2,503
ENNIS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	3	5	75
ENNIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	1	2	40
ENNIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	10	16	282
ENNIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	6	10	157
ENNIS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	21	44	895
ENNIS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	12	19	314
ENNIS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	2	5	131
ENNIS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	846
EULESS	C	CONSERVATION - EULESS	DEMAND REDUCTION	$0	$0	219	312	333	312	341	371
EULESS	C	CONSERVATION – WASTE PROHIBITION, EULESS	DEMAND REDUCTION	N/A	N/A	0	25	28	0	0	0
EULESS	C	CONSERVATION, IRRIGATION RESTRICTIONS – EULESS	DEMAND REDUCTION	N/A	N/A	0	251	273	0	0	0
EULESS	C	CONSERVATION, WATER LOSS CONTROL - EULESS	DEMAND REDUCTION	$479	$0	224	229	135	133	133	133
EULESS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	375	463	575	563
EULESS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	634	739	733
EULESS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	17	19	22	22

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
EULESS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	9	10	12	12
EULESS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	63	71	83	82
EULESS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	35	40	46	46
EULESS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	101	151	221	263
EULESS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	71	80	93	92
EULESS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	11	15	23	38
EULESS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	248
EUSTACE	C	CONSERVATION - EUSTACE	DEMAND REDUCTION	N/A	$0	0	1	1	3	4	6
EUSTACE	C	CONSERVATION, WATER LOSS CONTROL - EUSTACE	DEMAND REDUCTION	$540	N/A	1	1	0	0	0	0
EUSTACE	C	EUSTACE - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	N/A	$482	0	0	0	41	100	150
EVERMAN	C	CONSERVATION - EVERMAN	DEMAND REDUCTION	$0	$0	2	4	5	7	8	10
EVERMAN	C	CONSERVATION, IRRIGATION RESTRICTIONS – EVERMAN	DEMAND REDUCTION	$0	$0	16	16	15	15	15	15
EVERMAN	C	CONSERVATION, WATER LOSS CONTROL - EVERMAN	DEMAND REDUCTION	$1203	N/A	3	3	0	0	0	0
FAIRFIELD	C	CONSERVATION - FAIRFIELD	DEMAND REDUCTION	$0	$331	3	6	10	49	79	119
FAIRFIELD	C	CONSERVATION, IRRIGATION RESTRICTIONS – FAIRFIELD	DEMAND REDUCTION	N/A	$72	0	0	0	47	62	84
FAIRFIELD	C	CONSERVATION, WATER LOSS CONTROL - FAIRFIELD	DEMAND REDUCTION	$1190	N/A	5	5	0	0	0	0
FAIRFIELD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	165	263	399
FAIRFIELD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	229	339	518
FAIRFIELD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	7	10	15
FAIRFIELD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	4	5	8
FAIRFIELD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	26	38	58
FAIRFIELD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	14	22	33
FAIRFIELD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	55	101	185
FAIRFIELD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	29	43	65
FAIRFIELD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	5	11	27

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
FAIRFIELD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	175
FAIRVIEW	C	CONSERVATION - FAIRVIEW	DEMAND REDUCTION	$245	$76	43	78	125	154	179	203
FAIRVIEW	C	CONSERVATION, IRRIGATION RESTRICTIONS – FAIRVIEW	DEMAND REDUCTION	$52	$40	121	155	206	214	217	217
FAIRVIEW	C	CONSERVATION, WATER LOSS CONTROL - FAIRVIEW	DEMAND REDUCTION	$657	N/A	22	26	0	0	0	0
FAIRVIEW	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	672	830	730
FAIRVIEW	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	47	129	169
FAIRVIEW	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	51	76	46	52	41
FAIRVIEW	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	457	740	480	587	514
FAIRVIEW	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	35	113	98	154	164
FAIRVIEW	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	218
FAIRVIEW	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	244	383	472	496
FAIRVIEW	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	247
FARMERS BRANCH	C	CONSERVATION - FARMERS BRANCH	DEMAND REDUCTION	$49	$36	362	419	420	469	531	598
FARMERS BRANCH	C	CONSERVATION – WASTE PROHIBITION, FARMERS BRANCH	DEMAND REDUCTION	$0	$0	14	20	25	30	34	39
FARMERS BRANCH	C	CONSERVATION, IRRIGATION RESTRICTIONS – FARMERS BRANCH	DEMAND REDUCTION	$61	$49	248	289	304	321	341	359
FARMERS BRANCH	C	CONSERVATION, WATER LOSS CONTROL - FARMERS BRANCH	DEMAND REDUCTION	$1164	N/A	45	47	0	0	0	0
FARMERS BRANCH	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	2	19	20	20	19
FARMERS BRANCH	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	10	269	905	1,037	1,082
FARMERS BRANCH	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	30	669	726	717	694
FARMERS BRANCH	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	383
FARMERS BRANCH	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	330	323
FARMERSVILLE	C	CONSERVATION - FARMERSVILLE	DEMAND REDUCTION	$0	$36	3	20	71	137	236	399
FARMERSVILLE	C	CONSERVATION, WATER LOSS CONTROL - FARMERSVILLE	DEMAND REDUCTION	$1478	N/A	5	13	0	0	0	0
FARMERSVILLE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	932	1,573	1,973

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
FARMERSVILLE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	66	245	457
FARMERSVILLE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	33	76	64	98	112
FARMERSVILLE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	301	738	663	1,112	1,384
FARMERSVILLE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	22	112	137	293	442
FARMERSVILLE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	589
FARMERSVILLE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	243	532	895	1,343
FARMERSVILLE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	668
FATE	C	CONSERVATION - FATE	DEMAND REDUCTION	$384	$105	27	51	85	134	189	238
FATE	C	CONSERVATION – WASTE PROHIBITION, FATE	DEMAND REDUCTION	$351	$286	22	31	42	55	67	75
FATE	C	CONSERVATION, IRRIGATION RESTRICTIONS – FATE	DEMAND REDUCTION	$102	$82	76	109	146	193	234	260
FATE	C	CONSERVATION, WATER LOSS CONTROL - FATE	DEMAND REDUCTION	$2031	N/A	14	18	0	0	0	0
FATE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	584	873	856
FATE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	41	136	198
FATE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	33	52	40	55	49
FATE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	299	500	415	617	602
FATE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	22	76	86	162	191
FATE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	256
FATE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	165	334	497	582
FATE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	290
FERRIS	C	CONSERVATION - FERRIS	DEMAND REDUCTION	$0	$20	2	5	11	16	23	32
FERRIS	C	CONSERVATION, WATER LOSS CONTROL - FERRIS	DEMAND REDUCTION	$1103	N/A	2	4	0	0	0	0
FERRIS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	48	91	84	120	148
FERRIS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	116	156	192
FERRIS	C	ROCKETT SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	103	263	382
FERRIS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	4	3	5	6

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
FERRIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	2	2	3
FERRIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	15	13	17	22
FERRIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	9	7	11	12
FERRIS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	9	24	28	46	69
FERRIS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	17	15	20	24
FERRIS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	3	3	5	10
FERRIS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	65
FILES VALLEY WSC*	C	CONSERVATION - FILES VALLEY WSC	DEMAND REDUCTION	N/A	$0	0	1	2	3	5	7
FILES VALLEY WSC*	C	CONSERVATION, WATER LOSS CONTROL - FILES VALLEY WSC	DEMAND REDUCTION	$161	N/A	1	1	0	0	0	0
FILES VALLEY WSC*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	2	5	7
FILES VALLEY WSC*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	2	7	9
FILES VALLEY WSC*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
FILES VALLEY WSC*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
FILES VALLEY WSC*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	1	1	1
FILES VALLEY WSC*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	1	1
FILES VALLEY WSC*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	1	2	4
FILES VALLEY WSC*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	1	1	1
FILES VALLEY WSC*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
FILES VALLEY WSC*	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	7	4	2
FILES VALLEY WSC*	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	N/A	0	0	7	3	2	0
FILES VALLEY WSC*	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	6	5	2	1
FILES VALLEY WSC*	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	14	0	0	0	0
FILES VALLEY WSC*	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	N/A	0	0	4	2	1	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
FILES VALLEY WSC*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	3
FLO COMMUNITY WSC*	C	CONSERVATION - FLO COMMUNITY WSC	DEMAND REDUCTION	N/A	$0	0	0	1	1	1	1
FLOWER MOUND	C	ALLIANCE DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$63	0	556	556	556	556	556
FLOWER MOUND	C	CONSERVATION - FLOWER MOUND	DEMAND REDUCTION	$172	$57	182	298	374	453	538	630
FLOWER MOUND	C	CONSERVATION, IRRIGATION RESTRICTIONS – FLOWER MOUND	DEMAND REDUCTION	$66	$58	514	631	641	653	668	688
FLOWER MOUND	C	CONSERVATION, WATER LOSS CONTROL - FLOWER MOUND	DEMAND REDUCTION	$2535	N/A	95	105	0	0	0	0
FLOWER MOUND	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	16	16
FLOWER MOUND	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	$0	0	20	31	28	12	9
FLOWER MOUND	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	122	440	1,250	1,534	1,479
FLOWER MOUND	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	356	1,093	1,002	1,060	948
FLOWER MOUND	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	1,630	1,773	1,815
FLOWER MOUND	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	645	701	960
FLOWER MOUND	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	2,470	3,463	2,435	2,644	2,699
FLOWER MOUND	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	878	1,300	962	1,043	1,068
FLOWER MOUND	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	614
FLOWER MOUND	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	523
FLOWER MOUND	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	488	441
FOREST HILL	C	CONSERVATION - FOREST HILL	DEMAND REDUCTION	$0	$0	7	12	18	27	41	63
FOREST HILL	C	CONSERVATION, WATER LOSS CONTROL - FOREST HILL	DEMAND REDUCTION	$1928	N/A	7	7	0	0	0	0
FOREST HILL	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	114	164	148	234	317
FOREST HILL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	202	300	413
FOREST HILL	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	7	6	9	12
FOREST HILL	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	3	5	7
FOREST HILL	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	28	23	34	46

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
FOREST HILL	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	15	13	18	26
FOREST HILL	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	23	44	48	90	148
FOREST HILL	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	31	25	38	52
FOREST HILL	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	5	5	9	22
FOREST HILL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	140
FORNEY	C	CONSERVATION - FORNEY	DEMAND REDUCTION	$0	$0	78	107	151	206	329	474
FORNEY	C	CONSERVATION, WATER LOSS CONTROL - FORNEY	DEMAND REDUCTION	$1029	N/A	15	18	0	0	0	0
FORNEY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	607	1,111	1,469
FORNEY	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	43	173	340
FORNEY	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	41	58	41	69	83
FORNEY	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	367	563	432	785	1,031
FORNEY	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	28	86	89	207	329
FORNEY	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	438
FORNEY	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	185	346	632	1,000
FORNEY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	497
FORNEY LAKE WSC	C	CONSERVATION - FORNEY LAKE WSC	DEMAND REDUCTION	$536	$159	10	18	30	49	93	149
FORNEY LAKE WSC	C	CONSERVATION – WASTE PROHIBITION, FORNEY LAKE WSC	DEMAND REDUCTION	$466	$320	9	12	15	19	32	46
FORNEY LAKE WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – FORNEY LAKE WSC	DEMAND REDUCTION	$140	$84	36	49	60	74	124	175
FORNEY LAKE WSC	C	CONSERVATION, WATER LOSS CONTROL - FORNEY LAKE WSC	DEMAND REDUCTION	$1215	N/A	6	8	0	0	0	0
FORNEY LAKE WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	208	424	532
FORNEY LAKE WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	15	66	123
FORNEY LAKE WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	14	20	14	27	30
FORNEY LAKE WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	129	189	148	300	374
FORNEY LAKE WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	10	29	30	79	119

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
FORNEY LAKE WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	159
FORNEY LAKE WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	63	118	241	361
FORNEY LAKE WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	180
FORT WORTH*	C	ALLIANCE DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$63	0	1,344	3,696	3,685	3,680	3,677
FORT WORTH*	C	CONSERVATION - FORT WORTH	DEMAND REDUCTION	$147	$65	3,156	4,702	5,546	6,483	8,170	10,052
FORT WORTH*	C	CONSERVATION, IRRIGATION RESTRICTIONS – FORT WORTH	DEMAND REDUCTION	$0	$0	5,673	7,038	8,588	9,475	10,272	11,088
FORT WORTH*	C	CONSERVATION, WATER LOSS CONTROL - FORT WORTH	DEMAND REDUCTION	$767	N/A	17,960	20,007	8,588	6,317	3,424	0
FORT WORTH*	C	FORT WORTH - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	15,961	25,228	26,668	23,421	18,724
FORT WORTH*	C	FORT WORTH - VILLAGE AND MARY CREEK WRF FUTURE DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$529	0	6,687	6,687	6,667	6,657	6,653
FORT WORTH*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	21,285	21,679	31,698	35,662
FORT WORTH*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	29,719	40,706	46,397
FORT WORTH*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	951	887	1,215	1,385
FORT WORTH*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	505	471	644	734
FORT WORTH*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	3,583	3,340	4,576	5,215
FORT WORTH*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2,000	1,866	2,556	2,913
FORT WORTH*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	5,707	7,096	12,149	16,617
FORT WORTH*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	4,008	3,738	5,119	5,836
FORT WORTH*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	1,467	1,297	2,090	3,712
FORT WORTH*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	15,697
FRISCO	C	CONSERVATION - FRISCO	DEMAND REDUCTION	$354	$167	832	1,344	1,839	2,424	2,926	3,345
FRISCO	C	CONSERVATION, IRRIGATION RESTRICTIONS – FRISCO	DEMAND REDUCTION	$0	$0	1,372	1,534	1,859	2,315	2,574	2,699
FRISCO	C	CONSERVATION, WATER LOSS CONTROL - FRISCO	DEMAND REDUCTION	$2691	N/A	229	256	0	0	0	0
FRISCO	C	FRISCO - ADDITIONAL DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	$4402	$461	325	594	856	1,118	1,379	1,379
FRISCO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	6,673	9,180	8,538

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
FRISCO	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	471	1,432	1,977
FRISCO	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	421	610	456	574	485
FRISCO	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	3,785	5,919	4,748	6,489	5,994
FRISCO	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	288	899	979	1,712	1,911
FRISCO	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	2,548
FRISCO	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	1,948	3,807	5,223	5,807
FRISCO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	2,889
FROGNOT WSC*	C	CONSERVATION - FROGNOT	DEMAND REDUCTION	$0	$0	1	1	2	4	5	7
FROGNOT WSC*	C	CONSERVATION, WATER LOSS CONTROL - FROGNOT WSC	DEMAND REDUCTION	$578	N/A	1	1	0	0	0	0
GAINESVILLE	C	CONSERVATION - GAINESVILLE	DEMAND REDUCTION	$0	$0	12	25	35	46	68	111
GAINESVILLE	C	CONSERVATION, WATER LOSS CONTROL - GAINESVILLE	DEMAND REDUCTION	$1835	N/A	13	14	0	0	0	0
GAINESVILLE	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	34	1,096	3,560
GAINESVILLE	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	1,578	5,518	5,478	4,944	3,883
GARLAND	C	CONSERVATION - GARLAND	DEMAND REDUCTION	$56	$0	1,318	1,548	1,437	1,576	1,731	1,883
GARLAND	C	CONSERVATION, IRRIGATION RESTRICTIONS – GARLAND	DEMAND REDUCTION	$0	$0	1,233	1,316	1,360	1,363	1,369	1,369
GARLAND	C	CONSERVATION, WATER LOSS CONTROL - GARLAND	DEMAND REDUCTION	$2316	N/A	206	219	0	0	0	0
GARLAND	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	4,041	5,020	4,446
GARLAND	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	285	783	1,029
GARLAND	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	349	464	276	314	252
GARLAND	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	3,140	4,502	2,876	3,547	3,122
GARLAND	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	239	684	592	937	995
GARLAND	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	1,327
GARLAND	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	1,482	2,306	2,856	3,023
GARLAND	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	1,504

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
GASTONIA SCURRY SUD	C	CONSERVATION - GASTONIA-SCURRY SUD	DEMAND REDUCTION	$0	$0	3	8	14	21	44	80
GASTONIA SCURRY SUD	C	CONSERVATION, WATER LOSS CONTROL - GASTONIA-SCURRY SUD	DEMAND REDUCTION	$709	N/A	4	4	0	0	0	0
GASTONIA SCURRY SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	146	290	393
GASTONIA SCURRY SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	10	45	91
GASTONIA SCURRY SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	12	14	10	18	22
GASTONIA SCURRY SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	105	138	105	206	276
GASTONIA SCURRY SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	7	21	21	54	88
GASTONIA SCURRY SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	117
GASTONIA SCURRY SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	45	84	165	267
GASTONIA SCURRY SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	133
GLENN HEIGHTS	C	CONSERVATION - GLENN HEIGHTS	DEMAND REDUCTION	$0	$0	8	23	40	62	90	143
GLENN HEIGHTS	C	CONSERVATION, WATER LOSS CONTROL - GLENN HEIGHTS	DEMAND REDUCTION	$612	N/A	10	13	0	0	0	0
GLENN HEIGHTS	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	13
GLENN HEIGHTS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	16	7	9	10	11	0
GLENN HEIGHTS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$371	39	42	137	458	568	749
GLENN HEIGHTS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	124	340	368	393	480
GLENN HEIGHTS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	264
GLENN HEIGHTS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	180	223
GRAND PRAIRIE	C	CONSERVATION - GRAND PRAIRIE	DEMAND REDUCTION	$101	$0	653	946	951	1,091	1,237	1,383
GRAND PRAIRIE	C	CONSERVATION, IRRIGATION RESTRICTIONS – GRAND PRAIRIE	DEMAND REDUCTION	$0	$0	1,056	1,224	1,325	1,317	1,315	1,315
GRAND PRAIRIE	C	CONSERVATION, WATER LOSS CONTROL - GRAND PRAIRIE	DEMAND REDUCTION	$304	N/A	352	408	0	0	0	0
GRAND PRAIRIE	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	60	87
GRAND PRAIRIE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	367	109	123	101	33	0
GRAND PRAIRIE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$372	847	649	1,718	4,605	4,786	4,640

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
GRAND PRAIRIE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	1,913	4,266	3,693	3,310	2,976
GRAND PRAIRIE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	2,039	1,557	950	1,047	948
GRAND PRAIRIE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,302	1,344	1,232
GRAND PRAIRIE	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	145	806	818	695	605	547
GRAND PRAIRIE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	51	71	40	40	37
GRAND PRAIRIE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	50	28	28	26
GRAND PRAIRIE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	239	132	134	122
GRAND PRAIRIE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	124	69	71	65
GRAND PRAIRIE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	410	417	311	402	441
GRAND PRAIRIE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	292	164	168	155
GRAND PRAIRIE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	23	61	44	31	41	65
GRAND PRAIRIE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	418
GRAND PRAIRIE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	1,641
GRAND PRAIRIE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	1,522	1,385
GRAPEVINE	C	CONSERVATION - GRAPEVINE	DEMAND REDUCTION	$62	$35	410	524	569	623	685	746
GRAPEVINE	C	CONSERVATION, IRRIGATION RESTRICTIONS – GRAPEVINE	DEMAND REDUCTION	$0	$0	552	564	560	558	557	557
GRAPEVINE	C	CONSERVATION, WATER LOSS CONTROL - GRAPEVINE	DEMAND REDUCTION	$2886	N/A	92	94	0	0	0	0
GRAPEVINE	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	6
GRAPEVINE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	0	5	6	5	0
GRAPEVINE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	3	71	224	247	247
GRAPEVINE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	9	176	180	171	159
GRAPEVINE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	1,138	1,321	942	1,075	960
GRAPEVINE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,290	1,381	1,249
GRAPEVINE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	29	59	38	41	37

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
GRAPEVINE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	31	20	22	20
GRAPEVINE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	223	145	156	141
GRAPEVINE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	124	81	86	78
GRAPEVINE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	229	354	308	412	447
GRAPEVINE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	249	162	174	157
GRAPEVINE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	102	35	37	30	43	65
GRAPEVINE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	422
GRAPEVINE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	88
GRAPEVINE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	78	74
GUNTER	C	CONSERVATION - GUNTER	DEMAND REDUCTION	$1058	$0	5	11	5	9	13	19
GUNTER	C	CONSERVATION, IRRIGATION RESTRICTIONS – GUNTER	DEMAND REDUCTION	$206	N/A	8	12	0	0	0	0
GUNTER	C	CONSERVATION, WATER LOSS CONTROL - GUNTER	DEMAND REDUCTION	$3874	N/A	11	42	0	0	0	0
GUNTER	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	319	1,606	2,060	2,846	2,840
GUNTER	C	GUNTER - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | GRAYSON COUNTY	$3392	$808	50	50	50	50	50	50
GUNTER	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	$0	N/A	273	311	1,248	790	0	0
HACKBERRY	C	CONSERVATION - HACKBERRY	DEMAND REDUCTION	$596	$288	9	16	22	30	40	54
HACKBERRY	C	CONSERVATION – WASTE PROHIBITION, HACKBERRY	DEMAND REDUCTION	$553	$185	3	5	7	8	10	13
HACKBERRY	C	CONSERVATION, IRRIGATION RESTRICTIONS – HACKBERRY	DEMAND REDUCTION	$194	$55	13	18	24	29	36	44
HACKBERRY	C	CONSERVATION, WATER LOSS CONTROL - HACKBERRY	DEMAND REDUCTION	$534	N/A	2	3	0	0	0	0
HACKBERRY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	77	117	125
HACKBERRY	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	5	18	29
HACKBERRY	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	4	7	5	7	7
HACKBERRY	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	40	67	55	83	89
HACKBERRY	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	3	10	11	22	28

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
HACKBERRY	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	37
HACKBERRY	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	22	44	67	85
HACKBERRY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	42
HALTOM CITY	C	CONSERVATION - HALTOM CITY	DEMAND REDUCTION	$0	$0	113	137	155	184	220	262
HALTOM CITY	C	CONSERVATION, IRRIGATION RESTRICTIONS – HALTOM CITY	DEMAND REDUCTION	$0	$0	157	155	158	169	181	197
HALTOM CITY	C	CONSERVATION, WATER LOSS CONTROL - HALTOM CITY	DEMAND REDUCTION	$2062	N/A	26	26	0	0	0	0
HALTOM CITY	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	236	460	406	544	582
HALTOM CITY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	558	699	758
HALTOM CITY	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	6	21	17	21	23
HALTOM CITY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	11	9	11	12
HALTOM CITY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	78	63	79	85
HALTOM CITY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	43	35	44	48
HALTOM CITY	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	48	123	133	209	271
HALTOM CITY	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	87	70	88	95
HALTOM CITY	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	7	13	13	22	39
HALTOM CITY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	256
HASLET	C	ALLIANCE DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$63	0	198	523	672	672	672
HASLET	C	CONSERVATION - HASLET	DEMAND REDUCTION	$0	$105	2	21	38	87	107	122
HASLET	C	CONSERVATION – WASTE PROHIBITION, HASLET	DEMAND REDUCTION	N/A	$102	0	20	33	59	59	59
HASLET	C	CONSERVATION, IRRIGATION RESTRICTIONS – HASLET	DEMAND REDUCTION	N/A	$40	0	52	84	150	150	150
HASLET	C	CONSERVATION, WATER LOSS CONTROL - HASLET	DEMAND REDUCTION	$1690	N/A	3	9	0	0	0	0
HASLET	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	106	177	203
HASLET	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	144	229	265
HASLET	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	4	7	8

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
HASLET	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	2	4	4
HASLET	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	16	26	30
HASLET	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	9	14	17
HASLET	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	34	68	95
HASLET	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	18	29	33
HASLET	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	6	10	16	26
HASLET	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	90
HEATH	C	CONSERVATION - HEATH	DEMAND REDUCTION	$421	$184	77	162	227	254	289	327
HEATH	C	CONSERVATION, IRRIGATION RESTRICTIONS – HEATH	DEMAND REDUCTION	$60	$41	116	182	230	232	243	254
HEATH	C	CONSERVATION, WATER LOSS CONTROL - HEATH	DEMAND REDUCTION	$2329	N/A	20	28	0	0	0	0
HEATH	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	619	802	743
HEATH	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	44	125	172
HEATH	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	46	70	42	50	42
HEATH	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	414	678	439	568	521
HEATH	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	32	103	91	150	167
HEATH	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	222
HEATH	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	223	353	456	506
HEATH	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	251
HIGH POINT WSC	C	CONSERVATION - HIGH POINT WSC	DEMAND REDUCTION	$0	$39	1	3	6	10	20	33
HIGH POINT WSC	C	CONSERVATION, WATER LOSS CONTROL - HIGH POINT WSC	DEMAND REDUCTION	$358	N/A	2	3	0	0	0	0
HIGH POINT WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	82	146	164
HIGH POINT WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	6	22	38
HIGH POINT WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	8	8	6	10	10
HIGH POINT WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	64	80	56	104	115

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
HIGH POINT WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	14	12	28	36
HIGH POINT WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	48
HIGH POINT WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	26	48	82	110
HIGH POINT WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	56
HIGHLAND PARK	C	CONSERVATION - HIGHLAND PARK	DEMAND REDUCTION	$0	$0	60	74	87	101	114	128
HIGHLAND PARK	C	CONSERVATION, IRRIGATION RESTRICTIONS – HIGHLAND PARK	DEMAND REDUCTION	$0	$0	122	124	123	123	123	123
HIGHLAND PARK	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND PARK	DEMAND REDUCTION	$1446	N/A	20	21	0	0	0	0
HIGHLAND VILLAGE	C	CONSERVATION - HIGHLAND VILLAGE	DEMAND REDUCTION	$0	$118	241	323	354	365	378	391
HIGHLAND VILLAGE	C	CONSERVATION, IRRIGATION RESTRICTIONS – HIGHLAND VILLAGE	DEMAND REDUCTION	N/A	$66	0	107	118	117	117	117
HIGHLAND VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND VILLAGE	DEMAND REDUCTION	$2359	N/A	19	20	0	0	0	0
HIGHLAND VILLAGE	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	3	2
HIGHLAND VILLAGE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	1	2	2	0	0
HIGHLAND VILLAGE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	7	31	90	134	125
HIGHLAND VILLAGE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	20	74	72	93	80
HIGHLAND VILLAGE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	237	276	276
HIGHLAND VILLAGE	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	94	109	146
HIGHLAND VILLAGE	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	252	464	353	409	414
HIGHLAND VILLAGE	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	90	175	140	162	163
HIGHLAND VILLAGE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	93
HIGHLAND VILLAGE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	44
HIGHLAND VILLAGE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	43	37
HONEY GROVE	C	CONSERVATION - HONEY GROVE	DEMAND REDUCTION	$0	$0	1	2	3	4	5	5
HONEY GROVE	C	CONSERVATION, WATER LOSS CONTROL - HONEY GROVE	DEMAND REDUCTION	$903	N/A	2	2	0	0	0	0
HONEY GROVE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	280	274	271	269	269

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
HORSESHOE BEND WATER SYSTEM	C	CONSERVATION - HORSESHOE BEND WATER SYSTEM	DEMAND REDUCTION	$0	$0	1	1	2	4	6	9
HORSESHOE BEND WATER SYSTEM	C	CONSERVATION, WATER LOSS CONTROL - HORSESHOE BEND WATER SYSTEM	DEMAND REDUCTION	$852	N/A	1	1	0	0	0	0
HOWE	C	CONSERVATION - HOWE	DEMAND REDUCTION	$0	$0	1	2	3	5	7	9
HOWE	C	CONSERVATION, WATER LOSS CONTROL - HOWE	DEMAND REDUCTION	$2033	N/A	1	2	0	0	0	0
HOWE	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$90	0	4	6	10	17	20
HOWE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	8	16	19
HOWE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	1	2	4
HOWE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	0	1	1	1	1
HOWE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	0	5	4	12	14
HOWE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	0	1	2	2	4
HOWE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	6
HOWE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	2	5	9	12
HOWE	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	3	5	4	0	0
HOWE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	6
HUDSON OAKS	C	CONSERVATION - HUDSON OAKS	DEMAND REDUCTION	$430	$207	26	51	57	64	70	76
HUDSON OAKS	C	CONSERVATION – WASTE PROHIBITION, HUDSON OAKS	DEMAND REDUCTION	$368	$221	7	11	11	11	11	11
HUDSON OAKS	C	CONSERVATION, IRRIGATION RESTRICTIONS – HUDSON OAKS	DEMAND REDUCTION	$70	$42	37	56	58	58	58	58
HUDSON OAKS	C	CONSERVATION, WATER LOSS CONTROL - HUDSON OAKS	DEMAND REDUCTION	$1713	N/A	7	9	0	0	0	0
HUDSON OAKS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	383	333	210	229	207
HUDSON OAKS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	287	294	267
HUDSON OAKS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	10	14	9	9	8
HUDSON OAKS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	8	5	5	4
HUDSON OAKS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	56	32	32	30

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
HUDSON OAKS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	31	18	19	17
HUDSON OAKS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	77	89	68	88	95
HUDSON OAKS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	62	36	37	33
HUDSON OAKS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	299	12	9	7	9	14
HUDSON OAKS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	90
HURST	C	CONSERVATION - HURST	DEMAND REDUCTION	$0	$120	92	157	123	134	156	177
HURST	C	CONSERVATION, IRRIGATION RESTRICTIONS – HURST	DEMAND REDUCTION	$0	$0	201	201	197	194	194	194
HURST	C	CONSERVATION, WATER LOSS CONTROL - HURST	DEMAND REDUCTION	$2266	N/A	33	33	0	0	0	0
HURST	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	285	567	458	565	554
HURST	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	629	727	719
HURST	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	7	25	19	22	21
HURST	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	13	10	12	11
HURST	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	95	70	82	81
HURST	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	54	40	45	45
HURST	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	58	152	150	217	257
HURST	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	107	79	91	90
HURST	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	9	16	15	23	37
HURST	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	243
HUTCHINS	C	CONSERVATION - HUTCHINS	DEMAND REDUCTION	$324	$98	21	43	68	99	136	178
HUTCHINS	C	CONSERVATION – WASTE PROHIBITION, HUTCHINS	DEMAND REDUCTION	$851	$585	6	10	13	16	19	22
HUTCHINS	C	CONSERVATION, IRRIGATION RESTRICTIONS – HUTCHINS	DEMAND REDUCTION	$98	$64	61	94	121	147	173	200
HUTCHINS	C	CONSERVATION, WATER LOSS CONTROL - HUTCHINS	DEMAND REDUCTION	$2657	N/A	11	15	0	0	0	0
HUTCHINS	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	10	13
HUTCHINS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	4	9	10	0	0
HUTCHINS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	25	132	472	595	672

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
HUTCHINS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	72	326	379	411	430
HUTCHINS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	237
HUTCHINS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	189	200
IRRIGATION, COLLIN	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	8
IRRIGATION, COLLIN	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	34	11	9	7	7	0
IRRIGATION, COLLIN	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$372	80	59	139	370	383	370
IRRIGATION, COLLIN	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	176	342	296	265	237
IRRIGATION, COLLIN	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	131
IRRIGATION, COLLIN	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	122	110
IRRIGATION, COOKE	C	GAINESVILLE - EXPAND DIRECT REUSE FOR IRRIGATION	C | DIRECT NON-POTABLE REUSE	$2414	$371	70	70	70	70	70	70
IRRIGATION, COOKE	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	0	29	220
IRRIGATION, COOKE	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	0	0	0	129	239
IRRIGATION, COOKE	C	NON-MUNICIPAL CONSERVATION, IRRIGATION, COOKE	DEMAND REDUCTION	N/A	$308	0	0	0	1	24	47
IRRIGATION, DALLAS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DALLAS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
IRRIGATION, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	4
IRRIGATION, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	19	6	6	6	4	0
IRRIGATION, DENTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$373	44	33	76	204	212	206

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
IRRIGATION, DENTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	97	190	164	147	132
IRRIGATION, DENTON	C	UTRWD - ADDITIONAL DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$212	0	560	1,121	2,240	2,240	2,240
IRRIGATION, DENTON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	73
IRRIGATION, DENTON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	68	61
IRRIGATION, ELLIS	C	NON-MUNICIPAL CONSERVATION, IRRIGATION, ELLIS	DEMAND REDUCTION	$306	$306	1	19	37	47	56	64
IRRIGATION, FANNIN	C	IRRIGATION, FANNIN - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | FANNIN COUNTY	$29	$20	1,592	1,592	1,592	1,592	1,592	1,592
IRRIGATION, FANNIN	C	NON-MUNICIPAL CONSERVATION, IRRIGATION, FANNIN	DEMAND REDUCTION	$306	$306	1	18	34	42	50	58
IRRIGATION, HENDERSON*	C	ATHENS MWA - NEW WELL (S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, HENDERSON*	I	AMWA ATHENS FISH HATCHERY REUSE	I | NECHES INDIRECT REUSE	N/A	$33	0	0	0	0	19	32
IRRIGATION, KAUFMAN	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	2
IRRIGATION, KAUFMAN	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	1	1	1	1	1	0
IRRIGATION, KAUFMAN	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$410	0	0	1	3	3	3
IRRIGATION, KAUFMAN	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	1	3	3	3	2
IRRIGATION, KAUFMAN	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	12	15	12	14	14
IRRIGATION, KAUFMAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	16	18	17
IRRIGATION, KAUFMAN	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	1	0	1	1
IRRIGATION, KAUFMAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, KAUFMAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	2	2	2
IRRIGATION, KAUFMAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	1	1	1
IRRIGATION, KAUFMAN	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	2	4	4	5	6
IRRIGATION, KAUFMAN	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	3	2	2	2
IRRIGATION, KAUFMAN	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	1	1
IRRIGATION, KAUFMAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	6
IRRIGATION, KAUFMAN	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
IRRIGATION, KAUFMAN	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	1	1
IRRIGATION, PARKER	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
IRRIGATION, PARKER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	1
IRRIGATION, ROCKWALL	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	4	1	1	1	2	0
IRRIGATION, ROCKWALL	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$369	10	8	17	45	46	45
IRRIGATION, ROCKWALL	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	21	42	36	32	29
IRRIGATION, ROCKWALL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRRIGATION, ROCKWALL	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	16
IRRIGATION, ROCKWALL	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	15	14

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
IRRIGATION, TARRANT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	149	189	146	176	169
IRRIGATION, TARRANT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	199	226	220
IRRIGATION, TARRANT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	4	9	6	6	6
IRRIGATION, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	5	3	4	3
IRRIGATION, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	32	23	25	25
IRRIGATION, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	18	13	14	14
IRRIGATION, TARRANT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	30	51	47	67	79
IRRIGATION, TARRANT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	35	25	29	28
IRRIGATION, TARRANT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	6	4	8	12
IRRIGATION, TARRANT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	75
IRRIGATION, WISE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	56	71	54	65	64
IRRIGATION, WISE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	74	84	82
IRRIGATION, WISE	C	NON-MUNICIPAL CONSERVATION, IRRIGATION, WISE	DEMAND REDUCTION	N/A	$306	0	1	3	4	4	5
IRRIGATION, WISE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	3	2	2	2
IRRIGATION, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	1	1	1
IRRIGATION, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	12	9	10	10
IRRIGATION, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	6	4	5	5
IRRIGATION, WISE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	11	19	18	25	29
IRRIGATION, WISE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	13	9	11	10
IRRIGATION, WISE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	2	2	3	4
IRRIGATION, WISE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	28
IRVING	C	CONSERVATION - IRVING	DEMAND REDUCTION	$52	$33	1,432	1,752	1,899	2,087	2,291	2,499
IRVING	C	CONSERVATION, IRRIGATION RESTRICTIONS – IRVING	DEMAND REDUCTION	$0	$0	1,717	1,930	1,954	1,942	1,939	1,939
IRVING	C	CONSERVATION, WATER LOSS CONTROL - IRVING	DEMAND REDUCTION	$536	N/A	279	311	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
IRVING	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
IRVING	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
IRVING	C	IRVING - TRA CENTRAL REUSE PROJECT	C | TRINITY INDIRECT REUSE	N/A	$294	0	27,539	27,539	27,539	27,539	27,539
ITALY	C	CONSERVATION - ITALY	DEMAND REDUCTION	$0	$0	1	3	5	8	12	20
ITALY	C	CONSERVATION, WATER LOSS CONTROL - ITALY	DEMAND REDUCTION	$261	N/A	2	2	0	0	0	0
ITALY	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	24	109	179
ITALY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	32	141	232
ITALY	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	1	4	7
ITALY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	0	2	4
ITALY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	3	16	26
ITALY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	3	9	14
ITALY	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	8	42	83
ITALY	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	4	18	29
ITALY	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	1	4	12
ITALY	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	114	81	55
ITALY	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$25	0	0	97	62	33	16
ITALY	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$25	0	0	90	83	47	23
ITALY	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	166	0	0	0	0
ITALY	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$547	0	0	63	40	22	10
ITALY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	78
JACKSBORO	C	CONSERVATION - JACKSBORO	DEMAND REDUCTION	$0	$0	2	5	7	10	12	15
JACKSBORO	C	CONSERVATION, WATER LOSS CONTROL - JACKSBORO	DEMAND REDUCTION	$409	N/A	3	4	0	0	0	0
JOHNSON COUNTY SUD*	C	CONSERVATION - JOHNSON COUNTY SUD	DEMAND REDUCTION	$0	$0	1	2	4	6	8	10
JOHNSON COUNTY SUD*	C	CONSERVATION, WATER LOSS CONTROL - JOHNSON COUNTY SUD	DEMAND REDUCTION	$218	N/A	2	2	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
JOHNSON COUNTY SUD*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	98	112	78	87	80
JOHNSON COUNTY SUD*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	106	112	104
JOHNSON COUNTY SUD*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	5	3	3	3
JOHNSON COUNTY SUD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	3	2	2	2
JOHNSON COUNTY SUD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	18	12	13	12
JOHNSON COUNTY SUD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	10	7	7	7
JOHNSON COUNTY SUD*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	20	30	25	34	37
JOHNSON COUNTY SUD*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	21	13	14	13
JOHNSON COUNTY SUD*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	16	3	3	2	3	5
JOHNSON COUNTY SUD*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	35
JOSEPHINE*	C	CONSERVATION - JOSEPHINE	DEMAND REDUCTION	$348	$132	3	4	8	13	17	20
JOSEPHINE*	C	CONSERVATION, IRRIGATION RESTRICTIONS – JOSEPHINE	DEMAND REDUCTION	$184	$69	7	13	17	22	23	23
JOSEPHINE*	C	CONSERVATION, WATER LOSS CONTROL - JOSEPHINE	DEMAND REDUCTION	$925	N/A	2	2	0	0	0	0
JOSEPHINE*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	86	108	95
JOSEPHINE*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	6	17	22
JOSEPHINE*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	52	85	67	82	73
JOSEPHINE*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	12	13	20	21
JOSEPHINE*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	28
JOSEPHINE*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	26	49	62	64
JOSEPHINE*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	32
JUSTIN	C	CONSERVATION - JUSTIN	DEMAND REDUCTION	$0	$33	2	8	20	28	34	39
JUSTIN	C	CONSERVATION, WATER LOSS CONTROL - JUSTIN	DEMAND REDUCTION	$606	N/A	8	12	0	0	0	0
JUSTIN	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	2	1
JUSTIN	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	1	2	1	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
JUSTIN	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$378	0	4	24	63	88	78
JUSTIN	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	12	57	51	60	51
JUSTIN	C	JUSTIN - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1154	$469	244	244	244	244	244	244
JUSTIN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	166	180	175
JUSTIN	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	66	71	93
JUSTIN	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	153	357	249	267	263
JUSTIN	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	54	134	98	106	103
JUSTIN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	59
JUSTIN	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	28
JUSTIN	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	28	24
KAUFMAN	C	CONSERVATION - KAUFMAN	DEMAND REDUCTION	$411	$36	13	21	23	48	78	110
KAUFMAN	C	CONSERVATION, IRRIGATION RESTRICTIONS – KAUFMAN	DEMAND REDUCTION	$120	N/A	35	46	0	0	0	0
KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN	DEMAND REDUCTION	$832	N/A	6	8	0	0	0	0
KAUFMAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	310	479	510
KAUFMAN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	22	75	118
KAUFMAN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	15	25	21	30	29
KAUFMAN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	137	241	220	337	358
KAUFMAN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	11	36	46	89	114
KAUFMAN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	152
KAUFMAN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	79	176	273	347
KAUFMAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	173
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	CONSERVATION - KAUFMAN COUNTY DEVELOPMENT DIST 1	DEMAND REDUCTION	$645	$286	16	29	41	60	95	142
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	CONSERVATION, IRRIGATION RESTRICTIONS – KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	DEMAND REDUCTION	$102	$62	24	34	41	54	76	101

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	DEMAND REDUCTION	$440	N/A	4	6	0	0	0	0
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	162	277	327
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	11	43	76
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	10	14	11	17	19
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	88	136	116	197	229
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	6	21	23	52	73
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	97
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	45	92	157	222
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	110
KAUFMAN COUNTY MUD 11	C	CONSERVATION - KAUFMAN COUNTY MUD 11	DEMAND REDUCTION	$941	$436	11	20	27	36	48	66
KAUFMAN COUNTY MUD 11	C	CONSERVATION, IRRIGATION RESTRICTIONS – KAUFMAN COUNTY MUD 11	DEMAND REDUCTION	$153	$92	16	22	26	32	40	48
KAUFMAN COUNTY MUD 11	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY MUD 11	DEMAND REDUCTION	$1917	N/A	3	4	0	0	0	0
KAUFMAN COUNTY MUD 11	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	97	146	158
KAUFMAN COUNTY MUD 11	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	7	23	37
KAUFMAN COUNTY MUD 11	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	6	9	7	9	9
KAUFMAN COUNTY MUD 11	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	57	89	68	103	110
KAUFMAN COUNTY MUD 11	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	14	14	27	35
KAUFMAN COUNTY MUD 11	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	47
KAUFMAN COUNTY MUD 11	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	29	55	83	108
KAUFMAN COUNTY MUD 11	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	53
KELLER	C	CONSERVATION - KELLER	DEMAND REDUCTION	$0	$43	274	420	462	502	545	588

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
KELLER	C	CONSERVATION, IRRIGATION RESTRICTIONS – KELLER	DEMAND REDUCTION	$0	$0	370	394	392	391	390	390
KELLER	C	CONSERVATION, WATER LOSS CONTROL - KELLER	DEMAND REDUCTION	$754	N/A	124	132	0	0	0	0
KELLER	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	490	1,103	918	1,152	1,133
KELLER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,261	1,479	1,472
KELLER	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	12	49	38	44	44
KELLER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	26	20	23	23
KELLER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	185	142	166	165
KELLER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	104	79	93	93
KELLER	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	99	296	301	441	527
KELLER	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	208	159	186	185
KELLER	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	15	31	30	46	77
KELLER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	498
KEMP	C	CONSERVATION - KEMP	DEMAND REDUCTION	$817	$416	6	9	13	18	31	46
KEMP	C	CONSERVATION, IRRIGATION RESTRICTIONS – KEMP	DEMAND REDUCTION	$198	$85	8	11	13	16	25	35
KEMP	C	CONSERVATION, WATER LOSS CONTROL - KEMP	DEMAND REDUCTION	$5957	$802	7	21	23	29	45	63
KEMP	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	168	150	113	197	245
KEMP	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	156	254	319
KEMP	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	4	7	5	8	10
KEMP	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	2	4	5
KEMP	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	25	17	28	36
KEMP	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	14	11	16	20
KEMP	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	34	40	37	76	114
KEMP	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	28	20	32	40
KEMP	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	168	5	4	4	8	17

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
KEMP	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	108
KENNEDALE	C	CONSERVATION - KENNEDALE	DEMAND REDUCTION	$0	$170	5	19	30	44	58	75
KENNEDALE	C	CONSERVATION – WASTE PROHIBITION, KENNEDALE	DEMAND REDUCTION	N/A	$384	0	7	11	13	16	18
KENNEDALE	C	CONSERVATION, IRRIGATION RESTRICTIONS – KENNEDALE	DEMAND REDUCTION	N/A	$84	0	43	56	64	73	82
KENNEDALE	C	CONSERVATION, WATER LOSS CONTROL - KENNEDALE	DEMAND REDUCTION	$1734	N/A	7	8	0	0	0	0
KENNEDALE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	222	192	145	191	212
KENNEDALE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	200	246	276
KENNEDALE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	6	9	6	7	8
KENNEDALE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	5	3	4	4
KENNEDALE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	32	23	28	31
KENNEDALE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	18	12	15	18
KENNEDALE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	45	51	48	73	99
KENNEDALE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	36	25	31	34
KENNEDALE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	7	5	5	8	14
KENNEDALE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	93
KENTUCKYTOWN WSC	C	CONSERVATION - KENTUCKY TOWN WSC	DEMAND REDUCTION	$0	$0	1	3	5	7	11	17
KENTUCKYTOWN WSC	C	CONSERVATION, WATER LOSS CONTROL - KENTUCKY TOWN WSC	DEMAND REDUCTION	$635	N/A	2	2	0	0	0	0
KENTUCKYTOWN WSC	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	21	56	111	289	470
KENTUCKYTOWN WSC	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	21	43	42	0	0
KERENS	C	CONSERVATION - KERENS	DEMAND REDUCTION	$0	$0	1	2	2	4	5	6
KERENS	C	CONSERVATION, WATER LOSS CONTROL - KERENS	DEMAND REDUCTION	$476	N/A	1	1	0	0	0	0
KERENS	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	21	47	83
KRUM	C	CONSERVATION - KRUM	DEMAND REDUCTION	$676	$306	21	37	51	68	93	125
KRUM	C	CONSERVATION, IRRIGATION RESTRICTIONS – KRUM	DEMAND REDUCTION	$98	$66	31	42	51	62	74	88

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
KRUM	C	CONSERVATION, WATER LOSS CONTROL - KRUM	DEMAND REDUCTION	$1390	N/A	6	7	0	0	0	0
KRUM	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	2	3
KRUM	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	0	1	2	0	0
KRUM	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	3	17	69	122	135
KRUM	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	8	43	56	84	87
KRUM	C	KRUM - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1101	$472	202	202	202	202	202	202
KRUM	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	183	251	299
KRUM	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	72	99	158
KRUM	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	109	273	274	374	445
KRUM	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	39	102	108	148	176
KRUM	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	101
KRUM	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	48
KRUM	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	39	40
LADONIA	C	CONSERVATION - LADONIA	DEMAND REDUCTION	$0	$0	1	2	3	5	8	9
LADONIA	C	CONSERVATION, WATER LOSS CONTROL - LADONIA	DEMAND REDUCTION	$66	N/A	2	4	0	0	0	0
LADONIA	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	1	0
LADONIA	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$364	0	1	5	19	32	27
LADONIA	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	4	13	14	22	17
LADONIA	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	48	66	59
LADONIA	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	19	26	31
LADONIA	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	52	82	71	99	88
LADONIA	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	18	31	28	39	35
LADONIA	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	20
LADONIA	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	9
LADONIA	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	10	8

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	CONSERVATION - LAKE CITIES MUA	DEMAND REDUCTION	$0	$0	10	22	35	46	56	66
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	CONSERVATION, WATER LOSS CONTROL - LAKE CITIES MUA	DEMAND REDUCTION	$2023	N/A	11	12	0	0	0	0
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	3	3
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	2	3	3	0	0
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	13	46	132	176	160
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	37	114	105	121	103
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	347	362	353
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	137	143	187
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	481	715	517	539	523
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	171	268	205	213	208
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	119
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	57
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	56	48
LAKE KIOWA SUD	C	CONSERVATION - LAKE KIOWA SUD	DEMAND REDUCTION	$0	$0	3	6	9	13	16	20
LAKE KIOWA SUD	C	CONSERVATION, WATER LOSS CONTROL - LAKE KIOWA SUD	DEMAND REDUCTION	$2613	N/A	4	5	0	0	0	0
LAKE KIOWA SUD	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	443	493	631	870	866
LAKE KIOWA SUD	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	432	384	242	0	0
LAKE WORTH	C	CONSERVATION - LAKE WORTH	DEMAND REDUCTION	$0	$138	4	14	21	29	39	65
LAKE WORTH	C	CONSERVATION – WASTE PROHIBITION, LAKE WORTH	DEMAND REDUCTION	N/A	$465	0	3	4	6	7	11
LAKE WORTH	C	CONSERVATION, IRRIGATION RESTRICTIONS – LAKE WORTH	DEMAND REDUCTION	N/A	$68	0	34	41	47	55	75
LAKE WORTH	C	CONSERVATION, WATER LOSS CONTROL - LAKE WORTH	DEMAND REDUCTION	$27965	N/A	6	6	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
LAKE WORTH	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	57	106	102	152	208
LAKE WORTH	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	140	196	270
LAKE WORTH	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	5	4	6	8
LAKE WORTH	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	2	3	4
LAKE WORTH	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	17	16	22	30
LAKE WORTH	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	11	9	12	18
LAKE WORTH	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	11	29	33	58	97
LAKE WORTH	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	20	18	25	34
LAKE WORTH	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	3	3	6	14
LAKE WORTH	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	91
LAKESIDE	C	CONSERVATION - LAKESIDE	DEMAND REDUCTION	$565	$273	7	11	12	13	15	16
LAKESIDE	C	CONSERVATION – WASTE PROHIBITION, LAKESIDE	DEMAND REDUCTION	$718	$214	2	2	2	3	3	3
LAKESIDE	C	CONSERVATION, IRRIGATION RESTRICTIONS – LAKESIDE	DEMAND REDUCTION	$144	$54	10	11	12	12	12	12
LAKESIDE	C	CONSERVATION, WATER LOSS CONTROL - LAKESIDE	DEMAND REDUCTION	$347	N/A	2	2	0	0	0	0
LAKESIDE	C	LAKESIDE - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | TARRANT COUNTY	$1854	$609	58	61	71	80	77	76
LANCASTER	C	CONSERVATION - LANCASTER	DEMAND REDUCTION	$184	$69	126	206	277	349	432	522
LANCASTER	C	CONSERVATION – WASTE PROHIBITION, LANCASTER	DEMAND REDUCTION	$0	$0	17	27	33	38	43	48
LANCASTER	C	CONSERVATION, IRRIGATION RESTRICTIONS – LANCASTER	DEMAND REDUCTION	$99	$88	207	293	342	379	417	456
LANCASTER	C	CONSERVATION, WATER LOSS CONTROL - LANCASTER	DEMAND REDUCTION	$2423	N/A	38	49	0	0	0	0
LANCASTER	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	28
LANCASTER	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	10	27	28	28	0
LANCASTER	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	66	369	1,218	1,433	1,536
LANCASTER	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	193	917	977	991	984
LANCASTER	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	543
LANCASTER	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	455	458
LEONARD	C	CONSERVATION - LEONARD	DEMAND REDUCTION	$0	$0	1	2	4	5	6	8

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
LEONARD	C	CONSERVATION, WATER LOSS CONTROL - LEONARD	DEMAND REDUCTION	$679	N/A	2	2	0	0	0	0
LEONARD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	343	349	358	370	382
LEWISVILLE	C	CONSERVATION - LEWISVILLE	DEMAND REDUCTION	$204	$65	193	318	443	598	773	879
LEWISVILLE	C	CONSERVATION, IRRIGATION RESTRICTIONS – LEWISVILLE	DEMAND REDUCTION	$88	$76	564	700	794	902	1,007	1,007
LEWISVILLE	C	CONSERVATION, WATER LOSS CONTROL - LEWISVILLE	DEMAND REDUCTION	$1002	N/A	101	112	0	0	0	0
LEWISVILLE	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	98	81
LEWISVILLE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	68	90	90	0	0
LEWISVILLE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	404	1,281	4,074	5,061	4,394
LEWISVILLE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	1,191	3,178	3,267	3,500	2,818
LEWISVILLE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	1,554
LEWISVILLE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	1,609	1,311
LINDSAY	C	CONSERVATION - LINDSAY	DEMAND REDUCTION	$0	$0	1	1	2	3	4	7
LINDSAY	C	CONSERVATION, WATER LOSS CONTROL - LINDSAY	DEMAND REDUCTION	$1108	N/A	1	1	0	0	0	0
LINDSAY	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	0	12	90
LINDSAY	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	5	13	30	56	98
LITTLE ELM	C	CONSERVATION - LITTLE ELM	DEMAND REDUCTION	$0	$0	59	78	94	109	123	139
LITTLE ELM	C	CONSERVATION, IRRIGATION RESTRICTIONS – LITTLE ELM	DEMAND REDUCTION	$0	$0	122	137	137	136	136	136
LITTLE ELM	C	CONSERVATION, WATER LOSS CONTROL - LITTLE ELM	DEMAND REDUCTION	$1270	N/A	20	23	0	0	0	0
LITTLE ELM	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	432	516	455
LITTLE ELM	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	31	80	105
LITTLE ELM	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	48	53	30	32	26
LITTLE ELM	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	437	515	307	364	318
LITTLE ELM	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	33	79	63	97	102
LITTLE ELM	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	136
LITTLE ELM	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	170	247	294	309

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
LITTLE ELM	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	154
LIVESTOCK, HENDERSON*	C	ATHENS MWA - NEW WELL (S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
LIVESTOCK, HENDERSON*	C	LIVESTOCK, HENDERSON - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	$740	$134	403	403	403	403	403	403
LIVESTOCK, HENDERSON*	I	AMWA ATHENS FISH HATCHERY REUSE	I | NECHES INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
LIVESTOCK, TARRANT	C	LIVESTOCK, TARRANT - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | TARRANT COUNTY	$681	$134	75	75	75	75	75	75
LUCAS	C	CONSERVATION - LUCAS	DEMAND REDUCTION	$270	$111	20	30	55	83	107	122
LUCAS	C	CONSERVATION – WASTE PROHIBITION, LUCAS	DEMAND REDUCTION	$234	$153	18	23	32	38	43	43
LUCAS	C	CONSERVATION, IRRIGATION RESTRICTIONS – LUCAS	DEMAND REDUCTION	$75	$45	68	84	112	131	146	146
LUCAS	C	CONSERVATION, WATER LOSS CONTROL - LUCAS	DEMAND REDUCTION	$1094	$311	55	159	191	222	248	248
LUCAS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	271	400	365
LUCAS	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	19	62	85
LUCAS	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	10	24	18	25	21
LUCAS	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	92	229	193	283	256
LUCAS	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	7	35	40	75	82
LUCAS	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	109
LUCAS	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	75	154	227	248
LUCAS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	124
LUELLA SUD	C	CONSERVATION - LUELLA SUD	DEMAND REDUCTION	$0	$0	1	3	5	7	10	13
LUELLA SUD	C	CONSERVATION, WATER LOSS CONTROL - LUELLA SUD	DEMAND REDUCTION	$836	N/A	2	2	0	0	0	0
LUELLA SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
LUELLA SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
LUELLA SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	N/A	0	0	0	0	0	0
LUELLA SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
LUELLA SUD	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	18	45	80	171	264

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
LUELLA SUD	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	17	35	31	0	0
LUELLA SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
M E N WSC	C	CONSERVATION - M E N WSC	DEMAND REDUCTION	$0	$0	2	3	6	8	11	15
M E N WSC	C	CONSERVATION, WATER LOSS CONTROL - M-E-N WSC	DEMAND REDUCTION	$871	N/A	2	3	0	0	0	0
M E N WSC	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	50	111	194
MABANK*	C	CONSERVATION - MABANK	DEMAND REDUCTION	$767	$305	33	57	71	103	161	245
MABANK*	C	CONSERVATION – WASTE PROHIBITION, MABANK	DEMAND REDUCTION	$504	$347	10	12	13	18	25	37
MABANK*	C	CONSERVATION, IRRIGATION RESTRICTIONS – MABANK	DEMAND REDUCTION	$107	$70	54	64	70	93	130	182
MABANK*	C	CONSERVATION, WATER LOSS CONTROL - MABANK	DEMAND REDUCTION	$946	N/A	10	11	0	0	0	0
MABANK*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	568	479	483	843	1,116
MABANK*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	661	1,080	1,452
MABANK*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	15	21	20	32	43
MABANK*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	12	11	17	23
MABANK*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	80	74	121	164
MABANK*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	45	41	68	90
MABANK*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	115	129	158	322	520
MABANK*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	90	83	136	182
MABANK*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	582	18	14	16	33	76
MABANK*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	491
MACBEE SUD*	C	CONSERVATION - MACBEE SUD	DEMAND REDUCTION	N/A	$0	0	0	0	0	1	1
MALAKOFF	C	CONSERVATION - MALAKOFF	DEMAND REDUCTION	$0	$0	1	2	3	4	5	6
MALAKOFF	C	CONSERVATION, WATER LOSS CONTROL - MALAKOFF	DEMAND REDUCTION	$1560	N/A	1	1	0	0	0	0
MALAKOFF	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	3	2	3	6
MALAKOFF	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	2	4	7

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MALAKOFF	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
MALAKOFF	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MALAKOFF	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	1	1
MALAKOFF	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
MALAKOFF	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	1	1	3
MALAKOFF	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	0	1	1
MALAKOFF	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MALAKOFF	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	2
MANSFIELD*	C	CONSERVATION - MANSFIELD	DEMAND REDUCTION	$165	$44	171	331	486	716	951	1,221
MANSFIELD*	C	CONSERVATION, IRRIGATION RESTRICTIONS – MANSFIELD	DEMAND REDUCTION	$61	$53	482	672	795	983	1,124	1,264
MANSFIELD*	C	CONSERVATION, WATER LOSS CONTROL - MANSFIELD	DEMAND REDUCTION	$2826	N/A	90	112	0	0	0	0
MANSFIELD*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	4,479	5,229	4,571	5,954	6,160
MANSFIELD*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	6,267	7,645	8,014
MANSFIELD*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	113	234	187	227	239
MANSFIELD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	124	99	121	127
MANSFIELD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	814	652	795	834
MANSFIELD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	558	447	544	570
MANSFIELD*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	903	1,403	1,496	2,282	2,870
MANSFIELD*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	985	788	962	1,007
MANSFIELD*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	517	139	148	148	237	417
MANSFIELD*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	2,711
MANUFACTURING, COLLIN	C	MANUFACTURING, COLLIN - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | COLLIN COUNTY	N/A	$72	0	78	78	78	78	78
MANUFACTURING, COLLIN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	283	332	291

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
MANUFACTURING, COLLIN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	20	53	67
MANUFACTURING, COLLIN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	35	35	20	21	18
MANUFACTURING, COLLIN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	327	344	199	240	207
MANUFACTURING, COLLIN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	23	50	44	60	64
MANUFACTURING, COLLIN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	87
MANUFACTURING, COLLIN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	113	161	189	195
MANUFACTURING, COLLIN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	97
MANUFACTURING, COOKE	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	0	7	39
MANUFACTURING, COOKE	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	0	0	0	29	43
MANUFACTURING, DALLAS	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	43
MANUFACTURING, DALLAS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	224	69	63	51	45	0
MANUFACTURING, DALLAS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$372	519	409	883	2,325	2,400	2,314
MANUFACTURING, DALLAS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	1,208	2,193	1,865	1,659	1,483
MANUFACTURING, DALLAS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	395	468	407
MANUFACTURING, DALLAS	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	28	73	94
MANUFACTURING, DALLAS	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	50	49	27	29	23
MANUFACTURING, DALLAS	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	16	453	479	282	331	286
MANUFACTURING, DALLAS	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	34	72	57	87	91
MANUFACTURING, DALLAS	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	121
MANUFACTURING, DALLAS	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	158	225	266	278
MANUFACTURING, DALLAS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MANUFACTURING, DALLAS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DALLAS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	138
MANUFACTURING, DALLAS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	818
MANUFACTURING, DALLAS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	763	690
MANUFACTURING, DENTON	C	DENTON - UNALLOCATED SUPPLY UTILIZATION	C | LEWISVILLE LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$0	0	15	18	15	10	8
MANUFACTURING, DENTON	C	DENTON - UNALLOCATED SUPPLY UTILIZATION	C | RAY ROBERTS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$0	0	34	43	36	24	19
MANUFACTURING, DENTON	C	DENTON - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$0	0	14	21	25	17	13
MANUFACTURING, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	2
MANUFACTURING, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	1	1	1	1	1	0
MANUFACTURING, DENTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$277	0	0	28	64	97	102
MANUFACTURING, DENTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	2	5	32	49	49
MANUFACTURING, DENTON	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$161	0	3	3	3	3	4
MANUFACTURING, DENTON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$972	0	0	0	12	13	13
MANUFACTURING, DENTON	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	0	1	1
MANUFACTURING, DENTON	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DENTON	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	4	5	3	3	3
MANUFACTURING, DENTON	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DENTON	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	1
MANUFACTURING, DENTON	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	1	2	2	2
MANUFACTURING, DENTON	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DENTON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DENTON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	1	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MANUFACTURING, DENTON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DENTON	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	1	1	1	1
MANUFACTURING, DENTON	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	1	0	0	0
MANUFACTURING, DENTON	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, DENTON	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	2	2	3
MANUFACTURING, DENTON	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	7	14	10	10	9
MANUFACTURING, DENTON	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	3	5	4	4	4
MANUFACTURING, DENTON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1006	0	0	0	0	0	4
MANUFACTURING, DENTON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	27
MANUFACTURING, DENTON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	23	23
MANUFACTURING, ELLIS	C	CONSERVATION - ENNIS	C | BARDWELL LAKE/RESERVOIR	N/A	N/A	0	4	0	0	0	0
MANUFACTURING, ELLIS	C	CONSERVATION - ENNIS	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	4	0	0	0	0
MANUFACTURING, ELLIS	C	ENNIS - INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$386	0	0	35	120	226	126
MANUFACTURING, ELLIS	C	ENNIS - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	25	82	46
MANUFACTURING, ELLIS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	200	343	251	410	568
MANUFACTURING, ELLIS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	345	526	740
MANUFACTURING, ELLIS	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	373	1,045	871	745	648	590
MANUFACTURING, ELLIS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	5	15	10	16	22
MANUFACTURING, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	8	5	8	12
MANUFACTURING, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	57	39	58	83
MANUFACTURING, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	33	22	34	46
MANUFACTURING, ELLIS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	40	92	82	156	266
MANUFACTURING, ELLIS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	65	43	65	93
MANUFACTURING, ELLIS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	7	10	9	17	37
MANUFACTURING, ELLIS	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	125	93	69
MANUFACTURING, ELLIS	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$25	0	0	82	68	38	19

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
MANUFACTURING, ELLIS	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$25	0	0	76	91	54	29
MANUFACTURING, ELLIS	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$547	0	0	54	44	25	13
MANUFACTURING, ELLIS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	251
MANUFACTURING, FANNIN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, FANNIN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, FANNIN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, FANNIN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	0	1	4	5	6
MANUFACTURING, FANNIN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, FANNIN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, FANNIN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, FANNIN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, GRAYSON	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$90	0	5	3	4	4	3
MANUFACTURING, GRAYSON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	4	4	4
MANUFACTURING, GRAYSON	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	0	1	1
MANUFACTURING, GRAYSON	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, GRAYSON	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	4	6	3	4	4
MANUFACTURING, GRAYSON	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, GRAYSON	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	1
MANUFACTURING, GRAYSON	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	1	2	2	2
MANUFACTURING, GRAYSON	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	0	0	417	1,144
MANUFACTURING, GRAYSON	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	4	3	1	0	0
MANUFACTURING, GRAYSON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MANUFACTURING, KAUFMAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	127	150	130
MANUFACTURING, KAUFMAN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	9	23	30
MANUFACTURING, KAUFMAN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	16	16	9	9	7
MANUFACTURING, KAUFMAN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	4	146	153	90	108	95
MANUFACTURING, KAUFMAN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	10	23	18	28	29
MANUFACTURING, KAUFMAN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	39
MANUFACTURING, KAUFMAN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	51	73	85	87
MANUFACTURING, KAUFMAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	43
MANUFACTURING, NAVARRO	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	5	100	192	301
MANUFACTURING, NAVARRO	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$157	0	0	2	1	1	1
MANUFACTURING, NAVARRO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	0	0	1
MANUFACTURING, NAVARRO	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, NAVARRO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, NAVARRO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, NAVARRO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, NAVARRO	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, NAVARRO	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, NAVARRO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, PARKER	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	7	5	5	6	5
MANUFACTURING, PARKER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	7	6	7
MANUFACTURING, PARKER	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	1	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MANUFACTURING, PARKER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	0	0	1
MANUFACTURING, PARKER	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	1	2	2	2	3
MANUFACTURING, PARKER	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	2	0	1	1
MANUFACTURING, PARKER	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	N/A	3	0	0	0	0	0
MANUFACTURING, PARKER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	2
MANUFACTURING, ROCKWALL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	4	5	4
MANUFACTURING, ROCKWALL	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	0	1	1
MANUFACTURING, ROCKWALL	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	5	6	5	4	5
MANUFACTURING, ROCKWALL	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	0	0	0	0	1
MANUFACTURING, ROCKWALL	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	1
MANUFACTURING, ROCKWALL	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	2	2	3	2
MANUFACTURING, ROCKWALL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	1
MANUFACTURING, TARRANT	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, TARRANT	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, TARRANT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	1,289	1,609	1,222	1,472	1,413
MANUFACTURING, TARRANT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,676	1,890	1,841
MANUFACTURING, TARRANT	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	10	12	17	14	15	13
MANUFACTURING, TARRANT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	32	71	49	56	54
MANUFACTURING, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	38	27	30	29
MANUFACTURING, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	270	188	213	206
MANUFACTURING, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	152	105	119	116
MANUFACTURING, TARRANT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	259	432	400	563	659
MANUFACTURING, TARRANT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	303	211	237	231
MANUFACTURING, TARRANT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	22	41	43	38	59	97

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MANUFACTURING, TARRANT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	622
MANUFACTURING, WISE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	5	5	5	7	6
MANUFACTURING, WISE	C	MANUFACTURING, WISE - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | WISE COUNTY	$218	$42	201	201	201	201	201	201
MANUFACTURING, WISE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	6	7	7
MANUFACTURING, WISE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	1	1
MANUFACTURING, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	1	0	0	0
MANUFACTURING, WISE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	1	2	1	2	3
MANUFACTURING, WISE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	1	1	1	1
MANUFACTURING, WISE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, WISE	C	WISE COUNTY WSD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
MANUFACTURING, WISE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	2
MARILEE SUD	C	CONSERVATION - MARILEE SUD	DEMAND REDUCTION	$0	$0	4	8	12	16	20	23
MARILEE SUD	C	CONSERVATION, WATER LOSS CONTROL - MARILEE SUD	DEMAND REDUCTION	$13713	N/A	6	6	0	0	0	0
MARILEE SUD	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	697	870	1,115	1,495	1,416
MARILEE SUD	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	0	0	43	119
MARILEE SUD	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	679	676	427	0	0
MARKOUT WSC	C	CONSERVATION - MARKOUT WSC	DEMAND REDUCTION	$970	$418	7	15	19	28	44	62
MARKOUT WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – MARKOUT WSC	DEMAND REDUCTION	$171	$86	11	16	19	25	35	47
MARKOUT WSC	C	CONSERVATION, WATER LOSS CONTROL - MARKOUT WSC	DEMAND REDUCTION	$1236	N/A	2	3	0	0	0	0
MARKOUT WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	182	288	321

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MARKOUT WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	13	45	74
MARKOUT WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	17	18	12	18	18
MARKOUT WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	87	148	176	130	203	225
MARKOUT WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	12	27	26	54	72
MARKOUT WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	96
MARKOUT WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	58	103	164	218
MARKOUT WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	109
MCKINNEY	C	CONSERVATION - MCKINNEY	DEMAND REDUCTION	$69	$30	946	1,289	1,804	2,463	2,941	3,341
MCKINNEY	C	CONSERVATION, IRRIGATION RESTRICTIONS – MCKINNEY	DEMAND REDUCTION	$0	$0	1,226	1,333	1,470	1,777	2,126	2,304
MCKINNEY	C	CONSERVATION, WATER LOSS CONTROL - MCKINNEY	DEMAND REDUCTION	$2013	$1449	337	657	479	579	693	751
MCKINNEY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	4,882	7,442	7,219
MCKINNEY	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	345	1,161	1,671
MCKINNEY	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	339	454	333	465	410
MCKINNEY	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	3,048	4,401	3,474	5,260	5,070
MCKINNEY	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	232	669	715	1,388	1,616
MCKINNEY	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	2,155
MCKINNEY	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	1,449	2,785	4,234	4,909
MCKINNEY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	2,442
MELISSA	C	CONSERVATION - MELISSA	DEMAND REDUCTION	$303	$60	38	176	304	451	601	708
MELISSA	C	CONSERVATION, IRRIGATION RESTRICTIONS – MELISSA	DEMAND REDUCTION	$0	$0	118	373	521	649	747	772
MELISSA	C	CONSERVATION, WATER LOSS CONTROL - MELISSA	DEMAND REDUCTION	$623	N/A	20	62	0	0	0	0
MELISSA	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$90	0	1,606	1,967	2,382	3,112	2,974
MELISSA	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	6,668	7,517	5,922
MELISSA	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	471	1,173	1,371

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
MELISSA	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	778	851	456	470	336
MELISSA	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	208	6,994	8,253	4,742	5,315	4,159
MELISSA	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	534	1,254	977	1,402	1,326
MELISSA	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	1,767
MELISSA	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	2,717	3,805	4,276	4,026
MELISSA	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	1,566	1,530	914	0	0
MELISSA	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	2,003
MESQUITE	C	CONSERVATION - MESQUITE	DEMAND REDUCTION	$0	$0	520	665	807	963	1,140	1,333
MESQUITE	C	CONSERVATION, IRRIGATION RESTRICTIONS – MESQUITE	DEMAND REDUCTION	$0	$0	670	715	790	853	920	988
MESQUITE	C	CONSERVATION, WATER LOSS CONTROL - MESQUITE	DEMAND REDUCTION	$2331	N/A	112	119	0	0	0	0
MESQUITE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	2,537	3,379	3,215
MESQUITE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	179	527	744
MESQUITE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	206	272	173	211	182
MESQUITE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	1,856	2,633	1,804	2,389	2,256
MESQUITE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	141	400	372	630	720
MESQUITE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	959
MESQUITE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	867	1,448	1,922	2,187
MESQUITE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	1,088
MIDLOTHIAN	C	CONSERVATION - MIDLOTHIAN	DEMAND REDUCTION	$382	$171	137	262	312	368	425	503
MIDLOTHIAN	C	CONSERVATION – WASTE PROHIBITION, MIDLOTHIAN	DEMAND REDUCTION	$0	$0	21	37	39	41	45	50
MIDLOTHIAN	C	CONSERVATION, IRRIGATION RESTRICTIONS – MIDLOTHIAN	DEMAND REDUCTION	$78	$60	136	223	233	247	263	291
MIDLOTHIAN	C	CONSERVATION, WATER LOSS CONTROL - MIDLOTHIAN	DEMAND REDUCTION	$2109	N/A	24	35	0	0	0	0
MIDLOTHIAN	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	277	546	291	418	494
MIDLOTHIAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	401	538	645

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MIDLOTHIAN	C	MIDLOTHIAN - INDIRECT REUSE	C | TRINITY INDIRECT REUSE	$948	$222	2,107	9,203	10,100	10,224	10,324	10,470
MIDLOTHIAN	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	403	1,444	1,381	977	985	1,092
MIDLOTHIAN	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	7	25	12	15	20
MIDLOTHIAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	13	6	9	10
MIDLOTHIAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	92	45	61	72
MIDLOTHIAN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	51	27	33	41
MIDLOTHIAN	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	56	146	96	161	231
MIDLOTHIAN	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	102	50	68	80
MIDLOTHIAN	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	7	14	9	16	36
MIDLOTHIAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	218
MILLIGAN WSC	C	CONSERVATION - MILLIGAN WSC	DEMAND REDUCTION	$0	$0	2	3	6	10	15	19
MILLIGAN WSC	C	CONSERVATION, WATER LOSS CONTROL - MILLIGAN WSC	DEMAND REDUCTION	$2249	N/A	2	3	0	0	0	0
MILLIGAN WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	83	112	108
MILLIGAN WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	6	18	25
MILLIGAN WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	7	8	6	7	6
MILLIGAN WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	63	81	59	80	76
MILLIGAN WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	12	12	21	24
MILLIGAN WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	32
MILLIGAN WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	27	48	63	73
MILLIGAN WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	37
MINERAL WELLS*	C	CONSERVATION - MINERAL WELLS	DEMAND REDUCTION	$1002	$0	6	9	3	4	5	6
MINERAL WELLS*	C	CONSERVATION, IRRIGATION RESTRICTIONS – MINERAL WELLS	DEMAND REDUCTION	$196	N/A	9	10	0	0	0	0
MINERAL WELLS*	C	CONSERVATION, WATER LOSS CONTROL - MINERAL WELLS	DEMAND REDUCTION	$264	N/A	2	2	0	0	0	0
MINERAL WELLS*	G	TURKEY PEAK RESERVOIR	G | TURKEY PEAK LAKE/RESERVOIR	N/A	$98	0	49	77	92	106	119

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MINING, COOKE	C	GAINESVILLE - EXPAND DIRECT REUSE FOR MINING	C | DIRECT NON-POTABLE REUSE	$1473	$1473	99	67	71	74	77	80
MINING, COOKE	C	GAINESVILLE - UNALLOCATED GROUNDWATER SUPPLY UTILIZATION	C | TRINITY AQUIFER | COOKE COUNTY	$0	$0	484	83	77	72	84	56
MINING, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	4	5
MINING, DENTON	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	0	1	2	0	0
MINING, DENTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	1	20	110	220	271
MINING, DENTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	4	49	88	153	174
MINING, DENTON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	289	455	597
MINING, DENTON	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	114	180	316
MINING, DENTON	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	49	305	433	678	889
MINING, DENTON	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	17	114	171	267	351
MINING, DENTON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	202
MINING, DENTON	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	96
MINING, DENTON	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	70	81
MINING, GRAYSON	C	MINING, GRAYSON - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | GRAYSON COUNTY	$665	$94	100	100	100	100	100	100
MINING, HENDERSON*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	14	17	13	15	14
MINING, HENDERSON*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	19	21	20
MINING, HENDERSON*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	1	1	1	1
MINING, HENDERSON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MINING, HENDERSON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	3	2	2	2
MINING, HENDERSON*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	2	2	2
MINING, HENDERSON*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	3	5	4	6	7
MINING, HENDERSON*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	3	2	3	2
MINING, HENDERSON*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	1	1
MINING, HENDERSON*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	7

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MINING, JACK	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	104	117	92	115	121
MINING, JACK	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	127	148	157
MINING, JACK	C	MINING, JACK - INDIRECT REUSE (JACKSBORO)	C | TRINITY INDIRECT REUSE	$978	$978	330	342	348	351	356	359
MINING, JACK	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	5	4	4	5
MINING, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	3	2	2	2
MINING, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	21	14	16	17
MINING, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	10	8	10	11
MINING, JACK	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	21	32	30	44	56
MINING, JACK	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	22	16	19	20
MINING, JACK	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	3	3	3	5	8
MINING, JACK	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	53
MINING, KAUFMAN	C	MINING, KAUFMAN - NEW WELL(S) IN NACATOCH AQUIFER	C | NACATOCH AQUIFER | KAUFMAN COUNTY	N/A	$147	0	0	49	49	49	49
MINING, PARKER	C	MINING, PARKER - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | PARKER COUNTY	N/A	$62	0	289	266	333	384	624
MINING, TARRANT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	107	12	10	12	12
MINING, TARRANT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	13	15	15
MINING, TARRANT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	2	0	0	0	0
MINING, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
MINING, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	2	2	2
MINING, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	1	1	1
MINING, TARRANT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	22	3	3	4	5
MINING, TARRANT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	2	2	2	2
MINING, TARRANT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	4	2	0	1	0
MINING, TARRANT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	5
MINING, WISE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	443	404	544	647

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MINING, WISE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	554	699	842
MINING, WISE	C	NON-MUNICIPAL CONSERVATION, MINING, WISE	DEMAND REDUCTION	$0	$147	6,261	6,261	6,348	7,495	8,477	10,098
MINING, WISE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	20	17	21	25
MINING, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	11	9	11	13
MINING, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	75	63	79	95
MINING, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	41	34	44	53
MINING, WISE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	119	132	209	302
MINING, WISE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	83	70	88	106
MINING, WISE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	13	13	22	44
MINING, WISE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	285
MOUNT ZION WSC	C	CONSERVATION - MOUNT ZION WSC	DEMAND REDUCTION	$357	$146	5	7	11	16	23	31
MOUNT ZION WSC	C	CONSERVATION – WASTE PROHIBITION, MOUNT ZION WSC	DEMAND REDUCTION	N/A	$2805	0	1	1	1	1	1
MOUNT ZION WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – MOUNT ZION WSC	DEMAND REDUCTION	$138	$76	14	18	22	27	32	37
MOUNT ZION WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNT ZION WSC	DEMAND REDUCTION	$1448	N/A	3	3	0	0	0	0
MOUNT ZION WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	84	123	126
MOUNT ZION WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	6	19	29
MOUNT ZION WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	6	8	6	8	7
MOUNT ZION WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	57	81	60	86	88
MOUNT ZION WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	12	12	23	29
MOUNT ZION WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	38
MOUNT ZION WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	27	48	70	86
MOUNT ZION WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	43
MOUNTAIN PEAK SUD*	C	CONSERVATION - MOUNTAIN PEAK SUD	DEMAND REDUCTION	$283	$161	92	151	183	270	338	408

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MOUNTAIN PEAK SUD*	C	CONSERVATION, IRRIGATION RESTRICTIONS – MOUNTAIN PEAK SUD	DEMAND REDUCTION	$61	$47	58	82	84	127	147	164
MOUNTAIN PEAK SUD*	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN PEAK SUD	DEMAND REDUCTION	$522	$142	88	308	301	454	525	585
MOUNTAIN PEAK SUD*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	718	595	1,118	1,377	1,353
MOUNTAIN PEAK SUD*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,647	1,859	1,855
MOUNTAIN PEAK SUD*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	15	25	40	47	48
MOUNTAIN PEAK SUD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	13	21	25	25
MOUNTAIN PEAK SUD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	93	151	179	179
MOUNTAIN PEAK SUD*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	53	85	99	99
MOUNTAIN PEAK SUD*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	120	149	322	472	570
MOUNTAIN PEAK SUD*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	105	169	199	200
MOUNTAIN PEAK SUD*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	412	18	16	32	50	83
MOUNTAIN PEAK SUD*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	539
MOUNTAIN SPRINGS WSC	C	CONSERVATION - MOUNTAIN SPRING WSC	DEMAND REDUCTION	$0	$429	2	3	5	7	26	52
MOUNTAIN SPRINGS WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – MOUNTAIN SPRINGS WSC	DEMAND REDUCTION	N/A	$89	0	0	0	0	22	39
MOUNTAIN SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN SPRING WSC	DEMAND REDUCTION	$865	N/A	2	2	0	0	0	0
MOUNTAIN SPRINGS WSC	C	GAINESVILLE - UNALLOCATED SURFACE WATER SUPPLY UTILIZATION	C | HUBERT H MOSS LAKE/RESERVOIR	N/A	$593	0	0	0	0	45	327
MOUNTAIN SPRINGS WSC	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	0	0	0	201	356
MUENSTER	C	CONSERVATION - MUENSTER	DEMAND REDUCTION	$0	$0	1	2	3	3	4	5
MUENSTER	C	CONSERVATION, WATER LOSS CONTROL - MUENSTER	DEMAND REDUCTION	$1760	N/A	1	1	0	0	0	0
MUENSTER	C	MUENSTER - DEVELOP MUENSTER LAKE SUPPLY	C | MUENSTER LAKE/RESERVOIR	$4139	$1628	280	280	280	280	280	280
MURPHY	C	CONSERVATION - MURPHY	DEMAND REDUCTION	$286	$102	43	62	77	92	106	121
MURPHY	C	CONSERVATION – WASTE PROHIBITION, MURPHY	DEMAND REDUCTION	$315	$259	29	32	32	32	32	32
MURPHY	C	CONSERVATION, IRRIGATION RESTRICTIONS – MURPHY	DEMAND REDUCTION	$76	$63	120	132	132	132	132	132
MURPHY	C	CONSERVATION, WATER LOSS CONTROL - MURPHY	DEMAND REDUCTION	$219	N/A	22	22	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
MURPHY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	402	493	435
MURPHY	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	28	77	101
MURPHY	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	41	47	27	31	25
MURPHY	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	368	457	287	349	305
MURPHY	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	28	69	59	92	98
MURPHY	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	130
MURPHY	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	150	229	280	296
MURPHY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	147
MUSTANG SUD	C	CONSERVATION - MUSTANG SUD	DEMAND REDUCTION	$0	$0	21	77	153	255	382	536
MUSTANG SUD	C	CONSERVATION, WATER LOSS CONTROL - MUSTANG SUD	DEMAND REDUCTION	$2062	N/A	23	42	0	0	0	0
MUSTANG SUD	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	21	23
MUSTANG SUD	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	6	13	14	0	0
MUSTANG SUD	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	36	181	659	1,123	1,233
MUSTANG SUD	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	104	448	528	777	791
MUSTANG SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	1,741	2,313	2,716
MUSTANG SUD	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	688	915	1,437
MUSTANG SUD	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	1,345	2,815	2,601	3,449	4,041
MUSTANG SUD	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	478	1,057	1,027	1,361	1,598
MUSTANG SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	919
MUSTANG SUD	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	436
MUSTANG SUD	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	357	368
NAVARRO MILLS WSC	C	CONSERVATION - NAVARRO MILLS WSC	DEMAND REDUCTION	$0	$0	1	2	4	5	7	10
NAVARRO MILLS WSC	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO MILLS WSC	DEMAND REDUCTION	$374	N/A	2	2	0	0	0	0
NAVARRO MILLS WSC	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	1	33	73	128

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
NAVARRO MILLS WSC	C	NAVARRO MILLS WSC - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | NAVARRO COUNTY	N/A	$1724	0	0	0	8	8	8
NEVADA SUD	C	CONSERVATION - NEVADA SUD	DEMAND REDUCTION	$0	$37	1	2	3	16	51	107
NEVADA SUD	C	CONSERVATION, IRRIGATION RESTRICTIONS – NEVADA SUD	DEMAND REDUCTION	$0	$0	8	9	10	33	79	143
NEVADA SUD	C	CONSERVATION, WATER LOSS CONTROL - NEVADA SUD	DEMAND REDUCTION	$1119	N/A	1	1	0	0	0	0
NEVADA SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	108	309	488
NEVADA SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	8	48	113
NEVADA SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	3	4	7	19	28
NEVADA SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	29	39	76	219	342
NEVADA SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	2	7	16	58	109
NEVADA SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	146
NEVADA SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	13	62	176	332
NEVADA SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	165
NEWARK	C	CONSERVATION - NEWARK	DEMAND REDUCTION	$0	$0	1	2	3	6	11	17
NEWARK	C	CONSERVATION, WATER LOSS CONTROL - NEWARK	DEMAND REDUCTION	$76	N/A	1	1	0	0	0	0
NEWARK	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	31	50	60	111	146
NEWARK	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	81	143	191
NEWARK	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	2	2	4	6
NEWARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	2	3
NEWARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	9	9	16	22
NEWARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	5	9	12
NEWARK	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	6	13	19	43	69
NEWARK	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	9	10	18	24
NEWARK	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	13	1	1	2	4	10
NEWARK	C	WALNUT CREEK SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	54	81	127	142	157	167

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
NEWARK	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	65
NORTH COLLIN SUD	C	CONSERVATION - NORTH COLLIN WSC	DEMAND REDUCTION	$0	$34	3	6	11	17	26	38
NORTH COLLIN SUD	C	CONSERVATION, WATER LOSS CONTROL - NORTH COLLIN WSC	DEMAND REDUCTION	$372	N/A	4	5	0	0	0	0
NORTH COLLIN SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	136	188	187
NORTH COLLIN SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	10	29	43
NORTH COLLIN SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	12	14	9	12	11
NORTH COLLIN SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	111	139	98	133	132
NORTH COLLIN SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	9	21	20	35	42
NORTH COLLIN SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	56
NORTH COLLIN SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	46	77	107	127
NORTH COLLIN SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	63
NORTH FARMERSVILLE WSC	C	CONSERVATION - NORTH FARMERSVILLE WSC	DEMAND REDUCTION	$1251	$353	1	3	4	5	7	8
NORTH FARMERSVILLE WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – NORTH FARMERSVILLE WSC	DEMAND REDUCTION	$518	$67	2	3	4	5	5	6
NORTH FARMERSVILLE WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH FARMERSVILLE	DEMAND REDUCTION	N/A	N/A	0	1	0	0	0	0
NORTH FARMERSVILLE WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	14	20	20
NORTH FARMERSVILLE WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	1	3	5
NORTH FARMERSVILLE WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	1	1	1	1	1
NORTH FARMERSVILLE WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	7	13	10	13	12
NORTH FARMERSVILLE WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	1	2	2	4	4
NORTH FARMERSVILLE WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	6
NORTH FARMERSVILLE WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	4	8	12	14
NORTH FARMERSVILLE WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	7
NORTH HUNT SUD*	C	CONSERVATION - NORTH HUNT SUD	DEMAND REDUCTION	N/A	$0	0	0	0	1	1	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
NORTH HUNT SUD*	D	DRILL NEW WELLS (NORTH HUNT SUD, HUNT, NACATOCH, SABINE)	D | NACATOCH AQUIFER | HUNT COUNTY	$2337	$1331	11	17	23	29	35	42
NORTH KAUFMAN WSC	C	CONSERVATION - NORTH KAUFMAN WSC	DEMAND REDUCTION	$0	$20	1	2	3	5	9	16
NORTH KAUFMAN WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH KAUFMAN WSC	DEMAND REDUCTION	$829	N/A	1	1	0	0	0	0
NORTH KAUFMAN WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	44	73	84
NORTH KAUFMAN WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	3	12	19
NORTH KAUFMAN WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	3	4	3	5	5
NORTH KAUFMAN WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	29	40	32	48	57
NORTH KAUFMAN WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	2	6	6	14	19
NORTH KAUFMAN WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	25
NORTH KAUFMAN WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	13	25	43	57
NORTH KAUFMAN WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	28
NORTH RICHLAND HILLS	C	CONSERVATION - NORTH RICHLAND HILLS	DEMAND REDUCTION	$0	$65	185	326	364	406	447	490
NORTH RICHLAND HILLS	C	CONSERVATION, IRRIGATION RESTRICTIONS – NORTH RICHLAND HILLS	DEMAND REDUCTION	$0	$0	384	404	398	394	393	393
NORTH RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - NORTH RICHLAND HILLS	DEMAND REDUCTION	$2304	N/A	64	67	0	0	0	0
NORTH RICHLAND HILLS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	638	1,174	959	1,193	1,169
NORTH RICHLAND HILLS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,314	1,532	1,521
NORTH RICHLAND HILLS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	16	53	39	46	45
NORTH RICHLAND HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	28	21	24	24
NORTH RICHLAND HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	198	148	172	171
NORTH RICHLAND HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	110	82	96	95
NORTH RICHLAND HILLS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	128	316	314	457	544
NORTH RICHLAND HILLS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	221	165	193	192
NORTH RICHLAND HILLS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	20	33	31	47	79

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
NORTH RICHLAND HILLS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	514
NORTH RURAL WSC*	C	CONSERVATION - NORTH RURAL WSC	DEMAND REDUCTION	N/A	$0	0	0	0	0	0	1
NORTHLAKE	C	CONSERVATION - NORTHLAKE	DEMAND REDUCTION	$0	$116	6	57	108	179	265	302
NORTHLAKE	C	CONSERVATION, IRRIGATION RESTRICTIONS – NORTHLAKE	DEMAND REDUCTION	N/A	$71	0	119	186	258	330	330
NORTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - NORTHLAKE	DEMAND REDUCTION	$1035	N/A	10	22	0	0	0	0
NORTHLAKE	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	8	7
NORTHLAKE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	2	4	5	0	0
NORTHLAKE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	13	63	232	403	369
NORTHLAKE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	39	154	186	279	237
NORTHLAKE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	83	190	215	340	332
NORTHLAKE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1055	0	0	0	909	1,269	1,247
NORTHLAKE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	9	9	13	13
NORTHLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	5	5	7	7
NORTHLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	32	32	50	49
NORTHLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	18	19	27	27
NORTHLAKE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	17	51	70	131	155
NORTHLAKE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	36	37	55	54
NORTHLAKE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	3	5	7	14	23
NORTHLAKE	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	243	328	431
NORTHLAKE	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	505	963	919	1,238	1,213
NORTHLAKE	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	179	362	362	489	479
NORTHLAKE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1061	0	0	0	0	0	422
NORTHLAKE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	131
NORTHLAKE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	128	110

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
NORTHWEST GRAYSON COUNTY WCID 1	C	CONSERVATION - NORTHWEST GRAYSON CO WCID 1	DEMAND REDUCTION	$0	$0	1	1	2	3	5	8
NORTHWEST GRAYSON COUNTY WCID 1	C	CONSERVATION, WATER LOSS CONTROL - NORTHWEST GRAYSON COUNTY WCID 1	DEMAND REDUCTION	$4053	N/A	1	1	0	0	0	0
NORTHWEST GRAYSON COUNTY WCID 1	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	98	322	413	572	572
NORTHWEST GRAYSON COUNTY WCID 1	C	NORTHWEST GRAYSON COUNTY WCID 1 - NEW WELL(S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | GRAYSON COUNTY	$1362	$587	29	29	34	55	130	247
NORTHWEST GRAYSON COUNTY WCID 1	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	96	250	159	0	0
OAK RIDGE SOUTH GALE WSC	C	CONSERVATION - OAK RIDGE SOUTH GALE WSC	DEMAND REDUCTION	$0	$0	1	1	2	3	6	9
OAK RIDGE SOUTH GALE WSC	C	CONSERVATION, WATER LOSS CONTROL - OAK RIDGE SOUTH GALE WSC	DEMAND REDUCTION	$478	N/A	1	1	0	0	0	0
OAK RIDGE SOUTH GALE WSC	C	DENISON - TEXOMA WITH INFRASTRUCTURE IMPROVEMENTS	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	$0	$3575	12	28	33	57	118	225
OVILLA	C	CONSERVATION - OVILLA	DEMAND REDUCTION	$347	$130	9	16	25	39	59	129
OVILLA	C	CONSERVATION – WASTE PROHIBITION, OVILLA	DEMAND REDUCTION	$556	$213	5	8	11	16	20	41
OVILLA	C	CONSERVATION, IRRIGATION RESTRICTIONS – OVILLA	DEMAND REDUCTION	$121	$57	30	42	53	67	83	152
OVILLA	C	CONSERVATION, WATER LOSS CONTROL - OVILLA	DEMAND REDUCTION	$1266	$226	38	129	151	192	234	429
OVILLA	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	4
OVILLA	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	0	1	2	3	0
OVILLA	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	0	12	101	149	288
OVILLA	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	0	31	81	104	184
OVILLA	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	101
OVILLA	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	48	86
PALMER	C	CONSERVATION - PALMER	DEMAND REDUCTION	$0	$25	1	2	4	7	11	26
PALMER	C	CONSERVATION, WATER LOSS CONTROL - PALMER	DEMAND REDUCTION	$2376	N/A	1	2	0	0	0	0
PALMER	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	20	34	37	59	120
PALMER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	50	76	157
PALMER	C	ROCKETT SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	44	129	311
PALMER	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	2	1	2	5

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PALMER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	1	2
PALMER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	5	5	9	17
PALMER	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	4	5	11
PALMER	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	4	9	12	23	56
PALMER	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	7	6	10	20
PALMER	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	1	2	8
PALMER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	53
PALOMA CREEK NORTH	C	CONSERVATION - PALOMA CREEK NORTH	DEMAND REDUCTION	$0	$329	6	53	75	83	90	98
PALOMA CREEK NORTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK NORTH	DEMAND REDUCTION	N/A	$208	0	21	23	23	23	23
PALOMA CREEK NORTH	C	CONSERVATION, IRRIGATION RESTRICTIONS – PALOMA CREEK NORTH	DEMAND REDUCTION	N/A	$64	0	68	75	75	75	75
PALOMA CREEK NORTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK NORTH	DEMAND REDUCTION	$617	N/A	9	12	0	0	0	0
PALOMA CREEK NORTH	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	2	2
PALOMA CREEK NORTH	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	2	2	2	0	0
PALOMA CREEK NORTH	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$371	0	9	32	89	121	111
PALOMA CREEK NORTH	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	29	81	71	84	71
PALOMA CREEK NORTH	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	235	249	245
PALOMA CREEK NORTH	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	93	98	130
PALOMA CREEK NORTH	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	372	508	350	372	367
PALOMA CREEK NORTH	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	132	190	138	146	144
PALOMA CREEK NORTH	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	83
PALOMA CREEK NORTH	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	39
PALOMA CREEK NORTH	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	38	33
PALOMA CREEK SOUTH	C	CONSERVATION - PALOMA CREEK SOUTH	DEMAND REDUCTION	$0	$341	3	25	35	39	42	46
PALOMA CREEK SOUTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK SOUTH	DEMAND REDUCTION	N/A	$187	0	12	13	13	13	13

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PALOMA CREEK SOUTH	C	CONSERVATION, IRRIGATION RESTRICTIONS – PALOMA CREEK SOUTH	DEMAND REDUCTION	N/A	$62	0	34	39	39	39	39
PALOMA CREEK SOUTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK SOUTH	DEMAND REDUCTION	$666	N/A	4	6	0	0	0	0
PALOMA CREEK SOUTH	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	1	1
PALOMA CREEK SOUTH	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	1	1	1	0	0
PALOMA CREEK SOUTH	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$373	0	5	17	45	62	56
PALOMA CREEK SOUTH	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	15	41	36	42	36
PALOMA CREEK SOUTH	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	119	126	125
PALOMA CREEK SOUTH	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	47	50	66
PALOMA CREEK SOUTH	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	188	257	178	189	186
PALOMA CREEK SOUTH	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	67	96	70	74	73
PALOMA CREEK SOUTH	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	42
PALOMA CREEK SOUTH	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	20
PALOMA CREEK SOUTH	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	20	17
PANTEGO	C	CONSERVATION - PANTEGO	DEMAND REDUCTION	$0	$0	2	4	7	9	11	13
PANTEGO	C	CONSERVATION, WATER LOSS CONTROL - PANTEGO	DEMAND REDUCTION	$2464	N/A	3	3	0	0	0	0
PANTEGO	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	46	32	18	20	16
PANTEGO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	25	23	19
PANTEGO	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	2	2	0	0	0
PANTEGO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	1	0	0	0
PANTEGO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	5	2	2	2
PANTEGO	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	2	2	2
PANTEGO	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	10	9	6	6	6
PANTEGO	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	6	4	2	2
PANTEGO	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	2	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PANTEGO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	6
PARKER	C	CONSERVATION - PARKER	DEMAND REDUCTION	$194	$88	26	36	50	70	97	133
PARKER	C	CONSERVATION – WASTE PROHIBITION, PARKER	DEMAND REDUCTION	$97	$67	41	45	48	57	63	73
PARKER	C	CONSERVATION, IRRIGATION RESTRICTIONS – PARKER	DEMAND REDUCTION	$51	$30	95	106	113	132	145	166
PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER	DEMAND REDUCTION	$783	N/A	16	15	0	0	0	0
PARKER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	388	512	511
PARKER	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	27	80	118
PARKER	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	31	39	27	32	29
PARKER	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	142	283	382	277	362	359
PARKER	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	21	58	57	95	114
PARKER	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	152
PARKER	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	126	221	292	348
PARKER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	173
PARKER COUNTY SUD*	C	CONSERVATION - PARKER COUNTY SUD	DEMAND REDUCTION	$0	$37	2	8	19	30	44	60
PARKER COUNTY SUD*	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY SUD	DEMAND REDUCTION	$846	N/A	4	6	0	0	0	0
PARKER COUNTY SUD*	C	PARKER COUNTY SUD - ADDITIONAL BRA	G | BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	$1297	0	222	606	703	703	703
PARKER COUNTY SUD*	C	PARKER COUNTY SUD - ADDITIONAL BRA (SYS OPS)	G | BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	$0	0	0	0	283	665	1,046
PELICAN BAY	C	CONSERVATION - PELICAN BAY	DEMAND REDUCTION	N/A	$0	0	1	1	2	2	2
PELICAN BAY	C	CONSERVATION, WATER LOSS CONTROL - PELICAN BAY	DEMAND REDUCTION	$283	N/A	1	1	0	0	0	0
PELICAN BAY	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$166	0	0	0	1	2	1
PELICAN BAY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	0	1	2
PELICAN BAY	C	PELICAN BAY - NEW WELL (S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | TARRANT COUNTY	$1815	$264	24	24	24	24	24	24
PELICAN BAY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PELICAN BAY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
PELICAN BAY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
PELICAN BAY	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	0	0	1
PELICAN BAY	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
PELICAN BAY	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
PELICAN BAY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	1
PILOT POINT	C	CONSERVATION - PILOT POINT	DEMAND REDUCTION	$0	$37	3	7	16	31	51	80
PILOT POINT	C	CONSERVATION, WATER LOSS CONTROL - PILOT POINT	DEMAND REDUCTION	$1839	N/A	4	5	0	0	0	0
PILOT POINT	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	4	5
PILOT POINT	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	1	2	3	0	0
PILOT POINT	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$370	0	5	31	122	224	269
PILOT POINT	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	16	75	98	155	172
PILOT POINT	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	494	707	908	1,256	1,256
PILOT POINT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	323	462	589
PILOT POINT	C	PILOT POINT - NEW WELL (S) IN TRINITY AQUIFER	C | TRINITY AQUIFER | DENTON COUNTY	$1437	$508	313	313	313	313	313	313
PILOT POINT	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	481	549	348	0	0
PILOT POINT	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	128	183	312
PILOT POINT	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	206	474	482	688	875
PILOT POINT	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	73	178	191	272	347
PILOT POINT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	199
PILOT POINT	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	95
PILOT POINT	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	71	80
PINK HILL WSC	C	CONSERVATION - PINK HILL WSC	DEMAND REDUCTION	$0	$0	1	2	2	4	6	10
PINK HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - PINK HILL WSC	DEMAND REDUCTION	$771	N/A	1	1	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PINK HILL WSC	C	PINK HILL WSC - NEW WELL (S) IN TRINITY AND WOODBINE AQUIFER	C | TRINITY AQUIFER | GRAYSON COUNTY	N/A	$1192	0	6	3	16	61	124
PINK HILL WSC	C	PINK HILL WSC - NEW WELL (S) IN TRINITY AND WOODBINE AQUIFER	C | WOODBINE AQUIFER | GRAYSON COUNTY	N/A	$1192	0	6	3	16	61	124
PLANO	C	CONSERVATION - PLANO	DEMAND REDUCTION	$251	$38	1,078	1,506	2,154	1,929	2,177	2,444
PLANO	C	CONSERVATION, IRRIGATION RESTRICTIONS – PLANO	DEMAND REDUCTION	$0	$0	2,214	2,218	2,229	2,224	2,224	2,247
PLANO	C	CONSERVATION, WATER LOSS CONTROL - PLANO	DEMAND REDUCTION	$298	N/A	369	370	0	0	0	0
PLANO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	6,842	8,391	7,477
PLANO	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	483	1,309	1,731
PLANO	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	691	774	467	525	424
PLANO	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	6,223	7,504	4,867	5,929	5,249
PLANO	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	474	1,140	1,003	1,565	1,674
PLANO	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	2,232
PLANO	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	2,470	3,904	4,774	5,085
PLANO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	2,530
PLEASANT GROVE WSC	C	CONSERVATION - PLEASANT GROVE WSC	DEMAND REDUCTION	N/A	$0	0	1	1	2	4	8
PLEASANT GROVE WSC	C	CONSERVATION, WATER LOSS CONTROL - PLEASANT GROVE WSC	DEMAND REDUCTION	$272	N/A	1	1	0	0	0	0
PLEASANT GROVE WSC	C	PLEASANT GROVE WSC - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$2356	0	0	0	0	0	26
POETRY WSC*	C	CONSERVATION - POETRY WSC	DEMAND REDUCTION	N/A	$0	0	1	1	3	4	7
POETRY WSC*	C	CONSERVATION, WATER LOSS CONTROL - POETRY WSC	DEMAND REDUCTION	$224	N/A	1	1	0	0	0	0
POETRY WSC*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	22	35	40
POETRY WSC*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	1	5	9
POETRY WSC*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	2	2	1	2	2
POETRY WSC*	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	15	20	16	24	29
POETRY WSC*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	1	3	3	6	9
POETRY WSC*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	12

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
POETRY WSC*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	6	12	20	28
POETRY WSC*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	14
POINT ENTERPRISE WSC*	C	CONSERVATION - POINT ENTERPRISE WSC	DEMAND REDUCTION	N/A	$0	0	1	1	1	1	1
PONDER	C	CONSERVATION - PONDER	DEMAND REDUCTION	$0	$22	1	3	7	12	18	29
PONDER	C	CONSERVATION, WATER LOSS CONTROL - PONDER	DEMAND REDUCTION	$413	N/A	2	3	0	0	0	0
PONDER	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	2	2
PONDER	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	1	1	1	0	0
PONDER	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$369	0	3	15	55	93	100
PONDER	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	9	37	43	64	64
PONDER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	143	191	219
PONDER	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	57	75	116
PONDER	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	116	233	214	284	323
PONDER	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	42	88	84	112	129
PONDER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	74
PONDER	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	35
PONDER	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	29	30
POST OAK SUD*	C	CONSERVATION - POST OAK SUD	DEMAND REDUCTION	N/A	$0	0	0	1	1	1	1
POST OAK SUD*	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	2	21	42	65
POTTSBORO	C	CONSERVATION - POTTSBORO	DEMAND REDUCTION	$860	$394	10	17	24	35	61	123
POTTSBORO	C	CONSERVATION, IRRIGATION RESTRICTIONS – POTTSBORO	DEMAND REDUCTION	$155	$88	14	20	24	31	49	88
POTTSBORO	C	CONSERVATION, WATER LOSS CONTROL - POTTSBORO	DEMAND REDUCTION	$629	N/A	3	3	0	0	0	0
POTTSBORO	C	DENISON - TEXOMA WITH INFRASTRUCTURE IMPROVEMENTS	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	$0	$3575	68	122	162	280	619	1,009
POTTSBORO	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	0	0	0	915
POTTSBORO	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PRINCETON	C	CONSERVATION - PRINCETON	DEMAND REDUCTION	$0	$0	5	36	100	147	178	209
PRINCETON	C	CONSERVATION, WATER LOSS CONTROL - PRINCETON	DEMAND REDUCTION	$1390	N/A	6	20	0	0	0	0
PRINCETON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	1,006	1,193	1,034
PRINCETON	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	71	186	239
PRINCETON	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	52	107	69	75	59
PRINCETON	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	471	1,035	716	841	726
PRINCETON	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	36	158	148	223	231
PRINCETON	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	309
PRINCETON	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	341	574	679	704
PRINCETON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	350
PROSPER	C	CONSERVATION - PROSPER	DEMAND REDUCTION	$261	$71	49	100	156	228	313	356
PROSPER	C	CONSERVATION, IRRIGATION RESTRICTIONS – PROSPER	DEMAND REDUCTION	$0	$0	155	211	267	328	388	388
PROSPER	C	CONSERVATION, WATER LOSS CONTROL - PROSPER	DEMAND REDUCTION	$2325	N/A	26	35	0	0	0	0
PROSPER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	1,856	2,475	1,867
PROSPER	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	131	386	432
PROSPER	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	101	188	127	155	106
PROSPER	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	907	1,818	1,320	1,750	1,310
PROSPER	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	69	276	272	462	418
PROSPER	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	557
PROSPER	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	599	1,058	1,408	1,270
PROSPER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	632
PROVIDENCE VILLAGE WCID	C	CONSERVATION - PROVIDENCE VILLAGE WCID	DEMAND REDUCTION	$0	$0	3	6	9	12	15	19
PROVIDENCE VILLAGE WCID	C	CONSERVATION, WATER LOSS CONTROL - PROVIDENCE VILLAGE WCID	DEMAND REDUCTION	$1878	N/A	5	5	0	0	0	0
PROVIDENCE VILLAGE WCID	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	1	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
PROVIDENCE VILLAGE WCID	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	1	1	1	0	0
PROVIDENCE VILLAGE WCID	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$376	0	5	15	41	55	49
PROVIDENCE VILLAGE WCID	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	14	39	33	38	32
PROVIDENCE VILLAGE WCID	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	109	114	111
PROVIDENCE VILLAGE WCID	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	43	45	59
PROVIDENCE VILLAGE WCID	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	185	243	164	169	166
PROVIDENCE VILLAGE WCID	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	66	91	64	67	65
PROVIDENCE VILLAGE WCID	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	37
PROVIDENCE VILLAGE WCID	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	18
PROVIDENCE VILLAGE WCID	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	18	15
R C H WSC	C	CONSERVATION - R C H WSC	DEMAND REDUCTION	$699	$322	17	33	43	58	85	117
R C H WSC	C	CONSERVATION – WASTE PROHIBITION, R C H WSC	DEMAND REDUCTION	$2687	$1916	1	1	2	2	2	3
R C H WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – R C H WSC	DEMAND REDUCTION	$112	$70	24	37	43	52	67	82
R C H WSC	C	CONSERVATION, WATER LOSS CONTROL - R C H WSC	DEMAND REDUCTION	$1057	N/A	5	6	0	0	0	0
R C H WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	155	246	265
R C H WSC	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	11	38	61
R C H WSC	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	11	15	11	15	15
R C H WSC	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	96	142	108	175	185
R C H WSC	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	7	22	23	46	60
R C H WSC	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	79
R C H WSC	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	47	89	140	180
R C H WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	89
RED OAK	C	CONSERVATION - RED OAK	DEMAND REDUCTION	$0	$35	4	8	19	38	56	103
RED OAK	C	CONSERVATION, WATER LOSS CONTROL - RED OAK	DEMAND REDUCTION	$1036	N/A	6	6	0	0	0	0
RED OAK	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	11

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
RED OAK	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	5	3	6	6	7	0
RED OAK	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$372	10	24	76	290	368	552
RED OAK	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	69	189	232	254	354
RED OAK	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	195
RED OAK	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	117	165
RED RIVER AUTHORITY OF TEXAS*	C	CONSERVATION - RED RIVER AUTHORITY OF TEXAS	DEMAND REDUCTION	$0	$0	1	3	4	6	8	9
RED RIVER AUTHORITY OF TEXAS*	C	CONSERVATION, WATER LOSS CONTROL - RED RIVER AUTHORITY OF TEXAS	DEMAND REDUCTION	$1063	N/A	2	2	0	0	0	0
RENO (Parker)	C	CONSERVATION - RENO	DEMAND REDUCTION	$0	$0	1	1	2	2	3	4
RENO (Parker)	C	CONSERVATION, WATER LOSS CONTROL - RENO	DEMAND REDUCTION	$578	N/A	1	1	0	0	0	0
RENO (Parker)	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	13	11	9	11	10
RENO (Parker)	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	12	13	12
RENO (Parker)	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
RENO (Parker)	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
RENO (Parker)	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	2	1	1	1
RENO (Parker)	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	1	1	1	1
RENO (Parker)	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	2	3	3	4	4
RENO (Parker)	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	2	1	2	2
RENO (Parker)	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	9	0	0	0	0	1
RENO (Parker)	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	4
RHOME	C	CONSERVATION - RHOME	DEMAND REDUCTION	$936	$399	7	15	21	38	55	80
RHOME	C	CONSERVATION, IRRIGATION RESTRICTIONS – RHOME	DEMAND REDUCTION	$168	$86	11	17	21	34	46	58
RHOME	C	CONSERVATION, WATER LOSS CONTROL - RHOME	DEMAND REDUCTION	$360	N/A	2	3	0	0	0	0
RHOME	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	75	103	151	267	331
RHOME	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	208	344	430
RHOME	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	5	6	10	13

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
RHOME	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	3	5	7
RHOME	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	17	24	39	49
RHOME	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	10	13	22	26
RHOME	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	15	28	50	103	154
RHOME	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	19	26	43	54
RHOME	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	31	2	3	5	11	22
RHOME	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	145
RICE WATER SUPPLY AND SEWER SERVICE	C	CONSERVATION - RICE WSC	DEMAND REDUCTION	$0	$36	4	11	20	31	45	63
RICE WATER SUPPLY AND SEWER SERVICE	C	CONSERVATION, WATER LOSS CONTROL - RICE WATER SUPPLY	DEMAND REDUCTION	$707	N/A	6	7	0	0	0	0
RICE WATER SUPPLY AND SEWER SERVICE	C	CORSICANA - HALBERT/RICHLAND CHAMBERS WTP	C | RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$2167	0	0	0	149	370	715
RICE WATER SUPPLY AND SEWER SERVICE	C	ENNIS - INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$386	0	0	2	9	17	9
RICE WATER SUPPLY AND SEWER SERVICE	C	ENNIS - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	2	6	3
RICE WATER SUPPLY AND SEWER SERVICE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	1	1	7
RICE WATER SUPPLY AND SEWER SERVICE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	0	1	8
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	0	1
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	0	0	3
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	0	0	1
RICE WATER SUPPLY AND SEWER SERVICE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
RICE WATER SUPPLY AND SEWER SERVICE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	3
RICHARDSON	C	CONSERVATION - RICHARDSON	DEMAND REDUCTION	$110	$47	364	497	599	706	810	930
RICHARDSON	C	CONSERVATION, IRRIGATION RESTRICTIONS – RICHARDSON	DEMAND REDUCTION	$0	$0	824	832	843	862	873	898

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
RICHARDSON	C	CONSERVATION, WATER LOSS CONTROL - RICHARDSON	DEMAND REDUCTION	$562	N/A	137	139	0	0	0	0
RICHARDSON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	2,667	3,308	3,001
RICHARDSON	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	188	516	695
RICHARDSON	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	266	307	182	207	170
RICHARDSON	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	2,392	2,975	1,898	2,337	2,106
RICHARDSON	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	182	452	390	617	672
RICHARDSON	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	896
RICHARDSON	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	980	1,522	1,882	2,040
RICHARDSON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	1,015
RICHLAND HILLS	C	CONSERVATION - RICHLAND HILLS	DEMAND REDUCTION	$0	$34	4	8	12	20	29	38
RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - RICHLAND HILLS	DEMAND REDUCTION	$728	N/A	6	6	0	0	0	0
RICHLAND HILLS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	78	113	97	132	147
RICHLAND HILLS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	134	170	190
RICHLAND HILLS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	5	4	5	6
RICHLAND HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	3	2	3	3
RICHLAND HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	18	15	18	22
RICHLAND HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	11	9	11	11
RICHLAND HILLS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	16	30	32	51	68
RICHLAND HILLS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	21	17	21	24
RICHLAND HILLS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	3	3	5	10
RICHLAND HILLS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	64
RIVER OAKS	C	CONSERVATION - RIVER OAKS	DEMAND REDUCTION	$0	$0	3	5	8	10	13	16
RIVER OAKS	C	CONSERVATION, WATER LOSS CONTROL - RIVER OAKS	DEMAND REDUCTION	$1039	N/A	8	8	0	0	0	0
RIVER OAKS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	67	91	69	83	79

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
RIVER OAKS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	94	106	103
RIVER OAKS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	4	3	3	3
RIVER OAKS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	1	2	2
RIVER OAKS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	15	11	12	12
RIVER OAKS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	9	6	6	6
RIVER OAKS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	14	24	22	32	37
RIVER OAKS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	17	12	13	13
RIVER OAKS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	3	2	3	5
RIVER OAKS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	35
ROANOKE	C	ALLIANCE DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$63	0	224	448	448	448	448
ROANOKE	C	CONSERVATION - ROANOKE	DEMAND REDUCTION	$0	$115	8	36	58	70	81	92
ROANOKE	C	CONSERVATION – WASTE PROHIBITION, ROANOKE	DEMAND REDUCTION	N/A	$190	0	19	27	27	27	27
ROANOKE	C	CONSERVATION, IRRIGATION RESTRICTIONS – ROANOKE	DEMAND REDUCTION	N/A	$48	0	81	107	107	107	107
ROANOKE	C	CONSERVATION, WATER LOSS CONTROL - ROANOKE	DEMAND REDUCTION	$695	N/A	11	14	0	0	0	0
ROANOKE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	88	102	159	174
ROANOKE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	140	204	227
ROANOKE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	4	4	6	7
ROANOKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	2	3	4
ROANOKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	15	16	23	25
ROANOKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	8	9	13	14
ROANOKE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	23	34	61	81
ROANOKE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	16	18	26	29
ROANOKE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	5	10	8	12	20
ROANOKE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	77

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ROCKETT SUD	C	CONSERVATION - ROCKETT SUD	DEMAND REDUCTION	$0	$0	21	54	80	133	214	325
ROCKETT SUD	C	CONSERVATION, WATER LOSS CONTROL - ROCKETT SUD	DEMAND REDUCTION	$1789	N/A	23	29	0	0	0	0
ROCKETT SUD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	332	532	585	1,001	1,425
ROCKETT SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	802	1,281	1,855
ROCKETT SUD	C	ROCKETT SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	714	2,162	3,688
ROCKETT SUD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	9	23	25	38	55
ROCKETT SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	13	13	20	29
ROCKETT SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	90	90	144	209
ROCKETT SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	49	50	80	116
ROCKETT SUD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	67	143	191	382	664
ROCKETT SUD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	100	101	160	233
ROCKETT SUD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	11	15	18	41	96
ROCKETT SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	628
ROCKWALL	C	CONSERVATION - ROCKWALL	DEMAND REDUCTION	$94	$42	273	425	639	780	952	1,143
ROCKWALL	C	CONSERVATION, IRRIGATION RESTRICTIONS – ROCKWALL	DEMAND REDUCTION	$0	$0	297	430	632	660	714	768
ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL	DEMAND REDUCTION	$2253	N/A	50	72	0	0	0	0
ROCKWALL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	2,178	2,824	2,645
ROCKWALL	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	154	441	612
ROCKWALL	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	133	254	149	177	150
ROCKWALL	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	1,198	2,460	1,548	1,997	1,857
ROCKWALL	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	91	374	320	526	592
ROCKWALL	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	789
ROCKWALL	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	810	1,242	1,606	1,799

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
ROCKWALL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	895
ROSE HILL SUD	C	CONSERVATION - ROSE HILL SUD	DEMAND REDUCTION	$0	$37	1	3	6	10	18	35
ROSE HILL SUD	C	CONSERVATION, WATER LOSS CONTROL - ROSE HILL SUD	DEMAND REDUCTION	$865	N/A	2	3	0	0	0	0
ROSE HILL SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	85	131	174
ROSE HILL SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	6	20	40
ROSE HILL SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	7	8	6	8	10
ROSE HILL SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	63	81	60	94	123
ROSE HILL SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	5	12	12	24	39
ROSE HILL SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	52
ROSE HILL SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	27	48	75	119
ROSE HILL SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	59
ROWLETT	C	CONSERVATION - ROWLETT	DEMAND REDUCTION	$0	$0	47	100	145	192	243	300
ROWLETT	C	CONSERVATION, IRRIGATION RESTRICTIONS – ROWLETT	DEMAND REDUCTION	$0	$0	310	328	348	365	380	400
ROWLETT	C	CONSERVATION, WATER LOSS CONTROL - ROWLETT	DEMAND REDUCTION	$1073	N/A	52	55	0	0	0	0
ROWLETT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	1,173	1,482	1,369
ROWLETT	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	83	231	317
ROWLETT	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	114	133	80	93	78
ROWLETT	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	1,023	1,293	835	1,047	960
ROWLETT	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	78	196	172	277	307
ROWLETT	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	409
ROWLETT	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	426	669	843	930
ROWLETT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	463
ROYSE CITY*	C	CONSERVATION - ROYSE CITY	DEMAND REDUCTION	$0	$0	5	20	40	95	168	242
ROYSE CITY*	C	CONSERVATION, WATER LOSS CONTROL - ROYSE CITY	DEMAND REDUCTION	$1398	N/A	7	11	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
ROYSE CITY*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	647	1,146	1,204
ROYSE CITY*	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	45	179	279
ROYSE CITY*	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	304	469	504	882	914
ROYSE CITY*	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	21	63	94	214	269
ROYSE CITY*	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	360
ROYSE CITY*	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	139	369	652	820
ROYSE CITY*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	407
RUNAWAY BAY	C	CONSERVATION - RUNAWAY BAY	DEMAND REDUCTION	$422	$201	10	16	20	26	33	42
RUNAWAY BAY	C	CONSERVATION, IRRIGATION RESTRICTIONS – RUNAWAY BAY	DEMAND REDUCTION	$156	$37	15	19	22	26	29	35
RUNAWAY BAY	C	CONSERVATION, WATER LOSS CONTROL - RUNAWAY BAY	DEMAND REDUCTION	$354	N/A	3	3	0	0	0	0
RUNAWAY BAY	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	62	82	79	107	126
RUNAWAY BAY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	106	137	165
RUNAWAY BAY	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	4	3	4	5
RUNAWAY BAY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	2	2	3
RUNAWAY BAY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	14	12	15	18
RUNAWAY BAY	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	8	6	9	11
RUNAWAY BAY	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	13	22	25	41	59
RUNAWAY BAY	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	16	13	17	21
RUNAWAY BAY	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	6	2	2	2	4	9
RUNAWAY BAY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	56
SACHSE	C	CONSERVATION - SACHSE	DEMAND REDUCTION	$82	$59	207	226	243	261	278	292
SACHSE	C	CONSERVATION, IRRIGATION RESTRICTIONS – SACHSE	DEMAND REDUCTION	$0	$0	156	155	154	155	155	155
SACHSE	C	CONSERVATION, WATER LOSS CONTROL - SACHSE	DEMAND REDUCTION	$942	N/A	26	26	0	0	0	0
SACHSE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	428	539	482

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
SACHSE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	30	84	112
SACHSE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	40	49	29	34	27
SACHSE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	359	471	304	379	337
SACHSE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	28	72	63	101	108
SACHSE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	144
SACHSE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	155	244	307	328
SACHSE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	163
SAGINAW	C	CONSERVATION - SAGINAW	DEMAND REDUCTION	$0	$0	94	119	128	144	158	172
SAGINAW	C	CONSERVATION, IRRIGATION RESTRICTIONS – SAGINAW	DEMAND REDUCTION	$0	$0	95	106	117	123	122	122
SAGINAW	C	CONSERVATION, WATER LOSS CONTROL - SAGINAW	DEMAND REDUCTION	$5142	N/A	16	18	0	0	0	0
SAGINAW	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	140	335	293	365	357
SAGINAW	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	401	469	466
SAGINAW	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	4	15	12	14	14
SAGINAW	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	8	6	7	7
SAGINAW	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	56	45	53	52
SAGINAW	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	32	26	30	30
SAGINAW	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	28	90	96	140	167
SAGINAW	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	63	50	59	59
SAGINAW	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	9	9	15	24
SAGINAW	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	158
SANGER	C	CONSERVATION - SANGER	DEMAND REDUCTION	$0	$35	4	11	21	32	46	65
SANGER	C	CONSERVATION, IRRIGATION RESTRICTIONS – SANGER	DEMAND REDUCTION	$0	$0	34	41	50	60	72	86
SANGER	C	CONSERVATION, WATER LOSS CONTROL - SANGER	DEMAND REDUCTION	$759	N/A	6	7	0	0	0	0
SANGER	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	2	2
SANGER	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	0	1	1	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
SANGER	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$370	0	3	15	65	116	131
SANGER	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	7	39	52	80	84
SANGER	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1084	0	0	0	170	239	288
SANGER	C	UTRWD - ADDITIONAL INDIRECT REUSE	C | TRINITY INDIRECT REUSE	N/A	$0	0	0	0	67	95	152
SANGER	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | RALPH HALL LAKE/RESERVOIR	N/A	$80	0	91	243	254	358	430
SANGER	C	UTRWD - RALPH HALL RESERVOIR AND REUSE	C | SULPHUR INDIRECT REUSE	N/A	$80	0	33	91	100	141	169
SANGER	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$1143	0	0	0	0	0	97
SANGER	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	46
SANGER	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	37	39
SANSOM PARK	C	CONSERVATION - SANSOM PARK	DEMAND REDUCTION	$0	$0	2	4	6	8	11	14
SANSOM PARK	C	CONSERVATION, WATER LOSS CONTROL - SANSOM PARK	DEMAND REDUCTION	$141	N/A	3	3	0	0	0	0
SANSOM PARK	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	0	0	2	5	8
SANSOM PARK	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	2	6	10
SANSOM PARK	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
SANSOM PARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
SANSOM PARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	1	1
SANSOM PARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	0	1
SANSOM PARK	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	0	2	3
SANSOM PARK	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	0	1	1
SANSOM PARK	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	1
SANSOM PARK	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	3
SANTO SUD*	G	PURCHASE ADDITIONAL SUPPLY FROM THE CITY OF MINERAL WELLS	G | PALO PINTO LAKE/RESERVOIR	N/A	$2088	0	0	0	0	0	1
SARDIS LONE ELM WSC	C	CONSERVATION - SARDIS-LONE ELM WSC	DEMAND REDUCTION	$185	$114	271	409	509	565	618	647
SARDIS LONE ELM WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – SARDIS LONE ELM WSC	DEMAND REDUCTION	$65	$54	143	211	242	250	257	257

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
SARDIS LONE ELM WSC	C	CONSERVATION, WATER LOSS CONTROL - SARDIS LONE ELM WSC	DEMAND REDUCTION	$621	N/A	27	35	0	0	0	0
SARDIS LONE ELM WSC	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	1,577	1,432	928	1,085	981
SARDIS LONE ELM WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,270	1,394	1,274
SARDIS LONE ELM WSC	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	193	894	1,066	912	793	722
SARDIS LONE ELM WSC	C	ROCKETT SUD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	100	226	296
SARDIS LONE ELM WSC	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	39	65	37	42	38
SARDIS LONE ELM WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	34	20	22	20
SARDIS LONE ELM WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	241	143	157	143
SARDIS LONE ELM WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	134	79	87	80
SARDIS LONE ELM WSC	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	318	384	303	416	456
SARDIS LONE ELM WSC	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	269	160	175	161
SARDIS LONE ELM WSC	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	767	49	41	30	44	66
SARDIS LONE ELM WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	431
SEAGOVILLE	C	CONSERVATION - SEAGOVILLE	DEMAND REDUCTION	$0	$0	62	82	104	129	158	170
SEAGOVILLE	C	CONSERVATION, WATER LOSS CONTROL - SEAGOVILLE	DEMAND REDUCTION	$2194	N/A	10	12	0	0	0	0
SEAGOVILLE	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	11	9
SEAGOVILLE	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	4	5	9	10	0	0
SEAGOVILLE	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$371	7	29	123	436	580	503
SEAGOVILLE	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	85	305	350	401	323
SEAGOVILLE	C	SEAGOVILLE - UNALLOCATED SUPPLY UTILIZATION	C | RAY HUBBARD LAKE/RESERVOIR	$0	$0	8	39	47	50	56	61
SEAGOVILLE	C	SEAGOVILLE - UNALLOCATED SUPPLY UTILIZATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	$0	$0	21	80	90	94	99	102
SEAGOVILLE	C	SEAGOVILLE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	$0	$0	7	39	48	58	80	100
SEAGOVILLE	C	SEAGOVILLE - UNALLOCATED SUPPLY UTILIZATION	D | FORK LAKE/RESERVOIR	$0	$0	9	43	55	66	79	96

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
SEAGOVILLE	C	SEAGOVILLE - UNALLOCATED SUPPLY UTILIZATION	D | TAWAKONI LAKE/RESERVOIR	$0	$0	21	85	93	98	97	91
SEAGOVILLE	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	178
SEAGOVILLE	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	184	150
SEIS LAGOS UD	C	CONSERVATION - SEIS LAGOS UD	DEMAND REDUCTION	$292	$102	5	7	9	11	13	15
SEIS LAGOS UD	C	CONSERVATION, IRRIGATION RESTRICTIONS – SEIS LAGOS UD	DEMAND REDUCTION	$108	$51	16	17	17	18	18	18
SEIS LAGOS UD	C	CONSERVATION, WATER LOSS CONTROL - SEIS LAGOS UD	DEMAND REDUCTION	$3817	N/A	3	3	0	0	0	0
SEIS LAGOS UD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	56	69	61
SEIS LAGOS UD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	4	11	14
SEIS LAGOS UD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	6	6	4	4	3
SEIS LAGOS UD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	52	62	40	50	44
SEIS LAGOS UD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	4	10	9	13	13
SEIS LAGOS UD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	18
SEIS LAGOS UD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	21	32	39	41
SEIS LAGOS UD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	21
SHERMAN	C	CONSERVATION - SHERMAN	DEMAND REDUCTION	$0	$134	98	151	195	251	621	1,141
SHERMAN	C	CONSERVATION, IRRIGATION RESTRICTIONS – SHERMAN	DEMAND REDUCTION	N/A	$61	0	0	0	0	427	727
SHERMAN	C	CONSERVATION, WATER LOSS CONTROL - SHERMAN	DEMAND REDUCTION	$819	N/A	54	55	0	0	0	0
SHERMAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
SHERMAN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
SHERMAN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
SHERMAN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	N/A	0	0	0	0	0	0
SHERMAN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
SHERMAN	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	0	0	474	7,233
SHERMAN	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
SHERMAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
SOUTH ELLIS COUNTY WSC	C	CONSERVATION - SOUTH ELLIS COUNTY WSC	DEMAND REDUCTION	$0	$282	1	3	6	23	40	60
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, IRRIGATION RESTRICTIONS – SOUTH ELLIS COUNTY WSC	DEMAND REDUCTION	N/A	$57	0	0	0	22	33	46
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, WATER LOSS CONTROL - SOUTH ELLIS COUNTY WSC	DEMAND REDUCTION	$521	$82	2	2	0	107	429	599
SOUTH ELLIS COUNTY WSC	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	4	0	51
SOUTH ELLIS COUNTY WSC	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	6	0	65
SOUTH ELLIS COUNTY WSC	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	0	0	2
SOUTH ELLIS COUNTY WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	0	0	1
SOUTH ELLIS COUNTY WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	1	0	8
SOUTH ELLIS COUNTY WSC	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	0	4
SOUTH ELLIS COUNTY WSC	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	1	0	23
SOUTH ELLIS COUNTY WSC	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	1	0	8
SOUTH ELLIS COUNTY WSC	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	3
SOUTH ELLIS COUNTY WSC	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	0	18	0	16
SOUTH ELLIS COUNTY WSC	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$25	0	0	0	10	0	4
SOUTH ELLIS COUNTY WSC	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$25	0	0	0	13	0	7
SOUTH ELLIS COUNTY WSC	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$547	0	0	0	6	0	3
SOUTH ELLIS COUNTY WSC	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	22
SOUTH FREESTONE COUNTY WSC	C	CONSERVATION - SOUTH FREESTONE COUNTY WSC	DEMAND REDUCTION	$0	$0	1	2	3	5	8	16
SOUTH FREESTONE COUNTY WSC	C	CONSERVATION, WATER LOSS CONTROL - SOUTH FREESTONE COUNTY WSC	DEMAND REDUCTION	$671	N/A	1	1	0	0	0	0
SOUTH FREESTONE COUNTY WSC	C	SOUTH FREESTONE COUNTY WSC - NEW WELL (S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	$1297	$495	16	11	23	110	255	571
SOUTH GRAYSON SUD	C	CONSERVATION - SOUTH GRAYSON WSC	DEMAND REDUCTION	$0	$0	2	4	7	10	13	17

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
SOUTH GRAYSON SUD	C	CONSERVATION, WATER LOSS CONTROL - SOUTH GRAYSON SUD	DEMAND REDUCTION	$184	N/A	3	3	0	0	0	0
SOUTH GRAYSON SUD	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	22	84	153	280	337
SOUTH GRAYSON SUD	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	22	65	59	0	0
SOUTHLAKE	C	CONSERVATION - SOUTHLAKE	DEMAND REDUCTION	$233	$101	108	264	359	468	591	733
SOUTHLAKE	C	CONSERVATION, IRRIGATION RESTRICTIONS – SOUTHLAKE	DEMAND REDUCTION	$0	$0	344	384	448	513	579	647
SOUTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - SOUTHLAKE	DEMAND REDUCTION	$2441	N/A	57	64	0	0	0	0
SOUTHLAKE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	644	1,354	1,267	1,779	1,940
SOUTHLAKE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	1,737	2,283	2,523
SOUTHLAKE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	16	61	52	68	75
SOUTHLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	32	28	36	40
SOUTHLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	228	196	256	283
SOUTHLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	127	108	144	159
SOUTHLAKE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	130	363	415	681	904
SOUTHLAKE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	255	219	287	317
SOUTHLAKE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	20	38	41	71	132
SOUTHLAKE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	854
SOUTHMAYD	C	CONSERVATION - SOUTHMAYD	DEMAND REDUCTION	N/A	$0	0	1	2	2	4	6
SOUTHMAYD	C	CONSERVATION, WATER LOSS CONTROL - SOUTHMAYD	DEMAND REDUCTION	$763	N/A	1	1	0	0	0	0
SOUTHMAYD	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	29	38	60	142	223
SOUTHMAYD	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	$0	N/A	48	28	30	23	0	0
SOUTHWEST FANNIN COUNTY SUD	C	CONSERVATION - SOUTHWEST FANNIN COUNTY SUD	DEMAND REDUCTION	$0	$33	2	4	7	11	19	30
SOUTHWEST FANNIN COUNTY SUD	C	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COUNTY SUD	DEMAND REDUCTION	$345	N/A	3	3	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
SOUTHWEST FANNIN COUNTY SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	0	8	106	324	574
SOUTHWEST FANNIN COUNTY SUD	C	SOUTHWEST FANNIN COUNTY SUD - NEW WELL (S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | FANNIN COUNTY	N/A	$557	0	100	100	100	100	100
SPRINGTOWN	C	CONSERVATION - SPRINGTOWN	DEMAND REDUCTION	$324	$208	35	57	61	65	69	73
SPRINGTOWN	C	CONSERVATION, IRRIGATION RESTRICTIONS – SPRINGTOWN	DEMAND REDUCTION	$108	$67	24	36	36	36	35	35
SPRINGTOWN	C	CONSERVATION, WATER LOSS CONTROL - SPRINGTOWN	DEMAND REDUCTION	$852	$239	56	208	201	200	200	200
SPRINGTOWN	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	441	303	171	170	143
SPRINGTOWN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	232	219	187
SPRINGTOWN	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	11	14	7	7	6
SPRINGTOWN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	7	4	3	3
SPRINGTOWN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	51	26	25	22
SPRINGTOWN	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	29	14	14	11
SPRINGTOWN	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	89	81	55	66	67
SPRINGTOWN	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	57	29	28	23
SPRINGTOWN	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	448	14	9	5	7	10
SPRINGTOWN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	63
STARR WSC	C	CONSERVATION - STARR WSC	DEMAND REDUCTION	$0	$0	1	2	2	4	6	10
STARR WSC	C	CONSERVATION, WATER LOSS CONTROL - STARR WSC	DEMAND REDUCTION	$1012	N/A	1	1	0	0	0	0
STEAM ELECTRIC POWER, COLLIN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
STEAM ELECTRIC POWER, DALLAS	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	2
STEAM ELECTRIC POWER, DALLAS	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	12	3	3	3	3	0
STEAM ELECTRIC POWER, DALLAS	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$370	28	21	49	130	134	131
STEAM ELECTRIC POWER, DALLAS	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	62	120	104	93	83
STEAM ELECTRIC POWER, DALLAS	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	46
STEAM ELECTRIC POWER, DALLAS	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	43	39

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
STEAM ELECTRIC POWER, DENTON	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
STEAM ELECTRIC POWER, DENTON	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
STEAM ELECTRIC POWER, ELLIS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	21	36	24	30	29
STEAM ELECTRIC POWER, ELLIS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	32	38	37
STEAM ELECTRIC POWER, ELLIS	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	48	112	93	80	69	63
STEAM ELECTRIC POWER, ELLIS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	2	1	1	1
STEAM ELECTRIC POWER, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	0	1	1
STEAM ELECTRIC POWER, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	6	3	4	4
STEAM ELECTRIC POWER, ELLIS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	4	3	2	2
STEAM ELECTRIC POWER, ELLIS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	4	10	8	11	13
STEAM ELECTRIC POWER, ELLIS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	7	4	5	5
STEAM ELECTRIC POWER, ELLIS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	1	1	2
STEAM ELECTRIC POWER, ELLIS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	13
STEAM ELECTRIC POWER, FREESTONE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	635	810	619	747	721
STEAM ELECTRIC POWER, FREESTONE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	848	961	938
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	16	36	25	29	28
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	19	13	15	15
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	136	95	108	105
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	76	54	61	59
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	128	217	202	287	336
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	152	107	121	118
STEAM ELECTRIC POWER, FREESTONE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	4	20	23	20	30	49
STEAM ELECTRIC POWER, FREESTONE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	317
STEAM ELECTRIC POWER, GRAYSON	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
STEAM ELECTRIC POWER, GRAYSON	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0
STEAM ELECTRIC POWER, HENDERSON	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	62	78	62	73	69
STEAM ELECTRIC POWER, HENDERSON	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	83	94	92
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	2	4	2	3	3
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	1	1	1
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	14	10	11	11
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	7	5	6	6
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	12	21	20	28	33
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	15	10	12	12
STEAM ELECTRIC POWER, HENDERSON	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	2	2	2	3	5
STEAM ELECTRIC POWER, HENDERSON	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	31
STEAM ELECTRIC POWER, JACK	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	356	454	346	419	405
STEAM ELECTRIC POWER, JACK	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	476	539	526
STEAM ELECTRIC POWER, JACK	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	9	20	14	16	16
STEAM ELECTRIC POWER, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	11	8	9	8
STEAM ELECTRIC POWER, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	77	54	61	58
STEAM ELECTRIC POWER, JACK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	42	29	33	34
STEAM ELECTRIC POWER, JACK	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	72	122	114	161	188
STEAM ELECTRIC POWER, JACK	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	85	60	68	66
STEAM ELECTRIC POWER, JACK	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	11	13	11	17	27
STEAM ELECTRIC POWER, JACK	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	178
STEAM ELECTRIC POWER, KAUFMAN	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	128	152	132
STEAM ELECTRIC POWER, KAUFMAN	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	9	24	31

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
STEAM ELECTRIC POWER, KAUFMAN	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	16	16	9	9	7
STEAM ELECTRIC POWER, KAUFMAN	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	$486	$81	6	146	155	90	107	93
STEAM ELECTRIC POWER, KAUFMAN	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	12	24	19	28	29
STEAM ELECTRIC POWER, KAUFMAN	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	39
STEAM ELECTRIC POWER, KAUFMAN	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	51	73	87	90
STEAM ELECTRIC POWER, KAUFMAN	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	45
STEAM ELECTRIC POWER, PARKER	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
STEAM ELECTRIC POWER, TARRANT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	233	195	150	181	174
STEAM ELECTRIC POWER, TARRANT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	205	233	227
STEAM ELECTRIC POWER, TARRANT	C	STEAM ELECTRIC, TARRANT - DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$245	0	1,528	2,360	2,360	2,360	2,360
STEAM ELECTRIC POWER, TARRANT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	6	9	6	7	7
STEAM ELECTRIC POWER, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	5	3	4	4
STEAM ELECTRIC POWER, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	32	23	26	25
STEAM ELECTRIC POWER, TARRANT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	19	13	15	14
STEAM ELECTRIC POWER, TARRANT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	47	53	49	70	81
STEAM ELECTRIC POWER, TARRANT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	37	26	29	29
STEAM ELECTRIC POWER, TARRANT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	7	6	5	7	12
STEAM ELECTRIC POWER, TARRANT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	77
STEAM ELECTRIC POWER, WISE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	274	348	265	323	309
STEAM ELECTRIC POWER, WISE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	365	413	404
STEAM ELECTRIC POWER, WISE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	7	16	11	12	12
STEAM ELECTRIC POWER, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	8	6	7	6
STEAM ELECTRIC POWER, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	58	41	46	45
STEAM ELECTRIC POWER, WISE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	34	23	26	26

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
STEAM ELECTRIC POWER, WISE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	55	93	87	123	145
STEAM ELECTRIC POWER, WISE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	66	46	52	51
STEAM ELECTRIC POWER, WISE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	8	10	9	13	21
STEAM ELECTRIC POWER, WISE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	137
SUNNYVALE	C	CONSERVATION - SUNNYVALE	DEMAND REDUCTION	$255	$102	18	37	66	99	114	130
SUNNYVALE	C	CONSERVATION, IRRIGATION RESTRICTIONS – SUNNYVALE	DEMAND REDUCTION	$62	$43	60	95	123	141	141	141
SUNNYVALE	C	CONSERVATION, WATER LOSS CONTROL - SUNNYVALE	DEMAND REDUCTION	$575	N/A	11	16	0	0	0	0
SUNNYVALE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	462	546	477
SUNNYVALE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	33	85	110
SUNNYVALE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	32	48	32	34	27
SUNNYVALE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	288	463	327	386	334
SUNNYVALE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	22	70	68	101	107
SUNNYVALE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	142
SUNNYVALE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	153	263	311	325
SUNNYVALE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	161
TALTY SUD	C	CONSERVATION - TALTY SUD	DEMAND REDUCTION	$851	$313	35	60	77	118	181	270
TALTY SUD	C	CONSERVATION, IRRIGATION RESTRICTIONS – TALTY SUD	DEMAND REDUCTION	$114	$89	49	62	71	99	138	191
TALTY SUD	C	CONSERVATION, WATER LOSS CONTROL - TALTY WSC	DEMAND REDUCTION	$1440	N/A	9	10	0	0	0	0
TALTY SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	294	504	616
TALTY SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	21	79	143
TALTY SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	18	24	20	32	35
TALTY SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	158	233	208	356	434
TALTY SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	12	36	43	94	138
TALTY SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	184

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
TALTY SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	77	168	287	418
TALTY SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	208
TEAGUE	C	CONSERVATION - TEAGUE	DEMAND REDUCTION	$937	$427	12	19	27	40	53	70
TEAGUE	C	CONSERVATION, IRRIGATION RESTRICTIONS – TEAGUE	DEMAND REDUCTION	$144	$90	18	21	28	36	43	51
TEAGUE	C	CONSERVATION, WATER LOSS CONTROL - TEAGUE	DEMAND REDUCTION	$2198	$432	21	61	74	97	117	137
TEAGUE	C	TEAGUE - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	$841	$404	13	0	169	409	613	822
TERRELL	C	CONSERVATION - TERRELL	DEMAND REDUCTION	$386	$87	37	102	171	237	306	406
TERRELL	C	CONSERVATION, IRRIGATION RESTRICTIONS – TERRELL	DEMAND REDUCTION	$102	$88	104	217	294	341	380	442
TERRELL	C	CONSERVATION, WATER LOSS CONTROL - TERRELL	DEMAND REDUCTION	$1898	N/A	19	36	0	0	0	0
TERRELL	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	1,584	1,957	2,030
TERRELL	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	112	305	470
TERRELL	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	84	169	108	122	115
TERRELL	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	755	1,638	1,126	1,384	1,423
TERRELL	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	57	249	232	365	455
TERRELL	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	606
TERRELL	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	539	904	1,113	1,381
TERRELL	C	TERRELL - UNALLOCATED SUPPLY UTILIZATION	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	326	1,168	1,320	1,777	2,312
TERRELL	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	687
THE COLONY	C	CONSERVATION - THE COLONY	DEMAND REDUCTION	$0	$0	84	132	169	214	247	280
THE COLONY	C	CONSERVATION, WATER LOSS CONTROL - THE COLONY	DEMAND REDUCTION	$1085	N/A	40	43	0	0	0	0
THE COLONY	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	13
THE COLONY	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	$0	N/A	39	14	18	17	15	0
THE COLONY	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	$0	$371	93	88	252	778	807	776
THE COLONY	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	259	626	624	557	497

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
THE COLONY	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	230	275	239
THE COLONY	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	16	43	55
THE COLONY	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	25	28	16	17	14
THE COLONY	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	223	276	163	193	168
THE COLONY	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	17	41	34	51	53
THE COLONY	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	71
THE COLONY	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	91	132	157	163
THE COLONY	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	81
THE COLONY	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	274
THE COLONY	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	256	231
TIOGA	C	CONSERVATION - TIOGA	DEMAND REDUCTION	$0	$0	16	16	20	21	68	95
TIOGA	C	CONSERVATION, WATER LOSS CONTROL - TIOGA	DEMAND REDUCTION	$1044	N/A	1	1	0	0	0	0
TIOGA	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	0	7	197	329
TIOGA	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	3	0	0
TOM BEAN	C	CONSERVATION - TOM BEAN	DEMAND REDUCTION	$0	$385	1	6	9	10	15	24
TOM BEAN	C	CONSERVATION, IRRIGATION RESTRICTIONS – TOM BEAN	DEMAND REDUCTION	N/A	$78	0	7	9	10	12	18
TOM BEAN	C	CONSERVATION, WATER LOSS CONTROL - TOM BEAN	DEMAND REDUCTION	$685	$347	1	20	62	69	84	126
TOM BEAN	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	0	0	46	185
TOM BEAN	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	0	0	0	0
TRENTON	C	CONSERVATION - TRENTON	DEMAND REDUCTION	N/A	$389	0	3	11	25	46	74
TRENTON	C	CONSERVATION, IRRIGATION RESTRICTIONS – TRENTON	DEMAND REDUCTION	N/A	$83	0	4	11	22	38	53
TRENTON	C	CONSERVATION, WATER LOSS CONTROL - TRENTON	DEMAND REDUCTION	$134	N/A	1	1	0	0	0	0
TRENTON	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	0	182	521	1,011	1,492
TRENTON	C	TRENTON - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | FANNIN COUNTY	N/A	$968	0	25	25	25	25	25
TRINIDAD	C	CONSERVATION - TRINIDAD	DEMAND REDUCTION	N/A	$0	0	1	1	1	2	3
TRINIDAD	C	CONSERVATION, WATER LOSS CONTROL - TRINIDAD	DEMAND REDUCTION	$419	N/A	1	0	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
TROPHY CLUB MUD 1	C	CONSERVATION - TROPHY CLUB MUD 1	DEMAND REDUCTION	$0	$47	71	117	133	149	165	181
TROPHY CLUB MUD 1	C	CONSERVATION, IRRIGATION RESTRICTIONS – TROPHY CLUB MUD 1	DEMAND REDUCTION	$0	$0	146	145	144	144	144	144
TROPHY CLUB MUD 1	C	CONSERVATION, WATER LOSS CONTROL - TROPHY CLUB MUD 1	DEMAND REDUCTION	$3058	N/A	24	24	0	0	0	0
TROPHY CLUB MUD 1	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	177	360	299	375	367
TROPHY CLUB MUD 1	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	410	481	478
TROPHY CLUB MUD 1	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	4	16	12	14	14
TROPHY CLUB MUD 1	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	9	6	8	8
TROPHY CLUB MUD 1	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	61	45	54	54
TROPHY CLUB MUD 1	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	33	27	30	29
TROPHY CLUB MUD 1	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	36	96	98	143	171
TROPHY CLUB MUD 1	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	68	52	60	60
TROPHY CLUB MUD 1	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	5	10	10	15	25
TROPHY CLUB MUD 1	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	162
TWO WAY SUD	C	CONSERVATION - TWO WAY SUD	DEMAND REDUCTION	$0	$35	2	6	10	18	31	46
TWO WAY SUD	C	CONSERVATION, WATER LOSS CONTROL - TWO WAY SUD	DEMAND REDUCTION	$923	N/A	3	4	0	0	0	0
TWO WAY SUD	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	434	561	857	1,572	1,636
TWO WAY SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
TWO WAY SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
TWO WAY SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	N/A	0	0	0	0	0	0
TWO WAY SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
TWO WAY SUD	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	423	436	329	0	0
TWO WAY SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
UNIVERSITY PARK	C	CONSERVATION - UNIVERSITY PARK	DEMAND REDUCTION	$0	$0	96	130	151	174	199	223

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
UNIVERSITY PARK	C	CONSERVATION, IRRIGATION RESTRICTIONS – UNIVERSITY PARK	DEMAND REDUCTION	$0	$0	228	225	223	221	221	221
UNIVERSITY PARK	C	CONSERVATION, WATER LOSS CONTROL - UNIVERSITY PARK	DEMAND REDUCTION	$8661	N/A	38	38	0	0	0	0
VAN ALSTYNE	C	CONSERVATION - VAN ALSTYNE	DEMAND REDUCTION	$0	$29	5	8	16	23	58	90
VAN ALSTYNE	C	CONSERVATION, IRRIGATION RESTRICTIONS – VAN ALSTYNE	DEMAND REDUCTION	$0	$0	16	21	29	38	73	91
VAN ALSTYNE	C	CONSERVATION, WATER LOSS CONTROL - VAN ALSTYNE	DEMAND REDUCTION	$973	N/A	3	4	0	0	0	0
VAN ALSTYNE	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$90	0	31	53	84	239	280
VAN ALSTYNE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	62	233	302
VAN ALSTYNE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	4	36	70
VAN ALSTYNE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	0	4	4	15	17
VAN ALSTYNE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	0	38	44	164	213
VAN ALSTYNE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	0	5	9	43	67
VAN ALSTYNE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	90
VAN ALSTYNE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	12	36	133	206
VAN ALSTYNE	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	30	42	32	0	0
VAN ALSTYNE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	102
VENUS*	C	CONSERVATION - VENUS	DEMAND REDUCTION	N/A	$369	0	0	0	1	2	2
VENUS*	C	CONSERVATION, IRRIGATION RESTRICTIONS – VENUS	DEMAND REDUCTION	N/A	$105	0	1	1	1	1	1
VENUS*	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	1	2	2	3	4
VENUS*	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	3	4	5
VENUS*	C	MIDLOTHIAN - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	6	7	5	8	8	9
VENUS*	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
VENUS*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	2	1	2	2
VENUS*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	0	0	1

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
VENUS*	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
VENUS*	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	1	1	1	2
VENUS*	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	1	0	1	1
VENUS*	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
VENUS*	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	2
VENUS*	G	MUNICIPAL WATER CONSERVATION - VENUS	DEMAND REDUCTION	N/A	$560	0	2	3	4	5	6
VERONA SUD	C	CONSERVATION - VERONA SUD	DEMAND REDUCTION	$0	$0	1	2	4	6	8	11
VERONA SUD	C	CONSERVATION, WATER LOSS CONTROL - VERONA SUD	DEMAND REDUCTION	$1063	N/A	1	2	0	0	0	0
VERONA SUD	C	VERONA SUD - NEW WELL (S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | COLLIN COUNTY	N/A	$635	0	31	90	176	235	286
VIRGINIA HILL WSC*	C	CONSERVATION - VIRGINIA HILL WSC	DEMAND REDUCTION	$0	$0	1	2	3	4	6	7
VIRGINIA HILL WSC*	C	CONSERVATION, WATER LOSS CONTROL - VIRGINIA HILL WSC	DEMAND REDUCTION	$464	N/A	1	1	0	0	0	0
WALNUT CREEK SUD	C	CONSERVATION - WALNUT CREEK SUD	DEMAND REDUCTION	$0	$0	7	17	25	44	78	120
WALNUT CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - WALNUT CREEK SUD	DEMAND REDUCTION	$675	N/A	8	9	0	0	0	0
WALNUT CREEK SUD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	474	451	486	879	1,070
WALNUT CREEK SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	665	1,130	1,396
WALNUT CREEK SUD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	13	21	21	36	43
WALNUT CREEK SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	11	11	18	22
WALNUT CREEK SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	76	75	128	157
WALNUT CREEK SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	41	41	70	87
WALNUT CREEK SUD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	98	120	157	337	500
WALNUT CREEK SUD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	85	86	141	176
WALNUT CREEK SUD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	340	16	15	17	37	73
WALNUT CREEK SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	473
WATAUGA	C	CONSERVATION - WATAUGA	DEMAND REDUCTION	$0	$0	13	25	34	42	50	58

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
WATAUGA	C	CONSERVATION, IRRIGATION RESTRICTIONS – WATAUGA	DEMAND REDUCTION	$0	$0	85	82	80	78	78	78
WATAUGA	C	CONSERVATION, WATER LOSS CONTROL - WATAUGA	DEMAND REDUCTION	$2268	N/A	14	14	0	0	0	0
WATAUGA	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	162	258	203	249	242
WATAUGA	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	277	319	315
WATAUGA	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	4	11	8	10	9
WATAUGA	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	6	4	5	5
WATAUGA	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	43	31	36	36
WATAUGA	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	24	18	20	19
WATAUGA	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	33	69	66	95	113
WATAUGA	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	48	35	40	40
WATAUGA	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	5	7	7	10	16
WATAUGA	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	107
WAXAHACHIE	C	CONSERVATION - WAXAHACHIE	DEMAND REDUCTION	$0	$205	32	70	253	405	538	710
WAXAHACHIE	C	CONSERVATION, IRRIGATION RESTRICTIONS – WAXAHACHIE	DEMAND REDUCTION	N/A	$79	0	0	256	350	426	519
WAXAHACHIE	C	CONSERVATION, WATER LOSS CONTROL - WAXAHACHIE	DEMAND REDUCTION	$3630	N/A	34	39	0	0	0	0
WAXAHACHIE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	137	0	84	590	1,385
WAXAHACHIE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	115	760	1,802
WAXAHACHIE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	0	3	22	53
WAXAHACHIE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	2	12	29
WAXAHACHIE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	13	85	203
WAXAHACHIE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	7	48	113
WAXAHACHIE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	27	0	28	228	645
WAXAHACHIE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	14	96	226
WAXAHACHIE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	0	1	26	94

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
WAXAHACHIE	C	WAXAHACHIE - DREDGE WAXAHACHIE LAKE	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	0	810	401	423	427
WAXAHACHIE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | BARDWELL LAKE/RESERVOIR	N/A	$0	0	261	141	217	174	119
WAXAHACHIE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRINITY INDIRECT REUSE	N/A	$0	0	242	221	294	246	180
WAXAHACHIE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	588	0	0	0	0
WAXAHACHIE	C	WAXAHACHIE - UNALLOCATED SUPPLY UTILIZATION	C | WAXAHACHIE LAKE/RESERVOIR	N/A	$0	0	168	92	143	113	80
WAXAHACHIE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	610
WEATHERFORD	C	CONSERVATION – WASTE PROHIBITION, WEATHERFORD	DEMAND REDUCTION	N/A	$0	0	26	31	61	108	153
WEATHERFORD	C	CONSERVATION - WEATHERFORD	DEMAND REDUCTION	$0	$188	34	159	219	392	700	1,046
WEATHERFORD	C	CONSERVATION, IRRIGATION RESTRICTIONS – WEATHERFORD	DEMAND REDUCTION	$0	$0	159	186	198	328	536	738
WEATHERFORD	C	CONSERVATION, WATER LOSS CONTROL - WEATHERFORD	DEMAND REDUCTION	$10041	$1423	27	61	95	158	258	355
WEATHERFORD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	0	0	509	2,520	3,763
WEATHERFORD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	699	3,237	4,897
WEATHERFORD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	0	0	21	97	146
WEATHERFORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	0	11	51	77
WEATHERFORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	78	363	550
WEATHERFORD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	0	44	204	308
WEATHERFORD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	0	0	167	966	1,754
WEATHERFORD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	0	88	407	616
WEATHERFORD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	18	16	50	144	318
WEATHERFORD	C	WEATHERFORD - INDIRECT REUSE (LAKE WEATHERFORD/SUNSHINE)	C | TRINITY INDIRECT REUSE	$613	$114	2,242	2,803	3,363	3,363	3,363	3,363
WEATHERFORD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	1,657
WEST CEDAR CREEK MUD	C	CONSERVATION - WEST CEDAR CREEK MUD	DEMAND REDUCTION	$0	$0	6	11	16	23	33	48

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
WEST CEDAR CREEK MUD	C	CONSERVATION, WATER LOSS CONTROL - WEST CEDAR CREEK MUD	DEMAND REDUCTION	$684	N/A	6	6	0	0	0	0
WEST CEDAR CREEK MUD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	107	151	125	186	219
WEST CEDAR CREEK MUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	172	238	284
WEST CEDAR CREEK MUD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	7	5	7	8
WEST CEDAR CREEK MUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	3	4	4
WEST CEDAR CREEK MUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	25	19	27	31
WEST CEDAR CREEK MUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	14	11	15	19
WEST CEDAR CREEK MUD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	22	41	41	71	102
WEST CEDAR CREEK MUD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	29	22	30	36
WEST CEDAR CREEK MUD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	3	4	4	7	15
WEST CEDAR CREEK MUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	96
WEST LEONARD WSC*	C	CONSERVATION - WEST LEONARD WSC	DEMAND REDUCTION	$0	$0	1	1	2	3	5	8
WEST LEONARD WSC*	C	CONSERVATION, WATER LOSS CONTROL - WEST LEONARD WSC	DEMAND REDUCTION	$827	N/A	1	1	0	0	0	0
WEST WISE SUD	C	CONSERVATION - WEST WISE SUD	DEMAND REDUCTION	$0	$0	2	3	5	7	8	10
WEST WISE SUD	C	CONSERVATION, WATER LOSS CONTROL - WEST WISE SUD	DEMAND REDUCTION	$1154	N/A	2	2	0	0	0	0
WEST WISE SUD	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$162	0	62	61	46	56	58
WEST WISE SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	62	73	72
WEST WISE SUD	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	3	2	2	2
WEST WISE SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	1	1
WEST WISE SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	11	8	9	9
WEST WISE SUD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	6	3	4	4
WEST WISE SUD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	12	17	15	22	26
WEST WISE SUD	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	12	7	9	9
WEST WISE SUD	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	22	2	2	1	2	4

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
WEST WISE SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	24
WESTLAKE	C	ALLIANCE DIRECT REUSE	C | DIRECT NON-POTABLE REUSE	N/A	$63	0	581	2,031	2,938	3,024	3,024
WESTLAKE	C	CONSERVATION – WASTE PROHIBITION, WESTLAKE	DEMAND REDUCTION	N/A	$29	0	55	101	113	113	113
WESTLAKE	C	CONSERVATION - WESTLAKE	DEMAND REDUCTION	$0	$24	6	57	120	164	194	224
WESTLAKE	C	CONSERVATION, IRRIGATION RESTRICTIONS – WESTLAKE	DEMAND REDUCTION	N/A	$12	0	132	239	268	268	268
WESTLAKE	C	CONSERVATION, WATER LOSS CONTROL - WESTLAKE	DEMAND REDUCTION	$334	N/A	9	24	0	0	0	0
WESTLAKE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
WESTLAKE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
WESTMINSTER WSC	C	CONSERVATION - WESTMINSTER WSC	DEMAND REDUCTION	$0	$0	1	2	4	6	8	11
WESTMINSTER WSC	C	CONSERVATION, WATER LOSS CONTROL - WESTMINSTER WSC	DEMAND REDUCTION	$1159	N/A	1	1	0	0	0	0
WESTOVER HILLS	C	CONSERVATION – WASTE PROHIBITION, WESTOVER HILLS	DEMAND REDUCTION	N/A	$23	0	12	13	14	14	14
WESTOVER HILLS	C	CONSERVATION - WESTOVER HILLS	DEMAND REDUCTION	$0	$22	3	11	15	18	22	26
WESTOVER HILLS	C	CONSERVATION, IRRIGATION RESTRICTIONS – WESTOVER HILLS	DEMAND REDUCTION	N/A	$9	0	29	33	34	34	35
WESTOVER HILLS	C	CONSERVATION, WATER LOSS CONTROL - WESTOVER HILLS	DEMAND REDUCTION	$4164	$829	5	19	44	45	46	47
WESTOVER HILLS	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	33	58	56	76	79

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
WESTOVER HILLS	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	77	97	101
WESTOVER HILLS	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	3	2	3	3
WESTOVER HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	2	2
WESTOVER HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	10	9	11	11
WESTOVER HILLS	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	6	5	6	6
WESTOVER HILLS	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	7	16	18	29	36
WESTOVER HILLS	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	11	10	12	13
WESTOVER HILLS	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	2	2	3	5
WESTOVER HILLS	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	34
WESTWORTH VILLAGE	C	CONSERVATION - WESTWORTH VILLAGE	DEMAND REDUCTION	$0	$0	1	3	4	6	8	11
WESTWORTH VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - WESTWORTH VILLAGE	DEMAND REDUCTION	$2198	N/A	2	2	0	0	0	0
WESTWORTH VILLAGE	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	36	52	42	54	55
WESTWORTH VILLAGE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	58	69	71
WESTWORTH VILLAGE	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	1	2	2	2	2
WESTWORTH VILLAGE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	1	1	1	1
WESTWORTH VILLAGE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	9	6	8	9
WESTWORTH VILLAGE	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	5	4	4	4
WESTWORTH VILLAGE	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	7	14	14	21	25
WESTWORTH VILLAGE	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	10	7	9	9
WESTWORTH VILLAGE	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	1	1	1	2	4
WESTWORTH VILLAGE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	24
WHITE SETTLEMENT	C	CONSERVATION - WHITE SETTLEMENT	DEMAND REDUCTION	$0	$0	10	19	26	39	60	85
WHITE SETTLEMENT	C	CONSERVATION, WATER LOSS CONTROL - WHITE SETTLEMENT	DEMAND REDUCTION	$376	N/A	10	11	0	0	0	0
WHITE SETTLEMENT	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	117	169	159	262	320

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
WHITE SETTLEMENT	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	218	336	414
WHITE SETTLEMENT	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	3	8	7	10	12
WHITE SETTLEMENT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	4	3	5	7
WHITE SETTLEMENT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	29	25	38	46
WHITE SETTLEMENT	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	16	14	21	26
WHITE SETTLEMENT	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	23	46	52	100	148
WHITE SETTLEMENT	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	32	27	42	52
WHITE SETTLEMENT	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$0	0	4	5	5	10	22
WHITE SETTLEMENT	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	140
WHITE SHED WSC	C	CONSERVATION - WHITE SHED WSC	DEMAND REDUCTION	$0	$16	1	2	4	7	12	21
WHITE SHED WSC	C	CONSERVATION, WATER LOSS CONTROL - WHITE SHED WSC	DEMAND REDUCTION	$509	N/A	2	2	0	0	0	0
WHITE SHED WSC	C	WHITE SHED WSC - NEW WELL(S) IN WOODBINE AQUIFER	C | WOODBINE AQUIFER | FANNIN COUNTY	N/A	$531	0	22	81	193	422	676
WHITESBORO	C	CONSERVATION - WHITESBORO	DEMAND REDUCTION	$0	$0	2	3	5	6	9	15
WHITESBORO	C	CONSERVATION, WATER LOSS CONTROL - WHITESBORO	DEMAND REDUCTION	$1571	N/A	2	2	0	0	0	0
WHITESBORO	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	231	252	314	462	456
WHITESBORO	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
WHITESBORO	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	N/A	0	0	0	0	0	0
WHITESBORO	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	N/A	0	0	0	0	0	0
WHITESBORO	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
WHITESBORO	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	225	196	121	0	0
WHITESBORO	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
WHITEWRIGHT	C	CONSERVATION - WHITEWRIGHT	DEMAND REDUCTION	$0	$0	1	2	3	3	4	6
WHITEWRIGHT	C	CONSERVATION, WATER LOSS CONTROL - WHITEWRIGHT	DEMAND REDUCTION	$1539	N/A	1	1	0	0	0	0

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
WHITEWRIGHT	C	SHERMAN - TREATMENT OF LAKE TEXOMA	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$1075	0	0	26	34	96	94
WHITEWRIGHT	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	0	21	13	0	0
WILLOW PARK	C	CONSERVATION - WILLOW PARK	DEMAND REDUCTION	$0	$38	3	8	17	30	45	60
WILLOW PARK	C	CONSERVATION, WATER LOSS CONTROL - WILLOW PARK	DEMAND REDUCTION	$562	N/A	8	12	0	0	0	0
WILLOW PARK	C	INTEGRATED PIPELINE	C | TRINITY INDIRECT REUSE	N/A	$163	0	424	442	353	517	513
WILLOW PARK	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$1003	0	0	0	485	665	667
WILLOW PARK	C	TRWD - AQUIFER STORAGE AND RECOVERY PILOT	C | TRINITY AQUIFER ASR | TARRANT COUNTY	N/A	$99	0	11	20	14	20	20
WILLOW PARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	N/A	$375	0	0	10	8	11	11
WILLOW PARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	75	55	75	75
WILLOW PARK	C	TRWD - CARRIZO-WILCOX GROUNDWATER	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	N/A	$375	0	0	41	30	41	41
WILLOW PARK	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C | TRINITY INDIRECT REUSE	N/A	$510	0	85	119	116	198	239
WILLOW PARK	C	TRWD - TEHUACANA	C | TEHUACANA LAKE/RESERVOIR	N/A	$1069	0	0	83	61	84	84
WILLOW PARK	C	TRWD - UNALLOCATED SUPPLY UTILIZATION	C | TRWD LAKE/RESERVOIR SYSTEM	$0	$0	155	13	12	11	21	35
WILLOW PARK	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$907	0	0	0	0	0	226
WILMER	C	CONSERVATION - WILMER	DEMAND REDUCTION	$0	$35	15	3	7	19	39	83
WILMER	C	CONSERVATION, WATER LOSS CONTROL - WILMER	DEMAND REDUCTION	$462	N/A	2	2	0	0	0	0
WILMER	C	DWU - CONSERVATION SURPLUS REALLOCATION	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	N/A	$0	0	0	0	0	0	8
WILMER	C	DWU - CONSERVATION SURPLUS REALLOCATION	D | TAWAKONI LAKE/RESERVOIR	N/A	N/A	0	2	2	4	4	0
WILMER	C	DWU - INDIRECT REUSE IMPLEMENTATION	C | TRINITY INDIRECT REUSE	N/A	$372	0	8	32	157	254	444
WILMER	C	DWU - LAKE PALESTINE	I | PALESTINE LAKE/RESERVOIR	N/A	$148	0	24	80	126	175	285
WILMER	I	ANRA-COL - LAKE COLUMBIA	I | COLUMBIA LAKE/RESERVOIR	N/A	$576	0	0	0	0	0	157
WILMER	I	UNM-ROR-NECHES RUN OF RIVER	I | NECHES RUN-OF-RIVER	N/A	$617	0	0	0	0	81	132
WOLFE CITY*	C	CONSERVATION - WOLFE CITY	DEMAND REDUCTION	N/A	$0	0	0	0	0	0	1
WOLFE CITY*	D	NEW CONTRACT WITH GREENVILLE AND PIPELINE TO WOLFE CITY	D | TAWAKONI LAKE/RESERVOIR	N/A	$1120	0	0	0	2	8	15
WOODBINE WSC	C	CONSERVATION - WOODBINE WSC	DEMAND REDUCTION	$0	$16	2	5	8	11	15	21

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
WOODBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - WOODBINE WSC	DEMAND REDUCTION	$650	N/A	3	4	0	0	0	0
WOODBINE WSC	C	GTUA - REGIONAL WATER SYSTEM	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	$953	0	362	530	681	942	942
WOODBINE WSC	C	SHERMAN - UNALLOCATED SUPPLY UTILIZATION	C | TEXOMA LAKE/RESERVOIR NON-SYSTEM PORTION	N/A	N/A	0	354	412	261	0	0
WORTHAM	C	CONSERVATION - WORTHAM	DEMAND REDUCTION	$0	$0	1	1	2	2	5	7
WORTHAM	C	CONSERVATION, WATER LOSS CONTROL - WORTHAM	DEMAND REDUCTION	$629	N/A	1	1	0	0	0	0
WORTHAM	G	CARRIZO AQUIFER DEVELOPMENT - BISTONE MWSD	G | CARRIZO-WILCOX AQUIFER | LIMESTONE COUNTY	N/A	$359	0	0	0	0	143	181
WORTHAM	G	PURCHASE CARRIZO-WILCOX SUPPLY FROM MEXIA	G | CARRIZO-WILCOX AQUIFER | LIMESTONE COUNTY	$360	N/A	10	17	21	25	0	0
WYLIE	C	CONSERVATION - WYLIE	DEMAND REDUCTION	$0	$0	128	173	208	249	286	337
WYLIE	C	CONSERVATION, IRRIGATION RESTRICTIONS – WYLIE	DEMAND REDUCTION	$0	$0	213	225	235	250	260	285
WYLIE	C	CONSERVATION, WATER LOSS CONTROL - WYLIE	DEMAND REDUCTION	$904	N/A	36	37	0	0	0	0
WYLIE	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	757	968	940
WYLIE	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	53	151	218
WYLIE	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	68	83	52	61	53
WYLIE	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	614	801	539	684	659
WYLIE	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	47	122	111	180	211
WYLIE	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	280
WYLIE	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	264	432	551	639
WYLIE	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	318
WYLIE NORTHEAST SUD	C	CONSERVATION - WYLIE NORTHEAST SUD	DEMAND REDUCTION	$0	$35	2	5	9	22	43	74
WYLIE NORTHEAST SUD	C	CONSERVATION, WATER LOSS CONTROL - WYLIE NORTHEAST SUD	DEMAND REDUCTION	$4114	N/A	3	4	0	0	0	0
WYLIE NORTHEAST SUD	C	MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	D | MARVIN NICHOLS LAKE/RESERVOIR	N/A	$707	0	0	0	162	287	366
WYLIE NORTHEAST SUD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C | TRINITY INDIRECT REUSE	N/A	$835	0	0	0	11	45	85
WYLIE NORTHEAST SUD	C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$75	0	11	13	11	18	21

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Region C Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR) 2020	2030	2040	2050	2060	2070
WYLIE NORTHEAST SUD	C	NTMWD - BOIS D'ARC LAKE	C | BOIS D ARC LAKE/RESERVOIR	N/A	$81	0	96	121	116	202	258
WYLIE NORTHEAST SUD	C	NTMWD - EXPANDED WETLAND REUSE	C | TRINITY INDIRECT REUSE	N/A	$749	0	7	19	24	53	82
WYLIE NORTHEAST SUD	C	NTMWD - OKLAHOMA	OK | OKLAHOMA RUN-OF-RIVER	N/A	$423	0	0	0	0	0	109
WYLIE NORTHEAST SUD	C	NTMWD - TEXOMA BLENDING	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	N/A	$430	0	0	40	93	164	249
WYLIE NORTHEAST SUD	C	WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	D | WRIGHT PATMAN LAKE/RESERVOIR	N/A	$834	0	0	0	0	0	124
REGION C RECOMMENDED WMS SUPPLY TOTAl						129,296	360,766	587,765	829,938	1,074,883	1,335,546

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Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
ABLES SPRINGS WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - ABLES SPRINGS WSC	WATER LOSS CONTROL	$14,562
ADDISON	NO	2020	CONSERVATION, WATER LOSS CONTROL - ADDISON	WATER LOSS CONTROL	$1,315,440
ALEDO	NO	2060	ALEDO - PARALLEL PIPELINE & PUMP STATION EXPANSION FROM FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$9,382,000
ALEDO	NO	2020	CONSERVATION, WATER LOSS CONTROL - ALEDO	WATER LOSS CONTROL	$27,245
ALLEN	YES	2020	CONSERVATION, WATER LOSS CONTROL - ALLEN	WATER LOSS CONTROL	$1,516,556
ALVORD	NO	2030	ALVORD - CONNECT TO WEST WISE SUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$6,790,000
ALVORD	NO	2020	CONSERVATION, WATER LOSS CONTROL - ALVORD	WATER LOSS CONTROL	$5,247
ANNA	NO	2020	ANNA - NEW WELL(S) IN WOODBINE AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,846,000
ANNA	NO	2020	CONSERVATION, WATER LOSS CONTROL - ANNA	WATER LOSS CONTROL	$164,611
ANNETTA	NO	2030	ANNETTA - CONNECT TO WEATHERFORD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$3,985,000
ANNETTA	NO	2020	CONSERVATION, WATER LOSS CONTROL - ANNETTA	WATER LOSS CONTROL	$11,234
ARGYLE WSC	NO	2020	ARGYLE WSC - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,955,000
ARGYLE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - ARGYLE WSC	WATER LOSS CONTROL	$310,357
ARLEDGE RIDGE WSC	NO	2040	ARLEDGE RIDGE WSC - NEW WELL(S) IN WOODBINE AQUIFER	MULTIPLE WELLS/WELL FIELD	$4,537,000
ARLEDGE RIDGE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - ARLEDGE RIDGE WSC	WATER LOSS CONTROL	$2,763
ARLINGTON	YES	2020	CONSERVATION, WATER LOSS CONTROL - ARLINGTON	WATER LOSS CONTROL	$8,740,436
ATHENS	YES	2020	CONSERVATION, WATER LOSS CONTROL - ATHENS	WATER LOSS CONTROL	$418,536
ATHENS MUNICIPAL WATER AUTHORITY	YES	2020	ATHENS MWA - NEW WELLS PHASE I	MULTIPLE WELLS/WELL FIELD	$15,151,000
ATHENS MUNICIPAL WATER AUTHORITY	YES	2020	ATHENS MWA - NEW WELLS PHASE II	SINGLE WELL	$2,573,000
ATHENS MUNICIPAL WATER AUTHORITY	YES	2020	ATHENS MWA - WTP INFRASTRUCTURE IMPROVEMENTS	WATER TREATMENT PLANT EXPANSION	$65,000
AUBREY	NO	2020	CONSERVATION, WATER LOSS CONTROL - AUBREY	WATER LOSS CONTROL	$47,811
AVALON WATER SUPPLY & SEWER SERVICE	NO	2020	CONSERVATION, WATER LOSS CONTROL - AVALON WATER SUPPLY AND SEWER SERVICE	WATER LOSS CONTROL	$8,624
AZLE	YES	2020	AZLE - 4 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$25,410,000
AZLE	YES	2020	CONSERVATION, WATER LOSS CONTROL - AZLE	WATER LOSS CONTROL	$269,308
B AND B WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - B AND B WSC	WATER LOSS CONTROL	$5,528
B H P WSC	NO	2020	B H P WSC - DIRECT CONNECTION TO NTWMD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$3,108,000
BALCH SPRINGS	NO	2020	CONSERVATION, WATER LOSS CONTROL - BALCH SPRINGS	WATER LOSS CONTROL	$229,772
BEAR CREEK SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - BEAR CREEK SUD	WATER LOSS CONTROL	$55,186
BECKER JIBA WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BECKER JIBA WSC	WATER LOSS CONTROL	$15,523
BEDFORD	NO	2020	CONSERVATION, WATER LOSS CONTROL - BEDFORD	WATER LOSS CONTROL	$1,762,821
BELLS	NO	2030	BELLS - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$822,000
BELLS	NO	2020	CONSERVATION, WATER LOSS CONTROL - BELLS	WATER LOSS CONTROL	$292,347
BENBROOK WATER AUTHORITY	NO	2030	BENBROOK - 3 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$14,102,000
BENBROOK WATER AUTHORITY	NO	2020	CONSERVATION, WATER LOSS CONTROL - BENBROOK	WATER LOSS CONTROL	$273,621
BETHEL ASH WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BETHEL-ASH WSC	WATER LOSS CONTROL	$5,087
BETHESDA WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BETHESDA WSC	WATER LOSS CONTROL	$197,156
BLACK ROCK WSC	NO	2050	BLACK ROCK WSC - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,259,000
BLACK ROCK WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BLACK ROCK WSC	WATER LOSS CONTROL	$17,593

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
BLACKLAND WSC	NO	2030	BLACKLAND WSC - DIRECT CONNECTION TO NTWMD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$6,804,000
BLACKLAND WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BLACKLAND WSC	WATER LOSS CONTROL	$292,347
BLOOMING GROVE	NO	2020	CONSERVATION, WATER LOSS CONTROL - BLOOMING GROVE	WATER LOSS CONTROL	$12,881
BLUE RIDGE	NO	2030	BLUE RIDGE - CONNECT TO AND PURCHASE WATER FROM NTWMD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$5,795,000
BLUE RIDGE	NO	2040	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$6,890,000
BLUE RIDGE	NO	2060	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$6,871,000
BLUE RIDGE	NO	2020	CONSERVATION, WATER LOSS CONTROL - BLUE RIDGE	WATER LOSS CONTROL	$55,892
BOIS D ARC MUD	NO	2030	BOIS D'ARC MUD - CONNECT TO NTWMD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$4,108,000
BOIS D ARC MUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - BOIS D ARC MUD	WATER LOSS CONTROL	$8,698
BOLIVAR WSC	NO	2020	BOLIVAR WSC - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,955,000
BOLIVAR WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BOLIVAR WSC	WATER LOSS CONTROL	$51,327
BONHAM	YES	2020	CONSERVATION, WATER LOSS CONTROL - BONHAM	WATER LOSS CONTROL	$72,634
BOYD	NO	2020	CONSERVATION, WATER LOSS CONTROL - BOYD	WATER LOSS CONTROL	$4,837
BRIDGEPORT	NO	2070	BRIDGEPORT - 1 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$8,651,000
BRIDGEPORT	NO	2060	BRIDGEPORT - 2 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$11,377,000
BRIDGEPORT	NO	2050	BRIDGEPORT - EXPAND CAPACITY OF LAKE INTAKE AND PUMP STATION	CONVEYANCE/TRANSMISSION PIPELINE; SURFACE WATER INTAKE MODIFICATION	$1,421,000
BRIDGEPORT	NO	2020	CONSERVATION, WATER LOSS CONTROL - BRIDGEPORT	WATER LOSS CONTROL	$39,597
BUENA VISTA-BETHEL SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - BUENA VISTA - BETHEL SUD	WATER LOSS CONTROL	$29,027
BURLESON	YES	2050	BURLESON - ADDITIONAL INFRASTRUCTURE FROM FT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$4,688,000
BURLESON	YES	2020	CONSERVATION, WATER LOSS CONTROL - BURLESON	WATER LOSS CONTROL	$132,685
BUTLER WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - BUTLER WSC	WATER LOSS CONTROL	$4,404
CADDO BASIN SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - CADDO BASIN SUD	WATER LOSS CONTROL	$5,095
CALLISBURG WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - CALLISBURG WSC	WATER LOSS CONTROL	$2,975
CARROLLTON	NO	2020	CONSERVATION, WATER LOSS CONTROL - CARROLLTON	WATER LOSS CONTROL	$2,096,860
CASH SUD	YES	2020	CASH WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$7,888,000
CASH SUD	YES	2020	CONSERVATION, WATER LOSS CONTROL - CASH SUD	WATER LOSS CONTROL	$2,304
CEDAR HILL	NO	2020	CONSERVATION, WATER LOSS CONTROL - CEDAR HILL	WATER LOSS CONTROL	$673,056
CELINA	NO	2030	CELINA - CONNECT TO AND PURCHASE WATER FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$17,491,000
CELINA	NO	2020	CONSERVATION, WATER LOSS CONTROL - CELINA	WATER LOSS CONTROL	$384,870
CHATFIELD WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - CHATFIELD WSC	WATER LOSS CONTROL	$12,274
CHICO	NO	2040	CHICO - ADDITIONAL DELIVERY INFRASTRUCTURE FROM WEST WISE SUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$4,422,000
CHICO	NO	2020	CONSERVATION, WATER LOSS CONTROL - CHICO	WATER LOSS CONTROL	$7,070
COCKRELL HILL	NO	2020	CONSERVATION, WATER LOSS CONTROL - COCKRELL HILL	WATER LOSS CONTROL	$13,114
COLLEGE MOUND WSC	NO	2070	COLLEGE MOUND - ADDITIONAL DELIVERY INFRASTRUCTURE FROM TERRELL	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$5,078,000
COLLEGE MOUND WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - COLLEGE MOUND WSC	WATER LOSS CONTROL	$37,197
COLLEYVILLE	NO	2020	CONSERVATION, WATER LOSS CONTROL - COLLEYVILLE	WATER LOSS CONTROL	$1,615,494
COLLINSVILLE	NO	2020	CONSERVATION, WATER LOSS CONTROL - COLLINSVILLE	WATER LOSS CONTROL	$16,010
COMBINE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - COMBINE WSC	WATER LOSS CONTROL	$30,127
COMMUNITY WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - COMMUNITY WSC	WATER LOSS CONTROL	$6,859

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
COPEVILLE SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - COPEVILLE SUD	WATER LOSS CONTROL	$19,436
COPPELL	NO	2020	CONSERVATION, WATER LOSS CONTROL - COPPELL	WATER LOSS CONTROL	$1,367,318
CORBET WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - CORBET WSC	WATER LOSS CONTROL	$4,543
CORINTH	NO	2020	CONSERVATION, WATER LOSS CONTROL - CORINTH	WATER LOSS CONTROL	$335,099
CORSICANA	YES	2020	CONSERVATION, WATER LOSS CONTROL - CORSICANA	WATER LOSS CONTROL	$620,621
CORSICANA	YES	2050	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-1	WATER TREATMENT PLANT EXPANSION	$27,697,000
CORSICANA	YES	2070	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-2	WATER TREATMENT PLANT EXPANSION	$27,697,000
CORSICANA	YES	2030	CORSICANA - NEW 8 MGD WTP, HALBERT-RICHLAND CHAMBERS	NEW WATER TREATMENT PLANT	$47,722,000
COUNTY-OTHER, COLLIN	NO	2020	CONSERVATION, WATER LOSS CONTROL - COLLIN COUNTY	WATER LOSS CONTROL	$19,179
COUNTY-OTHER, COOKE	NO	2020	CONSERVATION, WATER LOSS CONTROL - COOKE COUNTY	WATER LOSS CONTROL	$17,725
COUNTY-OTHER, DALLAS	NO	2020	CONSERVATION, WATER LOSS CONTROL - DALLAS COUNTY	WATER LOSS CONTROL	$57,338
COUNTY-OTHER, DENTON	NO	2020	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY	WATER LOSS CONTROL	$47,949
COUNTY-OTHER, DENTON	NO	2020	COUNTY-OTHER, DENTON - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$5,387,000
COUNTY-OTHER, DENTON	NO	2020	COUNTY-OTHER, DENTON - NEW WELL(S) IN WOODBINE AQUIFER	MULTIPLE WELLS/WELL FIELD	$8,554,000
COUNTY-OTHER, ELLIS	NO	2020	CONSERVATION, WATER LOSS CONTROL - ELLIS COUNTY	WATER LOSS CONTROL	$7,089
COUNTY-OTHER, FANNIN	NO	2020	CONSERVATION, WATER LOSS CONTROL - FANNIN COUNTY	WATER LOSS CONTROL	$13,853
COUNTY-OTHER, FREESTONE	NO	2020	CONSERVATION, WATER LOSS CONTROL - FREESTONE COUNTY	WATER LOSS CONTROL	$9,159
COUNTY-OTHER, FREESTONE	NO	2050	COUNTY-OTHER, FREESTONE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSICANA	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,868,000
COUNTY-OTHER, FREESTONE	NO	2050	COUNTY-OTHER, FREESTONE - NEW DELIVERY AND TREATMENT FACILITIES FROM TRWD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION; STORAGE TANK	$46,660,000
COUNTY-OTHER, GRAYSON	NO	2020	CONSERVATION, WATER LOSS CONTROL - GRAYSON COUNTY	WATER LOSS CONTROL	$17,821
COUNTY-OTHER, HENDERSON	NO	2020	CONSERVATION, WATER LOSS CONTROL - HENDERSON COUNTY	WATER LOSS CONTROL	$4,793
COUNTY-OTHER, JACK	NO	2020	CONSERVATION, WATER LOSS CONTROL - JACK COUNTY	WATER LOSS CONTROL	$12,542
COUNTY-OTHER, JACK	NO	2020	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO JACKSBORO	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,152,000
COUNTY-OTHER, JACK	NO	2020	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO WALNUT CREEK SUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$5,002,000
COUNTY-OTHER, KAUFMAN	NO	2020	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY	WATER LOSS CONTROL	$2,712
COUNTY-OTHER, KAUFMAN	NO	2020	COUNTY OTHER, KAUFMAN - WTP AND CONNECT TO TRWD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	$11,016,000
COUNTY-OTHER, NAVARRO	YES	2020	CONSERVATION, WATER LOSS CONTROL - NAVARRO COUNTY	WATER LOSS CONTROL	$5,296
COUNTY-OTHER, PARKER	NO	2020	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY	WATER LOSS CONTROL	$838,090
COUNTY-OTHER, PARKER	NO	2020	COUNTY OTHER, PARKER - NEW WELL(S) IN TRINITY AQUIFER	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; MULTIPLE WELLS/WELL FIELD	$2,157,000
COUNTY-OTHER, PARKER	NO	2060	COUNTY-OTHER, PARKER-WTP AND TRANSMISSION FACILITIES TO TRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$119,202,000
COUNTY-OTHER, ROCKWALL	NO	2020	CONSERVATION, WATER LOSS CONTROL - ROCKWALL COUNTY	WATER LOSS CONTROL	$10,452
COUNTY-OTHER, TARRANT	NO	2020	CONSERVATION, WATER LOSS CONTROL - TARRANT COUNTY	WATER LOSS CONTROL	$165,969
COUNTY-OTHER, WISE	NO	2020	CONSERVATION, WATER LOSS CONTROL - WISE COUNTY	WATER LOSS CONTROL	$122,652

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
CRANDALL	NO	2020	CONSERVATION, WATER LOSS CONTROL - CRANDALL	WATER LOSS CONTROL	$33,260
CRESCENT HEIGHTS WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - CRESCENT HEIGHTS WSC	WATER LOSS CONTROL	$8,820
CROSS TIMBERS WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - CROSS TIMBERS WSC	WATER LOSS CONTROL	$160,638
CROSS TIMBERS WSC	NO	2030	CROSS TIMBERS WSC - ADDITIONAL DELIVERY INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK	$8,374,000
CROSS TIMBERS WSC	NO	2020	CROSS TIMBERS WSC - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,955,000
CROWLEY	NO	2020	CONSERVATION, WATER LOSS CONTROL - CROWLEY	WATER LOSS CONTROL	$118,084
CROWLEY	NO	2030	CROWLEY - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$3,274,000
CULLEOKA WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - CULLEOKA WSC	WATER LOSS CONTROL	$41,495
DALLAS	YES	2020	CONSERVATION, WATER LOSS CONTROL - DALLAS	WATER LOSS CONTROL	$16,933,907
DALLAS	YES	2030	DWU - CONNECT IPL TO BACHMAN	CONVEYANCE/TRANSMISSION PIPELINE	$717,381,000
DALLAS	YES	2030	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2020	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$243,463,000
DALLAS	YES	2040	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2030	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$1,827,578,000
DALLAS	YES	2050	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2040	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$179,394,000
DALLAS	YES	2070	DWU - LAKE COLUMBIA	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION; NEW CONTRACT; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT	$322,267,000
DALLAS	YES	2050	DWU - MAIN STEM BALANCING RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; NEW SURFACE WATER INTAKE	$772,904,000
DALLAS	YES	2060	DWU - NECHES RIVER RUN-OF-THE-RIVER DIVERSIONS	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT	$261,616,000
DALLAS	YES	2070	DWU - PARALLEL IPL	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$795,236,000
DALWORTHINGTON GARDENS	NO	2020	CONSERVATION, WATER LOSS CONTROL - DALWORTHINGTON GARDENS	WATER LOSS CONTROL	$41,616
DAWSON	NO	2020	CONSERVATION, WATER LOSS CONTROL - DAWSON	WATER LOSS CONTROL	$9,479
DECATUR	NO	2020	CONSERVATION, WATER LOSS CONTROL - DECATUR	WATER LOSS CONTROL	$278,594
DENISON	YES	2020	CONSERVATION, WATER LOSS CONTROL - DENISON	WATER LOSS CONTROL	$698,755
DENISON	YES	2050	DENISON - 10 MGD DESALINATION WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$82,213,000
DENISON	YES	2030	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; WATER TREATMENT PLANT EXPANSION; DIVERSION AND CONTROL STRUCTURE	$17,674,000
DENISON	YES	2060	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; DIVERSION AND CONTROL STRUCTURE; NEW SURFACE WATER INTAKE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$9,022,000
DENISON	YES	2030	DENISON - NEW 4 MGD DESALINATION WTP	NEW WATER TREATMENT PLANT	$36,137,000
DENTON	YES	2020	CONSERVATION, WATER LOSS CONTROL - DENTON	WATER LOSS CONTROL	$4,636,961
DENTON	YES	2070	DENTON - 20 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$104,736,000
DENTON	YES	2040	DENTON - 20 MGD WTP EXPANSION- RAY ROBERTS	WATER TREATMENT PLANT EXPANSION	$104,736,000
DENTON	YES	2060	DENTON - 25 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$127,652,000
DENTON	YES	2030	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-1	WATER TREATMENT PLANT EXPANSION	$150,569,000
DENTON	YES	2050	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-2	WATER TREATMENT PLANT EXPANSION	$150,569,000
DENTON COUNTY FWSD 10	NO	2020	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #10	WATER LOSS CONTROL	$967,900
DENTON COUNTY FWSD 1-A	NO	2020	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1A	WATER LOSS CONTROL	$565,854

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
DENTON COUNTY FWSD 7	NO	2020	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #7	WATER LOSS CONTROL	$178,667
DESERT WSC	NO	2020	CONSERVATION, WATER LOSS CONSERVATION - DESERT WSC	WATER LOSS CONTROL	$11,979
DESERT WSC	NO	2070	DESERT WSC - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$1,469,000
DESOTO	NO	2020	CONSERVATION, WATER LOSS CONTROL - DESOTO	WATER LOSS CONTROL	$263,044
DOGWOOD ESTATES WATER	NO	2020	CONSERVATION, WATER LOSS CONSERVATION - DOGWOOD ESTATES WATER	WATER LOSS CONTROL	$4,765
DOGWOOD ESTATES WATER	NO	2040	DOGWOOD ESTATES WATER - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	MULTIPLE WELLS/WELL FIELD	$1,296,000
DORCHESTER	NO	2020	CONSERVATION, WATER LOSS CONTROL - DORCHESTER	WATER LOSS CONTROL	$5,172
DORCHESTER	NO	2020	DORCHESTER - NEW WELL(S) IN TRINITY AQUIFER	SINGLE WELL	$1,845,000
DUNCANVILLE	NO	2020	CONSERVATION, WATER LOSS CONTROL - DUNCANVILLE	WATER LOSS CONTROL	$615,654
EAST CEDAR CREEK FWSD	NO	2020	CONSERVATION, WATER LOSS CONTROL - EAST CEDAR CREEK FWSD	WATER LOSS CONTROL	$110,198
EAST FORK SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - EAST FORK SUD	WATER LOSS CONTROL	$526,225
EAST FORK SUD	NO	2030	EAST FORK SUD - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK	$5,308,000
EAST GARRETT WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - EAST GARRETT WSC	WATER LOSS CONTROL	$6,179
EDGECLIFF	NO	2020	CONSERVATION, WATER LOSS CONTROL - EDGECLIFF VILLAGE	WATER LOSS CONTROL	$76,154
ELMO WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - ELMO WSC	WATER LOSS CONTROL	$3,802
ENNIS	YES	2020	CONSERVATION, WATER LOSS CONTROL - ENNIS	WATER LOSS CONTROL	$612,128
ENNIS	YES	2070	ENNIS - 16 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$86,402,000
ENNIS	YES	2050	ENNIS - 6 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$22,264,000
ENNIS	YES	2060	ENNIS - 8 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$47,735,000
ENNIS	YES	2040	ENNIS - INDIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION; STORAGE TANK	$55,899,000
EULESS	YES	2020	CONSERVATION, WATER LOSS CONTROL - EULESS	WATER LOSS CONTROL	$1,524,130
EUSTACE	NO	2020	CONSERVATION, WATER LOSS CONTROL - EUSTACE	WATER LOSS CONTROL	$7,675
EUSTACE	NO	2050	EUSTACE - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	MULTIPLE WELLS/WELL FIELD	$1,469,000
EVERMAN	NO	2020	CONSERVATION, WATER LOSS CONTROL - EVERMAN	WATER LOSS CONTROL	$51,306
FAIRFIELD	NO	2020	CONSERVATION, WATER LOSS CONTROL - FAIRFIELD	WATER LOSS CONTROL	$84,573
FAIRFIELD	NO	2050	FAIRFIELD - NEW WTP AND TRANSMISSION SYSTEM FROM TRWD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	$35,205,000
FAIRVIEW	NO	2020	CONSERVATION, WATER LOSS CONTROL - FAIRVIEW	WATER LOSS CONTROL	$205,518
FARMERS BRANCH	NO	2020	CONSERVATION, WATER LOSS CONTROL - FARMERS BRANCH	WATER LOSS CONTROL	$744,659
FARMERSVILLE	YES	2020	CONSERVATION, WATER LOSS CONTROL - FARMERSVILLE	WATER LOSS CONTROL	$105,003
FATE	NO	2020	CONSERVATION, WATER LOSS CONTROL - FATE	WATER LOSS CONTROL	$404,091
FATE	NO	2050	FATE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,001,000
FERRIS	NO	2020	CONSERVATION, WATER LOSS CONTROL - FERRIS	WATER LOSS CONTROL	$31,341
FERRIS	NO	2070	FERRIS - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$1,370,000
FILES VALLEY WSC	YES	2020	CONSERVATION, WATER LOSS CONTROL - FILES VALLEY WSC	WATER LOSS CONTROL	$2,291
FLOWER MOUND	NO	2020	CONSERVATION, WATER LOSS CONTROL - FLOWER MOUND	WATER LOSS CONTROL	$3,422,971
FLOWER MOUND	NO	2020	FLOWER MOUND - ALLIANCE DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$1,732,000
FOREST HILL	NO	2020	CONSERVATION, WATER LOSS CONTROL - FOREST HILL	WATER LOSS CONTROL	$191,853
FORNEY	YES	2020	CONSERVATION, WATER LOSS CONTROL - FORNEY	WATER LOSS CONTROL	$219,451
FORNEY	YES	2020	FORNEY - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD	PUMP STATION	$13,054,000

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
FORNEY LAKE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - FORNEY LAKE WSC	WATER LOSS CONTROL	$103,609
FORT WORTH	YES	2020	CONSERVATION, WATER LOSS CONTROL - FORT WORTH	WATER LOSS CONTROL	$195,851,589
FORT WORTH	YES	2040	FORT WORTH - 23 MGD WTP EXPANSION-WEST PLANT	WATER TREATMENT PLANT EXPANSION	$118,537,000
FORT WORTH	YES	2040	FORT WORTH - 30 MGD WTP EXPANSION-EAGLE MOUNTAIN	WATER TREATMENT PLANT EXPANSION	$150,636,000
FORT WORTH	YES	2030	FORT WORTH - 35 MGD WTP EXPANSION-EAGLE MOUNTAIN	WATER TREATMENT PLANT EXPANSION	$173,564,000
FORT WORTH	YES	2040	FORT WORTH - 35 MGD WTP EXPANSION-WEST PLANT	WATER TREATMENT PLANT EXPANSION	$173,564,000
FORT WORTH	YES	2050	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 1	WATER TREATMENT PLANT EXPANSION	$242,347,000
FORT WORTH	YES	2060	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 2	WATER TREATMENT PLANT EXPANSION	$242,347,000
FORT WORTH	YES	2060	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 3	WATER TREATMENT PLANT EXPANSION	$242,347,000
FORT WORTH	YES	2070	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 4	WATER TREATMENT PLANT EXPANSION	$242,347,000
FORT WORTH	YES	2040	FORT WORTH - 50 MGD WTP EXPANSION-ROLLING HILLS	WATER TREATMENT PLANT EXPANSION	$242,347,000
FORT WORTH	YES	2020	FORT WORTH DIRECT REUSE - ALLIANCE CORRIDOR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$23,008,000
FORT WORTH	YES	2020	FORT WORTH MARY'S CREEK WRF FUTURE DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$46,576,000
FORT WORTH	YES	2020	FORT WORTH VILLAGE CREEK WRF FUTURE DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$97,410,000
FRISCO	YES	2020	CONSERVATION, WATER LOSS CONTROL - FRISCO	WATER LOSS CONTROL	$8,759,700
FRISCO	YES	2020	FRISCO - DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$77,241,000
FROGNOT WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - FROGNOT WSC	WATER LOSS CONTROL	$8,218
GAINESVILLE	YES	2020	CONSERVATION, WATER LOSS CONTROL - GAINESVILLE	WATER LOSS CONTROL	$339,073
GAINESVILLE	YES	2050	GAINESVILLE - 5 MGD WTP EXPANSION 1	WATER TREATMENT PLANT EXPANSION	$30,985,000
GAINESVILLE	YES	2070	GAINESVILLE - 5 MGD WTP EXPANSION 2	WATER TREATMENT PLANT EXPANSION	$30,985,000
GAINESVILLE	YES	2020	GAINESVILLE - EXPAND DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,026,000
GAINESVILLE	YES	2030	GAINESVILLE - INFRASTRUCTURE TO DELIVER TO CUSTOMERS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$33,043,000
GARLAND	YES	2020	CONSERVATION, WATER LOSS CONTROL - GARLAND	WATER LOSS CONTROL	$6,779,585
GASTONIA SCURRY SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - GASTONIA-SCURRY SUD	WATER LOSS CONTROL	$40,309
GLENN HEIGHTS	NO	2020	CONSERVATION, WATER LOSS CONTROL - GLENN HEIGHTS	WATER LOSS CONTROL	$86,942
GLENN HEIGHTS	NO	2060	GLENN HEIGHTS ADDITIONAL DELIVERY INFRASTRUCTURE FROM DWU	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$1,926,000
GRAND PRAIRIE	YES	2020	CONSERVATION, WATER LOSS CONTROL - GRAND PRAIRIE	WATER LOSS CONTROL	$1,521,652
GRAND PRAIRIE	YES	2020	GRAND PRAIRIE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DWU	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$72,782,000
GRAND PRAIRIE	YES	2030	GRAND PRAIRIE - CONNECT TO ARLINGTON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$5,679,000
GRAPEVINE	YES	2020	CONSERVATION, WATER LOSS CONTROL - GRAPEVINE	WATER LOSS CONTROL	$3,773,715
GREATER TEXOMA UTILITY AUTHORITY	YES	2030	GTUA - CONNECTION FROM SHERMAN TO CGMA	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$31,115,000
GREATER TEXOMA UTILITY AUTHORITY	YES	2030	GTUA - PARALLEL COLLIN-GRAYSON MUNICIPAL ALLIANCE PIPELINE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$89,989,000
GREATER TEXOMA UTILITY AUTHORITY	YES	2020	GTUA - REGIONAL WATER SYSTEM PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	$243,986,000
GREATER TEXOMA UTILITY AUTHORITY	YES	2030	GTUA - REGIONAL WATER SYSTEM PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	$224,083,000
GUNTER	NO	2020	CONSERVATION, WATER LOSS CONTROL - GUNTER	WATER LOSS CONTROL	$22,898
GUNTER	NO	2020	GUNTER - NEW WELL(S) IN TRINITY AQUIFER	SINGLE WELL	$1,835,000
HACKBERRY	NO	2020	CONSERVATION, WATER LOSS CONTROL - HACKBERRY	WATER LOSS CONTROL	$15,159
HACKBERRY	NO	2050	HACKBERRY - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,182,000

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
HALTOM CITY	NO	2020	CONSERVATION, WATER LOSS CONTROL - HALTOM CITY	WATER LOSS CONTROL	$761,824
HASLET	NO	2020	CONSERVATION, WATER LOSS CONTROL - HASLET	WATER LOSS CONTROL	$72,056
HEATH	NO	2020	CONSERVATION, WATER LOSS CONTROL - HEATH	WATER LOSS CONTROL	$662,052
HIGH POINT WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - HIGH POINT WSC	WATER LOSS CONTROL	$10,172
HIGHLAND PARK	NO	2020	CONSERVATION, WATER LOSS CONTROL - HIGHLAND PARK	WATER LOSS CONTROL	$411,107
HIGHLAND VILLAGE	NO	2020	CONSERVATION, WATER LOSS CONTROL - HIGHLAND VILLAGE	WATER LOSS CONTROL	$637,042
HONEY GROVE	NO	2020	CONSERVATION, WATER LOSS CONTROL - HONEY GROVE	WATER LOSS CONTROL	$25,668
HORSESHOE BEND WATER SYSTEM	NO	2020	CONSERVATION, WATER LOSS CONTROL - HORSESHOE BEND WATER SYSTEM	WATER LOSS CONTROL	$12,104
HOWE	YES	2020	CONSERVATION, WATER LOSS CONTROL - HOWE	WATER LOSS CONTROL	$28,900
HUDSON OAKS	NO	2020	CONSERVATION, WATER LOSS CONTROL - HUDSON OAKS	WATER LOSS CONTROL	$170,437
HUDSON OAKS	NO	2020	HUDSON OAKS - DIRECT CONNECTION TO FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$5,500,000
HURST	NO	2020	CONSERVATION, WATER LOSS CONTROL - HURST	WATER LOSS CONTROL	$1,062,568
HUTCHINS	NO	2020	CONSERVATION, WATER LOSS CONTROL - HUTCHINS	WATER LOSS CONTROL	$415,355
IRRIGATION, FANNIN	NO	2020	IRRIGATION, FANNIN - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$234,000
IRVING	YES	2020	CONSERVATION, WATER LOSS CONTROL - IRVING	WATER LOSS CONTROL	$2,126,293
IRVING	YES	2030	IRVING - TRA CENTRAL REUSE	CONVEYANCE/TRANSMISSION PIPELINE	$46,730,000
IRVING	YES	2020	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	PUMP STATION; STORAGE TANK	$21,659,000
ITALY	NO	2020	CONSERVATION, WATER LOSS CONTROL - ITALY	WATER LOSS CONTROL	$7,419
JACKSBORO	YES	2020	CONSERVATION, WATER LOSS CONTROL - JACKSBORO	WATER LOSS CONTROL	$17,449
JOHNSON COUNTY SUD	YES	2020	CONSERVATION, WATER LOSS CONTROL - JOHNSON COUNTY SUD	WATER LOSS CONTROL	$6,197
JOSEPHINE	NO	2020	CONSERVATION, WATER LOSS CONTROL - JOSEPHINE	WATER LOSS CONTROL	$26,276
JUSTIN	NO	2020	CONSERVATION, WATER LOSS CONTROL - JUSTIN	WATER LOSS CONTROL	$68,869
JUSTIN	NO	2020	JUSTIN - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,377,000
KAUFMAN	YES	2020	CONSERVATION, WATER LOSS CONTROL - KAUFMAN	WATER LOSS CONTROL	$70,962
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	NO	2020	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	WATER LOSS CONTROL	$25,007
KAUFMAN COUNTY MUD 11	NO	2020	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY MUD 11	WATER LOSS CONTROL	$81,738
KELLER	NO	2020	CONSERVATION, WATER LOSS CONTROL - KELLER	WATER LOSS CONTROL	$1,328,066
KEMP	NO	2020	CONSERVATION, WATER LOSS CONTROL - KEMP	WATER LOSS CONTROL	$13,716
KENNEDALE	YES	2020	CONSERVATION, WATER LOSS CONTROL - KENNEDALE	WATER LOSS CONTROL	$172,467
KENNEDALE	YES	2040	KENNEDALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$4,496,000
KENNEDALE	YES	2030	KENNEDALE - CONNECT TO ARLINGTON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,004,000
KENTUCKYTOWN WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - KENTUCKY TOWN WSC	WATER LOSS CONTROL	$18,044
KERENS	NO	2020	CONSERVATION, WATER LOSS CONTROL - KERENS	WATER LOSS CONTROL	$6,764
KRUM	NO	2020	CONSERVATION, WATER LOSS CONTROL - KRUM	WATER LOSS CONTROL	$118,516
KRUM	NO	2020	KRUM - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$1,805,000
LADONIA	NO	2020	CONSERVATION, WATER LOSS CONTROL - LADONIA	WATER LOSS CONTROL	$1,864
LADONIA	NO	2030	LADONIA - INFRASTRUCTURE AND TREATMENT FROM WATER FROM RALPH HALL (UTRWD)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	$14,774,000
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	NO	2020	CONSERVATION, WATER LOSS CONTROL - LAKE CITIES MUA	WATER LOSS CONTROL	$316,302
LAKE KIOWA SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - LAKE KIOWA SUD	WATER LOSS CONTROL	$148,550
LAKE WORTH	NO	2020	CONSERVATION, WATER LOSS CONTROL - LAKE WORTH	WATER LOSS CONTROL	$2,384,665

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
LAKESIDE	NO	2020	CONSERVATION, WATER LOSS CONTROL - LAKESIDE	WATER LOSS CONTROL	$9,846
LAKESIDE	NO	2020	LAKESIDE - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$1,413,000
LANCASTER	YES	2020	CONSERVATION, WATER LOSS CONTROL - LANCASTER	WATER LOSS CONTROL	$1,308,675
LEONARD	NO	2020	CONSERVATION, WATER LOSS CONTROL - LEONARD	WATER LOSS CONTROL	$19,291
LEONARD	NO	2030	LEONARD - WATER SYSTEM IMPROVEMENTS	MULTIPLE WELLS/WELL FIELD; STORAGE TANK	$3,281,000
LEWISVILLE	YES	2020	CONSERVATION, WATER LOSS CONTROL - LEWISVILLE	WATER LOSS CONTROL	$1,437,939
LEWISVILLE	YES	2030	LEWISVILLE - 6 MGD WTP EXPANSION-1	WATER TREATMENT PLANT EXPANSION	$36,568,000
LEWISVILLE	YES	2040	LEWISVILLE - 6 MGD WTP EXPANSION-2	WATER TREATMENT PLANT EXPANSION	$22,264,000
LEWISVILLE	YES	2050	LEWISVILLE - 6.5 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$23,626,000
LINDSAY	NO	2020	CONSERVATION, WATER LOSS CONTROL - LINDSAY	WATER LOSS CONTROL	$15,743
LITTLE ELM	NO	2020	CONSERVATION, WATER LOSS CONTROL - LITTLE ELM	WATER LOSS CONTROL	$361,083
LIVESTOCK, HENDERSON	NO	2020	LIVESTOCK, HENDERSON - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	MULTIPLE WELLS/WELL FIELD	$3,469,000
LIVESTOCK, TARRANT	NO	2020	LIVESTOCK, TARRANT - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$584,000
LUCAS	NO	2020	CONSERVATION, WATER LOSS CONTROL - LUCAS	WATER LOSS CONTROL	$112,910
LUELLA SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - LUELLA SUD	WATER LOSS CONTROL	$23,749
M E N WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - M-E-N WSC	WATER LOSS CONTROL	$24,737
M E N WSC	NO	2050	M E N WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSICANA (UPSIZE LAKE HALBERT CONNECTION)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$4,088,000
MABANK	YES	2020	CONSERVATION, WATER LOSS CONTROL - MABANK	WATER LOSS CONTROL	$134,425
MABANK	YES	2020	MABANK - 3 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$19,817,000
MABANK	YES	2060	MABANK - 5 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$30,984,000
MABANK	YES	2030	MABANK - ADDITIONAL DELIVERY INFRASTRUCTURE FROM TRWD (CEDAR CREEK RESERVOIR)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$1,622,000
MALAKOFF	YES	2020	CONSERVATION, WATER LOSS CONTROL - MALAKOFF	WATER LOSS CONTROL	$22,166
MANSFIELD	YES	2020	CONSERVATION, WATER LOSS CONTROL - MANSFIELD	WATER LOSS CONTROL	$3,734,784
MANSFIELD	YES	2030	MANSFIELD - 15 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$44,021,000
MANSFIELD	YES	2060	MANSFIELD - 20 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$54,863,000
MANSFIELD	YES	2060	MANSFIELD - 35 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$87,389,000
MANUFACTURING, COLLIN	NO	2030	MANUFACTURING, COLLIN - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$437,000
MANUFACTURING, WISE	NO	2020	MANUFACTURING, WISE COUNTY - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$502,000
MARILEE SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - MARILEE SUD	WATER LOSS CONTROL	$1,169,389
MARKOUT WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - MARKOUT WSC	WATER LOSS CONTROL	$35,133
MCKINNEY	YES	2020	CONSERVATION, WATER LOSS CONTROL - MCKINNEY	WATER LOSS CONTROL	$775,316
MELISSA	NO	2020	CONSERVATION, WATER LOSS CONTROL - MELISSA	WATER LOSS CONTROL	$177,086
MELISSA	NO	2030	MELISSA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE	$2,754,000
MESQUITE	YES	2020	CONSERVATION, WATER LOSS CONTROL - MESQUITE	WATER LOSS CONTROL	$3,709,960
MIDLOTHIAN	YES	2020	CONSERVATION, WATER LOSS CONTROL - MIDLOTHIAN	WATER LOSS CONTROL	$719,507
MIDLOTHIAN	YES	2020	MIDLOTHIAN - EXPAND AUGER WTP TO 16 MGD	WATER TREATMENT PLANT EXPANSION	$7,498,000
MIDLOTHIAN	YES	2020	MIDLOTHIAN - EXPAND AUGER WTP TO 24 MGD	WATER TREATMENT PLANT EXPANSION	$24,798,000
MIDLOTHIAN	YES	2040	MIDLOTHIAN - EXPAND AUGER WTP TO 32 MGD	WATER TREATMENT PLANT EXPANSION	$24,798,000
MIDLOTHIAN	YES	2020	MIDLOTHIAN - EXPAND TAYMAN WTP TO 20 MGD	WATER TREATMENT PLANT EXPANSION	$46,259,000
MILLIGAN WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - MILLIGAN WSC	WATER LOSS CONTROL	$63,934
MINERAL WELLS	YES	2020	CONSERVATION, WATER LOSS CONTROL - MINERAL WELLS	WATER LOSS CONTROL	$7,493
MINING, GRAYSON	NO	2020	MINING, GRAYSON COUNTY - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$806,000
MINING, KAUFMAN	NO	2040	MINING, KAUFMAN COUNTY - NEW WELL(S) IN NACATOCH AQUIFER	SINGLE WELL	$419,000
MINING, KAUFMAN	NO	2030	MINING, PARKER COUNTY - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,454,000

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
MOUNT ZION WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - MOUNT ZION WSC	WATER LOSS CONTROL	$61,736
MOUNTAIN PEAK SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN PEAK SUD	WATER LOSS CONTROL	$110,785
MOUNTAIN SPRINGS WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN SPRING WSC	WATER LOSS CONTROL	$24,567
MUENSTER	NO	2020	CONSERVATION, WATER LOSS CONTROL - MUENSTER	WATER LOSS CONTROL	$25,014
MUENSTER	NO	2020	MUENSTER - DEVELOP LAKE MUENSTER SUPPLY	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; NEW WATER TREATMENT PLANT; PUMP STATION	$9,998,000
MURPHY	NO	2020	CONSERVATION, WATER LOSS CONTROL - MURPHY	WATER LOSS CONTROL	$68,544
MUSTANG SUD	YES	2020	CONSERVATION, WATER LOSS CONTROL - MUSTANG SUD	WATER LOSS CONTROL	$674,034
NAVARRO MILLS WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - NAVARRO MILLS WSC	WATER LOSS CONTROL	$10,610
NAVARRO MILLS WSC	NO	2050	NAVARRO MILLS WSC - NEW WELL IN WOODBINE AQUIFER Q-168	SINGLE WELL	$1,247,000
NEVADA SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - NEVADA SUD	WATER LOSS CONTROL	$15,904
NEWARK	NO	2020	CONSERVATION, WATER LOSS CONTROL - NEWARK	WATER LOSS CONTROL	$1,083
NEWARK	NO	2020	NEWARK - CONNECT TO RHOME	CONVEYANCE/TRANSMISSION PIPELINE	$1,584,000
NORTH COLLIN SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - NORTH COLLIN WSC	WATER LOSS CONTROL	$21,134
NORTH FARMERSVILLE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - NORTH FARMERSVILLE	WATER LOSS CONTROL	$6,269
NORTH KAUFMAN WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - NORTH KAUFMAN WSC	WATER LOSS CONTROL	$11,783
NORTH RICHLAND HILLS	YES	2020	CONSERVATION, WATER LOSS CONTROL - NORTH RICHLAND HILLS	WATER LOSS CONTROL	$2,095,999
NORTH RICHLAND HILLS	YES	2020	WATAUGA & N RICHLAND HILLS - INCREASE DELIVERY INFRASTRUCTURE FROM FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$9,544,000
NORTH TEXAS MWD	YES	2050	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	$1,702,936,000
NORTH TEXAS MWD	YES	2040	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$228,206,000
NORTH TEXAS MWD	YES	2060	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$346,367,000
NORTH TEXAS MWD	YES	2050	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	NEW WATER RIGHT/PERMIT NO IBT	$300,000
NORTH TEXAS MWD	YES	2030	NTMWD - ADDITIONAL MEASURE TO ACCESS FULL LAKE LAVON YIELD	CONVEYANCE/TRANSMISSION PIPELINE	$32,753,000
NORTH TEXAS MWD	YES	2020	NTMWD - BOIS D'ARC LAKE	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION	$939,638,000
NORTH TEXAS MWD	YES	2030	NTMWD - EXPANDED WETLAND REUSE	PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; NEW WATER TREATMENT PLANT	$625,891,000
NORTH TEXAS MWD	YES	2070	NTMWD - OKLAHOMA WATER	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION	$259,924,000
NORTH TEXAS MWD	YES	2020	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	PUMP STATION; STORAGE TANK	$21,659,000
NORTH TEXAS MWD	YES	2020	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2020-2030	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$1,693,455,000
NORTH TEXAS MWD	YES	2030	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2030-2040	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$1,021,378,000
NORTH TEXAS MWD	YES	2040	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2040-2050	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$1,085,848,000
NORTH TEXAS MWD	YES	2050	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$957,348,000

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
NORTH TEXAS MWD	YES	2060	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2060-2070	NEW WATER TREATMENT PLANT; WATER TREATMENT PLANT EXPANSION	$257,000,000
NORTH TEXAS MWD	YES	2030	NTWMD - FANNIN COUNTY WATER SUPPLY PROJECT	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$131,891,000
NORTH TEXAS MWD	YES	2070	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT	$730,827,000
NORTHLAKE	YES	2020	CONSERVATION, WATER LOSS CONTROL - NORTHLAKE	WATER LOSS CONTROL	$147,109
NORTHWEST GRAYSON COUNTY WCID 1	YES	2020	CONSERVATION, WATER LOSS CONTROL - NORTHWEST GRAYSON COUNTY WDIS1	WATER LOSS CONTROL	$4,053
NORTHWEST GRAYSON COUNTY WCID 1	YES	2020	NORTHWEST GRAYSON COUNTY WCID 1 - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$2,730,000
OAK RIDGE SOUTH GALE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - OAK RIDGE SOUTH GALE WSC	WATER LOSS CONTROL	$6,787
OVILLA	NO	2020	CONSERVATION, WATER LOSS CONTROL - OVILLA	WATER LOSS CONTROL	$30,476
OVILLA	NO	2070	OVILLA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DWU	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$1,810,000
PALMER	NO	2020	CONSERVATION, WATER LOSS CONTROL - PALMER	WATER LOSS CONTROL	$33,764
PALMER	NO	2060	PALMER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$8,910,000
PALOMA CREEK NORTH	NO	2020	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK NORTH	WATER LOSS CONTROL	$78,917
PALOMA CREEK SOUTH	NO	2020	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK SOUTH	WATER LOSS CONTROL	$37,878
PANTEGO	NO	2020	CONSERVATION, WATER LOSS CONTROL - PANTEGO	WATER LOSS CONTROL	$105,058
PANTEGO	NO	2030	PANTEGO - CONNECT TO ARLINGTON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$894,000
PANTEGO	NO	2030	PANTEGO - CONNECT TO FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$1,459,000
PARKER	NO	2020	CONSERVATION, WATER LOSS CONTROL - PARKER	WATER LOSS CONTROL	$178,062
PARKER	NO	2020	PARKER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	PUMP STATION	$4,309,000
PARKER COUNTY SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY SUD	WATER LOSS CONTROL	$48,090
PARKER COUNTY SUD	NO	2030	PARKER COUNTY SUD - 3.5 MGD WTP DESAL EXPANSION-BRA SUPPLY	WATER TREATMENT PLANT EXPANSION	$32,308,000
PELICAN BAY	NO	2020	CONSERVATION, WATER LOSS CONTROL - PELICAN BAY	WATER LOSS CONTROL	$4,028
PELICAN BAY	NO	2030	PELICAN BAY - CONNECT TO AZLE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$1,589,000
PELICAN BAY	NO	2020	PELICAN BAY - NEW WELL(S) IN TRINITY AQUIFER	SINGLE WELL	$529,000
PILOT POINT	NO	2020	CONSERVATION, WATER LOSS CONTROL - PILOT POINT	WATER LOSS CONTROL	$104,529
PILOT POINT	NO	2020	PILOT POINT - NEW WELL(S) IN TRINITY AQUIFER	MULTIPLE WELLS/WELL FIELD	$4,127,000
PINK HILL WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - PINK HILL WSC	WATER LOSS CONTROL	$10,957
PINK HILL WSC	NO	2030	PINK HILL WSC - NEW WELL(S) IN TRINITY AQUIFER	SINGLE WELL	$1,088,000
PINK HILL WSC	NO	2030	PINK HILL WSC - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$1,088,000
PLANO	YES	2020	CONSERVATION, WATER LOSS CONTROL - PLANO	WATER LOSS CONTROL	$1,563,143
PLEASANT GROVE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - PLEASANT GROVE WSC	WATER LOSS CONTROL	$3,871
PLEASANT GROVE WSC	NO	2070	PLEASANT GROVE WSC - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	SINGLE WELL	$600,000
POETRY WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - POETRY WSC	WATER LOSS CONTROL	$3,186
PONDER	NO	2020	CONSERVATION, WATER LOSS CONTROL - PONDER	WATER LOSS CONTROL	$11,730
POTTSBORO	NO	2020	CONSERVATION, WATER LOSS CONTROL - POTTSBORO	WATER LOSS CONTROL	$26,823
PRINCETON	YES	2020	CONSERVATION, WATER LOSS CONTROL - PRINCETON	WATER LOSS CONTROL	$118,491
PROSPER	NO	2020	CONSERVATION, WATER LOSS CONTROL - PROSPER	WATER LOSS CONTROL	$859,194
PROSPER	NO	2030	PROSPER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$4,608,000

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
PROVIDENCE VILLAGE WCID	NO	2020	CONSERVATION, WATER LOSS CONTROL - PROVIDENCE VILLAGE WCID	WATER LOSS CONTROL	$133,467
R C H WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - R C H WSC	WATER LOSS CONTROL	$75,116
RED OAK	NO	2020	CONSERVATION, WATER LOSS CONTROL - RED OAK	WATER LOSS CONTROL	$88,296
RED RIVER AUTHORITY OF TEXAS	NO	2020	CONSERVATION, WATER LOSS CONTROL - RED RIVER AUTHORITY OF TEXAS	WATER LOSS CONTROL	$30,217
RENO (Parker)	NO	2020	CONSERVATION, WATER LOSS CONTROL - RENO	WATER LOSS CONTROL	$8,218
RHOME	NO	2020	CONSERVATION, WATER LOSS CONTROL - RHOME	WATER LOSS CONTROL	$10,212
RICE WATER SUPPLY AND SEWER SERVICE	NO	2020	CONSERVATION, WATER LOSS CONTROL - RICE WSC	WATER LOSS CONTROL	$60,243
RICE WATER SUPPLY AND SEWER SERVICE	NO	2030	RICE WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSICANA	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$12,214,000
RICHARDSON	YES	2020	CONSERVATION, WATER LOSS CONTROL - RICHARDSON	WATER LOSS CONTROL	$1,093,469
RICHLAND HILLS	NO	2020	CONSERVATION, WATER LOSS CONTROL - RICHLAND HILLS	WATER LOSS CONTROL	$62,079
RIVER OAKS	NO	2020	CONSERVATION, WATER LOSS CONTROL - RIVER OAKS	WATER LOSS CONTROL	$118,161
ROANOKE	NO	2020	CONSERVATION, WATER LOSS CONTROL - ROANOKE	WATER LOSS CONTROL	$108,611
ROCKETT SUD	YES	2020	CONSERVATION, WATER LOSS CONTROL - ROCKETT SUD	WATER LOSS CONTROL	$584,694
ROCKETT SUD	YES	2030	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-1	WATER TREATMENT PLANT EXPANSION	$58,903,000
ROCKETT SUD	YES	2060	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-2	WATER TREATMENT PLANT EXPANSION	$58,903,000
ROCKETT SUD	YES	2070	ROCKETT SUD - 4 MGD WTP EXPANSION AT SOKOLL	WATER TREATMENT PLANT EXPANSION	$14,095,000
ROCKWALL	YES	2020	CONSERVATION, WATER LOSS CONTROL - ROCKWALL	WATER LOSS CONTROL	$1,600,987
ROCKWALL	YES	2020	ROCKWALL - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$28,750,000
ROSE HILL SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - ROSE HILL SUD	WATER LOSS CONTROL	$24,571
ROWLETT	NO	2020	CONSERVATION, WATER LOSS CONTROL - ROWLETT	WATER LOSS CONTROL	$792,959
ROWLETT	NO	2030	ROWLETT - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	PUMP STATION; STORAGE TANK	$4,105,000
ROYSE CITY	YES	2020	CONSERVATION, WATER LOSS CONTROL - ROYSE CITY	WATER LOSS CONTROL	$139,057
RUNAWAY BAY	YES	2020	CONSERVATION, WATER LOSS CONTROL - RUNAWAY BAY	WATER LOSS CONTROL	$15,113
RUNAWAY BAY	YES	2020	RUNAWAY BAY - 3 MGD WTP EXPANSION-1	WATER TREATMENT PLANT EXPANSION	$19,823,000
RUNAWAY BAY	YES	2060	RUNAWAY BAY - 3 MGD WTP EXPANSION-2	WATER TREATMENT PLANT EXPANSION	$19,823,000
RUNAWAY BAY	YES	2070	RUNAWAY BAY - INCREASE CAPACITY OF LAKE INTAKE	NEW SURFACE WATER INTAKE	$8,657,000
SACHSE	NO	2020	CONSERVATION, WATER LOSS CONTROL - SACHSE	WATER LOSS CONTROL	$348,028
SAGINAW	NO	2020	CONSERVATION, WATER LOSS CONTROL - SAGINAW	WATER LOSS CONTROL	$1,169,389
SANGER	NO	2020	CONSERVATION, WATER LOSS CONTROL - SANGER	WATER LOSS CONTROL	$64,721
SANSOM PARK	NO	2020	CONSERVATION, WATER LOSS CONTROL - SANSOM PARK	WATER LOSS CONTROL	$5,993
SARDIS LONE ELM WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - SARDIS LONE ELM WSC	WATER LOSS CONTROL	$238,415
SARDIS LONE ELM WSC	NO	2020	SARDIS LONE ELM - CONNECT TO TRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$11,696,000
SEAGOVILLE	YES	2020	CONSERVATION, WATER LOSS CONTROL - SEAGOVILLE	WATER LOSS CONTROL	$311,822
SEIS LAGOS UD	NO	2020	CONSERVATION, WATER LOSS CONTROL - SEIS LAGOS UD	WATER LOSS CONTROL	$162,761
SHERMAN	YES	2020	CONSERVATION, WATER LOSS CONTROL - SHERMAN	WATER LOSS CONTROL	$628,668
SHERMAN	YES	2020	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-1	WATER TREATMENT PLANT EXPANSION	$82,213,000
SHERMAN	YES	2050	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-2	WATER TREATMENT PLANT EXPANSION	$82,213,000
SHERMAN	YES	2060	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-3	WATER TREATMENT PLANT EXPANSION	$82,213,000
SHERMAN	YES	2070	SHERMAN - 20 MGD WTP EXPANSION (DESAL)	WATER TREATMENT PLANT EXPANSION	$149,002,000
SOUTH ELLIS COUNTY WSC	NO	2020	CONSERVATION, WATER LOSS CONSERVATION - SOUTH ELLIS COUNTY WSC	WATER LOSS CONTROL	$14,796
SOUTH FREESTONE COUNTY WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - SOUTH FREESTONE COUNTY WSC	WATER LOSS CONTROL	$9,541
SOUTH FREESTONE COUNTY WSC	NO	2020	SOUTH FREESTONE COUNTY WSC - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	MULTIPLE WELLS/WELL FIELD	$6,485,000
SOUTH GRAYSON SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - SOUTH GRAYSON WSC	WATER LOSS CONTROL	$7,852

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
SOUTHLAKE	NO	2020	CONSERVATION, WATER LOSS CONTROL - SOUTHLAKE	WATER LOSS CONTROL	$1,977,712
SOUTHLAKE	NO	2040	SOUTHLAKE - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$12,772,000
SOUTHMAYD	NO	2020	CONSERVATION, WATER LOSS CONTROL - SOUTHMAYD	WATER LOSS CONTROL	$10,849
SOUTHWEST FANNIN COUNTY SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COUNTY SUD	WATER LOSS CONTROL	$14,710
SOUTHWEST FANNIN COUNTY SUD	NO	2030	SOUTHWEST FANNIN CO SUD - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$1,148,000
SPRINGTOWN	NO	2020	CONSERVATION, WATER LOSS CONTROL - SPRINGTOWN	WATER LOSS CONTROL	$35,894
SPRINGTOWN	NO	2020	SPRINGTOWN - INFRASTRUCTURE IMPROVEMENTS-SURFACE WATER TREATMENT PLANT & SUPPLY PROJECT	NEW WATER TREATMENT PLANT; PUMP STATION	$4,163,000
STARR WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - STARR WSC	WATER LOSS CONTROL	$14,384
STEAM ELECTRIC POWER, TARRANT	NO	2030	SEP, TARRANT - REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$13,150,000
SUNNYVALE	NO	2020	CONSERVATION, WATER LOSS CONTROL - SUNNYVALE	WATER LOSS CONTROL	$89,962
SUNNYVALE	NO	2030	SUNNYVALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$2,575,000
TALTY SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - TALTY WSC	WATER LOSS CONTROL	$184,178
TARRANT REGIONAL WD	YES	2050	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	$2,360,638,000
TARRANT REGIONAL WD	YES	2030	TRWD - ADDITIONAL CAPACITY TO CONVEY RICHLAND CHAMBERS REUSE (IPL)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$507,733,000
TARRANT REGIONAL WD	YES	2060	TRWD - ADDITIONAL TRANSMISSION PIPELINE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$1,765,505,000
TARRANT REGIONAL WD	YES	2020	TRWD - ASR PILOT	MULTIPLE WELLS/WELL FIELD	$14,264,000
TARRANT REGIONAL WD	YES	2040	TRWD - CARRIZO-WILCOX GROUNDWATER	STORAGE TANK; CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; PUMP STATION	$191,469,000
TARRANT REGIONAL WD	YES	2030	TRWD - CEDAR CREEK WETLANDS REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$226,318,000
TARRANT REGIONAL WD	YES	2030	TRWD - REUSE FROM TRA CENTRAL WWTP	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$154,205,000
TARRANT REGIONAL WD	YES	2040	TRWD - TEHUACANA RESERVOIR	PUMP STATION; RESERVOIR CONSTRUCTION	$325,468,000
TARRANT REGIONAL WD	YES	2070	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT	$765,040,000
TEAGUE	YES	2020	CONSERVATION, WATER LOSS CONTROL - TEAGUE	WATER LOSS CONTROL	$14,991
TEAGUE	YES	2020	TEAGUE - NEW WELLS IN CARRIZO-WILCOX AQUIFER Q-135	MULTIPLE WELLS/WELL FIELD	$5,230,000
TERRELL	YES	2020	CONSERVATION, WATER LOSS CONTROL - TERRELL	WATER LOSS CONTROL	$512,507
TERRELL	YES	2020	TERRELL - GROUND STORAGE TANK AND PUMP STATION AT NTWMD DELIVERY POINT	PUMP STATION; STORAGE TANK	$3,527,000
TERRELL	YES	2020	TERRELL - INFRASTRUCTURE IMPROVEMENTS TO WHOLESALE CUSTOMER	CONVEYANCE/TRANSMISSION PIPELINE	$7,945,000
THE COLONY	NO	2020	CONSERVATION, WATER LOSS CONTROL - THE COLONY	WATER LOSS CONTROL	$616,616
TIOGA	NO	2020	CONSERVATION, WATER LOSS CONTROL - TIOGA	WATER LOSS CONTROL	$14,836
TOM BEAN	NO	2020	CONSERVATION, WATER LOSS CONTROL - TOM BEAN	WATER LOSS CONTROL	$9,742
TRENTON	NO	2020	CONSERVATION, WATER LOSS CONTROL - TRENTON	WATER LOSS CONTROL	$1,908
TRENTON	NO	2030	TRENTON - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$1,341,000
TRINIDAD	NO	2020	CONSERVATION, WATER LOSS CONTROL - TRINIDAD	WATER LOSS CONTROL	$5,961
TROPHY CLUB MUD 1	YES	2020	CONSERVATION, WATER LOSS CONTROL - TROPHY CLUB	WATER LOSS CONTROL	$1,042,999
TWO WAY SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - TWO WAY SUD	WATER LOSS CONTROL	$39,344
UNIVERSITY PARK	NO	2020	CONSERVATION, WATER LOSS CONTROL - UNIVERSITY PARK	WATER LOSS CONTROL	$4,677,554

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
UPPER TRINITY REGIONAL WD	YES	2050	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	$403,904,000
UPPER TRINITY REGIONAL WD	YES	2030	UTRWD - ADDITIONAL DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$17,959,000
UPPER TRINITY REGIONAL WD	YES	2030	UTRWD - LAKE RALPH HALL AND REUSE	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION	$443,091,000
UPPER TRINITY REGIONAL WD	YES	2020	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2020-2030	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$176,357,000
UPPER TRINITY REGIONAL WD	YES	2030	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2030-2040	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$114,683,000
UPPER TRINITY REGIONAL WD	YES	2040	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2040-2050	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$169,963,000
UPPER TRINITY REGIONAL WD	YES	2050	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$131,578,000
UPPER TRINITY REGIONAL WD	YES	2060	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2060-2070	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$131,578,000
UPPER TRINITY REGIONAL WD	YES	2070	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT	$149,844,000
VAN ALSTYNE	NO	2020	CONSERVATION, WATER LOSS CONTROL - VAN ALSTYNE	WATER LOSS CONTROL	$41,490
VAN ALSTYNE	NO	2040	VAN ALSTYNE - WATER SYSTEM IMPROVEMENTS	PUMP STATION; STORAGE TANK	$2,844,000
VERONA SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - VERONA SUD	WATER LOSS CONTROL	$15,102
VERONA SUD	NO	2030	VERONA SUD - NEW WELL(S) IN WOODBINE AQUIFER	SINGLE WELL	$2,163,000
VIRGINIA HILL WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - VIRGINIA HILL WSC	WATER LOSS CONTROL	$6,596
WALNUT CREEK SUD	YES	2020	CONSERVATION, WATER LOSS CONTROL - WALNUT CREEK SUD	WATER LOSS CONTROL	$76,702
WALNUT CREEK SUD	YES	2020	WALNUT CREEK SUD - 6 MGD WTP EXPANSION	NEW WATER TREATMENT PLANT	$36,582,000
WALNUT CREEK SUD	YES	2060	WALNUT CREEK SUD - NEW 7 MGD WTP-EAGLE MOUNTAIN	NEW WATER TREATMENT PLANT	$42,167,000
WATAUGA	NO	2020	CONSERVATION, WATER LOSS CONTROL - WATAUGA	WATER LOSS CONTROL	$451,306
WATAUGA	NO	2030	WATAUGA - ADDITIONAL DELIVERY INFRASTRUCTURE NORTH RICHLAND HILLS/FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$1,960,000
WAXAHACHIE	YES	2020	CONSERVATION, WATER LOSS CONTROL - WAXAHACHIE	WATER LOSS CONTROL	$1,754,083
WAXAHACHIE	YES	2070	WAXAHACHIE - 12 MGD WTP EXPANSION-HOWARD ROAD	WATER TREATMENT PLANT EXPANSION	$68,069,000
WAXAHACHIE	YES	2030	WAXAHACHIE - 30" RAW WATER LINE FROM IPL TO HOWARD ROAD WTP	CONVEYANCE/TRANSMISSION PIPELINE	$4,343,000
WAXAHACHIE	YES	2030	WAXAHACHIE - 36" RAW WATER LINE FROM IPL TO LAKE WAXAHACHIE	CONVEYANCE/TRANSMISSION PIPELINE	$1,302,000
WAXAHACHIE	YES	2030	WAXAHACHIE - 36" RAW WATER LINE FROM LAKE WAXAHACHIE TO HOWARD RD WTP	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$6,461,000
WAXAHACHIE	YES	2030	WAXAHACHIE - 48" TRWD PARALLEL SUPPLY LINE TO SOKOLL WTP	CONVEYANCE/TRANSMISSION PIPELINE	$3,954,000
WAXAHACHIE	YES	2050	WAXAHACHIE - 8 MGD WTP EXPANSION-HOWARD ROAD	WATER TREATMENT PLANT EXPANSION	$47,735,000
WAXAHACHIE	YES	2040	WAXAHACHIE - DREDGE LAKE WAXAHACHIE	DREDGE TO RECOVER CAPACITY	$37,120,000
WAXAHACHIE	YES	2030	WAXAHACHIE - INCREASE DELIVERY INFRASTRUCTURE TO ROCKETT SUD	CONVEYANCE/TRANSMISSION PIPELINE	$14,096,000
WAXAHACHIE	YES	2030	WAXAHACHIE - PHASE I DELIVERY INFRASTRUCTURE TO CUSTOMERS IN SOUTH ELLIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$16,338,000
WAXAHACHIE	YES	2050	WAXAHACHIE - PHASE II DELIVERY INFRASTRUCTURE TO CUSTOMERS IN SOUTH ELLIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$26,982,000
WAXAHACHIE	YES	2030	WAXAHACHIE - RAW WATER INTAKE IMPROVEMENTS AT LAKE BARDWELL	PUMP STATION	$4,400,000
WEATHERFORD	YES	2020	CONSERVATION, WATER LOSS CONTROL - WEATHERFORD	WATER LOSS CONTROL	$3,853,135
WEATHERFORD	YES	2050	WEATHERFORD - 14 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$77,267,000
WEATHERFORD	YES	2060	WEATHERFORD - 18 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$95,609,000

Region C Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
WEATHERFORD	YES	2020	WEATHERFORD - 8 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$47,753,000
WEATHERFORD	YES	2020	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$14,840,000
WEATHERFORD	YES	2030	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	$486,000
WEATHERFORD	YES	2020	WEATHERFORD - EXPAND LAKE BENBROOK PUMP STATION	PUMP STATION	$2,299,000
WEST CEDAR CREEK MUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - WEST CEDAR CREEK MUD	WATER LOSS CONTROL	$58,343
WEST LEONARD WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - WEST LEONARD WSC	WATER LOSS CONTROL	$11,752
WEST WISE SUD	YES	2020	CONSERVATION, WATER LOSS CONTROL - WEST WISE SUD	WATER LOSS CONTROL	$32,789
WEST WISE SUD	YES	2050	WEST WISE SUD - 1.5 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$10,015,000
WESTLAKE	NO	2020	CONSERVATION, WATER LOSS CONTROL - WESTLAKE	WATER LOSS CONTROL	$42,776
WESTMINSTER WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - WESTMINSTER WSC	WATER LOSS CONTROL	$16,477
WESTOVER HILLS	NO	2020	CONSERVATION, WATER LOSS CONTROL - WESTOVER HILLS	WATER LOSS CONTROL	$295,923
WESTWORTH VILLAGE	NO	2020	CONSERVATION, WATER LOSS CONTROL - WESTWORTH VILLAGE	WATER LOSS CONTROL	$62,467
WHITE SETTLEMENT	NO	2020	CONSERVATION, WATER LOSS CONTROL - WHITE SETTLEMENT	WATER LOSS CONTROL	$53,447
WHITE SHED WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - WHITE SHED WSC	WATER LOSS CONTROL	$14,466
WHITE SHED WSC	NO	2030	WHITE SHED WSC - NEW WELL(S) IN WOODBINE AQUIFER	MULTIPLE WELLS/WELL FIELD	$6,299,000
WHITESBORO	NO	2020	CONSERVATION, WATER LOSS CONTROL - WHITESBORO	WATER LOSS CONTROL	$44,649
WHITEWRIGHT	NO	2020	CONSERVATION, WATER LOSS CONTROL - WHITEWRIGHT	WATER LOSS CONTROL	$21,871
WILLOW PARK	NO	2020	CONSERVATION, WATER LOSS CONTROL - WILLOW PARK	WATER LOSS CONTROL	$63,875
WILLOW PARK	NO	2020	WILLOW PARK - CONNECT TO FORT WORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$4,017,000
WILMER	NO	2020	CONSERVATION, WATER LOSS CONTROL - WILMER	WATER LOSS CONTROL	$13,132
WILMER	NO	2070	WILMER - DIRECT CONNECTION TO DALLAS (36" TRANSMISSION LINE)	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK	$18,621,000
WILMER	NO	2020	WILMER - INCREASE CAPACITY OF CONNECTION WITH LANCASTER	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK	$5,280,000
WISE COUNTY WSD	YES	2020	WISE COUNTY WSD - 9 MGD WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$53,339,000
WOODBINE WSC	NO	2020	CONSERVATION, WATER LOSS CONTROL - WOODBINE WSC	WATER LOSS CONTROL	$27,709
WORTHAM	NO	2020	CONSERVATION, WATER LOSS CONTROL - WORTHAM	WATER LOSS CONTROL	$8,939
WYLIE	YES	2020	CONSERVATION, WATER LOSS CONTROL - WYLIE	WATER LOSS CONTROL	$462,569
WYLIE NORTHEAST SUD	NO	2020	CONSERVATION, WATER LOSS CONTROL - WYLIE NORTHEAST SUD	WATER LOSS CONTROL	$175,408
WYLIE NORTHEAST SUD	NO	2030	WYLIE NORTHEAST SUD - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	STORAGE TANK; NEW SURFACE WATER INTAKE	$5,731,000

REGION C RECOMMENDED CAPITAL COST TOTAL	**$29,931,548,107**

Region C Alternative Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
ATHENS*	C	ALTERNATIVE - ATHENS - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C | CARRIZO-WILCOX AQUIFER | HENDERSON COUNTY	$929	$414	1,238	1,239	1,240	1,240	1,249	1,252
ATHENS*	I	AMWA-BSI-WTP BOOSTER PS IMPROVEMENT	I | ATHENS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
B H P WSC*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	N/A	$1550	0	12	22	32	45	59
CADDO BASIN SUD*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	$1711	$1486	2	48	91	161	256	364
CASH SUD*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	N/A	$1470	0	0	31	49	61	25
COUNTY-OTHER, TARRANT	C	ALTERNATIVE - DFW AIRPORT SUPPLY FROM EULESS	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	$3	0	1,000	1,000	2,000	2,000	2,000
EULESS	C	ALTERNATIVE - EULESS ADDITIONAL PURCHASE FROM TRA	C | TRWD LAKE/RESERVOIR SYSTEM	$4	$4	2,106	2,106	2,106	2,106	2,106	2,106
GRAPEVINE	C	ALTERNATIVE - GRAPEVINE PURCHASE FROM DALLAS COUNTY PARK CITIES MUD	C | GRAPEVINE LAKE/RESERVOIR NON-SYSTEM PORTION	$3	$3	5,000	5,000	5,000	5,000	5,000	4,852
HICKORY CREEK SUD*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	$1924	$1525	8	19	30	44	60	83
IRRIGATION, HENDERSON*	I	AMWA-BSI-WTP BOOSTER PS IMPROVEMENT	I | ATHENS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
JOHNSON COUNTY SUD*	G	TRINITY - JOHNSON COUNTY ASR	G | TRINITY AQUIFER ASR | JOHNSON COUNTY	N/A	$244	0	361	361	361	361	360
LIVESTOCK, HENDERSON*	I	AMWA-BSI-WTP BOOSTER PS IMPROVEMENT	I | ATHENS LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
M E N WSC	C	ALTERNATIVE - M E N WSC - RO OF BRACKISH GROUNDWATER	C | WOODBINE AQUIFER | NAVARRO COUNTY	N/A	N/A	0	0	0	0	0	0
M E N WSC	C	ALTERNATIVE - M E N WSC RAW SURFACE WATER FROM ADDITIONAL SOURCE	C | TRWD LAKE/RESERVOIR SYSTEM	$14	$6	250	250	250	250	250	250
MANUFACTURING, GRAYSON	C	ALTERNATIVE - DIRECT REUSE FROM SHERMAN	C | DIRECT NON-POTABLE REUSE	$4	$1	561	561	561	561	561	561
MIDLOTHIAN	C	ALTERNATIVE - MIDLOTHIAN - DIRECT POTABLE REUSE (MOUNTAIN CREEK WWTP EFFLUENT)	C | DIRECT NON-POTABLE REUSE	$1771	$1226	1,121	2,242	3,363	4,484	5,605	5,605
MIDLOTHIAN	C	ALTERNATIVE - MIDLOTHIAN - PURCHASE DUNCANVILLE'S JOE POOL YIELD	C | JOE POOL LAKE/RESERVOIR	$651	$467	613	734	855	976	961	939

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Alternative Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
NORTH HUNT SUD*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	$2078	$1541	11	17	23	29	36	42
POETRY WSC*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	N/A	$1549	0	19	32	57	94	145
ROCKETT SUD	C	ALTERNATIVE - ROCKETT SUD - CONNECT AND PURCHASE TREATED WATER FROM DALLAS	C | JOE POOL LAKE/RESERVOIR	N/A	N/A	0	0	0	0	0	0
ROCKETT SUD	C	ALTERNATIVE - ROCKETT SUD - CONNECT AND PURCHASE TREATED WATER FROM DALLAS	C | TRWD LAKE/RESERVOIR SYSTEM	N/A	N/A	0	0	0	0	0	0
WOLFE CITY*	D	ALT WOOD COUNTY PIPELINE	D | CARRIZO-WILCOX AQUIFER | WOOD COUNTY	N/A	$1679	0	0	0	3	8	15
REGION C ALTERNATIVE WMS SUPPLY TOTAL						10,910	13,608	14,965	17,353	18,653	18,658

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region C Alternative Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
ATHENS	YES	2020	ATHENS - ALTERNATIVE NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	MULTIPLE WELLS/WELL FIELD	$9,207,000
CORSICANA	YES	2050	CORSICANA - ALTERNATIVE NAVARRO MILLS WTP EXPANSION	WATER TREATMENT PLANT EXPANSION	$25,951,000
COUNTY-OTHER, TARRANT	YES	2030	ALTERNATIVE - DFW AIRPORT SUPPLY FROM EULESS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$6,417,000
DALLAS	YES	2020	DWU - ALTERNATIVE CARRIZO-WILCOX GROUNDWATER	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; PUMP STATION; STORAGE TANK	$40,094,000
DALLAS	YES	2020	DWU - ALTERNATIVE DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	$185,710,000
DALLAS	YES	2020	DWU - ALTERNATIVE LAKE TEXOMA DESALINATION	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	$1,429,468,000
DALLAS	YES	2060	DWU - ALTERNATIVE RED RIVER OFF-CHANNEL RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$963,458,000
DALLAS	YES	2020	DWU - ALTERNATIVE SABINE CONJUNCTIVE SYSTEM OPERATIONS	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW SURFACE WATER INTAKE; PUMP STATION; STORAGE TANK; RESERVOIR CONSTRUCTION	$911,690,000
DALLAS	YES	2050	MARVIN NICHOLS (328) ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$1,092,760,000
DALLAS	YES	2070	TOLEDO BEND ALTERNATIVE TO DWU, TRWD, NTMWD AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$2,010,393,000
DALLAS	YES	2070	WRIGHT PATMAN REALLOCATION ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	NEW AGREEMENT; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK	$397,470,000
GAINESVILLE	YES	2020	GAINESVILLE - ALTERNATIVE LAKE TEXOMA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	$125,017,000
GREATER TEXOMA UTILITY AUTHORITY	YES	2020	GTUA - ALTERNATIVE GRAYSON COUNTY WATER SUPPLY PROJECT	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	$657,965,000
IRVING	YES	2030	IRVING - ALTERNATIVE MAIN STEM BALANCING RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK NEW SURFACE WATER INTAKE	$127,849,000
IRVING	YES	2070	IRVING - ALTERNATIVE OKLAHOMA (LAKE HUGO)	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION	$272,248,000
IRVING	YES	2050	MARVIN NICHOLS (328) ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$180,439,000
IRVING	YES	2070	WRIGHT PATMAN REALLOCATION ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	NEW AGREEMENT; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK	$49,834,000
M E N WSC	YES	2020	ALTERNATIVE - M E N WSC RAW SURFACE WATER FROM ADDITIONAL SOURCE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$10,631,000
M E N WSC	YES	2020	M E N WSC - ALTERNATIVE RO OF BRACKISH GROUNDWATER	MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT	$7,370,000
MANUFACTURING, GRAYSON	YES	2020	ALTERNATIVE - DIRECT REUSE FROM SHERMAN	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$8,289,000
MIDLOTHIAN	YES	2020	MIDLOTHIAN - ALTERNATIVE - DIRECT POTABLE REUSE (MOUNTAIN CREEK WWTP EFFLUENT)	NEW WATER TREATMENT PLANT	$43,395,000
MIDLOTHIAN	YES	2020	MIDLOTHIAN - ALTERNATIVE - PURCHASE DUNCANVILLE'S JOE POOL YIELD	NEW SURFACE WATER INTAKE	$2,947,000
MUENSTER	YES	2020	MUENSTER - ALTERNATIVE CONNECT TO GAINESVILLE	CONVEYANCE/TRANSMISSION PIPELINE	$4,355,000
NORTH TEXAS MWD	YES	2020	ALTERNATIVE - NTMWD - ASR	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; PUMP STATION	$6,041,000
NORTH TEXAS MWD	YES	2050	MARVIN NICHOLS (328) ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$1,230,629,000
NORTH TEXAS MWD	YES	2020	NTMWD - ALTERNATIVE FREESTONE/ANDERSON COUNTY GROUNDWATER	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; PUMP STATION; STORAGE TANK	$607,023,000
NORTH TEXAS MWD	YES	2050	NTMWD - ALTERNATIVE GEORGE PARKHOUSE RESERVOIR (NORTH)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; NEW SURFACE WATER INTAKE; STORAGE TANK	$930,193,000

Region C Alternative Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
NORTH TEXAS MWD	YES	2050	NTMWD - ALTERNATIVE GEORGE PARKHOUSE RESERVOIR (SOUTH)	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION	$1,176,874,000
NORTH TEXAS MWD	YES	2030	NTMWD - ALTERNATIVE LAKE OF THE PINES	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; STORAGE TANK	$567,896,000
NORTH TEXAS MWD	YES	2020	NTMWD - ALTERNATIVE LAKE TEXOMA DESAL AT LEONARD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$880,563,000
NORTH TEXAS MWD	YES	2070	NTMWD - ALTERNATIVE TOLEDO BEND	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION	$1,663,942,000
NORTH TEXAS MWD	YES	2070	TOLEDO BEND ALTERNATIVE TO DWU, TRWD, NTMWD AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$1,663,942,000
NORTH TEXAS MWD	YES	2070	WRIGHT PATMAN REALLOCATION ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	NEW AGREEMENT; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK	$534,229,000
ROCKETT SUD	YES	2020	ROCKETT SUD - ALTERNATIVE CONNECT AND PURCHASE TREATED WATER FROM DALLAS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$45,457,000
TARRANT REGIONAL WD	YES	2050	MARVIN NICHOLS (328) ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$1,718,179,000
TARRANT REGIONAL WD	YES	2070	TOLEDO BEND ALTERNATIVE TO DWU, TRWD, NTMWD AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$2,246,057,000
TARRANT REGIONAL WD	YES	2070	WRIGHT PATMAN REALLOCATION ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	NEW AGREEMENT; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK	$559,629,000
UPPER TRINITY REGIONAL WD	YES	2050	ALTERNATIVE - UTRWD - GEORGE PARKHOUSE NORTH	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$469,733,000
UPPER TRINITY REGIONAL WD	YES	2050	ALTERNATIVE - UTRWD - GEORGE PARKHOUSE SOUTH	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER RIGHT/PERMIT NON-EXEMPT IBT; RESERVOIR CONSTRUCTION; PUMP STATION; STORAGE TANK	$549,322,000
UPPER TRINITY REGIONAL WD	YES	2060	ALTERNATIVE - UTRWD - RED RIVER OFF-CHANNEL RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; DIVERSION AND CONTROL STRUCTURE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$126,771,000
UPPER TRINITY REGIONAL WD	YES	2050	MARVIN NICHOLS (328) ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; STORAGE TANK	$295,944,000
UPPER TRINITY REGIONAL WD	YES	2070	TOLEDO BEND ALTERNATIVE TO DWU, TRWD, NTMWD AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	$1,058,650,000
UPPER TRINITY REGIONAL WD	YES	2020	UTRWD - ALTERNATIVE ADDITIONAL REUSE	CONVEYANCE/TRANSMISSION PIPELINE	$1,750,000
UPPER TRINITY REGIONAL WD	YES	2020	UTRWD - ALTERNATIVE LAKE TEXOMA	NEW SURFACE WATER INTAKE; NEW WATER RIGHT/PERMIT NO IBT; PUMP STATION; RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE	$270,614,000
UPPER TRINITY REGIONAL WD	YES	2020	UTRWD - ALTERNATIVE OKLAHOMA WATER	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION	$150,183,000
UPPER TRINITY REGIONAL WD	YES	2070	WRIGHT PATMAN REALLOCATION ALTERNATIVE FOR NTMWD, TRWD, UTRWD, DWU, AND IRVING	NEW AGREEMENT; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK	$103,292,000

REGION C ALTERNATIVE CAPITAL COST TOTA	**$25,419,870,000**

Region C Water User Group (WUG) Management Supply Factor

WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. To calculate the Management Supply Factor for each WUG as a whole, not split by region-county-basin, the combined total of existing and future supply is divided by the total projected demand. If a WUG is split by more than one planning region, the whole WUG's management supply factor will show up in each of its planning region's management supply factor reports.

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
ABLES SPRINGS WSC*	1.0	1.0	1.0	1.0	1.0	1.0
ADDISON	1.0	1.0	1.0	1.0	1.0	1.0
ALEDO	1.0	1.0	1.0	1.0	1.1	1.1
ALLEN	1.1	1.0	1.0	1.0	1.0	1.0
ALVORD	1.0	1.0	1.0	1.0	1.0	1.0
ANNA	1.2	1.4	1.2	1.2	1.1	1.1
ANNETTA	1.8	2.0	1.7	1.5	1.4	1.3
ARGYLE WSC	1.1	1.1	1.1	1.1	1.1	1.1
ARLEDGE RIDGE WSC	1.2	1.1	2.7	2.1	1.4	1.0
ARLINGTON	1.0	1.0	1.0	1.0	1.0	1.0
ATHENS*	1.0	1.1	1.1	1.1	1.0	1.0
AUBREY	1.0	1.2	1.2	1.3	1.3	1.2
AVALON WATER SUPPLY & SEWER SERVICE	1.0	1.0	1.0	1.0	1.0	1.0
AZLE	1.0	1.0	1.0	1.0	1.0	1.0
B AND B WSC	1.0	1.0	1.0	1.0	1.0	1.0
B B S WSC*	1.0	1.0	1.0	1.0	1.0	1.0
B H P WSC*	1.0	1.0	1.0	1.0	1.0	1.0
BALCH SPRINGS	1.0	1.0	1.0	1.0	1.0	1.0
BEAR CREEK SUD	1.0	1.0	1.0	1.0	1.0	1.0
BECKER JIBA WSC	1.0	1.0	1.0	1.0	1.0	1.0
BEDFORD	1.1	1.0	1.0	1.0	1.0	1.0
BELLS	1.6	1.7	1.6	1.6	1.2	1.2
BENBROOK WATER AUTHORITY	1.0	1.0	1.0	1.0	1.0	1.0
BETHEL ASH WSC*	1.9	1.7	1.5	1.4	1.3	1.2
BETHESDA WSC*	1.0	1.0	1.1	1.1	1.1	1.1
BLACK ROCK WSC	1.6	1.3	1.1	1.0	1.0	1.0
BLACKLAND WSC*	1.0	1.0	1.0	1.0	1.0	1.0
BLOOMING GROVE	1.0	1.0	1.0	1.0	1.0	1.0
BLUE RIDGE	1.0	1.5	1.1	1.0	1.0	1.0
BOIS D ARC MUD	1.0	1.0	1.0	1.0	1.0	1.0
BOLIVAR WSC	1.4	2.1	1.9	1.8	1.6	1.5
BONHAM	1.0	1.0	1.0	1.0	1.0	1.0
BOYD	1.0	1.0	1.0	1.0	1.0	1.0
BRANDON IRENE WSC*	1.6	1.6	1.5	1.4	1.4	1.3
BRIDGEPORT	1.0	1.0	1.0	1.0	1.0	1.0
BUENA VISTA-BETHEL SUD	1.0	1.0	1.0	1.0	1.0	1.0
BURLESON*	1.0	1.0	1.0	1.0	1.0	1.0
BUTLER WSC	1.0	1.0	1.1	1.1	1.1	1.1
CADDO BASIN SUD*	1.0	1.0	1.0	1.0	1.0	1.0
CALLISBURG WSC	1.0	1.0	1.0	1.1	1.1	1.1
CARROLLTON	1.0	1.0	1.0	1.0	1.0	1.0
CASH SUD*	1.2	1.1	1.0	1.0	1.0	1.1
CEDAR HILL	1.0	1.0	1.0	1.0	1.0	1.0
CELINA	1.1	1.6	1.4	1.4	1.3	1.3

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Region C Water User Group (WUG) Management Supply Factor

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	2020	2030	2040	2050	2060	2070
CHATFIELD WSC	1.0	1.0	1.0	1.0	1.0	1.0
CHICO	1.0	1.0	1.0	1.0	1.0	1.0
COCKRELL HILL	1.0	1.0	1.0	1.0	1.0	1.0
COLLEGE MOUND WSC	1.0	1.0	1.0	1.0	1.0	1.0
COLLEYVILLE	1.0	1.0	1.0	1.0	1.0	1.0
COLLINSVILLE	1.1	1.0	1.0	1.0	1.0	1.0
COMBINE WSC	1.0	1.0	1.0	1.0	1.0	1.0
COMMUNITY WSC	1.0	1.0	1.0	1.0	1.0	1.0
COPEVILLE SUD	1.0	1.0	1.0	1.0	1.0	1.0
COPPELL	1.0	1.0	1.0	1.0	1.0	1.0
CORBET WSC	1.0	1.0	1.0	1.0	1.0	1.0
CORINTH	1.0	1.0	1.0	1.0	1.0	1.0
CORSICANA	1.0	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, COLLIN	1.0	1.9	2.8	2.8	1.9	1.6
COUNTY-OTHER, COOKE	1.2	1.1	1.0	1.0	1.0	1.0
COUNTY-OTHER, DALLAS	1.0	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, DENTON	3.1	2.6	2.4	1.5	1.2	1.1
COUNTY-OTHER, ELLIS	1.8	3.6	2.8	1.3	1.2	1.1
COUNTY-OTHER, FANNIN	1.0	1.3	1.3	1.2	1.1	1.1
COUNTY-OTHER, FREESTONE	2.2	2.3	2.6	2.9	1.8	1.3
COUNTY-OTHER, GRAYSON	2.2	4.1	7.1	6.4	2.0	1.4
COUNTY-OTHER, HENDERSON*	1.0	1.0	1.1	1.1	1.4	2.0
COUNTY-OTHER, JACK	1.1	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, KAUFMAN	1.4	1.2	1.2	1.2	1.0	1.0
COUNTY-OTHER, NAVARRO	1.8	1.5	1.4	1.3	1.3	1.1
COUNTY-OTHER, PARKER	1.0	1.0	1.2	1.0	1.0	1.0
COUNTY-OTHER, ROCKWALL	1.0	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, TARRANT	1.0	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, WISE	1.0	1.0	1.0	1.0	1.0	1.0
CRANDALL	1.0	1.0	1.0	1.0	1.0	1.0
CRESCENT HEIGHTS WSC	1.8	1.8	1.7	1.6	1.3	1.0
CROSS TIMBERS WSC	1.2	1.1	1.1	1.1	1.1	1.1
CROWLEY*	1.0	1.0	1.0	1.0	1.0	1.0
CULLEOKA WSC	1.0	1.0	1.0	1.0	1.0	1.0
DALLAS	1.0	1.0	1.0	1.0	1.0	1.0
DALWORTHINGTON GARDENS	1.0	1.0	1.0	1.0	1.0	1.0
DAWSON	1.0	1.0	1.0	1.0	1.0	1.0
DECATUR	1.0	1.0	1.0	1.0	1.0	1.0
DELTA COUNTY MUD*	1.0	1.0	1.0	1.0	1.0	1.0
DENISON	1.0	1.0	1.0	1.0	1.0	1.0
DENTON	1.3	1.1	1.0	1.0	1.0	1.0
DENTON COUNTY FWSD 10	1.0	1.0	1.0	1.0	1.0	1.0
DENTON COUNTY FWSD 1-A	1.0	1.0	1.0	1.0	1.0	1.0
DENTON COUNTY FWSD 7	1.0	1.0	1.0	1.0	1.0	1.0
DESERT WSC	1.8	1.7	1.6	1.3	1.0	1.0
DESOTO	1.0	1.0	1.0	1.0	1.0	1.0
DOGWOOD ESTATES WATER	1.1	1.0	1.0	1.0	1.0	1.0
DORCHESTER	1.6	2.3	2.2	2.1	2.0	1.8

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Region C Water User Group (WUG) Management Supply Factor

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
DUNCANVILLE	1.0	1.0	1.0	1.0	1.0	1.0
EAST CEDAR CREEK FWSD	1.0	1.0	1.0	1.0	1.0	1.0
EAST FORK SUD	1.0	1.0	1.0	1.0	1.0	1.0
EAST GARRETT WSC	1.0	1.0	1.0	1.0	1.0	1.0
EDGECLIFF	1.0	1.0	1.0	1.0	1.0	1.0
ELMO WSC	1.0	1.0	1.0	1.0	1.0	1.0
ENNIS	1.0	1.1	1.4	1.4	1.0	1.0
EULESS	1.0	1.0	1.0	1.0	1.0	1.0
EUSTACE	1.3	1.2	1.1	1.0	1.0	1.0
EVERMAN	1.0	1.0	1.1	1.1	1.1	1.1
FAIRFIELD	1.2	1.2	1.1	1.0	1.0	1.0
FAIRVIEW	1.0	1.0	1.0	1.0	1.0	1.0
FARMERS BRANCH	1.0	1.0	1.0	1.0	1.0	1.0
FARMERSVILLE	1.0	1.0	1.0	1.0	1.0	1.0
FATE	1.0	1.0	1.0	1.0	1.0	1.0
FERRIS	1.0	1.0	1.0	1.0	1.0	1.0
FILES VALLEY WSC*	2.3	2.5	2.3	2.1	1.9	1.7
FLO COMMUNITY WSC*	1.0	1.1	1.1	1.1	1.2	1.2
FLOWER MOUND	1.0	1.0	1.0	1.0	1.0	1.0
FOREST HILL	1.0	1.0	1.0	1.0	1.0	1.0
FORNEY	1.0	1.0	1.0	1.0	1.0	1.0
FORNEY LAKE WSC	1.0	1.0	1.0	1.0	1.0	1.0
FORT WORTH*	1.1	1.0	1.0	1.0	1.0	1.0
FRISCO	1.1	1.0	1.0	1.0	1.0	1.0
FROGNOT WSC*	2.1	1.9	1.6	1.3	1.1	1.0
GAINESVILLE	1.0	1.6	3.0	2.9	2.6	2.1
GARLAND	1.1	1.0	1.0	1.0	1.0	1.0
GASTONIA SCURRY SUD	1.0	1.0	1.0	1.0	1.0	1.0
GLENN HEIGHTS	1.0	1.0	1.0	1.0	1.0	1.0
GRAND PRAIRIE	1.1	1.1	1.0	1.0	1.0	1.0
GRAPEVINE	1.0	1.0	1.0	1.0	1.0	1.0
GUNTER	1.8	2.3	5.8	4.7	3.8	3.3
HACKBERRY	1.1	1.0	1.0	1.0	1.0	1.0
HALTOM CITY	1.1	1.0	1.0	1.0	1.0	1.0
HASLET	1.0	1.1	1.0	1.0	1.0	1.0
HEATH	1.0	1.0	1.0	1.0	1.0	1.0
HICKORY CREEK SUD*	0.8	0.6	0.4	0.3	0.2	0.1
HIGH POINT WSC	1.0	1.0	1.0	1.0	1.0	1.0
HIGHLAND PARK	1.0	1.1	1.1	1.1	1.1	1.1
HIGHLAND VILLAGE	1.1	1.0	1.1	1.1	1.1	1.1
HILCO UNITED SERVICES*	1.3	1.2	1.2	1.1	1.1	1.0
HONEY GROVE	1.0	2.0	2.1	2.1	2.1	2.1
HORSESHOE BEND WATER SYSTEM	2.9	2.4	2.1	1.7	1.3	1.0
HOWE	1.0	1.0	1.0	1.0	1.0	1.0
HUDSON OAKS	1.0	1.0	1.0	1.0	1.0	1.0
HURST	1.0	1.0	1.0	1.0	1.0	1.0
HUTCHINS	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, COLLIN	1.8	1.8	1.8	1.8	1.8	1.8

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Region C Water User Group (WUG) Management Supply Factor

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	2020	2030	2040	2050	2060	2070
IRRIGATION, COOKE	1.1	1.1	1.1	1.1	1.0	1.0
IRRIGATION, DALLAS	1.4	1.4	1.4	1.4	1.4	1.4
IRRIGATION, DENTON	1.6	1.8	2.0	2.4	2.4	2.4
IRRIGATION, ELLIS	0.5	0.5	0.5	0.5	0.5	0.5
IRRIGATION, FANNIN	0.8	0.8	0.8	0.8	0.8	0.8
IRRIGATION, FREESTONE	1.2	1.2	1.2	1.2	1.2	1.2
IRRIGATION, GRAYSON	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, HENDERSON*	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, JACK	2.0	1.9	1.9	1.9	1.9	1.9
IRRIGATION, KAUFMAN	2.6	3.0	3.3	3.4	3.4	3.4
IRRIGATION, NAVARRO	3.0	3.0	3.0	3.0	3.0	3.0
IRRIGATION, PARKER	1.1	1.1	1.2	1.4	1.4	1.4
IRRIGATION, ROCKWALL	4.4	4.4	4.4	4.4	4.4	4.4
IRRIGATION, TARRANT	1.4	1.4	1.4	1.4	1.4	1.4
IRRIGATION, WISE	1.0	1.0	1.0	1.0	1.0	1.0
IRVING	1.0	1.2	1.1	1.1	1.1	1.1
ITALY	1.0	1.0	1.0	1.0	1.0	1.0
JACKSBORO	1.0	1.0	1.0	1.0	1.0	1.0
JOHNSON COUNTY SUD*	1.0	1.6	2.0	1.8	1.8	1.7
JOSEPHINE*	1.0	1.0	1.0	1.0	1.0	1.0
JUSTIN	1.0	1.0	1.1	1.1	1.1	1.1
KAUFMAN	1.0	1.0	1.0	1.0	1.0	1.0
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	1.0	1.0	1.0	1.0	1.0	1.0
KAUFMAN COUNTY MUD 11	1.0	1.0	1.0	1.0	1.0	1.0
KELLER	1.1	1.0	1.0	1.0	1.0	1.0
KEMP	1.0	1.0	1.0	1.0	1.0	1.0
KENNEDALE	1.0	1.0	1.0	1.0	1.0	1.0
KENTUCKYTOWN WSC	1.0	1.0	1.0	1.0	1.0	1.0
KERENS	1.0	1.0	1.0	1.0	1.0	1.0
KRUM	1.1	1.0	1.1	1.1	1.1	1.1
LADONIA	1.0	1.1	1.2	1.2	1.2	1.2
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	1.0	1.0	1.0	1.0	1.0	1.0
LAKE KIOWA SUD	1.1	2.0	2.0	2.0	1.9	1.9
LAKE WORTH	1.0	1.0	1.0	1.0	1.0	1.0
LAKESIDE	1.0	1.0	1.0	1.0	1.0	1.0
LANCASTER	1.0	1.0	1.0	1.0	1.0	1.0
LEONARD	1.0	1.9	1.9	1.9	1.9	1.8
LEWISVILLE	1.0	1.0	1.0	1.0	1.0	1.0
LINDSAY	1.0	1.0	1.0	1.0	1.0	1.0
LITTLE ELM	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, COLLIN	1.1	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, COOKE	1.1	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, DALLAS	1.1	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, DENTON	1.8	1.8	1.8	1.8	1.8	1.8
LIVESTOCK, ELLIS	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, FANNIN	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, FREESTONE	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, GRAYSON	1.1	1.1	1.1	1.1	1.1	1.1

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Region C Water User Group (WUG) Management Supply Factor

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	2020	2030	2040	2050	2060	2070
LIVESTOCK, HENDERSON*	2.2	2.2	2.2	2.2	2.0	1.8
LIVESTOCK, JACK	1.2	1.2	1.2	1.2	1.2	1.2
LIVESTOCK, KAUFMAN	1.1	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, NAVARRO	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, PARKER	1.3	1.3	1.3	1.3	1.3	1.3
LIVESTOCK, ROCKWALL	1.1	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, TARRANT	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, WISE	1.3	1.3	1.3	1.3	1.3	1.3
LUCAS	1.1	1.0	1.0	1.0	1.0	1.0
LUELLA SUD	1.0	1.0	1.0	1.0	1.0	1.0
M E N WSC	1.0	1.0	1.0	1.0	1.0	1.0
MABANK*	1.0	1.0	1.0	1.0	1.0	1.0
MACBEE SUD*	1.2	1.1	1.1	1.1	1.1	1.1
MALAKOFF	1.0	1.0	1.0	1.0	1.0	1.0
MANSFIELD*	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, COLLIN	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, COOKE	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, DALLAS	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, DENTON	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, ELLIS	1.1	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, FANNIN	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, FREESTONE	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, GRAYSON	1.2	1.2	1.2	1.2	1.2	1.2
MANUFACTURING, HENDERSON	1.1	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, JACK	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, KAUFMAN	1.1	1.1	1.1	1.1	1.1	1.1
MANUFACTURING, NAVARRO	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, PARKER	1.2	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, ROCKWALL	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, TARRANT	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, WISE	1.1	1.0	1.0	1.0	1.0	1.0
MARILEE SUD	1.0	2.2	2.3	2.3	2.3	2.2
MARKOUT WSC	1.0	1.0	1.0	1.0	1.0	1.0
MCKINNEY	1.1	1.0	1.0	1.0	1.0	1.0
MELISSA	1.0	1.3	1.2	1.2	1.1	1.1
MESQUITE	1.1	1.0	1.0	1.0	1.0	1.0
MIDLOTHIAN	1.5	2.3	2.4	2.3	2.2	2.1
MILLIGAN WSC	1.0	1.0	1.0	1.0	1.0	1.0
MINERAL WELLS*	0.9	1.0	1.0	1.0	1.0	1.0
MINING, COOKE	1.0	1.0	1.0	1.0	1.0	1.0
MINING, DALLAS	1.2	1.3	1.6	1.9	1.9	1.9
MINING, DENTON	1.0	1.2	1.2	1.2	1.3	1.2
MINING, ELLIS	1.0	1.0	1.0	1.0	1.0	1.0
MINING, FANNIN	0.1	0.2	0.6	0.6	0.6	0.6
MINING, FREESTONE	0.2	0.2	0.2	0.2	0.2	0.2
MINING, GRAYSON	1.0	1.5	2.9	2.5	2.2	1.9
MINING, HENDERSON*	1.1	1.0	1.0	1.0	1.1	1.1
MINING, JACK	1.1	1.1	1.1	1.1	1.1	1.1

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Region C Water User Group (WUG) Management Supply Factor

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	2020	2030	2040	2050	2060	2070
MINING, KAUFMAN	2.3	1.7	1.5	1.1	0.9	0.8
MINING, NAVARRO	0.8	0.8	0.8	0.6	0.5	0.5
MINING, PARKER	1.2	1.0	1.0	1.0	1.0	1.0
MINING, TARRANT	1.0	1.4	5.0	5.1	5.3	5.4
MINING, WISE	1.1	1.0	1.0	1.0	1.0	1.0
MOUNT ZION WSC	1.0	1.0	1.0	1.0	1.0	1.0
MOUNTAIN PEAK SUD*	1.0	1.0	1.0	1.0	1.0	1.0
MOUNTAIN SPRINGS WSC	1.2	1.1	1.1	1.0	1.0	1.0
MUENSTER	2.1	2.1	2.1	2.1	2.1	2.1
MURPHY	1.0	1.0	1.0	1.0	1.0	1.0
MUSTANG SUD	1.0	1.0	1.0	1.0	1.0	1.0
NAVARRO MILLS WSC	1.1	1.1	1.1	1.1	1.1	1.1
NEVADA SUD	1.0	1.0	1.0	1.0	1.0	1.0
NEWARK	1.0	1.0	1.0	1.0	1.0	1.0
NORTH COLLIN SUD	1.0	1.0	1.0	1.0	1.0	1.0
NORTH FARMERSVILLE WSC	1.0	1.0	1.0	1.0	1.0	1.0
NORTH HUNT SUD*	1.0	1.0	1.0	1.0	1.0	1.0
NORTH KAUFMAN WSC	1.0	1.0	1.0	1.0	1.0	1.0
NORTH RICHLAND HILLS	1.0	1.0	1.0	1.0	1.0	1.0
NORTH RURAL WSC*	1.4	1.4	1.3	1.3	1.3	1.3
NORTHLAKE	1.0	1.0	1.0	1.0	1.0	1.0
NORTHWEST GRAYSON COUNTY WCID 1	1.0	2.0	3.9	3.6	2.9	2.4
OAK RIDGE SOUTH GALE WSC	1.0	1.0	1.0	1.0	1.0	1.0
OVILLA	1.0	1.1	1.0	1.0	1.0	1.0
PALMER	1.0	1.0	1.0	1.0	1.0	1.0
PALOMA CREEK NORTH	1.0	1.0	1.0	1.0	1.0	1.0
PALOMA CREEK SOUTH	1.0	1.0	1.0	1.0	1.0	1.0
PANTEGO	1.1	1.2	1.2	1.2	1.2	1.2
PARKER	1.0	1.0	1.0	1.0	1.0	1.0
PARKER COUNTY SUD*	1.2	1.0	1.0	1.0	1.0	1.0
PELICAN BAY	1.3	1.2	1.2	1.2	1.2	1.2
PILOT POINT	1.0	2.0	2.0	1.8	1.6	1.5
PINK HILL WSC	1.0	1.0	1.0	1.0	1.0	1.0
PLANO	1.0	1.0	1.0	1.0	1.0	1.0
PLEASANT GROVE WSC	2.9	2.9	2.8	2.1	1.5	1.0
POETRY WSC*	1.0	1.0	1.0	1.0	1.0	1.0
POINT ENTERPRISE WSC*	1.1	1.1	1.1	1.1	1.0	1.0
PONDER	1.0	1.1	1.1	1.1	1.1	1.1
POST OAK SUD*	1.0	1.0	1.0	1.0	1.0	1.0
POTTSBORO	1.0	1.0	1.0	1.0	1.0	1.0
PRINCETON	1.0	1.0	1.0	1.0	1.0	1.0
PROSPER	1.0	1.0	1.0	1.0	1.0	1.0
PROVIDENCE VILLAGE WCID	1.0	1.0	1.0	1.0	1.0	1.0
R C H WSC	1.0	1.0	1.0	1.0	1.0	1.0
RED OAK	1.0	1.0	1.0	1.0	1.0	1.0
RED RIVER AUTHORITY OF TEXAS*	1.2	1.3	1.4	1.3	1.3	1.3
RENO (Parker)	1.1	1.1	1.1	1.1	1.0	1.0
RHOME	1.0	1.0	1.0	1.0	1.0	1.0

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Region C Water User Group (WUG) Management Supply Factor

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	2020	2030	2040	2050	2060	2070
RICE WATER SUPPLY AND SEWER SERVICE	1.0	1.0	1.0	1.0	1.0	1.0
RICHARDSON	1.0	1.0	1.0	1.0	1.0	1.0
RICHLAND HILLS	1.0	1.0	1.0	1.0	1.0	1.0
RIVER OAKS	1.0	1.0	1.0	1.0	1.0	1.0
ROANOKE	1.0	1.0	1.0	1.0	1.0	1.0
ROCKETT SUD	1.0	1.0	1.0	1.0	1.0	1.0
ROCKWALL	1.1	1.0	1.0	1.0	1.0	1.0
ROSE HILL SUD	1.0	1.0	1.0	1.0	1.0	1.0
ROWLETT	1.0	1.0	1.0	1.0	1.0	1.0
ROYSE CITY*	1.0	1.0	1.0	1.0	1.0	1.0
RUNAWAY BAY	1.0	1.0	1.0	1.0	1.0	1.0
SACHSE	1.1	1.0	1.0	1.0	1.0	1.0
SAGINAW	1.1	1.0	1.0	1.0	1.0	1.0
SANGER	1.0	1.1	1.1	1.1	1.1	1.1
SANSOM PARK	1.1	1.1	1.0	1.0	1.0	1.0
SANTO SUD*	1.2	1.2	1.1	1.1	1.0	1.0
SARDIS LONE ELM WSC	1.0	1.0	1.0	1.0	1.0	1.0
SEAGOVILLE	1.0	1.0	1.0	1.0	1.0	1.0
SEIS LAGOS UD	1.0	1.0	1.0	1.0	1.0	1.0
SHERMAN	1.0	1.0	1.0	1.0	1.0	1.0
SOUTH ELLIS COUNTY WSC	1.0	1.0	1.0	1.0	1.0	1.0
SOUTH FREESTONE COUNTY WSC	1.0	1.0	1.0	1.0	1.0	1.0
SOUTH GRAYSON SUD	1.0	1.0	1.0	1.0	1.0	1.0
SOUTHLAKE	1.0	1.0	1.0	1.0	1.0	1.0
SOUTHMAYD	1.0	1.0	1.0	1.0	1.0	1.0
SOUTHWEST FANNIN COUNTY SUD	1.1	1.1	1.0	1.0	1.0	1.0
SPRINGTOWN	1.1	1.1	1.1	1.1	1.1	1.1
STARR WSC	2.1	2.0	2.1	1.9	1.4	1.0
STEAM ELECTRIC POWER, COLLIN	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, COOKE	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, DALLAS	7.3	7.3	7.3	7.3	7.3	7.3
STEAM ELECTRIC POWER, DENTON	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, ELLIS	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, FREESTONE	0.8	0.8	0.8	0.8	0.8	0.8
STEAM ELECTRIC POWER, GRAYSON	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, HENDERSON	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, JACK	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, KAUFMAN	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, PARKER	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, TARRANT	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, WISE	1.0	1.0	1.0	1.0	1.0	1.0
SUNNYVALE	1.0	1.0	1.0	1.0	1.0	1.0
TALTY SUD	1.0	1.0	1.0	1.0	1.0	1.0
TEAGUE	1.0	1.0	1.0	1.0	1.0	1.0
TERRELL	1.0	1.0	1.0	1.0	1.0	1.0
THE COLONY	1.0	1.0	1.0	1.0	1.0	1.0
TIOGA	1.1	1.0	1.0	1.0	1.0	1.0
TOM BEAN	1.0	1.0	1.1	1.0	1.0	1.0

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Region C Water User Group (WUG) Management Supply Factor

	WUG MANAGEMENT SUPPLY FACTOR					
WUG NAME	2020	2030	2040	2050	2060	2070
TRENTON	1.0	1.0	1.0	1.0	1.0	1.0
TRINIDAD	4.3	4.6	4.7	4.7	4.2	3.5
TROPHY CLUB MUD 1	1.0	1.0	1.0	1.0	1.0	1.0
TWO WAY SUD	1.0	1.8	1.7	1.6	1.4	1.1
UNIVERSITY PARK	1.0	1.1	1.1	1.1	1.1	1.1
VAN ALSTYNE	1.0	1.1	1.1	1.1	1.1	1.1
VENUS*	1.0	1.0	1.0	1.0	1.0	1.0
VERONA SUD	1.0	1.0	1.0	1.0	1.0	1.0
VIRGINIA HILL WSC*	1.6	1.5	1.4	1.2	1.1	1.0
WALNUT CREEK SUD	1.0	1.0	1.0	1.0	1.0	1.0
WATAUGA	1.0	1.0	1.0	1.0	1.0	1.0
WAXAHACHIE	1.0	1.2	1.1	1.0	1.0	1.0
WEATHERFORD	1.4	1.3	1.4	1.0	1.0	1.0
WEST CEDAR CREEK MUD	1.0	1.0	1.0	1.0	1.0	1.0
WEST LEONARD WSC*	1.9	1.8	1.8	1.6	1.3	1.0
WEST WISE SUD	1.0	1.0	1.0	1.0	1.0	1.0
WESTLAKE	1.0	1.1	1.1	1.1	1.0	1.0
WESTMINSTER WSC	2.1	1.9	1.6	1.3	1.1	1.0
WESTOVER HILLS	1.0	1.0	1.0	1.0	1.0	1.0
WESTWORTH VILLAGE	1.0	1.0	1.0	1.0	1.0	1.0
WHITE SETTLEMENT	1.0	1.0	1.0	1.0	1.0	1.0
WHITE SHED WSC	1.0	1.0	1.0	1.0	1.0	1.0
WHITESBORO	1.2	2.2	2.2	2.2	1.8	1.4
WHITEWRIGHT	1.2	1.2	1.4	1.5	1.6	1.4
WILLOW PARK	1.0	1.0	1.0	1.0	1.0	1.0
WILMER	1.0	1.0	1.0	1.0	1.0	1.0
WOLFE CITY*	1.5	1.3	1.1	1.0	1.0	1.0
WOODBINE WSC	1.0	1.9	2.1	1.9	1.7	1.6
WORTHAM	1.0	1.0	1.0	1.0	1.0	1.0
WYLIE	1.0	1.0	1.0	1.0	1.0	1.0
WYLIE NORTHEAST SUD	1.0	1.0	1.0	1.0	1.0	1.0

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Region C Recommended Water Management Strategy (WMS) Supply Associated with a New or Amended Inter-Basin Transfer (IBT) Permit

IBT WMS supply is the portion of the total WMS benefitting WUGs that will require a new or amended IBT permit that is not considered exempt under the Texas Water Code § 11.085.

			IBT WMS SUPPLY (ACRE-FEET PER YEAR)					
WMS NAME	**SOURCE BASIN**	**RECIPIENT WUG BASIN**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	SULPHUR	BRAZOS	0	0	0	6,129	7,116	7,476
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	SULPHUR	RED	0	0	0	6	8	9
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	SULPHUR	SABINE	0	0	0	1,924	3,053	3,278
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	SULPHUR	TRINITY	0	0	0	153,623	202,565	217,511
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	SULPHUR	BRAZOS	0	0	0	0	0	2,529
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	SULPHUR	NECHES	0	0	0	0	0	0
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	SULPHUR	RED	0	0	0	0	0	3
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	SULPHUR	SABINE	0	0	0	0	0	1,109
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	SULPHUR	TRINITY	0	0	0	0	0	73,585

Region C Water User Groups (WUGs)
Recommended Water Management Strategy (WMS) Supply Associated with a New or Amended Inter-Basin Transfer (IBT) Permit and Total Recommended Conservation WMS Supply

IBT WMS supply is the portion of the total WMS benefitting the WUG basin split listed that will require a new or amended IBT permit that is not considered exempt under the Texas Water Code§ 11.085. Total conservation supply represents all conservation WMS volumes recommended within the WUG's region-basin geographic split.

BENEFITTING WUG NAME | BASIN	WMS SOURCE ORIGIN BASIN | WMS NAME	WMS SUPPLY (ACRE-FEET PER YEAR)					
		2020	2030	2040	2050	2060	2070
ABLES SPRINGS WSC | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	35	51	53
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	18
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**35**	**51**	**71**
	TOTAL RECOMMENDED CONSERVATION	**1**	**2**	**3**	**3**	**3**	**3**
ABLES SPRINGS WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	27	40	41
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	14
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**27**	**40**	**55**
	TOTAL RECOMMENDED CONSERVATION	**1**	**1**	**1**	**2**	**3**	**6**
ADDISON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	281
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	244	237
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**244**	**518**
	TOTAL RECOMMENDED CONSERVATION	**324**	**401**	**421**	**475**	**535**	**598**
ALEDO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	208	264	287
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	97
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**208**	**264**	**384**
	TOTAL RECOMMENDED CONSERVATION	**7**	**16**	**17**	**27**	**35**	**46**
ALLEN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2,140	2,684	2,415
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	817
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2,140**	**2,684**	**3,232**
	TOTAL RECOMMENDED CONSERVATION	**1,436**	**1,592**	**1,483**	**1,574**	**1,690**	**1,813**
ALVORD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	68	87	93
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	31
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**68**	**87**	**124**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**5**	**7**	**10**
ANNA | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2,096	2,905	3,091
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1,046
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2,096**	**2,905**	**4,137**
	TOTAL RECOMMENDED CONSERVATION	**238**	**805**	**80**	**132**	**207**	**316**
ANNETTA | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	82	77	64
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	22
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**82**	**77**	**86**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**6**	**8**	**12**	**16**
ARGYLE WSC | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	62
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	60	53

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ARGYLE WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	356	391	388
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	131
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**356**	**451**	**634**
	TOTAL RECOMMENDED CONSERVATION	**25**	**260**	**436**	**451**	**465**	**478**
ARLINGTON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6,450	7,612	7,618
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,577
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6,450**	**7,612**	**10,195**
	TOTAL RECOMMENDED CONSERVATION	**2,674**	**5,198**	**5,152**	**5,377**	**5,606**	**5,837**
AUBREY | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	37
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	32	31
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	161	205	230
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	78
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**161**	**237**	**376**
	TOTAL RECOMMENDED CONSERVATION	**5**	**9**	**8**	**13**	**20**	**32**
AVALON WATER SUPPLY & SEWER SERVICE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	12	61	114
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	39
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**12**	**61**	**153**
	TOTAL RECOMMENDED CONSERVATION	**1**	**2**	**2**	**4**	**6**	**11**
AZLE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	273	416	617
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	209
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**273**	**416**	**826**
	TOTAL RECOMMENDED CONSERVATION	**28**	**39**	**27**	**36**	**53**	**80**
B H P WSC | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	13	16	17
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	6
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**13**	**16**	**23**
	TOTAL RECOMMENDED CONSERVATION	**0**	**1**	**1**	**1**	**2**	**3**
BALCH SPRINGS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	149
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	128	125
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**128**	**274**
	TOTAL RECOMMENDED CONSERVATION	**95**	**112**	**116**	**134**	**157**	**181**
BEAR CREEK SUD | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	8	21	38
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	13
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**8**	**21**	**51**
	TOTAL RECOMMENDED CONSERVATION	**1**	**2**	**4**	**6**	**9**	**19**
BEAR CREEK SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	188	292	338
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	114
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**188**	**292**	**452**
	TOTAL RECOMMENDED CONSERVATION	**25**	**41**	**57**	**87**	**123**	**173**

Region C Water User Groups (WUGs)
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BECKER JIBA WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	73	120	138
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	47
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**73**	**120**	**185**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**5**	**9**	**17**	**28**
BEDFORD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,080	1,248	1,233
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	417
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,080**	**1,248**	**1,650**
	TOTAL RECOMMENDED CONSERVATION	**997**	**1,390**	**459**	**522**	**556**	**592**
BENBROOK WATER AUTHORITY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,164	1,380	1,174
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	397
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,164**	**1,380**	**1,571**
	TOTAL RECOMMENDED CONSERVATION	**293**	**395**	**421**	**497**	**578**	**603**
BETHESDA WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	243	319	367
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	125
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**243**	**319**	**492**
	TOTAL RECOMMENDED CONSERVATION	**92**	**119**	**127**	**148**	**172**	**196**
BLACKLAND WSC | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	42	59	56
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	19
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**42**	**59**	**75**
	TOTAL RECOMMENDED CONSERVATION	**19**	**26**	**27**	**29**	**34**	**38**
BLACKLAND WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	50	69	66
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	23
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**50**	**69**	**89**
	TOTAL RECOMMENDED CONSERVATION	**24**	**32**	**32**	**36**	**43**	**48**
BOLIVAR WSC | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	55
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	51	46
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	307	332	341
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	115
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**307**	**383**	**557**
	TOTAL RECOMMENDED CONSERVATION	**10**	**17**	**18**	**26**	**37**	**51**
BOYD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	57	108	115
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	39
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**57**	**108**	**154**
	TOTAL RECOMMENDED CONSERVATION	**3**	**18**	**40**	**5**	**9**	**12**
BRIDGEPORT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	284	547	729
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	247
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**284**	**547**	**976**
	TOTAL RECOMMENDED CONSERVATION	**10**	**82**	**110**	**162**	**225**	**296**

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BUENA VISTA-BETHEL SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	22	172	457
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	155
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**22**	**172**	**612**
	TOTAL RECOMMENDED CONSERVATION	**10**	**18**	**94**	**146**	**224**	**319**
BURLESON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	260	356	385
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	130
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**260**	**356**	**515**
	TOTAL RECOMMENDED CONSERVATION	**48**	**54**	**57**	**87**	**118**	**141**
CADDO BASIN SUD | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	37	57	61
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	21
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**37**	**57**	**82**
	TOTAL RECOMMENDED CONSERVATION	**2**	**2**	**2**	**4**	**7**	**11**
CADDO BASIN SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	25	38	41
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	14
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**25**	**38**	**55**
	TOTAL RECOMMENDED CONSERVATION	**0**	**2**	**2**	**3**	**5**	**7**
CARROLLTON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	849
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	778	716
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**778**	**1,565**
	TOTAL RECOMMENDED CONSERVATION	**1,195**	**1,376**	**1,314**	**1,382**	**1,459**	**1,537**
CASH SUD | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	19	22	19
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	6
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**19**	**22**	**25**
	TOTAL RECOMMENDED CONSERVATION	**5**	**7**	**9**	**11**	**14**	**18**
CEDAR HILL | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	526
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	476	444
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**476**	**970**
	TOTAL RECOMMENDED CONSERVATION	**760**	**1,023**	**1,177**	**1,356**	**1,410**	**1,465**
CELINA | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	938
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	826	791
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6,400	7,219	7,252
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,454
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6,400**	**8,045**	**11,435**
	TOTAL RECOMMENDED CONSERVATION	**236**	**744**	**1,224**	**1,941**	**2,441**	**2,980**
CHICO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	90	142	177
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	60
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**90**	**142**	**237**
	TOTAL RECOMMENDED CONSERVATION	**2**	**15**	**18**	**35**	**47**	**62**
COCKRELL HILL | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	49
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	22	41

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COCKRELL HILL | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**0**	**22**	**90**
	TOTAL RECOMMENDED CONSERVATION	**29**	**31**	**7**	**5**	**9**	**24**
COLLEGE MOUND WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	179	343	378
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	128
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**179**	**343**	**506**
	TOTAL RECOMMENDED CONSERVATION	**8**	**13**	**15**	**23**	**41**	**61**
COLLEYVILLE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,016	1,196	1,193
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	404
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,016**	**1,196**	**1,597**
	TOTAL RECOMMENDED CONSERVATION	**187**	**641**	**705**	**765**	**799**	**835**
COMBINE WSC | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	34
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	27	29
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**27**	**63**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**5**	**8**	**11**	**16**
COMMUNITY WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	51	62	65
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	22
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**51**	**62**	**87**
	TOTAL RECOMMENDED CONSERVATION	**3**	**4**	**4**	**6**	**8**	**10**
COPEVILLE SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	65	137	204
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	68
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**65**	**137**	**272**
	TOTAL RECOMMENDED CONSERVATION	**9**	**11**	**14**	**21**	**41**	**80**
COPPELL | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	365
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	331	308
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**331**	**673**
	TOTAL RECOMMENDED CONSERVATION	**770**	**868**	**842**	**874**	**910**	**946**
CORINTH | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	85
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	83	72
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	506	536	528
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	179
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**506**	**619**	**864**
	TOTAL RECOMMENDED CONSERVATION	**41**	**330**	**365**	**380**	**396**	**413**
COUNTY-OTHER, COLLIN | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
COUNTY-OTHER, COLLIN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	8	85	146
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	50
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**8**	**85**	**196**
	TOTAL RECOMMENDED CONSERVATION	**5**	**7**	**6**	**8**	**20**	**37**

Region C Water User Groups (WUGs)
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COUNTY-OTHER, DALLAS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	55
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	47	46
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	71	81	79
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	27
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**71**	**128**	**207**
	TOTAL RECOMMENDED CONSERVATION	**78**	**90**	**87**	**95**	**106**	**117**
COUNTY-OTHER, DENTON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	233
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	116	197
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	408	753	1,452
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	491
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**408**	**869**	**2,373**
	TOTAL RECOMMENDED CONSERVATION	**10**	**18**	**19**	**55**	**121**	**273**
COUNTY-OTHER, ELLIS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	271	512	1,323
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	447
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**271**	**512**	**1,770**
	TOTAL RECOMMENDED CONSERVATION	**3**	**4**	**5**	**20**	**77**	**192**
COUNTY-OTHER, FREESTONE | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	17	42	95
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	32
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**17**	**42**	**127**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**1**	**2**	**6**
COUNTY-OTHER, FREESTONE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	132	320	727
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	246
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**132**	**320**	**973**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**4**	**5**	**16**	**48**
COUNTY-OTHER, HENDERSON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	10	0	8
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	3
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**10**	**0**	**11**
	TOTAL RECOMMENDED CONSERVATION	**3**	**2**	**2**	**2**	**1**	**2**
COUNTY-OTHER, JACK | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	5	5	5
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**5**	**5**	**7**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**3**	**4**	**7**
COUNTY-OTHER, JACK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6	7	7
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6**	**7**	**9**
	TOTAL RECOMMENDED CONSERVATION	**3**	**4**	**3**	**5**	**6**	**5**
COUNTY-OTHER, KAUFMAN | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	7	25	47
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	16

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COUNTY-OTHER, KAUFMAN | SABINE BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**7**	**25**	**63**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**1**	**3**	**7**
COUNTY-OTHER, KAUFMAN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	56	194	368
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	124
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**56**	**194**	**492**
	TOTAL RECOMMENDED CONSERVATION	**2**	**4**	**3**	**4**	**20**	**57**
COUNTY-OTHER, NAVARRO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	11	16	31
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	11
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**11**	**16**	**42**
	TOTAL RECOMMENDED CONSERVATION	**2**	**5**	**5**	**8**	**13**	**32**
COUNTY-OTHER, PARKER | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	448	1,430	2,340
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	792
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**448**	**1,430**	**3,132**
	TOTAL RECOMMENDED CONSERVATION	**32**	**43**	**29**	**61**	**118**	**207**
COUNTY-OTHER, PARKER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	319	1,020	1,670
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	565
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**319**	**1,020**	**2,235**
	TOTAL RECOMMENDED CONSERVATION	**23**	**30**	**21**	**43**	**85**	**148**
COUNTY-OTHER, ROCKWALL | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	19	26	35
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	12
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**19**	**26**	**47**
	TOTAL RECOMMENDED CONSERVATION	**5**	**8**	**8**	**9**	**11**	**17**
COUNTY-OTHER, ROCKWALL | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	33	44	60
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	20
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**33**	**44**	**80**
	TOTAL RECOMMENDED CONSERVATION	**9**	**16**	**15**	**14**	**17**	**29**
COUNTY-OTHER, TARRANT | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	62
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	57	52
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	803	1,289	1,828
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	619
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**803**	**1,346**	**2,561**
	TOTAL RECOMMENDED CONSERVATION	**255**	**282**	**252**	**426**	**596**	**865**
COUNTY-OTHER, WISE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	270	328	681
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	230
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**270**	**328**	**911**
	TOTAL RECOMMENDED CONSERVATION	**33**	**47**	**40**	**56**	**72**	**134**
CRANDALL | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	264	255	192
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	65

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CRANDALL | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**264**	**255**	**257**
	TOTAL RECOMMENDED CONSERVATION	**39**	**58**	**66**	**86**	**92**	**97**
CROSS TIMBERS WSC | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	30
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	29	26
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	168	188	189
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	64
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**168**	**217**	**309**
	TOTAL RECOMMENDED CONSERVATION	**13**	**111**	**124**	**133**	**145**	**156**
CROWLEY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	556	940	1,032
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	349
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**556**	**940**	**1,381**
	TOTAL RECOMMENDED CONSERVATION	**95**	**121**	**135**	**175**	**241**	**293**
CULLEOKA WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	118	158	172
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	58
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**118**	**158**	**230**
	TOTAL RECOMMENDED CONSERVATION	**5**	**7**	**9**	**16**	**24**	**35**
DALLAS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	11,228
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	9,388	9,474
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**9,388**	**20,702**
	TOTAL RECOMMENDED CONSERVATION	**17,663**	**24,632**	**37,392**	**43,655**	**46,402**	**47,947**
DALWORTHINGTON GARDENS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	98	115	117
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	40
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**98**	**115**	**157**
	TOTAL RECOMMENDED CONSERVATION	**8**	**44**	**46**	**50**	**54**	**58**
DECATUR | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,302	1,581	1,672
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	566
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,302**	**1,581**	**2,238**
	TOTAL RECOMMENDED CONSERVATION	**118**	**198**	**254**	**345**	**426**	**519**
DENTON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	6,966
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	4,690	5,877
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**4,690**	**12,843**
	TOTAL RECOMMENDED CONSERVATION	**1,548**	**2,358**	**2,799**	**4,001**	**5,980**	**7,685**
DENTON COUNTY FWSD 10 | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	63
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	61	53
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	376	399	393
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	133
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**376**	**460**	**642**
	TOTAL RECOMMENDED CONSERVATION	**12**	**208**	**278**	**290**	**302**	**315**
DENTON COUNTY FWSD 1-A | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	210
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	213	178
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	547	579	569

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DENTON COUNTY FWSD 1-A | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	193
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**547**	**792**	**1,150**
	TOTAL RECOMMENDED CONSERVATION	**200**	**416**	**486**	**511**	**537**	**562**
DENTON COUNTY FWSD 7 | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	58
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	57	49
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	346	367	362
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	122
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**346**	**424**	**591**
	TOTAL RECOMMENDED CONSERVATION	**32**	**234**	**260**	**271**	**282**	**293**
DESOTO | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	426
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	376	360
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**376**	**786**
	TOTAL RECOMMENDED CONSERVATION	**538**	**750**	**792**	**896**	**1,010**	**1,087**
DUNCANVILLE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	247
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	229	208
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**229**	**455**
	TOTAL RECOMMENDED CONSERVATION	**241**	**280**	**212**	**225**	**243**	**264**
EAST CEDAR CREEK FWSD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	286	352	377
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	128
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**286**	**352**	**505**
	TOTAL RECOMMENDED CONSERVATION	**14**	**22**	**21**	**30**	**39**	**52**
EAST FORK SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	221	294	281
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	95
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**221**	**294**	**376**
	TOTAL RECOMMENDED CONSERVATION	**87**	**105**	**113**	**130**	**155**	**179**
EAST GARRETT WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2	8	198
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	67
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2**	**8**	**265**
	TOTAL RECOMMENDED CONSERVATION	**2**	**17**	**23**	**30**	**41**	**99**
EDGECLIFF | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	50	57	57
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	19
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**50**	**57**	**76**
	TOTAL RECOMMENDED CONSERVATION	**5**	**22**	**23**	**24**	**26**	**27**
ELMO WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	46	75	87
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	30
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**46**	**75**	**117**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**6**	**10**	**17**
ENNIS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	85	147	2,503
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	846
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**85**	**147**	**3,349**

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ENNIS | TRINITY BASIN	**TOTAL RECOMMENDED CONSERVATION**	**38**	**348**	**636**	**928**	**1,536**	**2,623**
EULESS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	634	739	733
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	248
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**634**	**739**	**981**
	TOTAL RECOMMENDED CONSERVATION	**443**	**817**	**769**	**445**	**474**	**504**
FAIRFIELD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	229	339	518
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	175
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**229**	**339**	**693**
	TOTAL RECOMMENDED CONSERVATION	**8**	**11**	**10**	**96**	**141**	**203**
FAIRVIEW | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	672	830	730
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	247
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**672**	**830**	**977**
	TOTAL RECOMMENDED CONSERVATION	**186**	**259**	**331**	**368**	**396**	**420**
FARMERS BRANCH | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	383
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	330	323
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**330**	**706**
	TOTAL RECOMMENDED CONSERVATION	**669**	**775**	**749**	**820**	**906**	**996**
FARMERSVILLE | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1	2	3
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1**	**2**	**4**
	TOTAL RECOMMENDED CONSERVATION	**0**	**1**	**1**	**1**	**2**	**1**
FARMERSVILLE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	931	1,571	1,970
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	667
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**931**	**1,571**	**2,637**
	TOTAL RECOMMENDED CONSERVATION	**8**	**32**	**70**	**136**	**234**	**398**
FATE | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	314	469	460
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	156
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**314**	**469**	**616**
	TOTAL RECOMMENDED CONSERVATION	**75**	**112**	**145**	**206**	**263**	**308**
FATE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	270	404	396
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	134
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**270**	**404**	**530**
	TOTAL RECOMMENDED CONSERVATION	**64**	**97**	**128**	**176**	**227**	**265**
FERRIS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	116	156	192
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	65
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**116**	**156**	**257**
	TOTAL RECOMMENDED CONSERVATION	**4**	**9**	**11**	**16**	**23**	**32**
FILES VALLEY WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2	7	9

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FILES VALLEY WSC | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	3
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2**	**7**	**12**
	TOTAL RECOMMENDED CONSERVATION	**1**	**2**	**2**	**3**	**5**	**7**
FLOWER MOUND | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	523
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	488	441
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,630	1,773	1,815
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	614
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,630**	**2,261**	**3,393**
	TOTAL RECOMMENDED CONSERVATION	**791**	**1,034**	**1,015**	**1,106**	**1,206**	**1,318**
FOREST HILL | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	202	300	413
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	140
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**202**	**300**	**553**
	TOTAL RECOMMENDED CONSERVATION	**14**	**19**	**18**	**27**	**41**	**63**
FORNEY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	607	1,111	1,469
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	497
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**607**	**1,111**	**1,966**
	TOTAL RECOMMENDED CONSERVATION	**93**	**125**	**151**	**206**	**329**	**474**
FORNEY LAKE WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	208	424	532
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	180
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**208**	**424**	**712**
	TOTAL RECOMMENDED CONSERVATION	**61**	**87**	**105**	**142**	**249**	**370**
FORT WORTH | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	29,719	40,706	46,397
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	15,697
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**29,719**	**40,706**	**62,094**
	TOTAL RECOMMENDED CONSERVATION	**26,789**	**31,747**	**22,722**	**22,275**	**21,866**	**21,140**
FRISCO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6,673	9,180	8,538
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,889
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6,673**	**9,180**	**11,427**
	TOTAL RECOMMENDED CONSERVATION	**2,433**	**3,134**	**3,698**	**4,739**	**5,500**	**6,044**
GARLAND | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	4,041	5,020	4,446
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1,504
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**4,041**	**5,020**	**5,950**
	TOTAL RECOMMENDED CONSERVATION	**2,757**	**3,083**	**2,797**	**2,939**	**3,100**	**3,252**
GASTONIA SCURRY SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	146	290	393
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	133
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**146**	**290**	**526**
	TOTAL RECOMMENDED CONSERVATION	**7**	**12**	**14**	**21**	**44**	**80**
GLENN HEIGHTS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	264

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GLENN HEIGHTS | TRINITY BASIN	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	180	223
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**180**	**487**
	TOTAL RECOMMENDED CONSERVATION	**18**	**36**	**40**	**62**	**90**	**143**
GRAND PRAIRIE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	1,641
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	1,522	1,385
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,302	1,344	1,232
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	418
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,302**	**2,866**	**4,676**
	TOTAL RECOMMENDED CONSERVATION	**2,061**	**2,578**	**2,276**	**2,408**	**2,552**	**2,698**
GRAPEVINE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	88
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	78	74
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,290	1,381	1,249
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	422
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,290**	**1,459**	**1,833**
	TOTAL RECOMMENDED CONSERVATION	**1,054**	**1,182**	**1,129**	**1,181**	**1,242**	**1,303**
HACKBERRY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	77	117	125
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	42
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**77**	**117**	**167**
	TOTAL RECOMMENDED CONSERVATION	**27**	**42**	**53**	**67**	**86**	**111**
HALTOM CITY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	558	699	758
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	256
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**558**	**699**	**1,014**
	TOTAL RECOMMENDED CONSERVATION	**296**	**318**	**313**	**353**	**401**	**459**
HASLET | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	144	229	265
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	90
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**144**	**229**	**355**
	TOTAL RECOMMENDED CONSERVATION	**5**	**102**	**155**	**296**	**316**	**331**
HEATH | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	619	802	743
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	251
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**619**	**802**	**994**
	TOTAL RECOMMENDED CONSERVATION	**213**	**372**	**457**	**486**	**532**	**581**
HIGH POINT WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	82	146	164
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	56
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**82**	**146**	**220**
	TOTAL RECOMMENDED CONSERVATION	**3**	**6**	**6**	**10**	**20**	**33**
HIGHLAND VILLAGE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	44
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	43	37
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	237	276	276
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	93

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HIGHLAND VILLAGE | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**237**	**319**	**450**
	TOTAL RECOMMENDED CONSERVATION	**260**	**450**	**472**	**482**	**495**	**508**
HOWE | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2	4	5
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2**	**4**	**7**
	TOTAL RECOMMENDED CONSERVATION	**0**	**2**	**1**	**1**	**2**	**3**
HOWE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6	12	14
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	4
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6**	**12**	**18**
	TOTAL RECOMMENDED CONSERVATION	**2**	**2**	**2**	**4**	**5**	**6**
HUDSON OAKS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	287	294	267
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	90
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**287**	**294**	**357**
	TOTAL RECOMMENDED CONSERVATION	**77**	**127**	**126**	**133**	**139**	**145**
HURST | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	629	727	719
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	243
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**629**	**727**	**962**
	TOTAL RECOMMENDED CONSERVATION	**326**	**391**	**320**	**328**	**350**	**371**
HUTCHINS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	237
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	189	200
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**189**	**437**
	TOTAL RECOMMENDED CONSERVATION	**99**	**162**	**202**	**262**	**328**	**400**
IRRIGATION, COLLIN | SABINE BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	4
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	3	3
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**3**	**7**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, COLLIN | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	127
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	119	107
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**119**	**234**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, DENTON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	73
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	68	61
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**68**	**134**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, KAUFMAN | SABINE BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	0
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	0	0
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, KAUFMAN | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	1
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	1	1

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IRRIGATION, KAUFMAN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	16	18	17
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	6
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**16**	**19**	**25**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, PARKER | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, PARKER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, ROCKWALL | SABINE BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	4
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	3	3
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**3**	**7**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, ROCKWALL | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	12
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	12	11
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**12**	**23**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, TARRANT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	199	226	220
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	75
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**199**	**226**	**295**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
IRRIGATION, WISE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	74	84	82
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	28
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**74**	**84**	**110**
	TOTAL RECOMMENDED CONSERVATION	**0**	**1**	**3**	**4**	**4**	**5**
ITALY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	32	141	232
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	78
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**32**	**141**	**310**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**5**	**8**	**12**	**20**
JOHNSON COUNTY SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	106	112	104
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	35

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JOHNSON COUNTY SUD | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**106**	**112**	**139**
	TOTAL RECOMMENDED CONSERVATION	**3**	**4**	**4**	**6**	**8**	**10**
JOSEPHINE | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	86	108	95
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	32
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**86**	**108**	**127**
	TOTAL RECOMMENDED CONSERVATION	**12**	**19**	**25**	**35**	**40**	**43**
JUSTIN | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	28
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	28	24
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	166	180	175
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	59
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**166**	**208**	**286**
	TOTAL RECOMMENDED CONSERVATION	**10**	**20**	**20**	**28**	**34**	**39**
KAUFMAN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	310	479	510
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	173
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**310**	**479**	**683**
	TOTAL RECOMMENDED CONSERVATION	**54**	**75**	**23**	**48**	**78**	**110**
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1 | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	162	277	327
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	110
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**162**	**277**	**437**
	TOTAL RECOMMENDED CONSERVATION	**44**	**69**	**82**	**114**	**171**	**243**
KAUFMAN COUNTY MUD 11 | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	97	146	158
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	53
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**97**	**146**	**211**
	TOTAL RECOMMENDED CONSERVATION	**30**	**46**	**53**	**68**	**88**	**114**
KELLER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,261	1,479	1,472
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	498
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,261**	**1,479**	**1,970**
	TOTAL RECOMMENDED CONSERVATION	**768**	**946**	**854**	**893**	**935**	**978**
KEMP | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	156	254	319
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	108
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**156**	**254**	**427**
	TOTAL RECOMMENDED CONSERVATION	**21**	**41**	**49**	**63**	**101**	**144**
KENNEDALE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	200	246	276
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	93
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**200**	**246**	**369**
	TOTAL RECOMMENDED CONSERVATION	**12**	**77**	**97**	**121**	**147**	**175**
KRUM | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	48
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	39	40

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KRUM | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	183	251	299
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	101
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**183**	**290**	**488**
	TOTAL RECOMMENDED CONSERVATION	**58**	**86**	**102**	**130**	**167**	**213**
LADONIA | SULPHUR BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	9
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	10	8
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**10**	**17**
	TOTAL RECOMMENDED CONSERVATION	**3**	**6**	**3**	**5**	**8**	**9**
LAKE CITIES MUNICIPAL UTILITY AUTHORITY | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	57
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	56	48
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	347	362	353
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	119
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**347**	**418**	**577**
	TOTAL RECOMMENDED CONSERVATION	**21**	**34**	**35**	**46**	**56**	**66**
LAKE WORTH | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	140	196	270
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	91
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**140**	**196**	**361**
	TOTAL RECOMMENDED CONSERVATION	**10**	**57**	**66**	**82**	**101**	**151**
LANCASTER | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	543
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	455	458
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**455**	**1,001**
	TOTAL RECOMMENDED CONSERVATION	**388**	**575**	**652**	**766**	**892**	**1,026**
LEWISVILLE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	1,554
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	1,609	1,311
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**1,609**	**2,865**
	TOTAL RECOMMENDED CONSERVATION	**858**	**1,130**	**1,237**	**1,500**	**1,780**	**1,886**
LITTLE ELM | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	432	516	455
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	154
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**432**	**516**	**609**
	TOTAL RECOMMENDED CONSERVATION	**201**	**238**	**231**	**245**	**259**	**275**
LUCAS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	271	400	365
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	124
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**271**	**400**	**489**
	TOTAL RECOMMENDED CONSERVATION	**161**	**296**	**390**	**474**	**544**	**559**
LUELLA SUD | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**3**	**4**	**5**	**7**	**10**	**12**
LUELLA SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0

Region C Water User Groups (WUGs)
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LUELLA SUD | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**1**	**0**	**0**	**0**	**1**
MABANK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	661	1,080	1,452
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	491
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**661**	**1,080**	**1,943**
	TOTAL RECOMMENDED CONSERVATION	**107**	**144**	**154**	**214**	**316**	**464**
MALAKOFF | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2	4	7
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2**	**4**	**9**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**4**	**5**	**6**
MANSFIELD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6,267	7,645	8,014
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,711
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6,267**	**7,645**	**10,725**
	TOTAL RECOMMENDED CONSERVATION	**743**	**1,115**	**1,281**	**1,699**	**2,075**	**2,485**
MANUFACTURING, COLLIN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	283	332	291
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	97
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**283**	**332**	**388**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, DALLAS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	818
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	763	690
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	395	468	407
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	138
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**395**	**1,231**	**2,053**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, DENTON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	27
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	23	23
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	12	13	13
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	4
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**12**	**36**	**67**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, ELLIS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	345	526	740
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	251
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**345**	**526**	**991**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, FANNIN | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**

Region C Water User Groups (WUGs)
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MANUFACTURING, GRAYSON | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	4	4	4
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**4**	**4**	**5**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, GRAYSON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, KAUFMAN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	127	150	130
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	43
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**127**	**150**	**173**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, NAVARRO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**1**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, PARKER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	7	6	7
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**7**	**6**	**9**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, ROCKWALL | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	4	5	4
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**4**	**5**	**5**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, TARRANT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,676	1,890	1,841
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	622
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,676**	**1,890**	**2,463**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MANUFACTURING, WISE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6	7	7
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6**	**7**	**9**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MARKOUT WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	182	288	321
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	109
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**182**	**288**	**430**
	TOTAL RECOMMENDED CONSERVATION	**20**	**34**	**38**	**53**	**79**	**109**
MCKINNEY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	4,882	7,442	7,219

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MCKINNEY | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,442
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**4,882**	**7,442**	**9,661**
	TOTAL RECOMMENDED CONSERVATION	**2,509**	**3,279**	**3,753**	**4,819**	**5,760**	**6,396**
MELISSA | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6,668	7,517	5,922
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,003
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6,668**	**7,517**	**7,925**
	TOTAL RECOMMENDED CONSERVATION	**176**	**611**	**825**	**1,100**	**1,348**	**1,480**
MESQUITE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2,537	3,379	3,215
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1,088
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2,537**	**3,379**	**4,303**
	TOTAL RECOMMENDED CONSERVATION	**1,302**	**1,499**	**1,597**	**1,816**	**2,060**	**2,321**
MIDLOTHIAN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	401	538	645
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	218
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**401**	**538**	**863**
	TOTAL RECOMMENDED CONSERVATION	**318**	**557**	**584**	**656**	**733**	**844**
MILLIGAN WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	83	112	108
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	37
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**83**	**112**	**145**
	TOTAL RECOMMENDED CONSERVATION	**4**	**6**	**6**	**10**	**15**	**19**
MINING, DENTON | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	96
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	70	81
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	289	455	597
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	202
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**289**	**525**	**976**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MINING, HENDERSON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	19	21	20
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	7
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**19**	**21**	**27**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MINING, JACK | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	51	59	63
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	21
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**51**	**59**	**84**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MINING, JACK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	76	89	94
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	32
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**76**	**89**	**126**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MINING, TARRANT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	13	15	15

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MINING, TARRANT | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	5
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**13**	**15**	**20**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
MINING, WISE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	554	699	842
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	285
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**554**	**699**	**1,127**
	TOTAL RECOMMENDED CONSERVATION	**6,261**	**6,261**	**6,348**	**7,495**	**8,477**	**10,098**
MOUNT ZION WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	84	123	126
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	43
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**84**	**123**	**169**
	TOTAL RECOMMENDED CONSERVATION	**22**	**29**	**34**	**44**	**56**	**69**
MOUNTAIN PEAK SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,647	1,859	1,855
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	539
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,647**	**1,859**	**2,394**
	TOTAL RECOMMENDED CONSERVATION	**238**	**541**	**568**	**851**	**1,010**	**1,157**
MURPHY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	402	493	435
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	147
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**402**	**493**	**582**
	TOTAL RECOMMENDED CONSERVATION	**214**	**248**	**241**	**256**	**270**	**285**
MUSTANG SUD | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	436
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	357	368
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,741	2,313	2,716
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	919
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,741**	**2,670**	**4,439**
	TOTAL RECOMMENDED CONSERVATION	**44**	**119**	**153**	**255**	**382**	**536**
NEVADA SUD | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	39	112	177
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	60
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**39**	**112**	**237**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**6**	**17**	**46**	**90**
NEVADA SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	69	197	311
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	105
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**69**	**197**	**416**
	TOTAL RECOMMENDED CONSERVATION	**7**	**7**	**7**	**32**	**84**	**160**
NEWARK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	81	143	191
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	65
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**81**	**143**	**256**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**6**	**11**	**17**
NORTH COLLIN SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	136	188	187

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NORTH COLLIN SUD | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	63
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**136**	**188**	**250**
	TOTAL RECOMMENDED CONSERVATION	**7**	**11**	**11**	**17**	**26**	**38**
NORTH FARMERSVILLE WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	14	20	20
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	7
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**14**	**20**	**27**
	TOTAL RECOMMENDED CONSERVATION	**3**	**7**	**8**	**10**	**12**	**14**
NORTH KAUFMAN WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	44	73	84
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	28
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**44**	**73**	**112**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**5**	**9**	**16**
NORTH RICHLAND HILLS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,314	1,532	1,521
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	514
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,314**	**1,532**	**2,035**
	TOTAL RECOMMENDED CONSERVATION	**633**	**797**	**762**	**800**	**840**	**883**
NORTHLAKE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	131
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	128	110
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	909	1,269	1,247
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	422
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**909**	**1,397**	**1,910**
	TOTAL RECOMMENDED CONSERVATION	**16**	**198**	**294**	**437**	**595**	**632**
OVILLA | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	101
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	48	86
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**48**	**187**
	TOTAL RECOMMENDED CONSERVATION	**82**	**195**	**240**	**314**	**396**	**751**
PALMER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	50	76	157
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	53
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**50**	**76**	**210**
	TOTAL RECOMMENDED CONSERVATION	**2**	**4**	**4**	**7**	**11**	**26**
PALOMA CREEK NORTH | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	39
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	38	33
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	235	249	245
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	83
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**235**	**287**	**400**
	TOTAL RECOMMENDED CONSERVATION	**15**	**154**	**173**	**181**	**188**	**196**
PALOMA CREEK SOUTH | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	20
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	20	17
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	119	126	125
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	42
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**119**	**146**	**204**

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	TOTAL RECOMMENDED CONSERVATION	**7**	**77**	**87**	**91**	**94**	**98**
PANTEGO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	25	23	19
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	6
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**25**	**23**	**25**
	TOTAL RECOMMENDED CONSERVATION	**5**	**7**	**7**	**9**	**11**	**13**
PARKER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	388	512	511
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	173
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**388**	**512**	**684**
	TOTAL RECOMMENDED CONSERVATION	**178**	**202**	**211**	**259**	**305**	**372**
PELICAN BAY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	1	2
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**1**	**3**
	TOTAL RECOMMENDED CONSERVATION	**1**	**2**	**1**	**2**	**2**	**2**
PILOT POINT | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	95
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	71	80
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	323	462	589
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	199
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**323**	**533**	**963**
	TOTAL RECOMMENDED CONSERVATION	**7**	**12**	**16**	**31**	**51**	**80**
PLANO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6,842	8,391	7,477
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2,530
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6,842**	**8,391**	**10,007**
	TOTAL RECOMMENDED CONSERVATION	**3,661**	**4,094**	**4,383**	**4,153**	**4,401**	**4,691**
POETRY WSC | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	11	18	20
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	7
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**11**	**18**	**27**
	TOTAL RECOMMENDED CONSERVATION	**0**	**1**	**1**	**2**	**2**	**4**
POETRY WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	11	17	20
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	7
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**11**	**17**	**27**
	TOTAL RECOMMENDED CONSERVATION	**1**	**1**	**0**	**1**	**2**	**3**
PONDER | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	35
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	29	30
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	143	191	219
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	74
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**143**	**220**	**358**
	TOTAL RECOMMENDED CONSERVATION	**3**	**6**	**7**	**12**	**18**	**29**
PRINCETON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,006	1,193	1,034

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PRINCETON | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	350
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,006**	**1,193**	**1,384**
	TOTAL RECOMMENDED CONSERVATION	**11**	**56**	**100**	**147**	**178**	**209**
PROSPER | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,856	2,475	1,867
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	632
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,856**	**2,475**	**2,499**
	TOTAL RECOMMENDED CONSERVATION	**230**	**346**	**423**	**556**	**701**	**744**
PROVIDENCE VILLAGE WCID | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	18
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	18	15
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	109	114	111
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	37
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**109**	**132**	**181**
	TOTAL RECOMMENDED CONSERVATION	**8**	**11**	**9**	**12**	**15**	**19**
R C H WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	155	246	265
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	89
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**155**	**246**	**354**
	TOTAL RECOMMENDED CONSERVATION	**47**	**77**	**88**	**112**	**154**	**202**
RED OAK | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	195
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	117	165
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**117**	**360**
	TOTAL RECOMMENDED CONSERVATION	**10**	**14**	**19**	**38**	**56**	**103**
RENO (Parker) | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	12	13	12
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	4
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**12**	**13**	**16**
	TOTAL RECOMMENDED CONSERVATION	**2**	**2**	**2**	**2**	**3**	**4**
RHOME | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	208	344	430
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	145
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**208**	**344**	**575**
	TOTAL RECOMMENDED CONSERVATION	**20**	**35**	**42**	**72**	**101**	**138**
RICE WATER SUPPLY AND SEWER SERVICE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	1	8
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	3
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**1**	**11**
	TOTAL RECOMMENDED CONSERVATION	**10**	**18**	**20**	**31**	**45**	**63**
RICHARDSON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2,667	3,308	3,001
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1,015
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2,667**	**3,308**	**4,016**
	TOTAL RECOMMENDED CONSERVATION	**1,325**	**1,468**	**1,442**	**1,568**	**1,683**	**1,828**
RICHLAND HILLS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	134	170	190

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RICHLAND HILLS | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	64
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**134**	**170**	**254**
	TOTAL RECOMMENDED CONSERVATION	**10**	**14**	**12**	**20**	**29**	**38**
RIVER OAKS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	94	106	103
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	35
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**94**	**106**	**138**
	TOTAL RECOMMENDED CONSERVATION	**11**	**13**	**8**	**10**	**13**	**16**
ROANOKE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	140	204	227
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	77
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**140**	**204**	**304**
	TOTAL RECOMMENDED CONSERVATION	**19**	**150**	**192**	**204**	**215**	**226**
ROCKETT SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	802	1,281	1,855
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	628
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**802**	**1,281**	**2,483**
	TOTAL RECOMMENDED CONSERVATION	**44**	**83**	**80**	**133**	**214**	**325**
ROCKWALL | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2,178	2,824	2,645
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	895
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2,178**	**2,824**	**3,540**
	TOTAL RECOMMENDED CONSERVATION	**620**	**927**	**1,271**	**1,440**	**1,666**	**1,911**
ROSE HILL SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	85	131	174
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	59
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**85**	**131**	**233**
	TOTAL RECOMMENDED CONSERVATION	**3**	**6**	**6**	**10**	**18**	**35**
ROWLETT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,173	1,482	1,369
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	463
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,173**	**1,482**	**1,832**
	TOTAL RECOMMENDED CONSERVATION	**409**	**483**	**493**	**557**	**623**	**700**
ROYSE CITY | SABINE BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	647	1,146	1,204
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	407
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**647**	**1,146**	**1,611**
	TOTAL RECOMMENDED CONSERVATION	**12**	**31**	**40**	**95**	**168**	**242**
RUNAWAY BAY | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	106	137	165
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	56
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**106**	**137**	**221**
	TOTAL RECOMMENDED CONSERVATION	**28**	**38**	**42**	**52**	**62**	**77**
SACHSE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	428	539	482
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	163

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SACHSE | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**428**	**539**	**645**
	TOTAL RECOMMENDED CONSERVATION	**389**	**407**	**397**	**416**	**433**	**447**
SAGINAW | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	401	469	466
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	158
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**401**	**469**	**624**
	TOTAL RECOMMENDED CONSERVATION	**205**	**243**	**245**	**267**	**280**	**294**
SANGER | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	46
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	37	39
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	170	239	288
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	97
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**170**	**276**	**470**
	TOTAL RECOMMENDED CONSERVATION	**44**	**59**	**71**	**92**	**118**	**151**
SANSOM PARK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	2	6	10
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	3
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**2**	**6**	**13**
	TOTAL RECOMMENDED CONSERVATION	**5**	**7**	**6**	**8**	**11**	**14**
SARDIS LONE ELM WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,270	1,394	1,274
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	431
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,270**	**1,394**	**1,705**
	TOTAL RECOMMENDED CONSERVATION	**441**	**655**	**751**	**815**	**875**	**904**
SEAGOVILLE | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	178
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	184	150
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**184**	**328**
	TOTAL RECOMMENDED CONSERVATION	**72**	**94**	**104**	**129**	**158**	**170**
SEIS LAGOS UD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	56	69	61
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	21
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**56**	**69**	**82**
	TOTAL RECOMMENDED CONSERVATION	**24**	**27**	**26**	**29**	**31**	**33**
SHERMAN | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**152**	**206**	**195**	**251**	**1,048**	**1,868**
SOUTH ELLIS COUNTY WSC | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	6	0	65
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	22
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**6**	**0**	**87**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**6**	**152**	**502**	**705**
SOUTHLAKE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,737	2,283	2,523
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	854
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,737**	**2,283**	**3,377**

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SOUTHLAKE | TRINITY BASIN	**TOTAL RECOMMENDED CONSERVATION**	**509**	**712**	**807**	**981**	**1,170**	**1,380**
SPRINGTOWN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	232	219	187
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	63
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**232**	**219**	**250**
	TOTAL RECOMMENDED CONSERVATION	**115**	**301**	**298**	**301**	**304**	**308**
STEAM ELECTRIC POWER, DALLAS | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	46
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	43	39
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**43**	**85**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, ELLIS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	32	38	37
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	13
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**32**	**38**	**50**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, FREESTONE | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	88	100	98
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	33
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**88**	**100**	**131**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, FREESTONE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	760	861	840
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	284
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**760**	**861**	**1,124**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, HENDERSON | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	83	94	92
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	31
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**83**	**94**	**123**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, JACK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	476	539	526
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	178
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**476**	**539**	**704**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, KAUFMAN | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	128	152	132
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	45
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**128**	**152**	**177**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, TARRANT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	205	233	227
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	77
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**205**	**233**	**304**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
STEAM ELECTRIC POWER, WISE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	365	413	404

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STEAM ELECTRIC POWER, WISE | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	137
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**365**	**413**	**541**
	TOTAL RECOMMENDED CONSERVATION	**0**	**0**	**0**	**0**	**0**	**0**
SUNNYVALE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	462	546	477
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	161
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**462**	**546**	**638**
	TOTAL RECOMMENDED CONSERVATION	**89**	**148**	**189**	**240**	**255**	**271**
TALTY SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	294	504	616
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	208
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**294**	**504**	**824**
	TOTAL RECOMMENDED CONSERVATION	**93**	**132**	**148**	**217**	**319**	**461**
TERRELL | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	1,584	1,957	2,030
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	687
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**1,584**	**1,957**	**2,717**
	TOTAL RECOMMENDED CONSERVATION	**160**	**355**	**465**	**578**	**686**	**848**
THE COLONY | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	274
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	256	231
	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	230	275	239
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	81
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**230**	**531**	**825**
	TOTAL RECOMMENDED CONSERVATION	**124**	**175**	**169**	**214**	**247**	**280**
TROPHY CLUB MUD 1 | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	410	481	478
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	162
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**410**	**481**	**640**
	TOTAL RECOMMENDED CONSERVATION	**241**	**286**	**277**	**293**	**309**	**325**
TWO WAY SUD | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**3**	**7**	**6**	**12**	**20**	**30**
TWO WAY SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**4**	**6**	**11**	**16**
VAN ALSTYNE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	62	233	302
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	102
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**62**	**233**	**404**
	TOTAL RECOMMENDED CONSERVATION	**24**	**33**	**45**	**61**	**131**	**181**
VENUS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	3	4	5

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VENUS | TRINITY BASIN	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	2
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**3**	**4**	**7**
	TOTAL RECOMMENDED CONSERVATION	**0**	**3**	**4**	**6**	**8**	**9**
WALNUT CREEK SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	665	1,130	1,396
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	473
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**665**	**1,130**	**1,869**
	TOTAL RECOMMENDED CONSERVATION	**15**	**26**	**25**	**44**	**78**	**120**
WATAUGA | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	277	319	315
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	107
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**277**	**319**	**422**
	TOTAL RECOMMENDED CONSERVATION	**112**	**121**	**114**	**120**	**128**	**136**
WAXAHACHIE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	115	760	1,802
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	610
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**115**	**760**	**2,412**
	TOTAL RECOMMENDED CONSERVATION	**66**	**109**	**509**	**755**	**964**	**1,229**
WEATHERFORD | BRAZOS BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	39	181	274
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	93
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**39**	**181**	**367**
	TOTAL RECOMMENDED CONSERVATION	**13**	**23**	**30**	**53**	**91**	**130**
WEATHERFORD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	660	3,056	4,623
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	1,564
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**660**	**3,056**	**6,187**
	TOTAL RECOMMENDED CONSERVATION	**207**	**409**	**513**	**886**	**1,511**	**2,162**
WEST CEDAR CREEK MUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	172	238	284
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	96
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**172**	**238**	**380**
	TOTAL RECOMMENDED CONSERVATION	**12**	**17**	**16**	**23**	**33**	**48**
WEST WISE SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	62	73	72
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	24
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**62**	**73**	**96**
	TOTAL RECOMMENDED CONSERVATION	**4**	**5**	**5**	**7**	**8**	**10**
WESTLAKE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**15**	**268**	**460**	**545**	**575**	**605**
WESTOVER HILLS | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	77	97	101
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	34

Region C Water User Groups (WUGs)
Recommended Water Management Strategy (WMS) Supply Associated with a New or Amended Inter-Basin Transfer (IBT) Permit and Total Recommended Conservation WMS Supply

WESTOVER HILLS | TRINITY BASIN	**TOTAL RECOMMENDED IBT WMS SUPPLY**	**0**	**0**	**0**	**77**	**97**	**135**
	TOTAL RECOMMENDED CONSERVATION	**8**	**71**	**105**	**111**	**116**	**122**
WESTWORTH VILLAGE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	58	69	71
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	24
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**58**	**69**	**95**
	TOTAL RECOMMENDED CONSERVATION	**3**	**5**	**4**	**6**	**8**	**11**
WHITE SETTLEMENT | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	218	336	414
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	140
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**218**	**336**	**554**
	TOTAL RECOMMENDED CONSERVATION	**20**	**30**	**26**	**39**	**60**	**85**
WHITESBORO | RED BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**2**	**2**	**2**	**3**	**4**	**7**
WHITESBORO | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	0
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RECOMMENDED CONSERVATION	**2**	**3**	**3**	**3**	**5**	**8**
WILLOW PARK | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	485	665	667
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	226
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**485**	**665**	**893**
	TOTAL RECOMMENDED CONSERVATION	**11**	**20**	**17**	**30**	**45**	**60**
WILMER | TRINITY BASIN	NECHES BASIN | ANRA-COL - LAKE COLUMBIA	0	0	0	0	0	157
	NECHES BASIN | UNM-ROR-NECHES RUN OF RIVER	0	0	0	0	81	132
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**0**	**81**	**289**
	TOTAL RECOMMENDED CONSERVATION	**17**	**5**	**7**	**19**	**39**	**83**
WYLIE | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	757	968	940
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	318
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**757**	**968**	**1,258**
	TOTAL RECOMMENDED CONSERVATION	**377**	**435**	**443**	**499**	**546**	**622**
WYLIE NORTHEAST SUD | TRINITY BASIN	SULPHUR BASIN | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	0	0	0	162	287	366
	SULPHUR BASIN | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	0	0	0	0	0	124
	TOTAL RECOMMENDED IBT WMS SUPPLY	**0**	**0**	**0**	**162**	**287**	**490**
	TOTAL RECOMMENDED CONSERVATION	**5**	**9**	**9**	**22**	**43**	**74**

Region C Sponsored Recommended Water Management Strategy (WMS) Supplies Unallocated* to Water User Groups (WUG)

WMS NAME	WMS SPONSOR	SOURCE NAME	UNALLOCATED STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
DWU - CONSERVATION SURPLUS REALLOCATION	UPPER TRINITY REGIONAL WD	C | RAY ROBERTS-LEWISVILLE-GRAPEVINE LAKE/RESERVOIR SYSTEM	0	0	0	0	86	62
DWU - CONSERVATION SURPLUS REALLOCATION	UPPER TRINITY REGIONAL WD	D | TAWAKONI LAKE/RESERVOIR	520	115	73	102	0	0
DWU - INDIRECT REUSE IMPLEMENTATION	DALLAS	C | TRINITY INDIRECT REUSE	26,294	32,157	22,992	61,563	56,951	58,748
DWU - INDIRECT REUSE IMPLEMENTATION	UPPER TRINITY REGIONAL WD	C | TRINITY INDIRECT REUSE	1,205	699	995	4,598	4,445	3,260
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	NORTH TEXAS MWD	D | MARVIN NICHOLS LAKE/RESERVOIR	0	0	0	106,046	86,289	90,750
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	TARRANT REGIONAL WD	D | MARVIN NICHOLS LAKE/RESERVOIR	0	0	0	81,257	52,945	34,937
MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD	UPPER TRINITY REGIONAL WD	D | MARVIN NICHOLS LAKE/RESERVOIR	0	0	0	12,164	9,154	7,176
NTMWD - ADDITIONAL LAVON WATERSHED REUSE	NORTH TEXAS MWD	C | TRINITY INDIRECT REUSE	0	0	0	7,485	13,468	21,005
NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD	NORTH TEXAS MWD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	7,827	4,937	6,436	4,159	3,910
NTMWD - BOIS D'ARC LAKE	NORTH TEXAS MWD	C | BOIS D ARC LAKE/RESERVOIR	49,413	75,406	50,384	59,520	36,264	27,756
NTMWD - EXPANDED WETLAND REUSE	NORTH TEXAS MWD	C | TRINITY INDIRECT REUSE	0	5,811	8,577	15,546	16,101	20,327
NTMWD - OKLAHOMA	NORTH TEXAS MWD	OK | OKLAHOMA RUN-OF-RIVER	0	0	0	0	0	27,087
NTMWD - TEXOMA BLENDING	NORTH TEXAS MWD	C | NORTH TEXAS MWD LAKE/RESERVOIR SYSTEM	0	0	18,602	60,502	49,091	61,731
TRWD - ADDITIONAL CEDAR CREEK AND RICHLAND-CHAMBERS	TARRANT REGIONAL WD	C | TRINITY INDIRECT REUSE	0	24,220	10,059	18,416	8,520	3,316
TRWD - AQUIFER STORAGE AND RECOVERY PILOT	TARRANT REGIONAL WD	C | TRINITY AQUIFER ASR | TARRANT COUNTY	2,500	1,710	2,011	2,430	1,581	1,042
TRWD - CARRIZO-WILCOX GROUNDWATER	TARRANT REGIONAL WD	C | CARRIZO-WILCOX AQUIFER | FREESTONE COUNTY	0	0	468	952	484	214
TRWD - CARRIZO-WILCOX GROUNDWATER	TARRANT REGIONAL WD	I | CARRIZO-WILCOX AQUIFER | ANDERSON COUNTY	0	0	3,506	6,830	3,540	1,629
TRWD - CARRIZO-WILCOX GROUNDWATER	TARRANT REGIONAL WD	I | QUEEN CITY AQUIFER | ANDERSON COUNTY	0	0	1,847	3,717	1,874	805
TRWD - CEDAR CREEK WETLANDS	TARRANT REGIONAL WD	C | TRINITY INDIRECT REUSE	0	26,165	22,482	34,352	26,511	18,371
TRWD - REUSE FROM TRA CENTRAL WWTP	TARRANT REGIONAL WD	C | TRINITY INDIRECT REUSE	0	13,654	12,083	19,402	15,803	12,519
TRWD - TEHUACANA	TARRANT REGIONAL WD	C | TEHUACANA LAKE/RESERVOIR	0	0	8,492	10,219	6,656	4,397
TRWD - UNALLOCATED SUPPLY UTILIZATION	TARRANT REGIONAL WD	C | TRWD LAKE/RESERVOIR SYSTEM	507	1,049	28	28	31	56
UTRWD - ADDITIONAL INDIRECT REUSE	UPPER TRINITY REGIONAL WD	C | TRINITY INDIRECT REUSE	0	0	0	4,808	3,621	3,796
UTRWD - RALPH HALL RESERVOIR AND REUSE	UPPER TRINITY REGIONAL WD	C | RALPH HALL LAKE/RESERVOIR	0	26,483	15,548	18,166	13,651	10,670
UTRWD - RALPH HALL RESERVOIR AND REUSE	UPPER TRINITY REGIONAL WD	C | SULPHUR INDIRECT REUSE	0	9,417	5,837	7,176	5,388	4,222
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	NORTH TEXAS MWD	D | WRIGHT PATMAN LAKE/RESERVOIR	0	0	0	0	0	30,704
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	TARRANT REGIONAL WD	D | WRIGHT PATMAN LAKE/RESERVOIR	0	0	0	0	0	11,819
WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD	UPPER TRINITY REGIONAL WD	D | WRIGHT PATMAN LAKE/RESERVOIR	0	0	0	0	0	2,430
		TOTAL UNALLOCATED STRATEGY SUPPLIES	**80,439**	**224,713**	**188,921**	**541,715**	**416,613**	**462,739**

* Strategy supplies created through the WMS that have not been assigned to a WUG will be allocated to the entity responsible for the water through an 'unassigned water volumes' entity. Only strategy supplies associated with an 'unassigned water volume' entity are shown in this report, and may not represent all strategy supplies associated with the listed WMS.

Region C Water User Group (WUG) Strategy Supplies by Water Management Strategy (WMS) Type

WMS TYPE *	STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AQUIFER STORAGE & RECOVERY	0	706	2,672	2,294	3,122	3,676
GROUNDWATER WELLS & OTHER	6,331	6,630	24,405	22,766	29,626	35,814
INDIRECT REUSE	6,421	86,373	158,389	213,913	294,754	342,494
IRRIGATION CONSERVATION	2	38	74	94	134	174
MUNICIPAL CONSERVATION	93,989	126,736	134,293	153,686	172,867	191,945
NEW MAJOR RESERVOIR	583	57,385	104,463	242,283	322,720	382,827
OTHER CONSERVATION	6,261	6,269	6,348	7,495	8,477	10,098
OTHER DIRECT REUSE	494	12,409	18,419	20,828	21,163	21,159
OTHER STRATEGIES	0	10,621	18,076	22,009	30,759	40,778
OTHER SURFACE WATER	15,215	53,599	120,626	144,570	191,261	306,581
SEAWATER DESALINATION	0	0	0	0	0	0
CONJUNCTIVE USE	0	0	0	0	0	0
DIRECT POTABLE REUSE	0	0	0	0	0	0
GROUNDWATER DESALINATION	0	0	0	0	0	0
DROUGHT MANAGEMENT	0	0	0	0	0	0
TOTAL STRATEGY SUPPLIES	**129,296**	**360,766**	**587,765**	**829,938**	**1,074,883**	**1,335,546**

* WMS type descriptions can be found on the interactive state water plan website at http://texasstatewaterplan.org/ using the 'View data for' drop-down menus to navigate to a specific WMS Type page. The data used to create each WMS type value is available in Appendix 3 of the Guidelines for Regional Water Planning Data Deliverable (Exhibit D) document at http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/ExhibitD.pdf

Region C Water User Group (WUG)
Recommended Water Management Strategy (WMS) Supplies by Source Type

SOURCE SUBTYPE*	STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AQUIFER STORAGE & RECOVERY	0	706	2,672	2,294	3,122	3,676
GROUNDWATER	6,331	6,630	24,405	22,766	29,626	35,814
GROUNDWATERTOTAL STRATEGY SUPPLIES	**6,331**	**7,336**	**27,077**	**25,060**	**32,748**	**39,490**
DIRECT NON-POTABLE REUSE	494	12,409	18,419	20,828	21,163	21,159
DIRECT POTABLE REUSE	0	0	0	0	0	0
INDIRECT NON-POTABLE REUSE	0	27,539	27,539	27,539	27,539	27,539
INDIRECT POTABLE REUSE	6,421	58,834	130,850	186,374	267,215	314,955
REUSE TOTAL STRATEGY SUPPLIES	**6,915**	**98,782**	**176,808**	**234,741**	**315,917**	**363,653**
ATMOSPHERE	0	0	0	0	0	0
GULF OF MEXICO	0	0	0	0	0	0
LIVESTOCK LOCAL SUPPLY	0	0	0	0	0	0
OTHER LOCAL SUPPLY	0	0	0	0	0	0
RAINWATER HARVESTING	0	0	0	0	0	0
RESERVOIR	6,899	92,953	180,647	332,018	427,869	581,178
RESERVOIR SYSTEM	8,899	28,660	62,518	76,844	91,034	99,932
RUN-OF-RIVER	0	0	0	0	25,837	49,076
SURFACE WATERTOTAL STRATEGY SUPPLIES	**15,798**	**121,613**	**243,165**	**408,862**	**544,740**	**730,186**
REGION C TOTAL STRATEGY SUPPLIES	**29,044**	**227,731**	**447,050**	**668,663**	**893,405**	**1,133,329**

* A full list of source subtype definitions can be found in section 3 of the Guidelines for Regional Water Planning Data Deliverable (Exhibit D) document at http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/ExhibitD.pdf.

Region C Major Water Provider (MWP) Existing Sales and Transfers

Major Water Providers are entities of particular significance to a region's water supply as defined by the Regional Water Planning Group (RWPG), and may be a Water User Group (WUG) entity, Wholesale Water Provider (WWP) entity , or both (WUG/WWP).

Retail denotes WUG projected demands and existing water supplies used by the WUG. Wholesale denotes a WWP or WUG/WWP selling water to another entity.

DALLAS - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	275,297	292,402	326,909	361,492	389,250	402,811
PROJECTED WHOLESALE CONTRACT DEMANDS	253,213	260,934	278,269	290,920	302,221	314,565
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**528,510**	**553,336**	**605,178**	**652,412**	**691,471**	**717,376**
REUSE SALES TO RETAIL CUSTOMERS	26,467	30,768	33,472	37,405	45,657	50,791
SURFACE WATER SALES TO RETAIL CUSTOMERS	237,765	236,344	237,129	238,565	237,269	230,665
REUSE SALES TO WHOLESALE CUSTOMERS	18,105	19,520	20,196	21,256	24,777	28,035
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	225,081	218,205	209,123	199,166	191,919	189,980
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**507,418**	**504,837**	**499,920**	**496,392**	**499,622**	**499,471**

FORT WORTH - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	189,110	234,597	286,277	317,771	345,469	373,410
PROJECTED WHOLESALE CONTRACT DEMANDS	99,974	111,335	120,688	134,194	145,379	157,962
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**289,084**	**345,932**	**406,965**	**451,965**	**490,848**	**531,372**
REUSE SALES TO RETAIL CUSTOMERS	35,931	40,202	44,455	49,078	53,899	59,762
SURFACE WATER SALES TO RETAIL CUSTOMERS	147,041	144,415	143,983	138,914	134,498	128,337
REUSE SALES TO WHOLESALE CUSTOMERS	4,366	4,423	4,423	4,423	4,423	4,423
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	95,597	93,952	90,131	90,577	90,172	90,470
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**282,935**	**282,992**	**282,992**	**282,992**	**282,992**	**282,992**

GREATER TEXOMA UTILITY AUTHORITY - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	16,993	27,747	35,517	42,859	53,605	67,226
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**16,993**	**27,747**	**35,517**	**42,859**	**53,605**	**67,226**
REUSE SALES TO WHOLESALE CUSTOMERS	1,488	2,005	2,172	2,272	2,566	2,642
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	15,138	15,648	15,838	16,764	18,812	18,890
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**16,626**	**17,653**	**18,010**	**19,036**	**21,378**	**21,532**

NORTH TEXAS MWD - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	387,605	441,102	503,137	566,333	631,445	689,815
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**387,605**	**441,102**	**503,137**	**566,333**	**631,445**	**689,815**
REUSE SALES TO WHOLESALE CUSTOMERS	138,633	153,556	164,378	167,241	167,245	167,242
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	245,965	210,735	213,173	212,939	212,003	211,032
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**384,598**	**364,291**	**377,551**	**380,180**	**379,248**	**378,274**

TARRANT REGIONAL WD - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	492,023	573,801	648,535	721,969	795,268	885,792
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**492,023**	**573,801**	**648,535**	**721,969**	**795,268**	**885,792**
REUSE SALES TO WHOLESALE CUSTOMERS	35,931	40,202	44,455	49,078	53,899	59,762
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	443,441	441,254	432,705	424,178	413,819	401,385
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**479,372**	**481,456**	**477,160**	**473,256**	**467,718**	**461,147**

Region C Major Water Provider (MWP) Existing Sales and Transfers

TRINITY RIVER AUTHORITY - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
PROJECTED WHOLESALE CONTRACT DEMANDS	416,867	418,371	421,307	426,432	432,324	446,273
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**416,867**	**418,371**	**421,307**	**426,432**	**432,324**	**446,273**
REUSE SALES TO WHOLESALE CUSTOMERS	3,479	3,882	4,614	5,129	5,129	5,129
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	412,437	408,147	403,688	402,376	401,704	398,619
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**415,916**	**412,029**	**408,302**	**407,505**	**406,833**	**403,748**

UPPER TRINITY REGIONAL WD - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
PROJECTED WHOLESALE CONTRACT DEMANDS	47,937	70,413	90,108	111,666	128,699	147,248
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	**47,937**	**70,413**	**90,108**	**111,666**	**128,699**	**147,248**
REUSE SALES TO WHOLESALE CUSTOMERS	4,177	4,201	4,471	4,807	4,891	4,952
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	43,760	44,739	44,470	44,131	44,049	43,987
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	**47,937**	**48,940**	**48,941**	**48,938**	**48,940**	**48,939**

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

MWPs are entities of significance to a region's water supply as defined by the Regional Water Planning Group (RWPG) and may be a Water User Group (WUG) entity, Wholesale Water Provider (WWP) entity, or both (WUG/WWP).'MWP Retail Customers' denotes recommended WMS supply used by the WUG. 'Transfers Related to Wholesale Customers' denotes a WWP or WUG/WWP selling or transferring recommended WMS supply to another entity. Supply associated with the MWP's wholesale transfers will only display if it is listed as the main seller in the State Water Planning database, even if multiple sellers are involved with the sale o water to WUGs. Unallocated water volumes represent MWP recommended WMS supply not currently allocated to a customer of the MWP.'Total MWP Related WMS Supply' will display if the MWP's WMS is related to more than one WMS supply type (retail, wholesale, and/or unallocated). Associated WMS Projects are listed when the MWP is one of the project's sponsors. Report contains draft data and is subject to change.

DALLAS | ANRA-COL - LAKE COLUMBIA						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	0	0	0	11,228
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	0	20,132
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	0	24,640
TOTAL MWP RELATED WMS SUPPLY	0	0	0	0	0	56,000
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
DWU - LAKE COLUMBIA	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION					

DALLAS | CONSERVATION - DALLAS						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	6,652	12,936	27,585	32,810	34,724	35,863

DALLAS | CONSERVATION, IRRIGATION RESTRICTIONS– DALLAS						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	8,259	8,772	9,807	10,845	11,678	12,084

DALLAS | CONSERVATION, WATER LOSS CONTROL - DALLAS						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	2,752	2,924	0	0	0	0
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
CONSERVATION, WATER LOSS CONTROL - DALLAS	WATER LOSS CONTROL					

DALLAS | DWU - CONSERVATION SURPLUS REALLOCATION						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	27	378	504	569	587
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	752	460	712	798	994	1,054
TOTAL MWP RELATED WMS SUPPLY	752	487	1,090	1,302	1,563	1,641

DALLAS | DWU - INDIRECT REUSE IMPLEMENTATION						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	160	5,323	22,954	29,541	31,757
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	1,735	2,735	12,809	40,185	57,736	64,623
RELATED UNALLOCATED WMS WATER VOLUMES	26,294	32,157	22,992	61,563	56,951	58,748
TOTAL MWP RELATED WMS SUPPLY	28,029	35,052	41,124	124,702	144,228	155,128

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
DWU - MAIN STEM BALANCING RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION; NEW SURFACE WATER INTAKE

DALLAS | DWU - LAKE PALESTINE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	471	13,215	18,409	20,424	20,362
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	8,060	24,844	29,017	35,783	36,506
TOTAL MWP RELATED WMS SUPPLY	0	8,531	38,059	47,426	56,207	56,868

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
DWU - CONNECT IPL TO BACHMAN	CONVEYANCE/TRANSMISSION PIPELINE
DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2020	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK
DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2030	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK
DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2040	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK
DWU - PARALLEL IPL	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK

DALLAS | UNM-ROR-NECHES RUN OF RIVER

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	0	0	9,388	9,474
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	16,449	16,986
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	21,413	20,790
TOTAL MWP RELATED WMS SUPPLY	0	0	0	0	47,250	47,250

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
DWU - NECHES RIVER RUN-OF-THE-RIVER DIVERSIONS	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; STORAGE TANK
DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2040	WATER TREATMENT PLANT EXPANSION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK

FORT WORTH | ALLIANCE DIRECT REUSE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	1,344	3,696	3,696	3,696	3,696
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	1,003	3,002	4,058	4,144	4,144
TOTAL MWP RELATED WMS SUPPLY	0	2,347	6,698	7,754	7,840	7,840

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
FORT WORTH DIRECT REUSE - ALLIANCE CORRIDOR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION

FORT WORTH | CONSERVATION - FORT WORTH

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	3,156	4,702	5,546	6,502	8,207	10,102

FORT WORTH | CONSERVATION, IRRIGATION RESTRICTIONS– FORT WORTH

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	5,673	7,038	8,588	9,504	10,318	11,145

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

FORT WORTH | CONSERVATION, WATER LOSS CONTROL - FORT WORTH						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	17,960	20,007	8,588	6,336	3,439	0
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
CONSERVATION, WATER LOSS CONTROL - FORT WORTH	WATER LOSS CONTROL					

FORT WORTH | FORT WORTH - UNALLOCATED SUPPLY UTILIZATION						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	15,961	25,228	26,749	23,525	18,821
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
FORT WORTH - 35 MGD WTP EXPANSION-EAGLE MOUNTAIN	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 23 MGD WTP EXPANSION-WEST PLANT	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 50 MGD WTP EXPANSION-ROLLING HILLS	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 35 MGD WTP EXPANSION-WEST PLANT	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 30 MGD WTP EXPANSION-EAGLE MOUNTAIN	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 1	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 2	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 3	WATER TREATMENT PLANT EXPANSION					
FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 4	WATER TREATMENT PLANT EXPANSION					

FORT WORTH | FORT WORTH - VILLAGE AND MARY CREEK WRF FUTURE DIRECT REUSE						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	6,687	6,687	6,687	6,687	6,687
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
FORT WORTH VILLAGE CREEK WRF FUTURE DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
FORT WORTH MARY'S CREEK WRF FUTURE DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					

FORT WORTH | INTEGRATED PIPELINE						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	21,285	21,745	31,839	35,846

FORT WORTH | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	0	29,809	40,887	46,636

FORT WORTH | TRWD - AQUIFER STORAGE AND RECOVERY PILOT						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	951	890	1,220	1,392

FORT WORTH | TRWD - CARRIZO-WILCOX GROUNDWATER						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

MWP RETAIL CUSTOMERS	0	0	6,088	5,694	7,810	8,908

FORT WORTH | TRWD - REUSE FROM TRA CENTRAL WWTP						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	5,707	7,117	12,203	16,703

FORT WORTH | TRWD - TEHUACANA						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	4,008	3,749	5,142	5,866

FORT WORTH | TRWD - UNALLOCATED SUPPLY UTILIZATION						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	1,467	1,301	2,099	3,731

FORT WORTH | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	0	0	0	15,778

GREATER TEXOMA UTILITY AUTHORITY | GTUA - CONNECTION FROM SHERMAN TO CGMA						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	2,271	2,523	3,241	4,484	4,484
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GTUA - CONNECTION FROM SHERMAN TO CGMA	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

GREATER TEXOMA UTILITY AUTHORITY | GTUA - REGIONAL WATER SYSTEM						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	7,871	14,801	17,592	22,572	22,691
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GTUA - REGIONAL WATER SYSTEM PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMEN PLANT EXPANSION					
GTUA - REGIONAL WATER SYSTEM PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMEN PLANT EXPANSION					

NORTH TEXAS MWD | INCREASE EXISTING CONTRACT (CASH SUD)						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	332	416	568	642	471	337

NORTH TEXAS MWD | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	61,478	81,235	76,774
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	106,046	86,289	90,750
TOTAL MWP RELATED WMS SUPPLY	0	0	0	167,524	167,524	167,524

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2060-2070	NEW WATER TREATMENT PLANT; WATER TREATMENT PLANT EXPANSION

NORTH TEXAS MWD | NTMWD - ADDITIONAL LAVON WATERSHED REUSE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	4,341	12,672	17,775
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	7,485	13,468	21,005
TOTAL MWP RELATED WMS SUPPLY	0	0	0	11,826	26,140	38,780

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
NTMWD - ADDITIONAL LAVON WATERSHED REUSE	NEW WATER RIGHT/PERMIT NO IBT

NORTH TEXAS MWD | NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAVON YIELD

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	5,534	7,461	4,999	6,314	5,600
RELATED UNALLOCATED WMS WATER VOLUMES	0	7,827	4,937	6,436	4,159	3,910
TOTAL MWP RELATED WMS SUPPLY	0	13,361	12,398	11,435	10,473	9,510

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
NTMWD - ADDITIONAL MEASURE TO ACCESS FULL LAKE LAVON YIELD	CONVEYANCE/TRANSMISSION PIPELINE

NORTH TEXAS MWD | NTMWD - BOIS D'ARC LAKE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	587	44,794	69,816	59,680	82,136	89,844
RELATED UNALLOCATED WMS WATER VOLUMES	49,413	75,406	50,384	59,520	36,264	27,756
TOTAL MWP RELATED WMS SUPPLY	50,000	120,200	120,200	119,200	118,400	117,600

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
NTMWD - BOIS D'ARC LAKE	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION
NTWMD - FANNIN COUNTY WATER SUPPLY PROJECT	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2020-2030	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2030-2040	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2040-2050	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2060-2070	NEW WATER TREATMENT PLANT; WATER TREATMENT PLANT EXPANSION

NORTH TEXAS MWD | NTMWD - EXPANDED WETLAND REUSE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	3,353	9,678	9,010	15,146	17,183
RELATED UNALLOCATED WMS WATER VOLUMES	0	5,811	8,577	15,546	16,101	20,327

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

TOTAL MWP RELATED WMS SUPPLY	0	9,164	18,255	24,556	31,247	37,510
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
NTMWD - EXPANDED WETLAND REUSE	PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; NEW WATER TREATMENT PLANT					

NORTH TEXAS MWD | NTMWD - OKLAHOMA						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	0	22,913
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	0	27,087
TOTAL MWP RELATED WMS SUPPLY	0	0	0	0	0	50,000
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
NTMWD - OKLAHOMA WATER	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION					
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2060-2070	NEW WATER TREATMENT PLANT; WATER TREATMENT PLANT EXPANSION					

NORTH TEXAS MWD | NTMWD - TEXOMA BLENDING						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	20,969	35,072	46,217	52,202
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	18,602	60,502	49,091	61,731
TOTAL MWP RELATED WMS SUPPLY	0	0	39,571	95,574	95,308	113,933
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE II	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE I	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2030-2040	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2040-2050	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2060-2070	NEW WATER TREATMENT PLANT; WATER TREATMENT PLANT EXPANSION					

NORTH TEXAS MWD | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	0	25,972
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	0	30,704
TOTAL MWP RELATED WMS SUPPLY	0	0	0	0	0	56,676
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK					

TARRANT REGIONAL WD | INTEGRATED PIPELINE						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	31,490	66,810	62,936	89,222	101,912
RELATED UNALLOCATED WMS WATER VOLUMES	0	50,385	32,541	52,768	35,031	21,687
TOTAL MWP RELATED WMS SUPPLY	0	81,875	99,351	115,704	124,253	123,599
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
TRWD - ADDITIONAL TRANSMISSION PIPELINE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

TRWD - CEDAR CREEK WETLANDS REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION
TRWD - ADDITIONAL CAPACITY TO CONVEY RICHLAND CHAMBERS REUSE (IPL)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK

TARRANT REGIONAL WD | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	86,267	114,579	132,587
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	81,257	52,945	34,937
TOTAL MWP RELATED WMS SUPPLY	0	0	0	167,524	167,524	167,524
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT					

TARRANT REGIONAL WD | TRWD - AQUIFER STORAGE AND RECOVERY PILOT						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	790	2,989	2,570	3,419	3,958
RELATED UNALLOCATED WMS WATER VOLUMES	2,500	1,710	2,011	2,430	1,581	1,042
TOTAL MWP RELATED WMS SUPPLY	2,500	2,500	5,000	5,000	5,000	5,000
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
TRWD - ASR PILOT	MULTIPLE WELLS/WELL FIELD					

TARRANT REGIONAL WD | TRWD - CARRIZO-WILCOX GROUNDWATER						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	19,104	16,483	21,940	25,446
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	5,821	11,499	5,898	2,648
TOTAL MWP RELATED WMS SUPPLY	0	0	24,925	27,982	27,838	28,094
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
TRWD - CARRIZO-WILCOX GROUNDWATER	STORAGE TANK; CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; PUMP STATION					

TARRANT REGIONAL WD | TRWD - REUSE FROM TRA CENTRAL WWTP						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	6,346	17,917	20,598	34,197	47,481
RELATED UNALLOCATED WMS WATER VOLUMES	0	13,654	12,083	19,402	15,803	12,519
TOTAL MWP RELATED WMS SUPPLY	0	20,000	30,000	40,000	50,000	60,000
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
TRWD - REUSE FROM TRA CENTRAL WWTP	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					

TARRANT REGIONAL WD | TRWD - TEHUACANA						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	12,578	10,851	14,414	16,673
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	8,492	10,219	6,656	4,397
TOTAL MWP RELATED WMS SUPPLY	0	0	21,070	21,070	21,070	21,070
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
TRWD - TEHUACANA RESERVOIR	PUMP STATION; RESERVOIR CONSTRUCTION					

TARRANT REGIONAL WD | TRWD - UNALLOCATED SUPPLY UTILIZATION

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	7,146	998	2,777	2,667	4,453	8,291
RELATED UNALLOCATED WMS WATER VOLUMES	507	1,049	28	28	31	56
TOTAL MWP RELATED WMS SUPPLY	7,653	2,047	2,805	2,695	4,484	8,347

TARRANT REGIONAL WD | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	0	44,857
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	0	11,819
TOTAL MWP RELATED WMS SUPPLY	0	0	0	0	0	56,676
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK					

TRINITY RIVER AUTHORITY | IRVING - TRA CENTRAL REUSE PROJECT

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	27,539	27,539	27,539	27,539	27,539

UPPER TRINITY REGIONAL WD | DWU - CONSERVATION SURPLUS REALLOCATION

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
RELATED UNALLOCATED WMS WATER VOLUMES	520	115	73	102	86	62

UPPER TRINITY REGIONAL WD | DWU - INDIRECT REUSE IMPLEMENTATION

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
RELATED UNALLOCATED WMS WATER VOLUMES	1,205	699	995	4,598	4,445	3,260

UPPER TRINITY REGIONAL WD | MARVIN NICHOLS (328) STRATEGY FOR NTMWD, TRWD, AND UTRWD

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	13,988	16,998	18,976
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	12,164	9,154	7,176
TOTAL MWP RELATED WMS SUPPLY	0	0	0	26,152	26,152	26,152
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	RESERVOIR CONSTRUCTION; CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT					

UPPER TRINITY REGIONAL WD | UTRWD - ADDITIONAL DIRECT REUSE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	560	1,121	2,240	2,240	2,240
WMS RELATED MWP SPONSORED PROJECTS	**PROJECT DESCRIPTION**					
UTRWD - ADDITIONAL DIRECT REUSE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

UPPER TRINITY REGIONAL WD | UTRWD - ADDITIONAL INDIRECT REUSE

	WATER VOLUMES (ACRE-FEET PER YEAR)

Region C Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	5,532	6,719	10,042
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	4,808	3,621	3,796
TOTAL MWP RELATED WMS SUPPLY	0	0	0	10,340	10,340	13,838

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2020-2030	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2030-2040	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2040-2050	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2060-2070	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION

UPPER TRINITY REGIONAL WD | UTRWD - RALPH HALL RESERVOIR AND REUSE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	17,264	32,446	29,150	35,337	39,407
RELATED UNALLOCATED WMS WATER VOLUMES	0	35,900	21,385	25,342	19,039	14,892
TOTAL MWP RELATED WMS SUPPLY	0	53,164	53,831	54,492	54,376	54,299

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
UTRWD - LAKE RALPH HALL AND REUSE	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; PUMP STATION; RESERVOIR CONSTRUCTION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2020-2030	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2030-2040	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2040-2050	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2050-2060	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2060-2070	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION

UPPER TRINITY REGIONAL WD | WRIGHT PATMAN REALLOCATION FOR NTMWD, TRWD, AND UTRWD

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	0	6,418
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	0	2,430
TOTAL MWP RELATED WMS SUPPLY	0	0	0	0	0	8,848

WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION
WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW SURFACE WATER INTAKE; RESERVOIR CONSTRUCTION; STORAGE TANK

Appendix E

Water Supply Available

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Appendix E Water Supply Available to Region C

Table E.1 shows the overall water supply available to Region C. **Table E.2** shows the overall water supply available to Region C that was reported in the *2016 Region C Water Plan* [(1)]. The rest of this appendix explains the sources of the data in **Table E.1**. The table represents the water supply that might be available to the region, whether it is currently connected to a water user group or not.

Section Outline

Section E.1 – Methodology for Determining Surface Water Availability

Section E.2 – Water Supply Systems in Region C

Section E.3 – Reservoirs in Region C

Section E.4 – Unpermitted Yields in Region C Reservoirs

Section E.5 – Imports

Section E.6 – Irrigation Local Supply and Other Local Supply

Section E.7 – Reuse

Section E.8 – Desalination

Section E.9 – Groundwater

Table E.1 Overall Water Supply Availability in Region C

Source	Values in Acre-Feet per Year					
	2020	2030	2040	2050	2060	2070
Reservoirs in Region C	1,269,040	1,249,558	1,229,730	1,209,600	1,189,327	1,169,027
Run-of-River Irrigation	8,735	8,735	8,735	8,735	8,735	8,735
Livestock and Other Local Supply	21,248	21,248	21,248	21,248	21,248	21,248
Surface and Groundwater Imports	570,746	520,778	510,783	500,854	491,718	481,582
Groundwater	161,948	161,800	162,386	162,100	162,548	162,150
Reuse	337,067	361,209	378,854	391,173	403,239	411,487
REGION C TOTAL	**2,368,784**	**2,323,328**	**2,311,736**	**2,293,710**	**2,276,815**	**2,254,229**

Table E.2 2016 Plan - Overall Water Supply Availability in Region C

Source	Values in Acre-Feet per Year					
	2020	2030	2040	2050	2060	2070
Reservoirs in Region C	1,275,970	1,256,257	1,236,417	1,216,578	1,196,738	1,177,262
Run-of-River Irrigation	8,734	8,734	8,734	8,734	8,734	8,734
Livestock and Other Local Supply	19,931	19,931	19,931	19,931	19,931	19,931
Surface and Groundwater Imports	581,567	531,265	520,931	510,717	501,415	491,109
Groundwater	146,178	146,190	146,188	146,135	146,132	146,096
Reuse	283,893	316,972	343,226	380,051	408,880	427,011
REGION C TOTAL	**2,316,273**	**2,279,349**	**2,275,427**	**2,282,147**	**2,281,830**	**2,270,143**

E.1 Methodology for Determining Surface Water Availability

Table E.3 presents the water availability for reservoir systems and reservoirs in Region C. The table also shows the water availability that was presented in the *2016 Region C Water Plan* [(1)]. In accordance with the Texas Water Development Board's (TWDB) established procedures [(2)], these surface water supplies are determined using the TCEQ-approved Water Availability Models (WAM). WAMs have been completed for each of the major river basins in Texas. The WAM models were developed for the purpose of reviewing and granting new surface water rights permits. The assumptions in the WAM models are based on the legal interpretation of water rights. Availabilities for each water right are analyzed in priority date order, with water rights with the earliest permit date diverting first. WAM Run 3, which is the version used for planning, assumes full permitted diversions by all water rights and no return flows unless return flows are specifically required in the water right.

Run 3 also does not include agreements or operations that are not reflected in the water right permits and does not account for reductions in reservoir capacities due to sediment accumulation, and in some cases do not accurately reflect current operations. For planning purposes, adjustments were made to the WAMs to better reflect current and future surface water conditions in the region. Generally, changes to the WAMs included:

- Assessment of reservoir sedimentation rates and calculation of area-capacity conditions for current conditions (the most recent volumetric survey) and 2070 conditions. If only the original survey was available, then estimated year 2020 sediment conditions were used for current conditions. This WAM change results in reservoir yields that usually decrease over time due to the assumed accumulation of sediment.
- Inclusion of subordination agreements not already included in the TCEQ WAM
- Inclusion of system operation where appropriate
- Other corrections

The reliable supply from run-of-the-river diversions was calculated as the minimum monthly diversion for the permitted water rights located on the main stem and tributaries of the river and are based on the TCEQ WAM Run 3.

Specific adjustments to the WAMs to more accurately reflect the water rights and agreements for water supply sources in Region C are:

Trinity River Basin WAM

- Modeling of Lake Jacksboro and Lost Creek Reservoir as a system. System modeling includes subordination of Lake Bridgeport.
- Modeling of Tarrant Regional Water District's West Fork reservoirs (Bridgeport, Eagle Mountain, and Worth) as a system.
- Inclusion of a minimum elevation for Lake Fairfield (305.0 ft. msl). This is the minimum operating elevation for the intake to the power plant according to the *1999 Volumetric Survey of Fairfield Lake* prepared by the Texas Water Development Board.
- Modeling of Dallas' water rights in the Elm Fork of the Trinity River as a system with Lake Lewisville and Ray Roberts.
- Added new water right that had been granted but was not in the approved WAM available at the start of the planning cycle (119,000 acre-feet

per year of additional diversion from Lake Ray Hubbard for Dallas).

- Revised modeling for overdrafting Lake Lavon according to recent amendment and application for NTMWD. Before the August 2017 amendment (08-2410-J), the trigger for overdrafting Lake Lavon was Lake Hubbard being full and spilling. The amendment moves this trigger to Lake Lavon being in the flood pool. NTMWD has an application for amending the water right to include overdrafting Lake Lavon in lieu of additional sources of imported water.
- Use of full storage for Forest Grove Reservoir with an annual depletion limit of 16,348 acre-feet per year. The TCEQ WAM incorrectly uses the 16,348 acre-feet as the storage of the reservoir rather than the authorized storage of 20,038 acre-feet.
- Modeling of Corsicana's rights from Richland-Chambers Reservoir as a system with Lake Halbert, reflecting how the rights are actually used.
- Modeling of Lake Benbrook as one pool instead of multiple pools to facilitate the calculation of yields. The current modeling assigns evaporation to the dead pool of the reservoir which does not refill because it is modeled as non-priority. In actual operation, TRWD cannot use water from the reservoir unless the dead storage is full. This modeling respects the USACE minimum elevation for water supply.

Red River Basin WAM

- Changes to Lake Modeling of Lake Randell and Valley Lake as stand-alone reservoirs without Lake Texoma backups for the firm yield calculation of these two reservoirs. Backup supply for these reservoirs from Lake Texoma is included in the supplies from Lake Texoma. This prevents double counting of the makeup water from Lake Texoma. For firm yield calculations for reservoirs other than Lake Randell, Valley Lake and Lake Texoma, the backups for Lake Randell and Valley Lake were retained.
- Lake Texoma is located on the Texas-Oklahoma border, and in accordance with the Red River Compact, water in Lake Texoma is equally shared by Texas and Oklahoma. There are three distinct water storage pools in Lake Texoma: 1) water supply, 2) hydropower, and 3) sediment storage (dead pool). Use of water from Lake Texoma is authorized by multiple Texas water rights and Oklahoma water rights, as well as authorizations by the US Congress and contracts with the Corps. To assess the firm yield of the reservoir for Region C, the total firm yield for both the water supply and hydropower pools was modeled. This total yield was equally split between Texas and Oklahoma. The available supplies from the lake are limited to the Texas water rights and associated storage contracts with the Corps.
- Removal of diversion backups of individual Texas water rights in Lake Texoma from the hydropower pool. All Texas water rights are 100% reliable in the WAM, so these backups are not invoked in the WAM. The code was removed because it made the modeling unnecessarily complicated.

Unless there were changed conditions (new water rights, WAM modifications, new area/capacity relationships, other), the firm yields from the *2016 Region C Water Plan* [(1)] were used. The Region C reservoirs for which new firm yields were calculated include the Elm Fork of the Trinity River System, Lake Lavon, Richland-Chambers Reservoir, the West Fork of the Trinity River System, Cedar Creek Reservoir, Benbrook

Lake, Lake Ray Hubbard, White Rock Lake, and Chapman Lake. The Elm Fork System was updated using a refined methodology to better reflect actual conditions and to include Lake Grapevine as part of Dallas' system operations. Lake Grapevine was also updated to model the Park Cities MUD and City of Grapevine rights in Lake Grapevine separately, rather than as part of the Dallas System Operations. Cedar Creek and Lake Ray Hubbard yields were updated to reflect new area/capacity relationships. White Rock Lake was updated assuming Dallas will continue to dredge the lake and keep it at its current capacity. The minimum storage was changed for the modeling of Lake Benbrook. Lakes Lavon and Richland-Chambers were updated using a refined methodology to better reflect actual operations.

TRWD has elected to show the currently available supplies for the reservoirs they obtain water from as safe yields, rather than firm yields, based on the operation of these reservoirs. DWU has also elected to do this for their Elm Fork Reservoir System. Safe yields used in this plan are from the DWU Long-Range Water Supply Plan [5]. Both the firm yield and safe yield are reported for these reservoirs. However, the safe yield is what is used to determine the overall water supply availability in Region C.

At the end of this appendix, **Table E.10** summarizes the WAM models used for the 2021 Region C Plan.

Imports to Region C

Supplies from Lake Chapman were determined using the Sulphur River Basin WAM with extended hydrology to include the new drought of record for the reservoir (2010-2015).

The yields for Lake Fork and Lake Tawakoni were those used in the *2016 Region C Water Plan* [1]. The yields were provided to Region D for inclusion in the 2021 Region D Water Plan. It should be noted that the recent drought (2010-2015) most likely did not represent a new drought of record for Lake Fork or Lake Tawakoni.

Region C has very few water supplies in the Brazos River Basin. Thus, the water availability information as determined by the Brazos G Regional Water Planning Group was adopted.

For Lake Palestine and Lake Athens, both in the Neches River Basin, the water availability information as determined by the Region I Water Planning Group was adopted. For Lake Livingston, the water availability information as determined by the Region H Water Planning Group was adopted.

E.2 Water Supply Systems in Region C

The water availability for water supply systems in Region C is shown in **Table E.3.** The systems listed are operated as physical systems – the water they provide cannot easily be separated by individual source. The supply available is based on the calculation of the Water Availability Models (WAMs), as described above. More detailed discussions on water supply available for each system are given below.

Lost Creek/Jacksboro System (Jacksboro)

Lake Jacksboro is a 2,129 acre-foot reservoir located just outside of the City of Jacksboro in the Trinity River Basin in Jack County, and Lost Creek Reservoir is an 11,961 acre-foot reservoir located 1.5 miles downstream of the Lake Jacksboro dam. The City of Jacksboro holds a water right for the combined use of both reservoirs for municipal water supply and the right to divert 1,397 acre-feet per year. In addition, the water right authorizes the use of 200 acre-feet per year of return flows for irrigation purposes. The water right authorizes the reservoirs to be operated as a system, so the WAM was modified to include system operation and the upstream diversion agreement with TRWD. According to the WAM, the firm yield from this system (without return flows) exceeds the permit amount. The available supply from this system is limited to 1,597 acre-feet per year, which is the permitted amount of 1,397 acre-feet per year plus 200 acre-feet per year of return flows that Jacksboro is authorized to reuse.

West Fork Including Bridgeport Local System (Tarrant Regional Water District)

Tarrant Regional Water District's West Fork Reservoir system is comprised of Lake Bridgeport, Lake Worth, and Eagle Mountain Lake. The WAM was modified to include the system operation of these three reservoirs. The water right for Lake Bridgeport allows for between 15,000 acre-feet per year and 27,000 acre-feet per year to be diverted for local use at Lake Bridgeport. Based on planned TRWD operations, the modified WAM model assumes 27,000 acre-feet per year is used locally at Lake Bridgeport (previous plans assumed 15,000 acre-feet per year of local use). The resulting combined system firm yield was 115,908 acre-feet per year in 2020 and 102,825 acre-feet per year in 2070. The decreased firm yield is due to the changed assumption in local Lake Bridgeport use.

Under current conditions, this system provides somewhat less supply than the firm yield. The Tarrant Regional Water District operates its water supplies on a safe yield basis, which provides a smaller supply than the firm yield numbers shown. (In safe yield operation, the user takes less than the firm yield in order to leave a reserve supply in the reservoir in case a drought worse than any historical drought occurs). The safe yield for the West Fork System, which includes Eagle Mountain Lake, Lake Worth, and Lake Bridgeport, is 94,192 acre-feet per year in 2020 and 85,525 acre-feet per year in 2070.

Elm Fork/Lake Lewisville/Ray Roberts System (Dallas)

This system, owned by Dallas, is comprised of Lake Lewisville, Lake Ray Roberts, and run-of-the-river rights from the Elm Fork of the Trinity River. The WAM was modified to include the system operation of these supplies. The resulting combined system firm yield was 192,596 acre-feet per year in 2020 and 185,378 acre-feet per year in 2070. The firm yield is higher than what was shown in the *2016 Region C Water Plan* [(1)] due to changes made in the WAM with respect to the methodology used to reflect actual conditions. The safe yield of the reservoir system, which is based on the DWU Long-Range Water Supply Plan [(5)], in 2020 is 172,975 acre-feet per year and in 2070 is 136,001 acre-feet per year.

Lake Grapevine (Dallas)

Dallas includes its portion of supply from Lake Grapevine in its system operation with Elm Fork/Lewisville/Ray Roberts. The WAM was modified to include this system operation. The resulting yield for Dallas' portion of Lake Grapevine was 7,367 acre-feet per year in 2020 and 6,650 acre-feet per year in 2070. The increase from the available supply shown in the 2016 Region C Water Plan is due to using a slightly lower sedimentation rate, which was calculated using the 2011 volumetric survey of Lake Grapevine.

Table E.3 Supply Available from Water Supply Systems and Reservoirs in Region C (Not Considering Transmission Constraints)

	Water Right No.(s)	Basin	Surface Water Availability in 2021 Plan						Surface Water Availability in 2016 Plan					
			2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
WATER SUPPLY SYSTEMS														
Lost Creek/ Jacksboro		Trinity	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597
West Fork (includes Bridgeport Local) [(a)]		Trinity	94,192	92,458	90,725	88,992	87,258	85,525	96,458	95,625	94,792	93,958	93,125	92,292
Elm Fork/ Lewisville/ Ray Roberts (Dallas) [(a)]		Trinity	172,975	165,580	158,185	150,791	143,396	136,001	172,975	165,580	158,185	150,791	143,396	136,001
Grapevine - Dallas		Trinity	7,367	7,367	7,367	7,142	6,896	6,650	7,367	7,150	6,933	6,717	6,500	6,283
Subtotal Systems			**276,131**	**267,002**	**257,874**	**248,522**	**239,147**	**229,773**	**278,397**	**269,952**	**261,507**	**253,063**	**244,618**	**236,173**
RESERVOIRS IN REGION C														
Cedar Creek [(a)]	4976C	Trinity	158,891	157,192	155,494	153,796	152,098	150,400	158,891	157,850	156,333	154,817	153,300	151,783
Richland-Chambers (TRWD) [(a)]	5030, 5035C	Trinity	185,230	180,984	176,738	172,492	168,246	164,000	185,230	182,700	178,800	174,900	171,000	167,100
Richland-Chambers (Corsicana) and Lake Halbert	5030, 5035C	Trinity	13,863	13,855	13,847	13,838	13,830	13,822	13,863	13,855	13,847	13,838	13,830	13,822
Moss	4881	Red	7,410	7,410	7,410	7,410	7,410	7,410	7,410	7,410	7,410	7,410	7,410	7,410
Lake Texoma (Texas' Share – NTMWD)	5003	Red	197,000	197,000	197,000	197,000	197,000	197,000	197,000	197,000	197,000	197,000	197,000	197,000
Lake Texoma (Texas' Share – GTUA)	4301B, 4301C	Red	83,200	83,200	83,200	83,200	83,200	83,200	83,200	83,200	83,200	83,200	83,200	83,200
Lake Texoma (Texas' Share – Denison)	4901	Red	24,400	24,400	24,400	24,400	24,400	24,400	24,400	24,400	24,400	24,400	24,400	24,400
Lake	4900	Red	16,400	16,400	16,400	16,400	16,400	16,400	16,400	16,400	16,400	16,400	16,400	16,400

	Water Right No.(s)	Basin	Surface Water Availability in 2021 Plan						Surface Water Availability in 2016 Plan					
			2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Texoma (Texas' Share – Luminant)														
Lake Texoma (Texas' Share – RRA)	4898, 4899	Red	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
Randell	4901	Red	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Valley	4900	Red	0	0	0	0	0	0	0	0	0	0	0	0
Bonham	4925	Red	5,340	5,340	5,340	5,340	5,340	5,340	5,340	5,340	5,340	5,340	5,340	5,340
Ray Roberts (Denton)	2335A, 2455B	Trinity	18,902	18,853	18,676	18,500	18,324	18,148	18,902	18,733	18,564	18,395	18,226	18,057
Lewisville (Denton)	2348, 2456	Trinity	7,817	7,817	7,817	7,817	7,698	7,550	7,817	7,715	7,613	7,512	7,410	7,308
Benbrook [(a)]	5157A	Trinity	5,391	5,387	5,383	5,378	5,374	5,370	5,417	5,400	5,383	5,367	5,350	5,333
Weatherford	3356	Trinity	2,923	2,880	2,837	2,793	2,750	2,707	2,923	2,880	2,837	2,793	2,750	2,707
Grapevine (PCMUD)	2362A, 2363A, 2458C	Trinity	16,900	16,900	16,808	16,639	16,469	16,300	16,900	16,750	16,600	16,450	16,300	16,150
Grapevine (Grapevine)	2362A, 2363A, 2458C	Trinity	1,919	1,886	1,852	1,818	1,784	1,750	1,983	1,950	1,917	1,883	1,850	1,817
Arlington [(a)]	3391	Trinity	7,640	7,530	7,420	7,310	7,200	7,090	7,667	7,550	7,433	7,317	7,200	7,083
Joe Pool	3404C	Trinity	14,883	14,575	14,267	13,958	13,650	13,342	14,883	14,575	14,267	13,958	13,650	13,342
Mountain Creek	3408	Trinity	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400
North		Trinity	0	0	0	0	0	0	0	0	0	0	0	0
Lake Ray Hubbard (Dallas)	2462H	Trinity	55,730	54,828	53,926	53,024	52,122	51,220	56,113	54,800	53,487	52,173	50,860	49,547
White Rock	2461B	Trinity	3,200	3,200	3,200	3,200	3,200	3,200	3,200	2,900	2,600	2,300	2,000	1,700
Terrell	4972	Trinity	2,267	2,250	2,233	2,217	2,200	2,183	2,267	2,250	2,233	2,217	2,200	2,183
Clark	5019	Trinity	210	210	210	210	210	210	210	210	210	210	210	210
Bardwell	5021A	Trinity	9,600	9,295	8,863	8,432	8,000	7,568	9,600	9,295	8,863	8,432	8,000	7,931
Waxahachie	5018	Trinity	2,800	2,695	2,590	2,485	2,380	2,275	2,800	2,695	2,590	2,485	2,380	2,275
Forest Grove	4983	Trinity	8,653	8,590	8,527	8,463	8,400	8,337	8,653	8,590	8,527	8,463	8,400	8,337

	Water Right No.(s)	Basin	Surface Water Availability in 2021 Plan						Surface Water Availability in 2016 Plan					
			2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Trinidad City Lake	5291	Trinity	450	450	450	450	450	450	450	450	450	450	450	450
Trinidad	4970	Trinity	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050
Navarro Mills	4992	Trinity	18,333	17,325	16,317	15,308	14,300	13,292	18,333	17,325	16,317	15,308	14,300	13,292
Halbert		Trinity	0	0	0	0	0	0						
Fairfield	5040	Trinity	870	870	870	870	870	870	870	870	870	870	870	870
Bryson		Brazos	0	0	0	0	0	0	0	0	0	0	0	0
Mineral Wells	4039	Brazos	2,495	2,483	2,470	2,458	2,445	2,433	2,495	2,483	2,470	2,458	2,445	2,433
Teague City Lake	5291	Brazos	189	189	189	189	189	189	189	189	189	189	189	189
Lavon	2410G	Trinity	106,603	105,163	103,722	102,281	100,841	99,400	108,920	107,140	105,360	103,580	101,800	100,020
Muenster	2323	Trinity	300	300	300	300	300	300	300	300	300	300	300	300
Subtotal Reservoirs			**992,909**	**982,556**	**971,856**	**961,078**	**950,180**	**939,254**	**997,573**	**986,305**	**974,910**	**963,515**	**952,120**	**941,088**
TOTAL			**1,269,040**	**1,249,558**	**1,229,730**	**1,209,600**	**1,189,327**	**1,169,027**	**1,275,970**	**1,256,257**	**1,236,417**	**1,216,578**	**1,196,738**	**1,177,261**

a. *Amounts reported are safe yields.*

E.3 Reservoirs in Region C

All major reservoirs in Region C as well as some smaller reservoirs used for municipal supply are listed in **Table E.3.** The supply available is based on the calculation of the Water Availability Models (WAMs), which limits the supply to the lesser of the firm yield or the permit amount. In some cases, the safe yield is used as the supply available based on the operational policies of the reservoir owner.

Cedar Creek

Cedar Creek Reservoir is located on Cedar Creek in the Trinity River Basin in Henderson and Kaufman Counties. The reservoir has a permitted conservation storage of 678,900 acre-feet. Tarrant Regional Water District holds a water right for diversion of 175,000 acre-feet per year. According to the WAM, the firm yield (not limited to the water right) is 204,587 acre-feet per year in 2020 decreasing to 202,700 acre-feet per year by 2070. The firm yield is lower than what was shown in the 2016 Region C Water Plan [(1)] due to changes made in the WAM with respect to the area/capacity relationships. The decrease from the available supply shown in the *2016 Region C Water Plan* [(1)] is due to using a higher sedimentation rate, which was calculated using the 2017 volumetric survey. The available supply from Cedar Creek is limited to the permit amount of 175,000 acre-feet per year. The safe yield, on which TRWD bases its supplies, is 158,891 acre-feet per year in 2020 decreasing to 150,400 acre-feet per year in 2070.

Richland-Chambers (and Lake Halbert)

Richland-Chambers Reservoir is located on Richland Creek in the Trinity River Basin in Freestone and Navarro Counties. The reservoir has a permitted conservation storage of 1,135,000 acre-feet. Tarrant Regional Water District and City of Corsicana hold water rights in the reservoir (210,000 acre-feet per year for TRWD and 13,650 acre-feet per year for Corsicana). According to the WAM, the firm yield of the TRWD water right is 221,565 acre-feet per year in 2020, decreasing to 207,201 acre-feet per year by 2070. The firm yield from Richland-Chambers is limited to the permitted amount of 210,000 acre-feet per year. The safe yield is 185,230 acre-feet per year in 2020 decreasing to 164,000 acre-feet per year in 2070. The firm yield is lower than what was shown in the 2016 Region C Water Plan [(1)] due to refinement of the methodology to better reflect actual conditions.

Corsicana's water right in Lake Halbert is backed up by the city's water right in Richland-Chambers. Lake Halbert is located on Elm Creek in the Trinity River Basin in Navarro County. The reservoir has permitted conservation storage of 7,357 acre-feet. The City of Corsicana holds a water right in Lake Halbert for 4,003 acre-feet per year. According to the WAM, the available supply from Richland-Chambers Reservoir and Lake Halbert to Corsicana is 13,863 acre-feet per year in 2020 and decreasing slightly to 13,822 acre-feet per year in 2070.

Moss

Moss Lake is located on Fish Creek in the Red River Basin in Cooke County. The reservoir has permitted conservation storage of 23,210 acre-feet. The City of Gainesville holds water rights in the reservoir for 7,740 acre-feet per year. According to the WAM, the available supply from Moss Lake in 2070 is 7,410 acre-feet per year.

Texoma (Texas' share)

Lake Texoma is located along the Texas and Oklahoma border in the Red River Basin in Grayson and Cooke Counties. The permitted conservation storage for water supply in Texas is 300,000 acre-feet. Red River Authority, Greater Texoma Utility Authority, Denison, North Texas Municipal Water District, and Luminant all hold water rights in the reservoir. The total Texoma supply available to Region C as of 2070 is limited to the total water rights of 323,250 acre-feet per year [2,250 acre-feet per year for Red River Authority; 83,200 acre-feet per year for Greater Texoma Utility Authority; 24,400 acre-feet per year for Denison; 197,000 acre-feet per year for NTMWD; and 16,400 acre-feet per year for Luminant]. The firm yield of Texas' share of Lake Texoma is greater than the total of the Texas water rights and is 642,608 acre-feet per year in 2020, decreasing to 640,067 acre-feet per year by 2070.

Randell

Randell Reservoir is located on an unnamed tributary of Shawnee Creek in the Red River Basin in Grayson County. The reservoir has permitted conservation storage of 5,400 acre-feet. The City of Denison holds a water right in the reservoir for 5,280 acre-feet per year. The supply from Lake Randell is backed up by up to 24,400 acre-feet per year of diversions from Lake Texoma, which are fully reliable. The available supply from Randell Reservoir as of 2070 is 1,400 acre-feet per year without a backup from Lake Texoma.

Valley

Valley Lake is located on Sand Creek in the Red River Basin in Fannin and Grayson Counties. The reservoir has a permitted conservation storage of 15,000 acre-feet. This reservoir is operated by Luminant for steam electric power cooling in conjunction with their water right in Lake Texoma. The total amount of water that can be diverted from either Texoma or Valley Lake is 16,400 acre-feet per year. During drought, it is assumed that the full permitted diversion would be taken from Lake Texoma (see Lake Texoma discussion). Therefore, the available supply from Valley Lake is 0 acre-feet per year.

Bonham

Lake Bonham is located on Timber Creek in the Red River Basin in Fannin County. The reservoir has permitted conservation storage of 13,000 acre-feet. The City of Bonham holds a water right in the reservoir for 5,340 acre-feet per year. The NTMWD has an agreement with the City of Bonham to operate the lake and water treatment plant. According to the WAM, the firm yield of Lake Bonham is 6,267 acre-feet per year in 2020, decreasing to 5,683 acre-feet per year by 2070. The available supply from Lake Bonham is limited to the permitted amount of 5,340 acre-feet per year.

Ray Roberts (Denton)

Lake Ray Roberts and Lake Lewisville were modeled as part of the Elm Fork System to find the firm yields of Denton's water rights. Lake Ray Roberts is located on the Elm Fork of the Trinity River in Denton, Cooke, and Grayson Counties. The reservoir has a permitted conservation storage of 799,600 acre-feet. The City of Dallas and the City of Denton hold combined water rights in the reservoir totaling 799,600 acre-feet per year, which is much greater than the actual yield of the reservoir. Dallas' share of Lake Ray Roberts was discussed above under Water Supply Systems. According to the WAM, Denton's available supply from Ray Roberts as of 2020 was 18,902 acre-feet per year and as of 2070 is 18,148 acre-feet per year. The slight increase from the available supply shown in the 2016 Region C Water Plan is due to refinement of the methodology to better reflect actual operations.

Lewisville (Denton)

Lake Lewisville is located on the Elm Fork of the Trinity River in Denton County. The reservoir has a permitted conservation storage of 618,400 acre-feet. The City of

Dallas and the City of Denton hold combined water rights in the reservoir totaling 598,900 acre-feet per year, which is much greater than the actual yield of the reservoir. Dallas' share of Lake Lewisville was discussed above under Water Supply Systems. According to the WAM, Denton's available supply from Lewisville as of 2020 is 7,817 acre-feet per year and as of 2070 is 7,550 acre-feet per year. The slight increase in available supply from the 2016 Region C Water Plan is due to refinement of the methodology to better reflect actual operations.

Benbrook

Lake Benbrook is located on the Clear Fork of the Trinity River in Tarrant County. Certificate of Adjudication 08-5157 authorizes the impoundment of 72,500 acre-feet of water in Benbrook Reservoir between the elevations of 665 feet and 694 feet. The authorized diversions from Lake Benbrook are 72,500 acre-feet per year, of which only 6,833 acre-feet per year are on a priority basis. Tarrant Regional Water District holds the water right, which specifies use amounts for Benbrook Water and Sewer Authority, City of Fort Worth, and City of Weatherford. According to the WAM, the firm yield of Lake Benbrook is 6,740 acre-feet per year in 2020, decreasing to 6,671 acre-feet per year by 2070. The safe yield is 5,391 acre-feet per year in 2020 and 5,370 acre-feet per year in 2070. Lake Benbrook is used as terminal storage for water pumped from Cedar Creek and Richland-Chambers Reservoirs. The available supply does not include water from these sources. According to the 1998 TWDB volumetric survey of Benbrook Reservoir, the storage capacity at elevation 665.0 feet is 14,307 acre-feet and the capacity at 694.0 feet is 89,402 acre-feet. This results in a usable conservation storage of 71,341 acre-feet, which is less than the authorized amount. The estimated yields decreased slightly relative to the 2016 Plan yields because the 2016 Plan modeling allowed access to the full 72,500 acre-feet of permitted storage, which is inconsistent with the language in the water right that limits the useable storage to between 665 feet and 694 feet. TCEQ also revised the WAM to change the hydrology and channel losses in the model.

Weatherford

Lake Weatherford is located on the Clear Fork of the Trinity River in Parker County. The reservoir has permitted conservation storage of 19,470 acre-feet. The City of Weatherford holds a water right for consumptive use of 5,220 acre-feet per year. (The permit also authorizes 59,400 acre-feet per year of non-consumptive industrial use.) According to the WAM, the available supply from Lake Weatherford is 2,923 acre-feet per year in 2020, decreasing to 2,707 acre-feet per year in 2070.

Grapevine

Lake Grapevine is located on Denton Creek in the Trinity River Basin in Tarrant and Denton Counties. The reservoir has a permitted conservation storage of 161,250 acre-feet. City of Dallas, City of Grapevine, and Dallas County Park Cities MUD hold combined water rights in the reservoir for a total diversion of 161,250 acre-feet per year, which is much greater than the actual yield of the reservoir. Dallas' share of Lake Grapevine was discussed above under Water Supply Systems. According to the WAM, Dallas County PCMUD's available supply from Lake Grapevine as of 2070 is 16,900 acre-feet per year in 2020, decreasing to 16,300 acre-feet per year. The City of Grapevine's available supply from Lake Grapevine is 1,919 acre-feet per year in 2020, decreasing to 1,750 acre-feet per year in 2070. The change from the available supply shown in the 2016 Region C Water Plan is because Lake Grapevine is modeled as an independent, stand-alone, reservoir to determine the yields for PCMUD and the City of Grapevine as opposed to being operated as a system with other reservoirs. (Note, however, that Dallas' share of Lake Grapevine is based on operating the lake as a system with Lakes Lewisville and Ray Roberts.) The yields from independent reservoir operations are less than the yield from system operations with other Elm Fork reservoirs.

Arlington

Lake Arlington is located on Village Creek in the Trinity River Basin in Tarrant County. The reservoir has a permitted conservation storage of 45,710 acre-feet. The City of Arlington and Luminant jointly hold a water right for 23,120 acre-feet per year (13,000 acre-feet per year for Arlington and 10,120 acre-feet per year for Luminant). By contract, City of Arlington has dedicated its Lake Arlington water rights to the TRWD System. According to the WAM, available supply from Lake Arlington as of 2070 is 8,950 acre-feet per year. The safe yield is 7,640 acre-feet per year in 2020 and 7,090 acre-feet per year in 2070. Like Lake Benbrook, Lake Arlington serves as terminal storage for water pumped from Richland-Chambers and Cedar Creek Reservoirs. The available supply from Lake Arlington does not include water from these sources.

Joe Pool

Joe Pool Lake is located on Mountain Creek in the Trinity River Basin in Dallas and Tarrant Counties. The reservoir has a permitted conservation storage of 176,900 acre-feet. The Trinity River Authority holds a water right for 17,000 acre-feet per year. According to the WAM, available supply from Joe Pool Lake is 14,882 acre-feet per year in 2020, decreasing to 13,342 acre-feet per year in 2070.

Mountain Creek

Mountain Creek Lake is located on Mountain Creek in the Trinity River Basin in Dallas County. The reservoir has a permitted conservation storage of 22,840 acre-feet. Luminant holds a water right for 6,400 acre-feet per year. According to the WAM, the firm yield of Mountain Creek Lake is 12,767 acre-feet per year in 2020, decreasing to 11,433 acre-feet per year by 2070. The available supply from Mountain Creek Lake is limited to the permitted amount of 6,400 acre-feet per year.

North

North Lake is an off-channel reservoir located on the South Fork of Grapevine Creek in the Trinity River Basin in Dallas County. The reservoir has a permitted conservation storage of 17,100 acre-feet. Luminant holds a water right for 1,000 acre-feet per year. According to the WAM, available supply from North Lake as of 2070 is 0 acre-feet per year without backup from the Elm Fork.

Ray Hubbard

Lake Ray Hubbard is located on the Elm Fork of the Trinity River in Dallas, Kaufman, and Rockwall Counties. The reservoir has a permitted conservation storage of 490,000 acre-feet. The City of Dallas holds a water right for 209,300 acre-feet per year. According to the WAM, the firm yield of Ray Hubbard as of 2020 is 55,730 acre-feet per year, decreasing to 51,220 acre-feet per year by 2070. The change from the available supply shown in the *2016 Region C Water Plan* [1] is due to using a lower sedimentation rate, which was calculated using the 2015 volumetric survey for Lake Ray Hubbard.

White Rock Lake

White Rock Lake is located on White Rock Creek in the Trinity River Basin in Dallas County. The reservoir has a permitted conservation storage of 21,345 acre-feet. The City of Dallas holds a water right for 8,703 acre-feet per year. According to the WAM, available supply from White Rock Lake as of 2070 is 3,200 acre-feet per year. The modeling on this lake assumes Dallas will continue to dredge the lake to maintain its current capacity.

Terrell

Lake Terrell is located on Muddy Cedar Creek in the Trinity River Basin in Kaufman County. The reservoir has a permitted conservation storage of 8,712 acre-feet. The City of Terrell holds a water right for 6,000 acre-feet per year. According to the WAM, available supply from Terrell is 2,267 acre-feet per year in 2020, decreasing slightly to 2,183 acre-feet per year in 2070. The City of Terrell no longer uses water from Lake Terrell.

Clark

Lake Clark is located on Little Mustang Creek in the Trinity River Basin in Ellis County. The reservoir has a permitted conservation storage of 1,549 acre-feet. The City of Ennis holds a water right for 450 acre-feet per year. According to the WAM, available supply from Lake Clark is 210 acre-feet per year. The City of Ennis no longer uses water from Lake Clark.

Bardwell

Lake Bardwell is located on Waxahachie Creek in the Trinity River Basin in Ellis County. The reservoir has a permitted conservation storage of 54,900 acre-feet. The Trinity River Authority holds a water right for 18,424.5 acre-feet per year (which includes reuse of up to 5,129 acre-feet per year of return flows). According to the WAM, the firm yield of Lake Bardwell is 9,727 acre-feet per year in 2020, decreasing to 7,568 acre-feet per year by 2070. In 2020, the available supply from Lake Bardwell (shown in **Table E.3**) is the smaller of the firm yield or the permitted amount of 9,600 acre-feet per year without return flows.

Waxahachie

Lake Waxahachie is located on Waxahachie Creek in the Trinity River Basin in Ellis County. The reservoir has a permitted conservation storage of 13,500 acre-feet. Ellis County Water Control and Improvement District #1 (an entity of the City of Waxahachie) holds a water right for 3,570 acre-feet per year. According to the WAM, available supply from Lake Waxahachie is 2,800 acre-feet, decreasing slightly to 2,275 acre-feet per year in 2070.

Forest Grove

Forest Grove Reservoir is located on Caney Creek in the Trinity River Basin in Henderson County. The reservoir has a permitted conservation storage of 20,038 acre-feet. Luminant holds a water right for 9,500 acre-feet per year (not including non-consumptive use). Presently, the dam for Forest Grove Reservoir is built, but the lake has not begun to store water. According to the WAM, available supply from Forest Grove is 8,653 acre-feet per year in 2020, decreasing to 8,337 acre-feet per year in 2070.

Trinidad City Lake

Trinidad City Lake is located on Cedar Creek in the Trinity River Basin in Henderson County. The reservoir has a permitted conservation storage of 498 acre-feet. The City of Trinidad holds a water right for 1,000 acre-feet per year. According to the WAM, available supply from Trinidad City Lake is 450 acre-feet per year.

Trinidad

Lake Trinidad is an off-channel reservoir located just off the Trinity River in Henderson County, with permitted diversions from the Trinity River. The reservoir has a permitted conservation storage of 6,200 acre-feet. Luminant holds a water right for 4,000 acre-feet per year. According to the WAM, available supply from Lake Trinidad with the diversions from the Trinity is 3,050 acre-feet per year.

Navarro Mills

Lake Navarro Mills is located on Richland Creek in the Trinity River Basin in Navarro County. The reservoir has a permitted conservation storage of 63,300 acre-feet. The Trinity River Authority holds a water right to divert 19,400 acre-feet per year. According to the WAM, available supply from Navarro Mills is 18,333 in 2020, decreasing to 13,292 acre-feet per year in 2070.

Fairfield

Lake Fairfield is located on Big Brown Creek in the Trinity River Basin in Freestone County. The reservoir has a permitted conservation storage of 50,600 acre-feet. Luminant holds a water right for 14,150 acre-feet per year. According to the WAM, available supply from Lake Fairfield is 870 acre-feet per year with a minimum operating level of 305.0 feet msl and without backup from the Trinity River.

Bryson

Lake Bryson is located on East Rock Creek in the Brazos River Basin in Jack County. The reservoir has a permitted conservation storage of 950 acre-feet. The City of Bryson holds a water right for 90 acre-feet per year. According to the WAM, available supply from Bryson as of 2070 is 0 acre-feet per year.

Mineral Wells

Lake Mineral Wells is located on Rock Creek in the Brazos River Basin in Parker County. The reservoir has a permitted conservation storage of 7,065 acre-feet. The City of Mineral Wells holds a water right for 2,520 acre-feet per year. According to the WAM, available supply from Mineral Wells is 2,495 acre-feet per year in 2020, decreasing slightly to 2,433 in 2070. The City of Mineral Wells is not currently using water from Lake Mineral Wells.

Teague City Lake

Teague City Lake is located on Holman Creek in the Brazos River Basin in Freestone County. The reservoir has permitted conservation storage of 1,160 acre-feet. The City of Teague holds a water right for 605 acre-feet per year. According to the WAM, available supply from Teague City Lake is 189 acre-feet per year. The City of Teague no longer uses Teague City Lake for water supply.

Lavon

Lake Lavon is located on the East Fork of the Trinity River in Collin County. The reservoir has permitted conservation storage of 443,800 acre-feet. North Texas Municipal Water District holds water rights for 118,670 acre-feet per year. According to the WAM, the available supply from Lake Lavon is 106,603 acre-feet per year in 2020, decreasing to 99,400 acre-feet per year by 2070. This yield does not include return flows or imported water. The decrease from the available supply shown in the *2016 Region C Water Plan* (1) is due to refined methodology to better reflect actual operations, including recent amendment applications submitted to TCEQ. TCEQ also changed the hydrology and channel losses in the model.

Muenster

Lake Muenster is a 4,700 acre-foot lake located in the Trinity River Basin in Cooke County. Muenster Water Districts holds a water right to divert 500 acre-feet per year. According to the WAM, the available supply from Lake Muenster is 300 acre-feet per year.

E.4 Unpermitted Yields in Region C Reservoirs

According to the WAMs, there are six reservoirs and one reservoir system in Region C with firm yields that exceed the currently permitted diversion amounts. These reservoirs with their unpermitted yields are listed in **Table E.4**. Note that the Oklahoma share of Lake Texoma yield is not included in the table. The Oklahoma yield in Lake Texoma would be about 640,000 acre-feet per year in 2070.

Table E.4 Unpermitted Yields in Region C Reservoirs

Source	Basin	Values in Acre-Feet per Year					
		2020	2030	2040	2050	2060	2070
Lost Creek/Jacksboro System	Trinity	1,086	1,073	1,060	1,046	1,033	1,020
Cedar Creek	Trinity	29,587	29,209	28,832	28,455	28,077	27,700
Richland Chambers	Trinity	11,565	8,692	5,820	2,947	74	0
Lake Texoma (Texas' Share)	Red	319,358	318,850	318,342	317,833	317,325	316,817
Bonham	Red	927	810	693	577	460	343
Mountain Creek	Trinity	6,367	6,100	5,833	5,567	5,300	5,033
Bardwell	Trinity	127	0	0	0	0	0

E.5 Imports

The total supply available (not limited to infrastructure constraints) from imports is based upon the Water Availability Models (WAMs) from the TCEQ and the current contracts with the owners of the water sources. **Table E.5** shows those imports. Below is a discussion of each of the imported water sources.

Chapman

North Texas Municipal Water District, the City of Irving, and the Sulphur River Water District hold water rights in Lake Chapman totaling 146,520 acre-feet per year. Of this total, 127,320 acre-feet per year can be exported for use in Region C – 57,214 acre-feet per year for North Texas Municipal Water District, 54,000 acre-feet per year for Irving, and 16,106 acre-feet per year for the Upper Trinity Regional Water District (purchased from the Sulphur River Water District through the City of Commerce). Yields for Lake Chapman were updated because of a new critical period. The critical period for the 2016 Plan was from April 2003 to November 2006. The new critical period is from April 2010 to December 2014. Flows from 1940 to 1996 are based on WAM inflows and water passed for downstream senior rights. The hydrology was extended through December 2017 using mass balance. Accounting for the new critical period, the year 2020 firm yield of Lake Chapman is about 109,520 acre-feet per year, decreasing to 106,410 acre-feet per year by 2070.

The values in **Table E.5** show Lake Chapman's computed firm yield divided proportionally among the Region C water suppliers with a share of the water. It should be noted that UTRWD's contract with the City of Commerce, which was originally signed in 1991, renews every 25 years unless UTRWD provides five years notice prior to termination. The contract was renewed in 2016 with no changes. According to the terms of the contract, after 2066, the City of Commerce can reduce the quantity of water supplied with each subsequent renewal, and in 2141 they have the right to cancel the contract if they wish. For the purpose of this plan, the full contract amount was assumed through 2070. It should also be noted that the actual availability for UTRWD is limited by the yield rather than the contract amount.

Table E.5 Total Available Surface Water Supplies from Imports

Source	Basin of Origin	Values in Acre-Feet per Year						
		2020	2030	2040	2050	2060	2070	2070 from 2016 Plan
Chapman (NTMWD)[a]	Sulphur	42,768	42,525	42,282	42,039	41,796	41,553	43,357
Chapman (Irving)	Sulphur	40,369	40,140	39,911	39,681	39,452	39,223	40,926
Chapman (Upper Trinity MWD)	Sulphur	12,036	11,968	11,900	11,831	11,763	11,694	12,202
Tawakoni (Dallas)	Sabine	174,080	169,120	164,160	159,200	154,240	149,280	149,280
Fork (Dallas)[b]	Sabine	119,699	116,180	112,332	108,484	104,636	100,788	100,788
Upper Sabine Basin (NTMWD)[c]	Sabine	51,201	10,655	10,565	10,475	10,395	10,293	10,315
Palestine (Dallas)[d]	Neches	106,230	105,370	104,564	103,704	102,791	101,555	106,239
Livingston[e]	Trinity	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Lake Athens[f]	Neches	1,192	1,570	1,798	2,132	3,366	3,930	4,759
Possum Kingdom[g]	Brazos	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Lake Aquilla	Brazos	380	459	508	572	629	655	523
Lake Granbury	Brazos	576	577	576	576	576	576	444
Lake Palo Pinto	Brazos	796	783	772	762	754	746	1,276
TOTAL		**570,327**	**520,347**	**510,368**	**500,456**	**491,398**	**481,293**	**491,109**

a. The supplies from Lake Chapman for NTMWD include NTMWD's share of Lake Chapman and sales from the City of Cooper.
b. The import of water from Lake Fork to the Trinity Basin is limited to 224,200 acre-feet per year. The first phase of infrastructure to transport this water to DWU is completed. The second phase is scheduled to be completed in the next five years.
c. NTMWD has acquired Terrell's and Ables Springs WSC's supply in Lake Tawakoni. NTWMD also has a contract for 40,000 acre-feet per year of temporary supply from the Upper Sabine Basin for 2020 (contract expires in 2025).
d. There is no current infrastructure to transport the water from Lake Palestine to DWU.
e. Water supply contract from Lake Livingston is for 20,000 acre-feet per year in any one year with no more than 48,000 acre-feet per year over a three year period.
f. The amount of water from Lake Athens is the amount that is imported to Region C. It increases as demand increases.
g. The supply from Possum Kingdom Lake is for Vulcan Materials (Parker County Mining).

Tawakoni

Lake Tawakoni is located in the Sabine River Basin. The Sabine River Authority (SRA) holds water rights for 238,100 acre-feet per year. The City of Dallas has a contract with SRA for 190,480 acre-feet per year. The North Texas Municipal Water District has water rights for 11,098 acre-feet per year that were transferred from the City of Terrell and Ables Springs WSC. NTWMD also has a temporary contract with SRA for up to 40,000 acre-feet from Lake Tawakoni and Lake Fork. Generally, about half (20,000 acre-feet) is supplied from Lake Tawakoni, though the split between Tawakoni and Lake Fork may vary from year to year. Using the Sabine River WAM, the firm yield of Lake Tawakoni is 229,710 in year 2020, reducing to 221,310 acre-feet per year by 2070 due to sedimentation. The supplies available to the cities of Dallas and NTMWD are based on the proportion of the contracted amount to the firm yield. Adjustments were made so that supplies to each customer of the Sabine River Authority were reduced proportionally. NTMWD's share of the Lake Tawakoni supply is included in the Upper Sabine Basin Supply in **Table E.5**.

Lake Fork (Dallas)

Lake Fork is located in the Sabine River Basin. The Sabine River Authority holds water rights for 188,660 acre-feet per year. The City of Dallas has a contract for 131,860 acre-feet per year. Of this amount, 120,000 acre-feet per year can be exported to the Trinity Basin in Region C. The remainder can only be used in the Sabine River Basin. The firm yield of Lake Fork was calculated as 171,260 acre-feet per year in year 2020, reducing due to sedimentation to 161,360 acre-feet per year in 2070. The supply to Dallas is based on the proportion of the contracted amount to the firm yield. The total amount exported to Region C was limited to the 120,000 acre-feet per year specified in the trans-basin diversion permit.

Upper Sabine Basin Supply (NTMWD). In addition to the 11,098 acre-feet per year of contracts for water from Lake Tawakoni transferred to NTMWD by Terrell and Ables Springs WSC, NTMWD has a temporary contract with Sabine River Authority for 40,000 acre-feet per year additional supply from the Upper Sabine Basin (Lake Fork and Lake Tawakoni). This contract expires in 2025. Generally, about half (20,000 acre-feet) is supplied from each reservoir, though the split between the two lakes may vary from year to year. The available supply to NTMWD from the Upper Sabine Basin that is shown in **Table E.5** includes the temporary supply (2020 only) and the firm yield of the Lake Tawakoni contracts that were transferred from Terrell and Ables Springs WSC to NTMWD.

Palestine (Dallas)

Lake Palestine is located on the Neches River in the Neches River Basin. The lake is owned and operated by the Upper Neches River Municipal Water Authority (UNRMWA) in conjunction with a downstream diversion point (Rocky Point). The UNRMWA holds water rights totaling 238,110 acre-feet per year from the Lake Palestine system. The firm yield of the Palestine system using the numbers provided by Region I is estimated at 197,710 acre-feet per year in year 2020, reducing to 189,010 acre-feet per year by 2070. The decreased firm yield compared to the 2016 regional plan is due to a new sedimentation rate from the volumetric survey performed in 2012 and published in 2014. The City of Dallas has a contract with the UNRMWA for 114,337 acre-feet per year. The supply to Dallas was reduced due to the reduced yield. Presently there is no infrastructure to transport this water from Lake Palestine to Dallas. This will be considered as a water management strategy.

Athens (Athens)

Lake Athens is located in Henderson County in the Neches River Basin. The Athens Municipal Water Authority holds water rights in Lake Athens totaling 8,500 acre-feet per year. Of this amount 3,023 acre-feet per year is designated for industrial use for the Athens Fish Hatchery, which is located at the lake. The yield of Lake Athens was determined by Region I using the Neches Basin Water Availability Model and is estimated at 5,950 acre-feet per year in 2020. The amount that is exported to Region C for use by the Region C portion of City of Athens is 2,063 acre-feet per year, increasing to 4,046 acre-feet per year in 2070.

Possum Kingdom Lake (Vulcan Materials)

Vulcan Materials has a contract to purchase 1,000 acre-feet per year of water originating in Possum Kingdom Lake from the Brazos River Authority for mining use. Possum Kingdom Lake is in the Brazos River Basin in Region G.

Lake Aquilla

Lake Aquilla is located in the Brazos River Basin in Region G. The Aquilla Water Supply Corporation provides water to entities in Ellis and Navarro Counties in Region C. The total estimated supply provided to Region C from Lake Aquilla is 380 acre-feet per year in 2020, increasing to 655 acre-feet per year by 2070.

Lake Granbury

Lake Granbury is located in the Brazos River Basin in Region G. The Brazos River Authority (BRA) owns and operates the lake as part of the Authority's water system. Currently, the Authority sells water from Lake Granbury to Johnson County Special Utility District (SUD) and Parker County SUD. The amount of existing supplies imported to Region C is estimated at 576 acre-feet per year in 2020 through 2070. Parker County SUD's contract with the BRA allows for additional supply, but Parker County SUD will need a water management strategy of expanding water treatment to utilize the additional supply.

Lake Palo Pinto

Lake Palo Pinto is located in Palo Pinto County in the Brazos River Basin in Region G. A portion of Mineral Wells is in Parker County in Region C. All of Mineral Wells' water supply currently comes from Lake Palo Pinto. (Mineral Wells has a water right in Lake Mineral Wells in Parker County but has no plans to use that source for water supply.) The supply from Lake Palo Pinto to Region C also supplies Mineral Wells' customers located in Region C, which include portions of Parker County Other, Parker County Manufacturing, and Santo SUD. The amount of existing supplies imported to Region C from Lake Palo Pinto is estimated at 796 acre-feet per year in 2020 decreasing slightly (due to sedimentation) to 746 acre-feet per year in 2070.

E.6 Irrigation Local Supply and Other Local Supply

The local irrigation availability is based on existing run-of-the-river surface water rights for irrigation not associated with major reservoirs. The reliable supply from run-of-the-river diversions was calculated using the minimum diversion from WAM Run 3 for the permitted water rights.

Other local supply includes non-irrigation run-of-the-river supplies and mining and livestock local supplies that do not have a water right. Most surface water used for livestock is taken from stock ponds or directly from streams. Most of these supplies are exempt from needing a water right so they are not included in the WAMs. These supplies are based on historical use. For livestock and mining local supplies, some of the available supply volumes were revised considering the historical use over the past ten years [(3)] and the projected demands. **Table E.6** shows the available supply for irrigation and other local supplies.

Table E.6 Summary of Local Surface Water Supplies for Region C

Use	County	Basin	Values in Acre-Feet per Year					
			2020	2030	2040	2050	2060	2070
IRRIGATION RUN-OF-RIVER SUPPLIES								
Irrigation	Fannin	Red	4,613	4,613	4,613	4,613	4,613	4,613
Irrigation	Grayson	Red	1,091	1,091	1,091	1,091	1,091	1,091
Irrigation	Collin	Trinity	408	408	408	408	408	408
Irrigation	Dallas	Trinity	791	791	791	791	791	791
Irrigation	Ellis	Trinity	3	3	3	3	3	3
Irrigation	Freestone	Trinity	87	87	87	87	87	87
Irrigation	Henderson	Trinity	415	415	415	415	415	415

Use	County	Basin	Values in Acre-Feet per Year					
			2020	2030	2040	2050	2060	2070
Irrigation	Jack	Trinity	110	110	110	110	110	110
Irrigation	Kaufman	Trinity	64	64	64	64	64	64
Irrigation	Navarro	Trinity	226	226	226	226	226	226
Irrigation	Parker	Trinity	122	122	122	122	122	122
Irrigation	Tarrant	Trinity	549	549	549	549	549	549
Irrigation	Wise	Trinity	139	139	139	139	139	139
Irrigation	Parker	Brazos	117	117	117	117	117	117
SUBTOTAL			**8,735**	**8,735**	**8,735**	**8,735**	**8,735**	**8,735**
NON-IRRIGATION RUN-OF-RIVER SUPPLIES								
Municipal	Fannin	Sulphur	49	49	49	49	49	49
Municipal	Freestone	Trinity	41	41	41	41	41	41
Municipal	Navarro	Trinity	252	252	252	252	252	252
Manufacturing	Grayson	Red	30	30	30	30	30	30
Steam Electric Power	Dallas	Trinity	368	368	368	368	368	368
Steam Electric Power	Tarrant	Trinity	959	959	959	959	959	959
LIVESTOCK AND MINING LOCAL SUPPLIES								
Livestock	Collin	Sabine	31	31	31	31	31	31
Livestock	Collin	Trinity	971	971	971	971	971	971
Livestock	Cooke	Red	380	380	380	380	380	380
Livestock	Cooke	Trinity	807	807	807	807	807	807
Livestock	Dallas	Trinity	198	198	198	198	198	198
Livestock	Denton	Trinity	622	622	622	622	622	622
Livestock	Ellis	Trinity	1,112	1,112	1,112	1,112	1,112	1,112
Livestock	Fannin	Red	973	973	973	973	973	973
Livestock	Fannin	Sulphur	272	272	272	272	272	272
Livestock	Fannin	Trinity	61	61	61	61	61	61
Livestock	Freestone	Brazos	83	83	83	83	83	83
Livestock	Freestone	Trinity	960	960	960	960	960	960
Livestock	Grayson	Red	688	688	688	688	688	688
Livestock	Grayson	Trinity	387	387	387	387	387	387
Livestock	Henderson	Trinity	345	345	345	345	345	345
Livestock	Jack	Brazos	231	231	231	231	231	231
Livestock	Jack	Trinity	571	571	571	571	571	571
Livestock	Kaufman	Sabine	98	98	98	98	98	98
Livestock	Kaufman	Trinity	1,524	1,524	1,524	1,524	1,524	1,524
Livestock	Navarro	Trinity	1,603	1,603	1,603	1,603	1,603	1,603
Livestock	Parker	Brazos	903	903	903	903	903	903
Livestock	Parker	Trinity	1,019	1,019	1,019	1,019	1,019	1,019
Livestock	Rockwall	Sabine	58	58	58	58	58	58
Livestock	Rockwall	Trinity	59	59	59	59	59	59
Livestock	Tarrant	Trinity	442	442	442	442	442	442
Livestock	Wise	Trinity	1,117	1,117	1,117	1,117	1,117	1,117
Mining	Dallas	Trinity	1,525	1,525	1,525	1,525	1,525	1,525
Mining	Denton	Trinity	1,366	1,366	1,366	1,366	1,366	1,366
Mining	Fannin	Red	72	72	72	72	72	72
Mining	Freestone	Trinity	120	120	120	120	120	120
Mining	Jack	Trinity	370	370	370	370	370	370
Mining	Kaufman	Trinity	86	86	86	86	86	86

Use	County	Basin	Values in Acre-Feet per Year					
			2020	2030	2040	2050	2060	2070
Mining	Parker	Brazos	14	14	14	14	14	14
Mining	Parker	Trinity	6	6	6	6	6	6
Mining	Tarrant	Trinity	342	342	342	342	342	342
Mining	Wise	Trinity	133	133	133	133	133	133
SUBTOTAL NON-IRRIGATION SUPPLIES			**21,248**	**21,248**	**21,248**	**21,248**	**21,248**	**21,248**
TOTAL RUN-OF-RIVER AND LOCAL SUPPLIES			**29,983**	**29,983**	**29,983**	**29,983**	**29,983**	**29,983**

E.7 Reuse

The reuse quantities listed in **Table E.1** are limited to currently permitted and operating indirect reuse projects and existing direct reuse for irrigation or industrial purposes.

Table E.7 shows new and amended reuse water rights and permits since the *2016 Region C Plan*. **Table E.8** shows the individual reuse projects that make up the total overall (not limited to infrastructure constraints) reuse amount in **Table E.1.** The recommended regional reuse plan is outlined in **Chapter 5B** of the Region C plan.

Water Right Amendments Involving Reuse since the *2016 Region C Water Plan*

The Texas Commission on Environmental Quality (TCEQ) has granted reuse-based amendments to water right certificates of adjudication held by several entities in Region C. These recent amendments are discussed below and summarized in

Table E.7.

On April 18, 2017, the City of Weatherford received an amendment to its water right in Lake Weatherford. The amended certificate allows the city to divert discharges from their wastewater treatment plant to Lake Weatherford and reuse the water.

On June 9, 2017, NTMWD received a water right allowing for the diversion of return flows from the Elm Fork Trinity River. The diversion of discharges from the Stewart Creek West, Panther Creek, and Cottonwood Creek Wastewater Treatment Plants (WWTPs) is allowed for up to 28,340 acre-feet per year. The Cottonwood Creek WWTP has since been decommissioned and all of its flow redirected to Stewart Creek West for treatment and discharge. Dallas and NTMWD are currently negotiating an agreement by which Dallas can divert the discharges from the previously mentioned WWTPs out of Lake Lewisville. Even though the permit has been obtained, neither NTMWD or Dallas Water Utilities are currently using this reuse source.

The two remaining reuse permits (TRA and Irving) do not provide any additional supply volume. They merely change locations of diversion and/or use.

Table E.7 Water Right Amendments and Permit Applications Involving Reuse

Entity	Description	Certification of Adjudication/ Permit Number	Status	Date of Permit	Additional Annual Diversion for Water Supply (ac-ft/yr)
Weatherford	Return flow diversions from Lake Weatherford	08-3356B	Amended	04/18/17	6,166
North Texas Municipal Water District	District return flows discharged into the Elm Fork Trinity River and its tributaries from various WWTPs.	12472	New Permit	06/9/17	28,340
Trinity River Authority	Allows for return flow diversions at the NTMWD Main Stem Pump Station	08-4248E	Amended	10/19/16	0
Irving	Return flow diversions of Chapman-based water for the Twin Wells golf course	03-4799D	Amended	10/30/13	0

Table E.8 Summary of Supplies Available from Reuse

Provider	Project Name	Description	Type	County	2020	2030	2040	2050	2060	2070
Annetta	Annetta Direct Reuse	Golf Course	direct	Parker	126	145	167	183	202	222
Azle	Azle Direct Reuse	Cross Timbers Golf Course	direct	Tarrant	300	300	300	300	300	300
Bryson	Jack County Direct Reuse	Clayton Ranch Irrigation	direct	Jack	27	26	26	25	25	24
Crandall	Crandall Direct Reuse	Creekview Golf Club	direct	Kaufman	446	541	645	666	666	666
Dallas	Cedar Crest Golf Course Reuse	Cedar Crest & Steven Creek Golf Courses	direct	Dallas	1,121	1,121	1,121	1,121	1,121	1,121
Dallas	Dallas Indirect Reuse	Dallas	indirect	Denton	43,451	49,167	52,547	57,540	69,313	77,705
Denton	Denton Power Plant Direct Reuse	City of Garland SEP, Denton Regional Medical Office, Caruthers Oil Co., Robert Donnelly, Day Surgery Center, Denton Landfill, Denton State School, Oakmont Country Club	direct	Denton	173	173	173	173	173	173
Denton	Denton County Indirect Reuse	Indirect reuse	indirect	Denton	5,740	7,291	9,063	12,515	12,818	12,683
Denton	Denton County Direct Reuse	Direct Reuse	direct	Denton	265	265	265	265	265	265
Ennis	Ennis Direct Reuse	Tractabel Steam Electric Power Plant	direct	Ellis	919	919	919	919	919	919
Fort Worth	Fort Worth Village Creek Direct Reuse		direct	Tarrant	3,469	3,526	3,526	3,526	3,526	3,526
Fort Worth	Waterchase Golf Course Direct Reuse	Golf Course	direct	Tarrant	897	897	897	897	897	897
Gainesville	Gainesville Direct Reuse	City of Gainesville - Keneteso Park	direct	Cooke	4	4	4	4	4	4
Garland/ Forney	Garland Direct Reuse (sales through Forney)	FPLE Steam Electric Power Plant	direct	Kaufman	9,196	9,196	9,196	9,196	9,196	9,196
Grapevine	Grapevine Reuse (Lake Grapevine) DCPCMUD	Lake Grapevine	indirect	Tarrant	3,2 95	3,659	3,698	3,683	3,680	3,679
Millsap ISD	Millsap WWTP Reuse	Millsap High School Athletic Fields	direct	Parker	2	2	2	2	2	2
NTMWD/ Frisco	Stewart Creek West Reuse	Trails of Frisco Golf Course	direct	Collin	1,401	1,401	1,401	1,401	1,401	1,401

Provider	Project Name	Description	Type	County	2020	2030	2040	2050	2060	2070
NTMWD	Rowlett Creek Reuse	Los Rios Country Club, Golf Center of Plano, Pecan Hollow Golf Course	direct	Collin	1,540	1,540	1,540	1,540	1,540	1,540
NTMWD	Wilson Creek Direct Reuse	Pasture Land	direct	Collin	100	100	100	100	100	100
NTMWD	Buffalo Creek Reuse	Buffalo Creek Golf Course	direct	Rockwall	672	672	672	672	672	672
NTMWD	Lavon Watershed Reuse	Lake Lavon	indirect	Collin	48,896	58,626	69,999	73,014	73,014	73,014
NTMWD	East Fork Reuse	Trinity River	indirect	Kaufman	96,047	102,000	102,000	102,000	102,000	102,000
Pinnacle Club	Pinnacle Club Direct Reuse	Pinnacle Club Golf Course	direct	Henderson	32	32	32	32	32	32
The Colony	Stonebriar County Club (golf irrigation)	Stonebriar Country Club	direct	Collin	457	457	457	457	457	457
TRA/DCURD	TRA/Las Colinas Indirect Reuse (Dallas County Irrigation)	Las Colinas - golf course irrigation, landscape irrigation, and lake level maintenance	indirect	Dallas	8,000	8,000	8,000	8,000	8,000	8,000
TRA	TRA/Waxahachie Indirect Reuse	Lake Bardwell	indirect	Ellis	3,479	3,882	4,614	5,129	5,129	5,129
TRA	TRA Ten Mile Creek WWTP Reuse	Pecan Orchard	direct	Dallas	125	125	125	125	125	125
TRA/Irving	Irving Indirect for Municipal Use	Irving	indirect	Dallas	486	486	486	486	486	486
TRWD	Richland-Chambers Reuse	Richland Chambers	indirect	Navarro	100,465	100,465	100,465	100,465	100,465	100,465
Trophy Club	Denton County Direct Reuse (Golf irrigation)	Trophy Club Country Club	direct	Denton	800	800	800	800	800	800
Denton County FWSD#1/ UTRWD/ Lewisville	UTRWD Direct Reuse	Castle Hills Golf Course	direct	Denton	897	897	897	897	897	897
UTRWD	UTRWD Lake Chapman Reuse	Lake Chapman	indirect	Denton	3,970	4,178	4,383	4,584	4,558	4,531
Weatherford	Lake Weatherford Direct Reuse	City of Weatherford/Golf Course Irrigation	direct	Parker	269	316	334	456	456	456
Total in Acre-Feet per Year					***337,067***	***361,209***	***378,854***	***391,173***	***403,239***	***411,487***
Total in MGD					***301***	***322***	***338***	***349***	***360***	***367***

E.8 Desalination

Two desalination facilities are currently operated by public water systems within Region C. The City of Sherman operates a 10 MGD electro dialysis reversal membrane plant to treat brackish water from Lake Texoma and has recently expanded its treatment capacity with a 10 MGD expansion reverse osmosis facility. The City of Bardwell operates a reverse osmosis facility to treat brackish groundwater. These supplies are included in the total supplies from reservoirs (Sherman) and groundwater (Bardwell). In addition, the Brazos River Authority (BRA) operates the Lake Granbury Surface Water and Treatment System (SWATS). Although Lake Granbury is located in Region G, BRA provides water from SWATS to the Johnson County SUD, which serves customers within Region C. The amount of water provided by SWATS is accounted for in Table E.5 (imports to Region C).

E.9 Groundwater

Groundwater supplies in Region C are obtained from the following;

- Two major aquifers (Carrizo-Wilcox and Trinity),
- Four minor aquifers (Woodbine, Nacatoch, newly designated Cross Timbers, Queen City), and
- Locally undifferentiated formations, referred to as "other aquifers."

As required by regional planning rules, Modeled Available Groundwater (MAG) estimates provided by the TWDB were used to determine groundwater availability. For Region C, TWDB provided estimates for the Carrizo-Wilcox, Trinity, Woodbine and Queen City aquifers. Groundwater Management Area 8 (GMA 8) and GMA 11 deemed the Nacatoch aquifer "non-relevant", and new water availability estimates for this aquifer were not included in the MAGs developed by TWDB. Therefore, availability for this aquifer was assumed to be the same as the amounts used in the *2016 Region C Water Plan*.

There are sixteen Groundwater Management Areas in Texas. GMA 8 covers all of Region C except for Jack County, Henderson County, and a small portion of Navarro County. GMA 11 and GMA 12 cover small portions of Region C. The GMAs are responsible for developing Desired Future Conditions (DFCs) for aquifers within their respective areas. The TWDB quantifies Modeled Available Groundwater (MAG) based on the DFCs provided by the GMAs. The regional water planning groups must use MAG estimates as the basis for existing groundwater supplies for all locations that have a DFC [(2)]. The groundwater availability for "other aquifer" are based on historical pumping data obtained from the TWDB [(3)4]. The Cross Timbers aquifer was designated as a new minor aquifer in 2017. No desired future conditions have been established by the groundwater conservation district for this aquifer, therefore no MAG amounts are available. For this reason, the availability from this aquifer is assumed to be the "other aquifer" availability used in the 2016 Region C Water Plan for the areas where "other aquifer" overlaps the newly designated Cross Timbers aquifer. **Table E.9** details the groundwater availability for Region C.

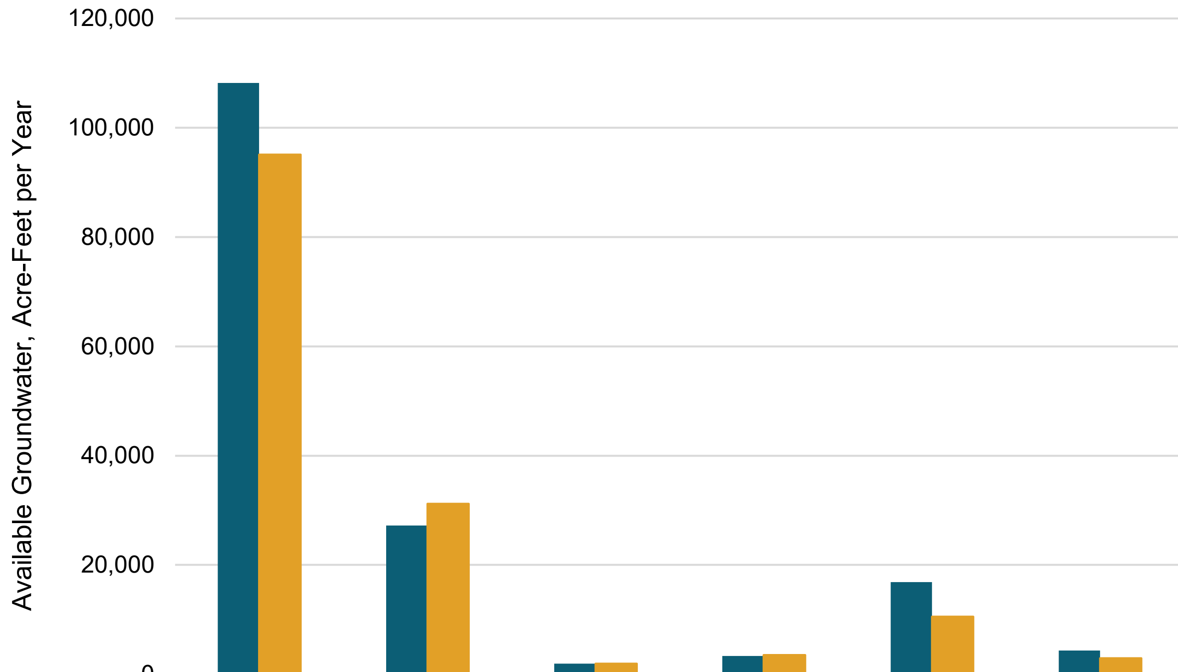
There are currently seven Groundwater Conservation Districts (GCDs) that include one or more counties in Region C:

- Upper Trinity GCD (Wise and Parker Counties)
- Northern Trinity GCD (Tarrant County)
- Neches and Trinity Valleys GCD (Henderson County)
- Mid-East Texas GCD (Freestone County)
- Prairielands GCD (Ellis County)

- North Texas GCD (Collin, Cooke, and Denton Counties)
- Red River GCD (Grayson and Fannin Counties)

The overall groundwater availability in Region C is greater than the availability shown in the *2016 Region C Water Plan* [(1)]. The increase is largely due to changes to the availability from the Trinity aquifer. The availability from the Trinity aquifer has increased by approximately 13,000 acre-feet per year since the *2016 Region C Water Plan*. The availability from the Carrizo-Wilcox increased by a maximum of 7,036 acre-feet per year since the *2016 Region C Water Plan*. The availability from the Woodbine decreased by a maximum of 3,957 acre-feet per year since the *2016 Region C Water Plan*. **Figure E.1** compares the 2020 Region C groundwater availability from the 2021 Region C Water Plan water availability estimates to the availability reported in the *2016 Region C Water Plan* [(1)].

Figure E.1 Region C Groundwater Availability in 2020



	Trinity	Woodbine	Nacatoch	Queen City	Carrizo-Wilcox	Other*
2021 Plan	108,190	27,246	1,939	3,345	16,890	4,338
2016 Plan	95,093	31,203	1,939	3,533	10,519	2,919

*Includes Cross Timbers aquifer

Table E.9 Groundwater Availability for Region C

			Values in Ac-Ft/Yr																	
Aquifer	**County**	**Basin**	**Groundwater Availability in 2021 Plan**						**Groundwater Availability in 2016 Plan**						**Change in Groundwater Availability since 2016 Plan**					
			2020	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
Trinity	Collin	Sabine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trinity	Collin	Trinity	5,807	5,792	5,807	5,792	5,807	5,792	2,104	2,104	2,104	2,104	2,104	2,104	3,703	3,688	3,703	3,688	3,703	3,688
Woodbine	Collin	Sabine	0	0	0	0	0	0	40	40	40	40	40	40	-40	-40	-40	-40	-40	-40
Woodbine	Collin	Trinity	4,263	4,251	4,263	4,251	4,263	4,251	2,469	2,469	2,469	2,469	2,469	2,469	1,794	1,782	1,794	1,782	1,794	1,782
	Collin		**10,070**	**10,043**	**10,070**	**10,043**	**10,070**	**10,043**	**4,613**	**4,613**	**4,613**	**4,613**	**4,613**	**4,613**	**5,457**	**5,430**	**5,457**	**5,430**	**5,457**	**5,430**
Trinity	Cooke	Red	2,191	2,184	2,191	2,184	2,191	2,184	1,284	1,284	1,284	1,284	1,284	1,284	907	900	907	900	907	900
Trinity	Cooke	Trinity	8,353	8,330	8,353	8,330	8,353	8,330	5,566	5,566	5,566	5,566	5,566	5,566	2,787	2,764	2,787	2,764	2,787	2,764
Woodbine	Cooke	Red	262	261	262	261	262	261	18	18	18	18	18	18	244	243	244	243	244	243
Woodbine	Cooke	Trinity	540	538	540	538	540	538	136	136	136	136	136	136	404	402	404	402	404	402
	Cooke		**11,346**	**11,313**	**11,346**	**11,313**	**11,346**	**11,313**	**7,004**	**7,004**	**7,004**	**7,004**	**7,004**	**7,004**	**4,342**	**4,309**	**4,342**	**4,309**	**4,342**	**4,309**
Trinity	Dallas	Trinity	3,699	3,688	3,699	3,688	3,699	3,688	5,458	5,458	5,458	5,458	5,458	5,458	-1,759	-1,770	-1,759	-1,770	-1,759	-1,770
Woodbine	Dallas	Trinity	2,804	2,796	2,804	2,796	2,804	2,796	2,313	2,313	2,313	2,313	2,313	2,313	491	483	491	483	491	483
	Dallas		**6,503**	**6,484**	**6,503**	**6,484**	**6,503**	**6,484**	**7,771**	**7,771**	**7,771**	**7,771**	**7,771**	**7,771**	**-1,268**	**-1,287**	**-1,268**	**-1,287**	**-1,268**	**-1,287**
Trinity	Denton	Trinity	30,151	30,068	30,151	30,068	30,151	30,068	19,333	19,333	19,333	19,333	19,333	19,333	10,818	10,735	10,818	10,735	10,818	10,735
Woodbine	Denton	Trinity	3,616	3,607	3,616	3,607	3,616	3,607	4,126	4,126	4,126	4,126	4,126	4,126	-510	-519	-510	-519	-510	-519
	Denton		**33,767**	**33,675**	**33,767**	**33,675**	**33,767**	**33,675**	**23,459**	**23,459**	**23,459**	**23,459**	**23,459**	**23,459**	**10,308**	**10,216**	**10,308**	**10,216**	**10,308**	**10,216**
Nacatoch	Ellis	Trinity	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0	0
Trinity	Ellis	Trinity	5,539	5,524	5,539	5,524	5,539	5,524	3,959	3,959	3,959	3,959	3,959	3,959	1,580	1,565	1,580	1,565	1,580	1,565
Woodbine	Ellis	Trinity	2,078	2,073	2,078	2,073	2,078	2,073	5,441	5,441	5,441	5,441	5,441	5,441	-3,363	-3,368	-3,363	-3,368	-3,363	-3,368
	Ellis		**7,637**	**7,617**	**7,637**	**7,617**	**7,637**	**7,617**	**9,420**	**9,420**	**9,420**	**9,420**	**9,420**	**9,420**	**-1,783**	**-1,803**	**-1,783**	**-1,803**	**-1,783**	**-1,803**
Trinity	Fannin	Red	0	0	0	0	0	0	617	617	617	617	617	617	-617	-617	-617	-617	-617	-617
Trinity	Fannin	Sulphur	2,092	2,087	2,092	2,087	2,092	2,087	0	0	0	0	0	0	2,092	2,087	2,092	2,087	2,092	2,087
Trinity	Fannin	Trinity	0	0	0	0	0	0	83	83	83	83	83	83	-83	-83	-83	-83	-83	-83
Woodbine	Fannin	Red	3,553	3,544	3,553	3,544	3,553	3,544	2,676	2,676	2,676	2,676	2,676	2,676	877	868	877	868	877	868
Woodbine	Fannin	Sulphur	551	550	551	550	551	550	21	21	21	21	21	21	530	529	530	529	530	529
Woodbine	Fannin	Trinity	829	827	829	827	829	827	600	600	600	600	600	600	229	227	229	227	229	227
Other	Fannin	Red	2,919	2,919	2,919	2,919	2,919	2,919	2,919	2,919	2,919	2,919	2,919	2,919	0	0	0	0	0	0
	Fannin		**9,944**	**9,927**	**9,944**	**9,927**	**9,944**	**9,927**	**6,916**	**6,916**	**6,916**	**6,916**	**6,916**	**6,916**	**3,028**	**3,011**	**3,028**	**3,011**	**3,028**	**3,011**
Carrizo-Wilcox	Freestone	Trinity	7,713	7,924	8,122	8,290	8,498	8,498	4,420	4,448	4,452	4,414	4,411	4,385	3,293	3,476	3,670	3,876	4,087	4,113
Carrizo-Wilcox	Freestone	Brazos	1,333	1,343	1,362	1,374	1,400	1,400	885	869	863	848	848	838	448	474	499	526	552	562
Queen City	Freestone	Trinity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Freestone		**9,046**	**9,267**	**9,484**	**9,664**	**9,898**	**9,898**	**5,305**	**5,317**	**5,315**	**5,262**	**5,259**	**5,223**	**3,741**	**3,950**	**4,169**	**4,402**	**4,639**	**4,675**
Trinity	Grayson	Red	6,678	6,660	6,678	6,660	6,678	6,660	7,722	7,722	7,722	7,722	7,722	7,722	-1,044	-1,062	-1,044	-1,062	-1,044	-1,062
Trinity	Grayson	Trinity	4,059	4,048	4,059	4,048	4,059	4,048	1,678	1,678	1,678	1,678	1,678	1,678	2,381	2,370	2,381	2,370	2,381	2,370
Woodbine	Grayson	Red	5,615	5,599	5,615	5,599	5,615	5,599	6,590	6,590	6,590	6,590	6,590	6,590	-975	-991	-975	-991	-975	-991
Woodbine	Grayson	Trinity	1,926	1,922	1,926	1,922	1,926	1,922	5,497	5,497	5,497	5,497	5,497	5,497	-3,571	-3,575	-3,571	-3,575	-3,571	-3,575
	Grayson		**18,278**	**18,229**	**18,278**	**18,229**	**18,278**	**18,229**	**21,487**	**21,487**	**21,487**	**21,487**	**21,487**	**21,487**	**-3,209**	**-3,258**	**-3,209**	**-3,258**	**-3,209**	**-3,258**
Carrizo-Wilcox	Henderson	Trinity	7,829	7,829	7,829	7,732	7,577	7,548	5,187	5,187	5,187	5,187	5,187	5,187	2,642	2,642	2,642	2,545	2,390	2,361
Queen City	Henderson	Trinity	3,345	3,345	3,345	3,345	3,345	3,345	3,533	3,533	3,533	3,533	3,533	3,533	-188	-188	-188	-188	-188	-188
	Henderson		**11,174**	**11,174**	**11,174**	**11,077**	**10,922**	**10,893**	**8,720**	**8,720**	**8,720**	**8,720**	**8,720**	**8,720**	**2,454**	**2,454**	**2,454**	**2,357**	**2,202**	**2,173**

Aquifer	County	Basin	Groundwater Availability in 2021 Plan						Groundwater Availability in 2016 Plan						Change in Groundwater Availability since 2016 Plan					
			Values in Ac-Ft/Yr																	
			2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Cross Timbers	Jack	Brazos	284	284	284	284	284	284	284	284	284	284	284	284	0	0	0	0	0	0
Cross Timbers	Jack	Trinity	650	650	650	650	650	650	650	650	650	650	650	650	0	0	0	0	0	0
	Jack		**934**	**934**	**934**	**934**	**934**	**934**	**934**	**934**	**934**	**934**	**934**	**934**	**0**	**0**	**0**	**0**	**0**	**0**
Nacatoch	Kaufman	Sabine	49	49	49	49	49	49	49	49	49	49	49	49	0	0	0	0	0	0
Nacatoch	Kaufman	Trinity	877	877	877	877	877	877	877	877	877	877	877	877	0	0	0	0	0	0
Trinity	Kaufman	Sabine	0	0	0	0	0	0	45	45	45	45	45	45	-45	-45	-45	-45	-45	-45
Trinity	Kaufman	Trinity	0	0	0	0	0	0	1,136	1,136	1,136	1,136	1,136	1,136	-1,136	-1,136	-1,136	-1,136	-1,136	-1,136
Woodbine	Kaufman	Sabine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Woodbine	Kaufman	Trinity	0	0	0	0	0	0	200	200	200	200	200	200	-200	-200	-200	-200	-200	-200
	Kaufman		**926**	**926**	**926**	**926**	**926**	**926**	**2,307**	**2,307**	**2,307**	**2,307**	**2,307**	**2,307**	**-1,381**	**-1,381**	**-1,381**	**-1,381**	**-1,381**	**-1,381**
Carrizo-Wilcox	Navarro	Trinity	15	15	15	15	15	15	15	15	15	15	15	15	0	0	0	0	0	0
Nacatoch	Navarro	Trinity	980	980	980	980	980	980	980	980	980	980	980	980	0	0	0	0	0	0
Other	Navarro	Trinity	435	435	435	435	435	435	0	0	0	0	0	0	435	435	435	435	435	435
Trinity	Navarro	Trinity	0	0	0	0	0	0	1,873	1,873	1,873	1,873	1,873	1,873	-1,873	-1,873	-1,873	-1,873	-1,873	-1,873
Woodbine	Navarro	Trinity	68	68	68	68	68	68	300	300	300	300	300	300	-232	-232	-232	-232	-232	-232
	Navarro		**1,498**	**1,498**	**1,498**	**1,498**	**1,498**	**1,498**	**3,168**	**3,168**	**3,168**	**3,168**	**3,168**	**3,168**	**-1,670**	**-1,670**	**-1,670**	**-1,670**	**-1,670**	**-1,670**
Cross Timbers	Parker	Brazos	50	50	50	50	50	50	50	50	50	50	50	50	0	0	0	0	0	0
Trinity	Parker	Trinity	9,665	9,637	9,665	9,637	9,665	9,637	12,449	12,449	12,449	12,449	12,449	12,449	-2,784	-2,812	-2,784	-2,812	-2,784	-2,812
Trinity	Parker	Brazos	2,232	2,226	2,232	2,226	2,232	2,226	2,799	2,799	2,799	2,799	2,799	2,799	-567	-573	-567	-573	-567	-573
	Parker		**11,947**	**11,913**	**11,947**	**11,913**	**11,947**	**11,913**	**15,298**	**15,298**	**15,298**	**15,298**	**15,298**	**15,298**	**-3,351**	**-3,385**	**-3,351**	**-3,385**	**-3,351**	**-3,385**
Nacatoch	Rockwall	Sabine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nacatoch	Rockwall	Trinity	13	13	13	13	13	13	13	13	13	13	13	13	0	0	0	0	0	0
Trinity	Rockwall	Sabine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trinity	Rockwall	Trinity	0	0	0	0	0	0	958	958	958	958	958	958	-958	-958	-958	-958	-958	-958
Woodbine	Rockwall	Sabine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Woodbine	Rockwall	Trinity	0	0	0	0	0	0	144	144	144	144	144	144	-144	-144	-144	-144	-144	-144
	Rockwall		**13**	**13**	**13**	**13**	**13**	**13**	**1,115**	**1,115**	**1,115**	**1,115**	**1,115**	**1,115**	**-1,102**	**-1,102**	**-1,102**	**-1,102**	**-1,102**	**-1,102**
Trinity	Tarrant	Trinity	17,964	17,915	17,964	17,915	17,964	17,915	18,747	18,747	18,747	18,747	18,747	18,747	-783	-832	-783	-832	-783	-832
Woodbine	Tarrant	Trinity	1,141	1,138	1,141	1,138	1,141	1,138	632	632	632	632	632	632	509	506	509	506	509	506
	Tarrant		**19,105**	**19,053**	**19,105**	**19,053**	**19,105**	**19,053**	**19,379**	**19,379**	**19,379**	**19,379**	**19,379**	**19,379**	**-274**	**-326**	**-274**	**-326**	**-274**	**-326**
Trinity	Wise	Trinity	9,760	9,734	9,760	9,734	9,760	9,734	9,282	9,282	9,282	9,282	9,282	9,282	478	452	478	452	478	452
	Wise		**9,760**	**9,734**	**9,760**	**9,734**	**9,760**	**9,734**	**9,282**	**9,282**	**9,282**	**9,282**	**9,282**	**9,282**	**478**	**452**	**478**	**452**	**478**	**452**
Region C Total			**161,948**	**161,800**	**162,386**	**162,100**	**162,548**	**162,150**	**146,178**	**146,190**	**146,188**	**146,135**	**146,132**	**146,096**	**15,770**	**15,610**	**16,198**	**15,965**	**16,416**	**16,054**

Table E.10 Summary of Water Availability Models (WAMs) Use by Region C

WAM/GAM Model Version	Modifications to Model	Date Modifications Approved by EA	Entity That Performed Model Run	Date of Model Run
TCEQ Trinity WAM Run 3	See hydraulic variance request letter dated April 13, 2018	June 21, 2018	Freese and Nichols, Inc	May 2018
TCEQ Sulphur WAM Run 3 through 1996. Reservoir Operation Model from 1997-2017.	See hydraulic variance request letter dated April 13, 2018	June 21, 2018	Freese and Nichols, Inc	May 2018
TCEQ Red WAM Run 3	See Hydrologic Variance Request Letter dated April 13, 2018	June 21, 2018	Freese and Nichols, Inc	December 2013
TCEQ Sabine WAM Run 3	See Hydrologic Variance Request Letter from Region I Planning Group.	See Region I Plan	Freese and Nichols, Inc	June 2018

Appendix E List of References

(1) Freese and Nichols, Inc., Alan Plummer Associates, Inc., CP&Y, Inc., and Cooksey Communications, Inc.: *2016 Region C Water Plan*, prepared for the Region C Water Planning Group, Fort Worth, December 2015.

(2) Texas Water Development Board, *Exhibit C Second Amended General Guidelines for Regional Water Plan Development* (April 2018), Austin, [Online] Available URL: http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/2ndAmendedExhibitC.pdf?d=11541.199999992386, August 21, 2018.

(3) Texas Water Development Board: *Water Use Summary Estimates by County*, Austin, [Online] Available URL: http://www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/index.asp, September 2017.

(4) Texas Water Development Board: Groundwater Pumpage Estimates, Pumpage Detail, 2000 and Later, Austin, [Online] Available URL: http://www.twdb.texas.gov/waterplanning/waterusesurvey/historical-pumpage.asp, November 2017.

(5) HDR, Inc.: *2014 Dallas Long Range Water Supply Plan to 2070 and Beyond*, prepared for Dallas Water Utilities, December 2015.

Appendix F

Potentially Feasible Water Management Strategies

2021 List of Region C Potentially Feasible Water Management Strategies (WMS)

Conservation:
Drought Management:
Implementation of Drought Contingency Plans/Measures as needed
Reuse:
Purchase Reuse water from DCPCMUD (Lake Grapevine)
Additional Reuse (TBD)
Athens Indirect Reuse
Cedar Creek Reuse (Wetlands)
Direct Reuse
Direct Reuse from local WWTPs
Direct Reuse from Sherman
Direct Reuse from UTRWD
Ennis Indirect Reuse
Indirect Reuse (Athens MWA) (Interbasin Transfer)
Indirect Reuse to Lake Weatherford/Sunshine
Indriect Reuse from Jacksboro
Irving Indirect Reuse
Joe Pool Reuse
Las Colinas Direct Reuse
Main Stem Balancing Reservoir
Main Stem Pump Station
Reuse for Steam Electric Power
Reuse from TRA Central Regional WWTP
TRA Reuse for SEP
Existing Supplies:
Add'l measure to access full Lavon yield
Carrizo-Wilcox Groundwater from Freestone and Anderson Counties
Chapman Booster Pump Station
Expansion of Treatment and Delivery System
Freestone/Anderson Co Groundwater
IPL Connect to Lake Palestine
IPL Connection of Existing Supplies (Cedar Creek and Richland-Chambers)
IPL Connection to Bachman
Lake O' the Pines
Lake Texoma blending
Lake Texoma Desalination
Lake Texoma Raw water for SEP
Navarro Mills (additional)
Oklahoma
Renew Contract for Supplies from current provider
Toledo Bend
Development of New Supplies:
George Parkhouse North Lake (New IBT)
George Parkhouse South Lake (New IBT)
Lake Columbia (New IBT)
Lake Tehuacana
Lower Bois d'Arc Reservoir (New IBT)
Marvin Nichols Reservoir (New IBT)
Neches Run-of-River Diversions (IBT)
New Groundwater
New Surface water
New Wells in Carrizo-Wilcox
Ralph Hall Reservoir (New IBT)
Red River Off Channel Reservoir (New IBT)
Richland-Chambers Reservoir for SEP
Sabine Off Channel Reservoir (New IBT)
Sulphur Basin Supplies (New IBT)
Reallocation/Management of Existing Supplies:
Expansion of Treatment and Delivery System
Removal of Chapman Silt Barrier
Expansion of Raw Water Supply System

2021 List of Region C Potentially Feasible Water Management Strategies (WMS)

Conjunctive Use:
Conjunctive use of Ground & Surface water
Aquifer Storage and Recovery
Acquisition of Available Existing Supplies:
Additional Lake Texoma
Additional Supplies from current provider
Additional Supplies from current provider through Lancaster
Additional Supplies from current provider-direct connection
Begin Purchasing from Arlington (TRWD)
Begin Purchasing from Azle (Ft Worth)
Begin Purchasing from Fort Worth (TRWD)
Begin Purchasing from Ft Worth (TRWD)/Connect to Ft Worth
Begin Purchasing from Gainesville
Begin Purchasing from Grand Prairie
Begin Purchasing from Mabank
Begin Purchasing from NTMWD
Begin Purchasing from Rhome
Begin Purchasing from Seagoville (DWU); construct facilities
Begin Purchasing from TRWD
Begin Purchasing from UTRWD
Begin Purchasing from Weatherford (TRWD)
Connect to and purchase from Gainesville
Connect to and purchase from Lake Texoma
Connect to Midlothian
Connect to Waxahachie
Lake Ralph Hall Supply
Lake Texoma
New Well(s) in Carrizo-Wilcox Aquifer
New Well(s) in Other Aquifer
New Well(s) in Trinity Aquifer
New Well(s) In Woodbine Aquifer
Purchase of Additional Supplies from current provider
Purchase Supplies from new provider
Purchase TRWD water from Cedar Creek Lake
Purchase water from Jacksboro
Purchase water from TRWD
Purchase water from Walnut Creek SUD
Raw Water from Corsicana for SEP
Raw Water from TRWD for SEP
Water Rights in Navarro Mills Reservoir
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities:
TRA Ellis County Water Supply Project
Collin-Grayson Municipal Alliance
Cooke County Water Supply Project
Fannin County Water Supply Project
Grayson County Water Supply Project
Infrastructure to deliver to Cooke County WUGS
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements):
Interim Purchase from Other Supplies
Emergency Transfer of Water (Section 11.139):
System Optimization, Subordination, Leases, Enhancement of Yield, Improvement of Water Quality
System Operation
Desalination:
Desalination Plant
Supplies from the Gulf of Mexico with Desalination
Desalination Plant - Northeast Grayson, Sherman, Denison

Table F.1
Potentially Feasible Water Management Strategies for Major Water Providers and Regional Wholesale Water Providers

Water Management Strategies	DWU	TRWD	NTMWD	TRA	UTRWD	Fort Worth	GTUA	Corsicana
Conservation*:	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management:								
Implementation of Drought Contingency Plans/Measures as needed	PF	PF	PF	PF	PF	PF	PF	PF
Reuse:								
Elm Fork Swap	PF		PF					
Main Stem Balancing Reservoir	PF							
Direct Reuse	PF			PF	PF	PF		
Cedar Creek Reuse (Wetlands)		PF						
Ennis Indirect Reuse				PF				
Joe Pool Reuse				PF				
Reuse from TRA Central Regional WWTP		PF		PF				
Lake Ralph Hall Reuse					PF			
Expanded Wetland Reuse			PF					
Additional Lavon Watershed Reuse			PF					
Additional Indirect Reuse	PF				PF			
Existing Supplies:								
Expansion of Treatment and Delivery System	PF	PF	PF	PF	PF	PF	PF	PF
Connection to Bachman	PF							
Lake Texoma Desalination	PF		PF				PF	
Toledo Bend	PF	PF	PF		PF			
Carrizo-Wilcox Groundwater from Upshur, Wood, Smith Counties	PF							
Carrizo-Wilcox Groundwater from Counties TBD		PF						
IPL Connect to Lake Palestine	PF							
IPL Connection of Existing Supplies (Richland-Chambers)		PF						
Oklahoma		PF	PF		PF			
Dredging or Reallocation	PF	PF	PF					
Add'l measure to access full Lavon yield			PF					
Chapman Booster Pump Station			PF					
Lake Texoma Blending			PF		PF			
Lake O' the Pines			PF					
Freestone/Anderson Co Groundwater (Forestar)			PF					
Purchase of Additional Supplies from current provider					PF			
Renew Contract for Supplies from current provider					PF			
Lake Texoma Raw water for SEP							PF	
Navarro Mills (additional)								PF
Reallocation of flood storage at Wright Patman (New IBT)	PF	PF	PF		PF			
GTUA Regional System (ADDED)							PF	
Additional Upper Sabine (ADDED)			PF					
Water/additional water from TRWD (ADDED)				PF		PF		
Conjunctive Use:								
Conjunctive use of Ground & Surface water	PF							
Aquifer Storage and Recovery		PF	PF					
Development of New Supplies:								
Bois d'Arc Lake (New IBT)			PF					
Marvin Nichols Reservoir 328' MSL (New IBT)	PF	PF	PF		PF			
Marvin Nichols Reservoir 313.5' MSL (New IBT)	PF	PF	PF		PF			
Lake Ralph Hall (New IBT)					PF			
George Parkhouse North Lake (New IBT)			PF		PF			
George Parkhouse South Lake (New IBT)			PF		PF			
Lake Columbia (New IBT)	PF							
Tehuacana Reservoir		PF						
Neches Run-of-River Diversions (IBT)	PF							
Red River Off Channel Reservoir (New IBT)	PF				PF			

Table F.1
Potentially Feasible Water Management Strategies for Major Water Providers and Regional Wholesale Water Providers

Water Management Strategies	DWU	TRWD	NTMWD	TRA	UTRWD	Fort Worth	GTUA	Corsicana
Sabine Off Channel Reservoir (New IBT)	PF							
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities:**								
Fannin County Water Supply Project			PF					
Fannin County Water Supply Project							PF	
Collin-Grayson Municipal Alliance							PF	
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements):								
Emergency Transfer of Water (Section 11.139):								
System Optimization, Subordination, Leases, Enhancement of Yield, Improvement of Water Quality								
System Operation	PF	PF	PF					
Desalination:								
Supplies from the Gulf of Mexico with Desalination	PF	PF	PF	PF	PF	PF	PF	PF
Desalination Plant - Northeast Grayson, Sherman, Denison							PF	

Blanks Indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered)
PF = considered 'potentially feasible' and therefore evaluated

* Note: Specific Conservation Strategies are listed in a separate analysis.
** Note: All strategies for wholesale water suppliers could be considered as "Development of Regional Water Supply"
IBT denotes a Permitted Interbasin Transfer.
New IBT denotes an Interbasin Transfer requiring a new IBT permit.

Table F.2

Potentially Feasible Water Management Strategies for Wholesale Water Providers

Water Management Strategies	Arlington	Athens MWA	DCPCMUD	Denison	Denton	Ennis	Forney	Gainesville	Garland	Grand Prairie	Mansfield	Midlothian
Conservation*:	PF	PF		PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management:												
Implementation of Drought Contingency Plans as needed	PF	PF		PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse:												
Athens Indirect Reuse		PF										
Indirect Reuse to Lake Weatherford/Sunshine												
Reallocation/Management of Existing Supplies:												
Expansion of Treatment and Delivery System		PF		PF	PF	PF	PF	PF		PF	PF	PF
Expansion of Raw Water Supply System												
Conjunctive Use:												
Acquisition of Available Existing Supplies:												
Purchase of Additional Supplies from current provider	PF	PF		PF	PF	PF	PF		PF	PF	PF	PF
Additional Lake Texoma				PF								
Begin Purchasing from Arlington										PF		
Development of New Supplies:												
New Wells in Carrizo-Wilcox		PF										
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities:**												
Infrastructure to deliver to Cooke County WUGS								PF				
GTUA Regional Water Supply Plan				PF								
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements):												
Emergency Transfer of Water (Section 11.139):												
System Optimization, Subordination, Leases, Enhancement of Yield, Improvement of Water Quality												
System Operation												
Desalination:												
Desalination Plant				PF								

Blanks Indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered)
PF = considered 'potentially feasible' and therefore evaluated

* Note: Specific Conservation Strategies are listed in a separate analysis.
** Note: All strategies for wholesale water suppliers could be considered as "Development of Regional Water Supply"

Table F.2

Potentially Feasible Water Management Strategies for Wholesale Water Providers

Water Management Strategies	Mustang SUD	North Richland Hills	Princeton	Rockett SUD	Rockwall	Seagoville	Sherman	Terrell	Walnut Creek SUD	Waxahachie	Weatherford	Wise Co. WSD
Conservation*:	PF				PF	PF	PF	PF	PF	PF	PF	PF
Drought Management:												
Implementation of Drought Contingency Plans as needed					PF	PF	PF	PF	PF	PF	PF	PF
Reuse:												
Athens Indirect Reuse												
Indirect Reuse to Lake Weatherford/Sunshine											PF	
Reallocation/Management of Existing Supplies:												
Expansion of Treatment and Delivery System	PF	PF	PF	PF	PF		PF	PF	PF	PF	PF	PF
Expansion of Raw Water Supply System										PF		
Conjunctive Use:												
Acquisition of Available Existing Supplies:												
Purchase of Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Additional Lake Texoma												
Begin Purchasing from Arlington												
Development of New Supplies:												
New Wells in Carrizo-Wilcox												
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities:**												
Infrastructure to deliver to Cooke County WUGS												
GTUA Regional Water Supply Plan							PF					
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements):												
Emergency Transfer of Water (Section 11.139):												
System Optimization, Subordination, Leases, Enhancement of Yield, Improvement of Water Quality												
System Operation												
Desalination:												
Desalination Plant							PF					

Blanks Indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered)
PF = considered 'potentially feasible' and therefore evaluated

* Note: Specific Conservation Strategies are listed in a separate analysis.
** Note: All strategies for wholesale water suppliers could be considered as "Development of Regional Water Supply"

Table F.3 - Potentially Feasible Water Management Strategies for Collin County Municipal WUGs*

Water Management Strategies	Allen	Anna	Bear Creek SUD	B H P WSC	Blue Ridge	Caddo Basin SUD	Celina	Copeville SUD	County-Other	Culleoka WSC	East Fork SUD	Fairview	Farmersville	Frisco	Frognot WSC	Josephine	Lucas	Marilee SUD	McKinney	Melissa	Milligan WSC	Murphy	Nevada SUD	North Collin SUD	North Farmersville WSC	Parker	Plano	Princeton	Prosper	Seis Lagos UD	Verona SUD	Westminster WSC	Wylie	Wylie Northeast SUD	Irrigation	Manufacturing	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																																					
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	
Drought Management																																					
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse														PF																							
Reallocation/ Management of Existing Supplies																																					
Expansion of Treatment and Delivery System					PF						PF									PF						PF			PF					PF			
Desalination																																					
Conjuctive Use																																					
Acquisition of Available Existing Supplies																																					
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF		PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF			PF	PF		PF	PF
Begin Purchasing from NTMWD							PF																														
Grayson County Water Supply Project		PF																PF																			
New wells in Trinity Aquifer																																PF					
New wells in Woodbine Aquifer															PF																PF						
New wells																		PF																		PF	
Development of New Supplies																																					
New Surface water																																					
New Groundwater																																					
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																																					
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																																					
Emergency Transfer of Water (Section 11.139)																																					
Additional WMSs named to be considered by rule**																																					
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																																					
Interbasin Transfer																																					
Aquifier Storage and Recovery																																					

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown on the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

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Table F.4 - Potentially Feasible Water Management Strategies for Cooke County Municipal WUGs*

Water Management Strategies	Callisburg WSC	County-Other	Lake Kiowa SUD	Lindsay	Mountain Springs WSC	Muenster	Two Way WSC	Woodbine WSC	Irrigation	Manufacturing	Mining
WMSs NAMED TO BE CONSIDERED BY STATUTE											
Conservation	PF	PF	PF	PF	PF	PF	PF	PF		PF	
Drought Management											
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse											
Reallocation/ Management of Existing Supplies											
Expansion of Treatment and Delivery System											
Desalination											
Conjuctive Use											
Acquisition of Available Existing Supplies											
New Well(s) in Carrizo-Wilcox Aquifer	PF										
Additional Supplies from current provider									PF	PF	
Connect to and purchase from Gainesville		PF	PF	PF	PF	PF	PF	PF			PF
Connect to and purchase from Lake Texoma				PF							
Development of New Supplies											
New Surface water											
New Groundwater											
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities											
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)											
Emergency Transfer of Water (Section 11.139)											
Additional WMSs named to be considered by rule**											
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality											
Interbasin Transfer											
Aquifier Storage and Recovery											
Other											
Treatment facilities for additional supply						PF					
Lake Muenster						PF					

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated

*If a WUG is located in Multiple Counties, it is only shown on the County in which the majority of the WUG is located.

**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

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Table F.5 - Potentially Feasible Water Management Strategies for Dallas County Municipal WUGs*

Water Management Strategies	Addison	Balch Springs	Cedar Hill	Cockrell Hill	Coppell	County-Other	DeSoto	Duncanville	Farmers Branch	Glenn Heights	Highland Park	Hutchins	Irving	Lancaster	Mesquite	Richardson	Rowlett	Sachse	Seagoville	Sunnyvale	University Park	Wilmer	Irrigation	Manufacturing	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																										
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management																										
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse																										
Irving Indirect Reuse													PF													
Las Colinas Direct Reuse																							PF			
TRA Reuse for SEP																										PF
Reallocation/ Management of Existing Supplies																										
Expansion of Treatment and Delivery System										PF			PF				PF			PF		PF				
Removal of Chapman Silt Barrier													PF													
Desalination																										
Conjuctive Use																										
Acquisition of Available Existing Supplies																										
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Additional Supplies from current provider through Lancaster																						PF				
Additional Supplies from current provider-direct connection																						PF				
Development of New Supplies																										
New Surface water																										
Sulphur Basin Supplies													PF													
Marvin Nichols Reservoir													PF													
New Groundwater																										
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																										
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing																										
Emergency Transfer of Water (Section 11.139)																										
Additional WMSs named to be considered by rule**																										
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield,																										
Interbasin Transfer																										
Aquifier Storage and Recovery																										

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.6 - Potentially Feasible Water Management Strategies for Denton County Municipal WUGs*

Water Management Strategies	Argyle WSC	Aubrey	Black Rock WSC	Bolivar WSC	Carrollton	Corinth	County-Other	Cross Timbers WSC	Denton County FWSD 1-A	Denton County FWSD 7	Denton County FWSD 10	Flower Mound	Hackberry	Highland Village	Justin	Krum	Lake Cities MUA	Lewisville	Little Elm	Northlake	Paloma Creek North CRU	Paloma Creek South CRU	Pilot Point	Ponder	Providence Village WCID	Roanoke	Sanger	The Colony	Trophy Club	Irrigation	Manufacturing	Mining
WMSs NAMED TO BE CONSIDERED BY STATUTE																																
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	
Drought Management																																
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse																																
Direct Reuse from UTRWD																														PF		
Direct Reuse from local WWTPs												PF																				
Reallocation/ Management of Existing Supplies																																
Expansion of Treatment and Delivery System								PF					PF	PF			PF	PF		PF									PF			
Desalination																																
Conjuctive Use																																
Acquisition of Available Existing Supplies																																
New Well(s) in Trinity Aquifer		PF	PF			PF	PF								PF	PF							PF								PF	
New Well(s) in Woodbine Aquifer		PF	PF				PF																									
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF			PF	PF	PF	PF	PF	PF	PF	PF
Begin Purchasing from Gainesville				PF																												
Begin Purchasing from UTRWD																							PF	PF								
Development of New Supplies																																
New Surface water																																
New Groundwater																																
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																																
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																																
Emergency Transfer of Water (Section 11.139)																																
Additional WMSs named to be considered by rule**																																
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																																
Interbasin Transfer																																
Aquifier Storage and Recovery																																

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown on the Appendix O table for the County in which the majority of the WUG is located. WUGs that are also WWPs are not listed here. See Tables O.1 and O.2
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.7 - Potentially Feasible Water Management Strategies for Ellis County Municipal WUGs*

Water Management Strategies	Avalon Water Supply/Sewer Service	Buena Vista-Bethel SUD	County-Other	East Garrett WSC	Ferris	Files Valley WSC	Hilco United Services	Italy	Mountain Peak SUD	Ovilla	Palmer	Red Oak	Rice Water Supply and Sewer Service	Sardis Lone Elm WSC	South Ellis County WSC	Venus	Manufacturing	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																		
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management																		
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse																		
TRA Reuse for SEP																		PF
Reallocation/ Management of Existing Supplies																		
Expansion of Treatment and Delivery System					PF	PF				PF	PF		PF	PF				
Desalination																		
Conjuctive Use																		
Acquisition of Available Existing Supplies																		
New Well(s) in Trinity Aquifer	PF																	
New Well(s) in Woodbine Aquifer							PF		PF									
New Well(s) in Carrizo-Wilcox Aquifer																		
New Well(s) in Other Aquifer															PF			
Additional Supplies from current provider		PF	PF	PF	PF	PF		PF	PF		PF	PF	PF	PF		PF	PF	PF
Connect to Waxahachie						PF												
Connect to Midlothian														PF				
Development of New Supplies																		
New Surface water																		
New Groundwater																		
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																		
TRA Ellis County Water Supply Project		PF	PF		PF	PF		PF	PF		PF	PF	PF	PF		PF	PF	PF
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																		
Emergency Transfer of Water (Section 11.139)																		
Additional WMSs named to be considered by rule**																		
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																		
Interbasin Transfer																		
Aquifier Storage and Recovery																		

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)

PF = considered 'potentially feasible' and therefore evaluated

*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.

**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.8 - Potentially Feasible Water Management Strategies for Fannin County Municipal WUGs*

Water Management Strategies	Arledge Ridge WSC	Bois D Arc MUD	Bonham	County-Other	Delta County MUD	Desert WSC	Hickory Creek SUD	Honey Grove	Ladonia	Leonard	North Hunt SUD	SW Fannin Co SUD	Trenton	West Leonard WSC	White Shed WSC	Wolfe City	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																		
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management																		
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse																		
Reallocation/ Management of Existing Supplies																		
Expansion of Treatment and Delivery System					PF				PF									
Desalination																		
Conjuctive Use																		
Acquisition of Available Existing Supplies																		
New Well(s) In Trinity or Woodbine Aquifer	PF	PF				PF						PF	PF	PF	PF	PF		
Begin Purchasing from NTMWD		PF	PF	PF			PF	PF		PF	PF	PF	PF				PF	
Fannin County Water Supply Project		PF	PF	PF			PF	PF		PF	PF	PF	PF				PF	
Lake Ralph Hall Supply									PF									
Grayson County Water Supply Project				PF														
Lake Texoma (GTUA)																		PF
Additional Supplies from current provider					PF													
Development of New Supplies																		
New Surface water																		
New Groundwater																		
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																		
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																		
Emergency Transfer of Water (Section 11.139)																		
Additional WMSs named to be considered by																		
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																		
Interbasin Transfer																		
Aquifier Storage and Recovery																		

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.9 - Potentially Feasible Water Management Strategies for Freestone County Municipal WUGs*

Water Management Strategies	Butler WSC	County-Other	Fairfield	Flo Community WSC	Pleasant Grove WSC	Point Enterprise WSC	South Freestone Co WSC	Teague	Wortham	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE										
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	
Drought Management										
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse										
TRA Reuse for SEP										PF
Reallocation/ Management of Existing Supplies										
Expansion of Treatment and Delivery System		PF	PF							
Desalination										
Conjuctive Use										
Acquisition of Available Existing Supplies										
New Well(s) in Carrizo-Wilcox Aquifer	PF			PF	PF	PF	PF			
New Well(s) in Trinity Aquifer (Navarro County)								PF		
Additional Supplies from current provider		PF							PF	PF
Begin Purchasing from TRWD		PF	PF							
Development of New Supplies										
New Surface water										
New Groundwater										
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities										
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)										
Emergency Transfer of Water (Section 11.139)										
Additional WMSs named to be considered by rule**										
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality										
Interbasin Transfer										
Aquifier Storage and Recovery										

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.10 - Potentially Feasible Water Management Strategies for Grayson County Municipal WUGs*

Water Management Strategies	Bells	Collinsville	County-Other	Dorchester	Gunter	Howe	Kentucky Town WSC	Luella SUD	Marilee SUD	Northwest Grayson Co WCID1	Oak Ridge South Gale WSC	Pink Hill WSC	Pottsboro	Red River Authority of Texas	South Grayson SUD	Southmayd	Starr WSC	Tioga	Tom Bean	Two Way SUD	Van Alstyne	Whitesboro	Whitewright	Woodbine WSC	Irrigation	Manufacturing	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																												
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management																												
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF		PF	PF	PF
Reuse																												
Direct Reuse from Sherman																											PF	PF
Reallocation/ Management of Existing Supplies																												
Expansion of treatment and delivery system																					PF							
Desalination																												
Conjuctive Use																												
Acquisition of Available Existing Supplies																												
New Well(s) In Trinity Aquifer				PF	PF					PF			PF				PF										PF	
New Well(s) In Woodbine Aquifer	PF			PF									PF			PF												
Additional Supplies from current provider				PF					PF				PF		PF						PF					PF		
Lake Texoma									PF																			
Development of New Supplies																												
New Surface water																												
New Groundwater																												
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																												
GTUA Regional Water System	PF	PF	PF		PF	PF	PF	PF	PF				PF		PF	PF		PF	PF	PF		PF	PF	PF		PF	PF	PF
Collin Grayson Municipal Alliance						PF									PF						PF					PF		
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																												
Emergency Transfer of Water (Section 11.139)																												
Additional WMSs named to be considered by rule**																												
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																												
Interbasin Transfer																												
Aquifier Storage and Recovery																												

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
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*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.11 - Potentially Feasible Water Management Strategies for Henderson County Municipal WUGs*

Water Management Strategies	B B S WSC	County-Other	Crescent Heights WSC	Dogwood Estates Water	East Cedar Creek FWSD	Eustace	Malakoff	Trinidad	Virginia Hills WSC	West Cedar Cr MUD	Manufacturing	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE													
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management													
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse													
Indirect Reuse (Athens MWA) (Interbasin Transfer)													
Reallocation/ Management of Existing Supplies													
Expansion of treatment and delivery system					PF					PF			
Desalination													
Conjuctive Use													
Acquisition of Available Existing Supplies													
New Well(s) in Carrizo-Wilcox Aquifer			PF	PF		PF							
Additional Supplies from current provider	PF	PF			PF		PF			PF	PF	PF	
Purchase TRWD water from Cedar Creek Lake					PF								PF
Development of New Supplies													
New Surface water													
New Groundwater													
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities													
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)													
Emergency Transfer of Water (Section 11.139)													
Additional WMSs named to be considered by rule**													
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality													
Interbasin Transfer													
Aquifier Storage and Recovery													

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.12 - Potentially Feasible Water Management Strategies for Jack County Municipal WUGs*

Water Management Strategies	County-Other	Jacksboro	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE				
Conservation	PF	PF		
Drought Management				
Implement Drought Contingency Plan/measures as	PF	PF	PF	PF
Reuse				
Indriect Reuse from Jacksboro			PF	
Reallocation/ Management of Existing Supplies				
Expansion of treatment and delivery system				
Desalination				
Conjuctive Use				
Acquisition of Available Existing Supplies				
Purchase water from Walnut Creek SUD	PF			
Purchase water from Jacksboro	PF			
Purchase water from TRWD			PF	PF
Development of New Supplies				
New Surface water				
New Groundwater				
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities				
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)				
Emergency Transfer of Water (Section 11.139)				
Additional WMSs named to be considered by				
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality				
Interbasin Transfer				
Aquifier Storage and Recovery				

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)

PF = considered 'potentially feasible' and therefore evaluated

*If a WUG is located in Multiple Counties, it is only shown for the County in which the majority of the WUG is located.

**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.13 - Potentially Feasible Water Management Strategies for Kaufman County Municipal WUGs*

Water Management Strategies	Ables Springs WSC	Becker Jiba WSC	College Mound WSC	Combine WSC	County-Other	Crandall	Elmo WSC	Forney Lake WSC	Gastonia Scurry SUD	High Point WSC	Kaufman	Kaufman Co Dev Dist 1	Kaufman Co MUD 11	Kemp	Mabank	MacBee SUD	Markout WSC	North Kaufman WSC	Poetry WSC	Rose Hill SUD	Talty SUD	West Cedar Ck MUD	Irrigation	Manufacturing	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																										
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF		
Drought Management																										
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse																										
TRA Reuse for SEP																										PF
Reallocation/ Management of Existing Supplies																										
Expansion of Treatment and Delivery System			PF			PF			PF					PF		PF										
Desalination																										
Conjuctive Use																										
Acquisition of Available Existing Supplies																										
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF		PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF		PF
Begin Purchasing from Mabank														PF												
Begin Purchasing from Seagoville (DWU); construct facilities									PF																	
Begin Purchasing from TRWD																										
Begin Purchasing from NTWMD													PF												PF	
Development of New Supplies																										
New Surface water																										
New Groundwater																										
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																										
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																										
Emergency Transfer of Water (Section 11.139)																										
Additional WMSs named to be considered by rule**																										
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																										
Interbasin Transfer																										
Aquifier Storage and Recovery																										

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)

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Table F.14 - Potentially Feasible Water Management Strategies for Navarro County Municipal WUGs*

Water Management Strategies	B and B WSC	Blooming Grove	Brandon Irene WSC	Chatfield WSC	Corbet WSC	County-Other	Dawson	Kerens	M E N WSC	Navarro Mills WSC	Post Oak SUD	Irrigation	Manufacturing	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE														
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management														
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse														
Reallocation/ Management of Existing Supplies														
Expansion of Treatment and Delivery System									PF					
Desalination														
Conjuctive Use														
Acquisition of Available Existing Supplies														
New Wells in Woodbine Aquifer										PF	PF			
New Wells in Trinity Aquifer		PF		PF							PF			
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	
Purchase Supplies from new provider											PF			
Water Rights in Navarro Mills Reservoir											PF			
Raw Water from Corsicana for SEP														PF
Raw Water from TRWD for SEP														PF
Development of New Supplies														
New Surface water														
New Groundwater														
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities														
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)														
Emergency Transfer of Water (Section 11.139)														
Additional WMSs named to be considered by rule**														
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality														
Interbasin Transfer														
Aquifier Storage and Recovery														

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)

PF = considered 'potentially feasible' and therefore evaluated

*If a WUG is located in Multiple Counties, it is only shown on the County in which the majority of the WUG is located.

**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

Table F.15 - Potentially Feasible Water Management Strategies for Parker County Municipal WUGs*

Water Management Strategies	Aledo	Annetta	County-Other	Horseshoe Bend Water	Hudson Oaks	Mineral Wells	North Rural WSC	Parker County SUD	Reno	Santo SUD	Springtown	Willow Park	Manufacturing	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE														
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	
Drought Management														
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse														
Reallocation/ Management of Existing Supplies														
Expansion of Treatment and Delivery System	PF		PF					PF			PF	PF		
Desalination														
Conjuctive Use														
Acquisition of Available Existing Supplies														
New Well(s) in Trinity Aquifer			PF	PF				PF			PF			
Additional Supplies from current provider	PF		PF		PF		PF	PF	PF	PF	PF		PF	PF
Begin Purchasing from Ft Worth (TRWD)/Connect to Ft Worth												PF		
Begin Purchasing from Weatherford (TRWD)		PF	PF									PF		
Begin Purchasing from TRWD			PF											
Development of New Supplies														
New Surface water														
New Groundwater														
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities														
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)														
Emergency Transfer of Water (Section 11.139)														
Additional WMSs named to be considered by rule**														
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality														
Interbasin Transfer														
Aquifier Storage and Recovery														

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Table F.16 - Potentially Feasible Water Management Strategies for Rockwall County Municipal WUGs*

Water Management Strategies	Blackland WSC	Cash SUD	County-Other	Fate	Heath	Mount Zion WSC	R C H WSC	Rockwall	Royse City	Irrigation	Manufacturing
WMSs NAMED TO BE CONSIDERED BY STATUTE											
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management											
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse											
Reallocation/ Management of Existing Supplies											
Expansion of Treatment and Delivery System	PF	PF		PF							
Desalination											
Conjuctive Use											
Acquisition of Available Existing Supplies											
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Development of New Supplies											
New Surface water											
New Groundwater											
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities											
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)											
Emergency Transfer of Water (Section 11.139)											
Additional WMSs named to be considered by rule**											
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality											
Interbasin Transfer											
Aquifier Storage and Recovery											

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)

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Table F.17 - Potentially Feasible Water Management Strategies for Tarrant County Municipal WUGs*

Water Management Strategies	Azle	Bedford	Benbrook	Bethesda WSC	Burleson	Colleyville	Community WSC	County-Other	Crowley	Dalworth. Gardens	Edgecliff	Euless	Everman	Forest Hill	Grapevine	Haltom City	Haslet	Hurst	Johnson Co SUD	Keller	Kennedale	Lake Worth	Lakeside	Pantego	Pelican Bay	Richland Hills	River Oaks	Saginaw	Sansom Park Village	Southlake	Watauga	Westlake	Westover Hills	Westworth Village	White Settlement	Irrigation	Manufacturing	Mining	SEP
WMSs NAMED TO BE CONSIDERED BY STATUTE																																							
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management																																							
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse																																							
Purchase Reuse water from DCPCMUD (Lake Grapevine)															PF																								
Direct Reuse																																							PF
Reallocation/ Management of Existing Supplies																																							
Expansion of Treatment and Delivery System	PF		PF	PF	PF				PF										PF	PF	PF			PF	PF					PF	PF								
Desalination																																							
Conjuctive Use																																							
Acquisition of Available Existing Supplies																																							
New Well(s) in Trinity Aquifer																																							
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF			PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Begin Purchasing from Arlington (TRWD)				PF																	PF			PF															
Begin Purchasing from Azle (Ft Worth)																									PF														
Begin Purchasing from Fort Worth (TRWD)																								PF															
Begin Purchasing from Grand Prairie																			PF																				
Development of New Supplies																																							
New Surface water																																							
New Groundwater																																							
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities																																							
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)																																							
Emergency Transfer of Water (Section 11.139)																																							
Additional WMSs named to be considered by rule**																																							
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality																																							
Interbasin Transfer																																							
Aquifier Storage and Recovery			PF																																				
Other																																							
Purchase water system																																							

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Table F.18 - Potentially Feasible Water Management Strategies for Wise County Municipal WUGs*

Water Management Strategies	Alvord	Boyd	Bridgeport	Chico	County-Other	Decatur	Newark	Rhome	Runaway Bay	West Wise SUD	Irrigation	Manufacturing
WMSs NAMED TO BE CONSIDERED BY STATUTE												
Conservation	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Drought Management												
Implement Drought Contingency Plan/measures as needed	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF
Reuse												
Reallocation/ Management of Existing Supplies												
Expansion of Treatment and Delivery System			PF	PF			PF		PF	PF		
Desalination												
Conjuctive Use												
Acquisition of Available Existing Supplies												
Additional Supplies from current provider	PF	PF	PF	PF	PF	PF		PF	PF	PF	PF	PF
New Well(s) in Trinity Aquifer		PF										PF
Begin Purchasing from Rhome							PF					
Development of New Supplies												
New Surface water												
New Groundwater												
Development of Regional Water Supply or Providing Regional Management of Water Supply Facilities												
Voluntary Transfer of Water (incl. regional water banks, sales, leases, options, subordination agreements, and financing agreements)												
Emergency Transfer of Water (Section 11.139)												
Additional WMSs named to be considered by rule**												
System optimazation, reallocation of reservoir storage, contracts, water marketing, enhancement of yield, improvement of water quality												
Interbasin Transfer												
Aquifier Storage and Recovery												

Blanks indicate nPF = determined 'not potentially feasible' (may include WMSs that were initially considered or identified as potentially feasible)
PF = considered 'potentially feasible' and therefore evaluated
*If a WUG is located in Multiple Counties, it is only shown on the County in which the majority of the WUG is located.
**Region C does not consider the following WMSs to be potentially feasible for Region C WUGs: brush control; precipitation enhancement; cancellation of water rights; and rainwater harvesting. Region C supports rainwater harvesting on an individual basis but does not considered it to be a strategy that is feasible for a water provider to implement.

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Amy Kaarlela

From: Amy Kaarlela
Sent: Thursday, November 2, 2017 12:17 PM
To: 'pweber5140@yahoo.com'
Subject: Water Supplies and Management Strategies FOR YOUR REVIEW - Region C Water Plan

Dear Mrs. Paula Weber,

The Texas Water Development Board (TWDB), which is responsible for developing the State Water Plan, has begun a new cycle of regional/state water planning. I am the project manager for the consultant team developing the *2021 Region C Water Plan*. Region C includes a 16 county-area in and around the DFW Metroplex.

Region C consultants are updating the currently available water supplies (existing supplies) and water management strategies (planned future water supplies) for each entity in Region C. Water management strategies are planned water supply projects to meet a water supply need, and include projects like new reservoirs, new wells, new pipelines or pump stations, reuse projects, etc. *Note: Only water management strategies that are included in the Regional Water Plans are eligible for TWDB SWIFT financing.*

Your input allows us to generate a more accurate Region C Plan that reflects the most current information available. Please help us by replying to this 5-question survey, filling in the **Ables Springs WSC's** information in the tables below. **Thank you** for your time and participation. If you have any questions, please don't hesitate to contact me (contact information below). **Please respond by November 28th, 2017**.

1) Do you agree with the Currently Available Water Supply sources listed in the table below? If not, please provide changes in the grey blanks provided.

2) Do you agree with the Water Management Strategies listed in the table below? If not, please provide changes in the grey blanks provided.

2016 Region C Water Plan*	***2021 Region C Water Plan Revisions***
Currently Available Water Supplies	**Currently Available Water Supplies**
North Texas Municipal Water District	
Water Management Strategies	**Water Management Strategies**
Water Conservation	
Additional Water from NTMWD	

If your entity is a **NEW water user group (WUG) the 2016 column will be blank. Please fill in the grey cells for 2021 only.*

3) Are there any Water Management Strategies listed under question #2 above that you are actively in the process of implementing or have already implemented (permitting, design, construction, or completed)? If yes, please list them in the table below.

Name of Water Management Strategy Currently Being Implemented	Stage of Implementation	Expected Date of Completion	Additional Comments (phasing, concerns, etc.)

4) Do you have current contracts to purchase water from a water supplier? Please list the water supplier and the contract amount (including units) in the table below.

Supplier Name	Contract Amount (include units)

5) Please tell us the capacity of all infrastructure associated with delivering your water supply to your distribution system *(do not include any items within your distribution system)*. This would include groundwater wells, supply pipelines and pump stations, and water treatment plants. See examples below. Please list each item separately. *
* Infrastructure limitations are needed to determine currently available supply.

Source of Supply and/or description of Infrastructure	Peak Operating Capacity (include units)	Groundwater Wells Only			Additional Comments (water quality concerns, plans to discontinue use in the next five years, etc.)
		Average Annual Supply (include units)	Aquifer (Trinity, Carrizo-Wilcox, etc.)	County in which well is located	
EXAMPLES:					
Groundwater well #1	*200 gpm*	*52 M gal/yr*	*Trinity*	*Tarrant*	*High salinity*
Groundwater well #2	*300 gpm*	*79 M gal/yr*	*Trinity*	*Denton*	*Plan to stop using well in 2025.*
24" Delivery line from Texas Water District	*3MGD*				
PS #5 at Tx WD delivery point	*6MGD*				
Clean Water Treatment Plant	*10 MGD*				
Enter Your Data Below:					

6) Does your entity currently have an emergency interconnection to an alternate source of supply (or do you have plans to develop an emergency interconnection)? If so, please provide: the name of the entity the interconnection is with, the maximum capacity/volume that can be supplied, and a general description of the facility and location.

Thanks,

Amy D. Kaarlela, P.H.
Water Resources Planning

Freese and Nichols, Inc.

Appendix G

Water Management Strategy Evaluation

Appendix G Water Management Strategy Evaluation

Section Outline

Section G.1 – Water Management Strategy Evaluation Process

Section G.2 – General Water Management Strategy Technical Memorandums

Section G.3 – Joint Major Water Management Strategy Technical Memorandums

Section G.4 – DWU Major Water Management Strategy Technical Memorandums

Section G.5 – NTMWD Major Water Management Strategy Technical Memorandums

Section G.6 – TRWD Major Water Management Strategy Technical Memorandums

Section G.7 – UTRWD Major Water Management Strategy Technical Memorandums

Section G.8 – Other Major Water Management Strategy Technical Memorandums

The information contained in this appendix details the strategy evaluation for water management strategies in Region C.

In accordance with TWDB rules and guidelines, the Region C Water Planning Group has adopted a standard procedure for providing an equitable comparison of potential water management strategies. This procedure classifies the strategies using the TWDB's standard categories developed for regional water planning. The overall strategy evaluations can be found in **Table G.3** and **Table G.4.** Technical memorandums on each strategy can be found afterwards.

G.1 Water Management Strategy Evaluation Process

All strategies are compared based upon the following categories:

- Quantity
- Reliability
- Cost
- Environmental Factors
- Agricultural Resources/Rural Areas
- Other Natural Resources
- Key Water Quality Parameters
- Third Party Social & Economic Factors

Each category is quantitatively assessed. If quantitative values were not available, a ranking from 1 to 5 was assigned. **Table G.1** shows the correlation between the category and the ranking of the non-environmental categories where quantitative values were not available. (The Environmental Factors are discussed in the next section.)

Table G.1 Evaluation Matrix Category Ranking Correlation

Rank	Reliability	Remaining Strategy Impacts[a]
1	Low	High
2	Low to Medium	Medium High
3	Medium	Medium
4	Medium to High	Medium Low
5	High	Low or None

[a]Includes impacts on agricultural resources, other natural resources, key water quality parameters, and third party impacts.

Impacts to Agricultural Resources are quantified based on the permanent impacts to water supplies to irrigation users or direct impacts to irrigated acreage. Projects with only temporary impacts, such as pipeline projects, would be classified as low impacts. Specific assumptions include:

- If the location of the strategy is known and data is available, actual impacts to agricultural lands will be used.
- If a strategy impacts more than 5,000 acres of agricultural land, the impacts are classified as “high”. If a strategy impacts less than 1,000 acres of agricultural lands, the impacts are classified as “low”.
- If actual impact data was not available for a new reservoir, impacts of medium high were assumed.

More detailed information regarding the scoring for key water quality parameters is included in Chapter 6. Key water quality parameters were scored according to the “remaining strategy impacts” ranking listed in **Table G.1**.

G.1.1 Environmental Matrix

The Environmental Matrix (**Table G.4**) is used to determine the score of the ‘Environmental Factors’ category on the Evaluation Matrix (**Table G.3**).

The Environmental Matrix (**Table G.4**) takes into consideration the following categories:

- Total Acres Impacted
- Total Wetland Acres Impacted
- Environmental Water Needs
- Habitat
- Threatened and Endangered Species
- Cultural Resources
- Bays & Estuaries

Each category is quantitatively assessed. If quantitative values were not available, a ranking from 1 to 5 was assigned. **Table G.2** shows the correlation between the ranking assigned within each category.

Table G.2 Environmental Matrix Category Ranking Correlation

Rank	Habitat	All Remaining Categories
1	Greater than 30,000 Acres	High Impact
2	20,000-30,000 Acres	Medium High Impact
3	7,000-20,000 Acres	Medium Impact
4	5,000-7,000 Acres	Medium Low Impact
5	0-5,000 Acres (or 'varies')	Low Impact or n/a

G.1.2 Acres Impacted

Acres Impacted refers to the total amount of area that will be impacted due to the implementation of a strategy.

The following conservative assumptions were made (unless more detailed information was available):

- Each well or storage tank will impact approximately 2 acres of land.
- The acres impacted for pipelines is equivalent to the right of way easements required.
- Reservoirs will impact an area equal to their surface area.
- A conventional water treatment plant will impact 5 acres.
- Conservation strategies will have no impact on acres.

G.1.3 Wetland Acres Impacted

Wetland Acres refers to how many acres that are classified as wetlands are impacted by implementation of the strategy.

The following conservative assumptions were made (unless more detailed information was available):

- For pipelines and groundwater wells, it was assumed wetlands would be avoided as feasible and would therefore have low impacts.

G.1.4 Environmental Water Needs

Environmental Water Needs refers to how the strategy will impact the area's overall environmental water needs. Water is vital to the environmental health of a region, and so it is important to take into account how strategies will impact the amount of water that will be available to the environment.

The following conservative assumptions were made (unless more detailed information was available):

- The majority of the strategies will have a low impact on environmental water needs.
- Reuse will have a medium impact if the effluent was previously used for irrigation or discharged back into the water system. This will decrease the overall amount of water that is available to the environment by diverting the effluent and using it for another purpose.

G.1.5 Habitat

Habitat refers to how the strategy will impact the habitat of the local area. The more area that is impacted due to the implementation of the strategy, the more the area's habitat will be disrupted. The ranges used for this ranking are in **Table G.2**, unless more detailed information was available.

G.1.6 Threatened and Endangered Species

Threatened and endangered species refers to how the strategy would potentially impact those species in the area once implemented.

The following conservative assumptions were made (unless more detailed information was available):

- Only applicable to strategies implementing infrastructure
- Rankings were based on the amount of threatened and endangered species located within the county. This amount was found using the Texas Parks and Wildlife Database located at http://tpwd.texas.gov/gis/rtest/ and the U.S. Fish and Wildlife Service Database located at *http://www.fws.gov/endangered/*
- This ranking only includes threatened and endangered species as defined in the TWDB guidelines and does not include species without official protection such as those proposed for listing or species that are considered rare or otherwise of special concern.

G.1.7 Cultural Resources

Cultural Resources refers to how the strategy will impact cultural resources located within the area. Cultural resources are defined as the collective evidence of the past activities and accomplishments of people. Locations, buildings and features with scientific, cultural or historic value are considered to be cultural resources.

The following conservative assumptions were made (unless more detailed information was available):

- Only applicable to strategies implementing infrastructure
- All strategies requiring only a pipeline or groundwater wells will have low impacts.
- New reservoirs will have medium high impacts.

G.1.8 Bays and Estuaries

Region C is located too far away from any bays or estuaries to have a quantifiable impact. It was assumed that the only strategies that could have potential impacts to bays and estuaries are the Gulf of Mexico and Toledo Bend strategies. These were given a ranking of medium low impacts.

Table G.3 Evaluation Matrix

Strategy	Entity	Potentially Feasible, Recommended, or Alternative Strategy	County Used	Basin Used	Quantity (Ac-Ft/Yr)	Reliability	Cost ($/Ac-Ft)	Impacts of Strategy on:					Consistency		Implementation Issues	Comments
								Agricultural Resources/ Rural Areas (Acres)	Agricultural Resources/ Rural Areas Score	Other Natural Resources	Key Water Quality Parameters	Third Party Social & Economic Factors	Suppliers	Other Regions		
Conservation - General	Multiple	Recommended	Multiple	Multiple	196,427	5	Varies	Low	5	5	5	5	Yes	N/A		
Dredging - General	Multiple	Potentially Feasible	Multiple	Multiple	7,200	3	Varies	Low	5	5	5	5	Yes	N/A		
Groundwater - General	Multiple	Varies	Multiple	Multiple	Varies	5	Varies	Low	5	5	5	5	Yes	N/A		
Increase Delivery Infrastructure - General	Multiple	Varies	Multiple	Multiple	0[a]	5	Varies	Low	5	5	5	5	Yes	N/A		
Reuse - General	Multiple	Varies	Multiple	Multiple	485,054	5	Varies	Low	5	5	4	4	Yes	N/A		
Aquifer Storage and Recovery - General	Multiple	Potentially Feasible	Multiple	Multiple	Varies	5	Varies	Low	5	2	4	3	Yes	N/A		
Water Treatment Plants - General	Multiple	Varies	Multiple	Multiple	0[a]	5	Varies	Low	5	5	5	5	Yes	N/A		
Gulf of Mexico - General	Multiple	Potentially Feasible	Multiple	Multiple	Unlimited	5	$4,522	Low	5	4	4	5	No	N/A	Technology is still developing for this application at this scale. May require state water right permit and IBT.	Strategy was costed to central location. Capital cost was based on one supplier. Supply is treated water.
George Parkhouse South	NTWMD and/or UTRWD	Alternative	Multiple	Multiple	92,800	5	$928	16,120[b]	1	3	4	3	No (Alternative)	Not inconsistent	Requires new water rights permit and IBT.	
George Parkhouse North	NTMWD and/or UTRWD	Alternative	Multiple	Multiple	85,200	5	$871	11,344[b]	1	3	4	3	No (Alternative)	Not inconsistent	Requires new water rights permit and IBT.	
Integrated Pipeline	TRWD and DWU	Recommended	Multiple	Multiple	313,880	5	$613	Low	5	5	5	4	Yes	N/A		Pipeline delivers existing supplies.
Marvin Nichols Reservoir (313.5')	NTMWD, TRWD, UTRWD, DWU and/or Irving	Potentially Feasible	Multiple	Multiple	235,200	5	$1,037	37,760	1	2	4	1	Yes	Not inconsistent	Requires new water rights permit and IBT. Known public opposition.	
Marvin Nichols Reservoir (328')	NTMWD, TRWD, UTRWD, DWU and/or Irving	Recommended (Alternative for DWU and Irving)	Multiple	Multiple	361,200	5	$931	61,770	1	2	4	1	Yes	Not inconsistent	Requires new water rights permit and IBT. Known public opposition.	
Wright Patman Reallocation (235')	NTMWD, TRWD, UTRWD, DWU and/or Irving	Recommended (Alternative for DWU and Irving)	Multiple	Multiple	122,200	5	$890	Medium High	2	3	4	2	Yes	Not inconsistent	Known opposition to reallocation of reservoirs.	
Oklahoma	NTMWD	Recommended	Multiple	Multiple	50,000	5	$423	Low	5	5	4	4	Yes	N/A	Oklahoma has moratorium for export of water out of state.	
Oklahoma (Hugo to Lake Lewisville)	UTRWD	Alternative	Multiple	Multiple	10,000	5	$1,163	Low	5	5	4	4	Yes	N/A	Oklahoma has moratorium for export of water out of state.	
Lake Texoma Blending	NTMWD	Recommended	Multiple	Multiple	114,466	5	$740	Low	5	3	3	4	No (Alternative)	N/A	Requires IBT, state water right, Congressional authorization, and contract with USACE.	Delivers treated water.
Lake Texoma Blending	UTRWD	Alternative	Multiple	Multiple	25,000	5	$733	Low	5	3	3	4	No (Alternative)	N/A	Requires IBT, state water right, Congressional authorization, and contract with USACE.	Delivers treated water.
Lake Texoma Desalination	GTUA	Recommended	Multiple	Multiple	35,872	5	$2,620	Low	5	3	3	4	No (Alternative)	N/A	Requires IBT, state water right, Congressional authorization, and contract with USACE.	Delivers treated water.
Lake Texoma Desalination	DWU	Alternative	Multiple	Multiple	146,000	5	$1,111	Low	5	3	3	4	No (Alternative)	N/A	Requires IBT, state water right, Congressional authorization, and contract with USACE.	Delivers treated water.
Lake Texoma Desalination	NTMWD	Alternative	Multiple	Multiple	33,630	5	$2,611	Low	5	3	3	4	No (Alternative)	N/A	Requires IBT, state water right, Congressional authorization, and contract with USACE.	Delivers treated water.
Additional Measures to Access Full Lake Lavon Yield	NTMWD	Recommended	Multiple	Multiple	13,361	5	$248	Low	5	2	3	3	Yes	N/A		
Aquifer Storage and Recovery	TRWD	Recommended	Multiple	Trinity	5,000	5	$300	Low	5	2	4	3	Yes	N/A		
Bois d'Arc Lake	NTMWD	Recommended	Multiple	Multiple	120,200	5	$486	2,045	3	3	4	3	Yes	N/A	Requires new water rights permit and IBT.	
Carrizo-Wilcox Aquifer	NTMWD	Alternative	Multiple	Multiple	42,000	5	$1,173	Low	5	2	4	3	No (Alternative)	N/A	Requires coordination with local groundwater districts. Competing uses for water.	
Carrizo-Wilcox Aquifer	DWU	Alternative	Dallas	Trinity	30,000	5	$581	Low	5	2	3	3	No (Alternative)	N/A	Requires coordination with local groundwater districts. Competing uses for water.	
Carrizo-Wilcox Aquifer	TRWD	Recommended	Multiple	Multiple	32,000	5	$798	Low	5	2	3	3	No	N/A	Requires coordination with local groundwater districts. Competing uses for water.	
Cedar Creek Wetland Reuse	TRWD	Recommended	Multiple	Trinity	88,059	5	$306	Low	5	5	3	5	Yes	N/A	TRWD has permit for reuse.	
Lake of the Pines (Cypress Basin Supplies)	NTMWD	Alternative	Multiple	Multiple	50,000	5	$923	Low	5	5	4	4	Yes	Not inconsistent	Requires IBT, renegotiating existing contracts, and contract with NETMWD.	
Lake Columbia	DWU	Recommended	Dallas	Trinity	56,000	5	$576	135	5	3	3	3	Yes	Yes	Requires contract with ANRA and IBT.	
Connect IPL to Bachman (Lake Palestine)	DWU	Recommended	Dallas	Trinity	105,370	5	$169	Low	5	5	3	4	Yes	Yes	DWU has IBT permit.	
Lake Ralph Hall and Reuse	UTRWD	Recommended	Multiple	Multiple	54,611	5	$456	High	1	4	4	4	Yes	N/A	Requires new water right and IBT.	
Lake Tehuacana	TRWD	Recommended	Multiple	Multiple	21,070	5	$1,069	Medium high	2	3	4	3	Yes	N/A	Requires new water rights permit.	
Main Stem Balancing Reservoir	DWU	Recommended	Dallas	Trinity	95,829	5	$615	Low	5	3	4	4	Yes	N/A		
Expanded Wetland Reuse	NTMWD	Recommended	Multiple	Multiple	37,510	5	$1,640	Low	5	5	3	5	Yes	N/A	Requires water right permit amendment.	
Neches Run-of-River Diversions	DWU	Recommended	Multiple	Multiple	47,250	5	$617	Low	5	4	4	4	Yes	Not inconsistent	Requires new water rights permit and IBT.	
Red River Off-Channel Reservoir	DWU	Alternative	Multiple	Multiple	99,000	5	$705	Low	5	5	4	5	Yes	N/A		
Red River Off-Channel Reservoir	DWU and UTRWD	Alternative	Multiple	Multiple	114,000	5	$705	Low	5	5	4	5	Yes	N/A		
Sabine Conjunctive System Operations	DWU	Alternative	Multiple	Multiple	104,200	5	$678	Low	5	5	5	4	Yes	N/A		
Toledo Bend	DWU, NTMWD TRWD, and UTRWD	Alternative	Multiple	Multiple	348,000	5	$1,563	Low	5	5	4	4	Yes	Yes	Requires IBT and agreements with multiple users.	Cost shown is total cost for all participants.

[a] Does not create new supply, but is necessary to utilize the supplies created by other strategies.
[b] Includes grassland and row crops. Bottomland and Upland Forests and forested wetlands were not considered a potential agricultural resource for these reservoirs.

Table G.4 Environmental Matrix

Strategy	Entity	County	Basin	Environmental Factors												
				Acres Impacted	Wetland Acres Impacted	Env. Water Needs	Env. Water Needs Score	Habitat[a]	Habitat Score	Threat and Endanger Species	Threat and Endanger Species Score	Cultural Resources	Cultural Resources Score	Bays & Estuaries	Bays & Estuaries Score	Other
Conservation - General	Multiple	Multiple	Multiple	0	0	n/a	5	n/a	5	n/a	5	n/a	5	n/a	5	
Dredging - General	Multiple	Multiple	Multiple	Varies	0	n/a	5	Low	5	n/a	5	Low	5	n/a	5	
Groundwater - General	Multiple	Multiple	Multiple	2[b]	0	n/a	5	Low	5	n/a	5	Low	5	n/a	5	
Increase Delivery Infrastructure - General	Multiple	Multiple	Multiple	Varies	Varies	n/a	5	Low	5	Varies	5	Low	5	n/a	5	
Reuse - General	Multiple	Multiple	Multiple	Varies	Varies	Low	5	Low	5	Varies	5	Low	5	n/a	5	
Aquifer Storage and Recovery - General	Multiple	Multiple	Multiple	Varies	0	Low	5	Low	5	n/a	5	Low	5	n/a	5	
Water Treatment Plants - General	Multiple	Multiple	Multiple	320	0	n/a	5	n/a	5	n/a	5	n/a	5	n/a	5	
Gulf of Mexico - General	Multiple	Multiple	Multiple	7,135	0	Medium Low	4	Medium	3	>40	1	Low	5	Medium Low	4	
George Parkhouse South	NTWMD and/or UTRWD	Multiple	Multiple	28,362	6,197	Medium High	2	Medium High	2	11	3	Medium High	2	n/a	5	
George Parkhouse North	NTMWD and/or UTRWD	Multiple	Multiple	15,356	1,235	Medium High	2	Medium	3	13	3	Medium High	2	n/a	5	
Integrated Pipeline	TRWD and DWU	Multiple	Trinity	356	0	Low	5	Low	5	28	1	Low	5	n/a	5	
Marvin Nichols Reservoir (313.5')	NTMWD, TRWD, UTRWD, DWU, and Irving	Multiple	Multiple	41,722	19,914	Medium	3	High	1	17	2	Medium High	2	n/a	5	
Marvin Nichols Reservoir (328')	NTMWD, TRWD, UTRWD, DWU and/or Irving	Multiple	Multiple	66,103	24,093	Medium	3	High	1	17	2	Medium High	2	n/a	5	
Wright Patman Reallocation (235')	NTMWD, TRWD, UTRWD, DWU and/or Irving	Multiple	Multiple	14,327	11,009	Medium Low	4	Medium	3	20	2	Medium High	2	n/a	5	
Oklahoma	NTMWD	Multiple	Multiple	2,249	0	Low	5	Low	5	15[c]	1	Low	5	n/a	5	
Oklahoma (Hugo to Lake Lewisville)	UTRWD	Multiple	Multiple	1,333	0	Low	5	Low	5	17[c]	1	Low	5	n/a	5	
Lake Texoma Blending	NTMWD	Multiple	Multiple	455	0	Medium	3	Low	5	15	3	Low	5	n/a	5	
Lake Texoma Blending	UTRWD	Multiple	Multiple	727	0	Medium	3	Low	5	17	2	Low	5	n/a	5	
Lake Texoma Desalination	GTUA	Multiple	Multiple	121	0	Medium	3	Low	5	15	3	Low	5	n/a	5	
Lake Texoma Desalination	DWU	Multiple	Multiple	1,212	0	Medium	3	Low	5	20	2	Low	5	n/a	5	
Lake Texoma Desalination	NTMWD	Multiple	Multiple	455	0	Medium	3	Low	5	17	2	Low	5	n/a	5	
Additional Measures to Access Full Lake Lavon Yield	NTMWD	Multiple	Multiple	0	0	Low	5	Low	5	0	5	Low	5	n/a	5	
Aquifer Storage and Recovery	TRWD	Multiple	Trinity	18	0	n/a	5	Low	5	n/a	5	Low	5	n/a	5	
Bois d'Arc Lake	NTMWD	Multiple	Multiple	17,068	5,874	Medium	3	Medium	3	11	3	Medium Low	4	n/a	5	
Carrizo-Wilcox Aquifer	NTMWD	Multiple	Multiple	724	0	n/a	5	Low	5	24	1	Low	5	n/a	5	
Carrizo-Wilcox Aquifer	DWU	Dallas	Trinity	813	0	n/a	5	Low	5	21	1	Low	5	n/a	5	
Carrizo-Wilcox Aquifer	TRWD	Multiple	Multiple	422	0	n/a	5	Low	5	29	1	Low	5	n/a	5	
Cedar Creek Wetland Reuse	TRWD	Multiple	Trinity	243	0	Low	5	Low	5	13	3	Low	5	n/a	5	
Lake of the Pines (Cypress Basin Supplies)	NTMWD	Multiple	Multiple	337	0	Low	5	Low	5	29	1	Low	5	n/a	5	
Lake Columbia	DWU	Dallas	Trinity	11,500	5,751	Medium	3	High	1	24	1	Medium High	2	n/a	5	
Connect IPL to Bachman (Lake Palestine)	DWU	Dallas	Trinity	1,629	27	Low	5	Medium Low	4	28	1	Low	5	n/a	5	
Lake Ralph Hall and Reuse	UTRWD	Multiple	Multiple	8,461	8	Medium	3	Medium	3	19	2	Medium	3	n/a	5	
Lake Tehuacana	TRWD	Multiple	Multiple	14,845	4,000	Medium	3	Medium	3	21	1	Medium High	2	n/a	5	
Main Stem Balancing Reservoir	DWU	Dallas	Trinity	3,942	300	Low	5	Medium Low	4	14	3	Medium High	2	n/a	5	
Expanded Wetland Reuse	NTMWD	Multiple	Multiple	173	0	Low	5	Low	5	15	3	Low	5	n/a	5	
Neches Run-of-River Diversions	DWU	Multiple	Multiple	5,336	0	Low	5	Low	5	28	1	Low	5	n/a	5	
Red River Off-Channel Reservoir	DWU	Multiple	Multiple	1,932	20	Medium	3	Medium	3	18	2	Medium	3	n/a	5	
Red River Off-Channel Reservoir	DWU and UTRWD	Multiple	Multiple	2,301	20	Medium	3	Medium	3	18	2	Medium	3	n/a	5	
Sabine Conjunctive System Operations	DWU	Multiple	Multiple	2,000	77	Low	5	Low	5	26	1	Low	5	n/a	5	
Toledo Bend	DWU, NTMWD, TRWD, and UTRWD	Multiple	Multiple	3,091	0	Medium Low	4	Low	5	28	1	Low	5	Medium	3	

[a] Impacts for DWU non-partnership strategies are from Dallas' Long Range Water Supply Plan

[b] 2 acres per well

[c] Texas counties only

Appendix G Water Management Strategy Evaluation

G.7 UTRWD Major Water Management Strategy Technical Memorandums

G.7.1 Lake Ralph Hall and Reuse

G.8 Other Major Water Management Strategy Technical Memorandums

G.8.1 GTUA Regional System with Treatment Expansions at Sherman

G.2 General Water Management Strategy Technical Memorandums

G.2.1 Conservation

Potential Sponsor(s)	All Municipal and Irrigation WUGs Considered
WMS/Project Type:	Conservation
Potential Supply Quantity[a]:	192,404 acre-feet/year Municipal 10,272 acre-feet/year Non-Municipal
Implementation Decade:	Multiple
Strategy Capital Cost:	$341,051,758
Unit Water Cost ($/kgal)	Varies; See Table H.11A through Table H.12
Application:	Recommended

[a]Does not include the 249,646 acre-feet per year of passive savings associated with low flow plumbing fixtures, efficient residential clothes washer standards, and efficient residential dishwasher standards already included in the demand projections.

Strategy Description

More detailed information on this strategy can be found in **Appendix I**. This strategy is to proactively reduce water demands through water conservation efforts. In Region C this strategy was assessed for municipal and irrigation users. This strategy represents a compilation of a myriad of actions that may include but are not limited to, public education and outreach, reducing water waste, conservation-oriented rate structures, enhanced water loss control programs, limiting of outdoor water use (both time-of-day and twice per week limits), adding a conservation coordinator, and the increasing efficiency of irrigation processes.

It should be noted that the enhanced water loss control program for one city (Fort Worth) has significantly more capital costs than for other WUGs. Fort Worth has completed its first phase of their Water Conservation and Condition Assessment Program (WCCAP). This program inventoried the 3,400+ miles of water line in Fort Worth's distribution system and identified water lines that are a major source of water leakage, particularly those that have had multiple breaks in recent years or that due to age, pipe material, and condition are expected to have major breaks. This is a 10-year program to replace the most critical sources of current water losses and prevent the most likely potential water losses.

Supply Development (Quantity, Reliability, Quality)

This strategy delays the need for development of other water supplies through demand reductions of users. High levels of conservation have already been achieved in Region C to date.

<u>Water Quantity</u>

The total demand reduction achieved through conservation savings in Region C is shown in **Table G.5**.

Table G.5 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Municipal Conservation	94,063	126,929	134,500	154,010	173,268	192,404
Non-Municipal Conservation	6,263	6,299	6,422	7,589	8,611	10,272
Total Conservation	**100,326**	**133,228**	**140,922**	**161,599**	**181,879**	**202,676**

Reliability

Since this strategy is a demand reduction the reliability is high.

Water Quality

This strategy equates to a reduction in need from other water management strategies and therefore has no associated water quality parameters.

Environmental Considerations

This strategy is expected to have no adverse environmental impacts. Rather, it is anticipated to positively impact the environment by delaying the need for other projects that potentially have more impacts.

Permitting and Development

Conservation does not require any permits and is generally accepted by the public. The TCEQ and TWDB requires specific water users to maintain a conservation plan.

Cost Analysis

Cost estimates were prepared for each individual WUGs conservation strategy. These cost estimates are contained in **Appendix H**.

Water Management Strategy Evaluation

Conservation was applied to all municipal water user groups and some irrigation water user groups. Based on the analysis provided above, the conservation strategy was evaluated across different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan.

G.2.2 Increased Capacity at Existing Reservoirs (Dredging)

Potential Sponsor(s)	Various
WMS/Project Type:	Existing Surface Water (Dredging)
Potential Supply Quantity:	1,700 to 7,200 acre-feet per year
Implementation Decade:	Various
Strategy Capital Cost:	$1.1 billion to $2.3 billion for dredging
Unit Water Cost ($/kgal)	$106 to $114 per 1,000 gallons
Application:	Recommended for Lake Waxahachie; Potentially Feasible for other Region C Reservoirs

Strategy Description

This strategy evaluates the options to increase water supply through increasing storage at local area lakes in the Metroplex. This increase in supply could be achieved through dredging existing lakes up to the original permitted capacity.

Over time reservoirs can lose storage capacity due to sediment accumulation. This reduction in storage can affect the reliable supplies from these sources. In Region C, the reliable supplies of existing reservoirs are shown to decrease approximately 6 percent over the 50-year planning horizon.

To regain potential loss of supply, there has been suggestions from the public to dredge the lakes. Dredging of lakes has been done for a few local reservoirs, such as White Rock Lake and Lake Worth, for recreational and water quality purposes. There has not been a wholesale dredging project conducted on a large major reservoir for water supply purposes. This is likely for multiple reasons, including ownership of the lake, cost, challenges with disposal, and limited gains in water supply.

There are 9 large lakes In the Metroplex area that are used for water supply: Bridgeport, Eagle Mountain, Benbrook, Grapevine, Lewisville, Ray Roberts, Lavon, Ray Hubbard, Joe Pool. Of these lakes, Benbrook, Grapevine, Lewisville, Ray Roberts, Joe Pool and Lavon are operated by the USACE for flood control with contracts for water supply. Each of these lakes has a sediment pool to account for sediment accumulation and would not be amenable to increasing water supply conservation through dredging. Therefore, these lakes were not considered for dredging.

Bridgeport and Eagle Mountain Lake are owned and operated by TRWD and Ray Hubbard is owned and operated by DWU. Any dredging project of these lakes would be a substantial effort. The potential to regain lost storage capacity is shown on **Table G.6**. It was assumed that 75% of the lost capacity could be regained through dredging. The volume of sediment is based on the most recent sediment survey of the lakes.

Table G.6 Potential for Increase in Storage Capacity (Acre-feet)

Reservoir	Accumulated Sediment[a]	Regained Capacity
Bridgeport	25,019	18,764
Eagle Mountain	15,861	11,896
Ray Hubbard	33,085	24,814

[a]Accumulated sediment volumes are from the latest TWDB sediment survey (see references)

One of the biggest challenges to dredging large quantities of sediment is the disposal of the removed materials. For purposes of this analysis, it was assumed that a suitable site could be found in the vicinity of the lake. If no site is available and materials must be trucked to an offsite location, the costs would increase significantly.

Supply Development (Quantity, Reliability, Quality)

Water supply quantities were determined using the TCEQ Trinity River WAM for Region C. It was assumed that any increase in available supply would be associated with the existing water rights for the respective lake.

Water Quantity

The water quantities in **Table G.7** represent the increased supply associated with the increased storage.

Table G.7 Summary of Quantities

Reservoir	Dredging
Bridgeport	2,500
Eagle Mountain	1,700
Ray Hubbard	3,360

Reliability

The reliability of increased supplies associated with dredging would be the same as the permitted water. Water rights with more senior priority would be highly reliable. However, a new drought of record could impact supplies.

Water Quality

The quality of the water is expected to be similar to existing quality of the reservoir or slightly improved as additional fresh water becomes available. However, dredging operations may increase turbidity and suspended solids in the lake. This is expected to be temporary.

Environmental Considerations

For dredging scenarios, there are concerns about the disposal of the dredged materials and potential impingement of aquatic species through the operations. Care would be taken to limit impingement. The dredged material would need to be tested to ensure that the materials can be land placed. If elevated constituents (such as heavy metals, organics, etc.) are identified, the material would need to be disposed an appropriate classified disposal facility. This would significantly increase the costs for dredging.

Permitting and Development

Dredging would require a Section 404 permit and a DPES permit for the discharged materials. It is assumed that no changes to the existing water rights are needed. One of the biggest development obstacles is the location and quantity of the discharged materials.

Cost Analysis

Capital costs were based on previous projects and dredging costs. However, the scale of these projects is quite different, and the technical challenges associated with the much larger quantities may affect the assumed unit costs, which could increase or slightly decrease. Whether these costs change slightly, the project would be very expensive for the additional quantity of water developed. Costs associated with general dredging projects include bathymetric survey, sediment testing, dredging, and disposal.

Table G.8 Summary of General Dredging Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
Bridgeport	$1,710,683,000	$114.16	--	H.16A
Eagle Mountain	$1,084,637,000	$106.44	--	H.16B
Ray Hubbard	$2,262,509,000	$112.34	--	H.16C
Waxahachie	$37,120,000	$11.37	--	H.123

Water Management Strategy Evaluation

Dredging a large major reservoir is a massive technical and financial undertaking with only small gains in water supply. For a lake like Ray Hubbard that is 21,000 acres, the technology and cost to build the infrastructure needed to discharge the dredged materials to the shore is unprecedented. Also, the quantity of dredged materials would cover nearly 4,000 acres at a depth of 10 feet. Land application at lower depths (<10 feet) would require additional acreage. If the material would need to be disposed as Special Waste, the costs would increase significantly.

Increasing the storage capacity at area lakes is not a practical or economically feasible strategy.

Water User Group Application

This strategy was considered for owners and sponsors of area lakes in the Metroplex. It is only a recommended strategy for Waxahachie (Dredging of Lake Waxahachie).

G.2.3 Additional Groundwater and New Wells

Potential Sponsor(s)	Multiple
WMS/Project Type:	New Groundwater Source
Potential Supply Quantity:	Varies
Implementation Decade:	Varies
Strategy Capital Cost:	Varies, Total Cost of all Well WMSs: $109,654,000
Unit Water Cost ($/kgal)	Varies; See Table H.14
Application:	Varies

Strategy Description

This strategy is to develop groundwater through the drilling of a new well(s). It also includes the construction of all associated transmission and treatment that may be required.

Supply Development (Quantity, Reliability, Quality)

This strategy was developed in accordance with Modeled Available Groundwater (MAG) values for the appropriate aquifer and county. As such, it is considered to be reliable supply that will not compromise the Desired Future Conditions (DFCs) as established by the Groundwater Management Area (GMA).

Environmental Considerations

The right of way for the wells and transmission lines may temporarily affect the environment during construction. Additional study and mitigation may be required before construction of the well and transmission pipeline. It may be possible to route the pipeline to avoid environmentally sensitive areas.

Additionally, the right of way for the transmission lines may temporarily affect a small amount of agricultural acreage during construction. To the extent that this strategy is recommended for a rural user, the increased water supply may enhance the vitality of the community.

Permitting and Development

All recommended groundwater strategies comply within the Modeled Available Groundwater (MAG) values for their respective counties and aquifers. As such, these strategies should have no adverse effects on the Desired Future Conditions of the aquifers.

Cost Analysis

Cost estimates were prepared for each individual groundwater strategy. These cost estimates are contained in **Appendix H**.

Water Management Strategy Evaluation

Based on the analysis provided above, the Additional Groundwater and New Wells strategy was evaluated across different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The evaluation results can be found in **Table G.3** and **Table G.4.**

Water User Group Application

The Additional Groundwater and New Wells strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

G.2.4 Increase Delivery Infrastructure

Potential Sponsor(s):	Multiple
WMS/Project Type:	Various
Potential Supply Quantity:	0 acre-feet per year This strategy does not create new supply but is essential for transporting supplies to end users.
Implementation Decade:	Multiple
Strategy Capital Cost:	Varies
Unit Water Cost ($/kgal):	Varies
Application:	Varies

Strategy Description

This strategy is to develop new transmission facilities or increase the size of existing water supply transmission pipelines and pump stations. In many cases this represents the connection of an entity to a wholesale provider or the expansion of an existing transmission system. In other cases, the transmission supply is to connect existing supplies to the end users. This strategy may also include some infrastructure needed to take delivery of water from another provider such as ground storage.

Two regional systems fit into this category of Infrastructure development. One is the Fannin County Water Supply Project. For this project, NTWMD will cooperate with Fannin County entities to develop a treated water supply system for Fannin County water users after Bois d'Arc Lake is developed by 2030. This project will include over 70 miles of pipelines (18" to 36" pipelines) and associated pump stations to deliver water to seven WUGs, with ultimate (2070) delivery of almost 10,000 acre-feet per year.

The other regional system is GTUA's Collin-Grayson Municipal Alliance (CGMA) Water System. Currently GTUA purchases treated water from NTWMD and delivers this water to four WUGs in southern Grayson and northern Collin Counties. GTUA plans to expand this system in the future by paralleling existing pipelines and coordinating with Sherman for additional treatment capacity.

Supply Development (Quantity, Reliability, Quality)

While this strategy does not create supply, it is vital to making existing and future supplies usable to those with needs. This transmission infrastructure enables the entity to receive the water.

Environmental Considerations

The right of way for the transmission lines may temporarily affect the environment during construction. Additional study and mitigation may be required before construction of the transmission pipeline. The pipeline may be able to be routed to avoid environmentally sensitive areas.

Additionally, the right of way for the transmission line may temporarily affect a small amount of agricultural acreage during construction. To the extent that this strategy is recommended for a rural user, the increased water supply may enhance the vitality of the community.

Permitting and Development

Construction of the pipeline can likely be done under a nationwide permit. If the pipeline is part of another larger supply development strategy, there may be additional permitting requirements. Those requirements are considered with the appropriate larger supply development strategy.

Cost Analysis

Cost estimates were prepared for each individual water management strategy. These cost estimates are contained in **Appendix H.**

Water Management Strategy Evaluation

Based on the analysis provided above, the Additional Groundwater and New Wells strategy was evaluated across different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The evaluation results can be found in **Table G.3** and **Table G.4.**

Water User Group Application

The Increase delivery infrastructure strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the current capacity of delivery infrastructure and the ultimate needed capacity of delivery infrastructure.

G.2.5 Reuse

Potential Sponsor(s)	Multiple
WMS/Project Type:	Reuse
Potential Supply Quantity (Total of all Recommended Projects):	485,054 acre-feet per year
Implementation Decade:	Varies
Strategy Capital Cost:	Varies
Unit Water Cost ($/kgal)	Varies
Application:	Varies

Strategy Description

This strategy is to develop projects that reuse treated wastewater effluent, either directly or indirectly. It includes the construction of all associated transmission that may be required. Recommended reuse projects are summarized in **Chapter 5B,** specifically **Table 5B.8**. Further descriptions of individual reuse projects are in **Chapter 5D** and **Chapter 5E,** organized by project sponsor.

Supply Development (Quantity, Reliability, Quality)

The supply amounts for this strategy were developed based on estimates of water use and related return flows to specific wastewater treatment plants. Where applicable, consideration was given for specific minimum by-pass flow requirements where required by water rights.

Environmental Considerations

Direct reuse projects will reduce the volume of treated wastewater effluent that is returned to natural waterways. The right of way for transmission lines may temporarily affect the environment during construction, for which there would be mitigation. Additional studies and mitigation may be required before the construction of transmission pipelines. Pipelines may be able to be routed to avoid environmentally sensitive areas.

Indirect reuse projects will reduce the volume of flow in natural waterways in certain areas, but only to the extent that they remove flows returned by upstream wastewater treatment plants. No naturalized stream flow (naturally occurring runoff from precipitation) will be removed from waterways as part of any reuse projects. It should be noted that some return flow water rights dictate the allowable use of return flow and minimum by-pass requirements in order to protect the environment.

Additionally, the right of way for any transmission lines may temporarily affect a small amount of agricultural acreage during construction.

Permitting and Development

All recommended indirect reuse strategies that are currently permitted have been structured to comply with the terms of the associated water right. All recommended reuse strategies (both direct and indirect) that are not currently permitted are anticipated to apply for and obtain any necessary permits from TCEQ including but not limited to reuse water right permits and Section 210 permits.

Cost Analysis

Cost estimates were prepared for each reuse strategy (except the four projects listed below). These cost estimates are contained in **Appendix H**. There are five reuse projects that do not have associated capital costs. Those projects are below along with the explanation of why they do not have capital costs:

Athens Fish Hatchery – The Texas Freshwater Fisheries Center in Athens ("Fish Hatchery") has a contract with Athens MWA for 3,023 acre-feet per year from Lake Athens. After using the water in its facility, the Fish Hatchery discharges almost all of that water back into Lake Athens. Athens MWA has an agreement that allows them to use this return flow. Since Athens MWA already has existing pumping and treatment facilities on the lake, there are no additional facilities needed and thus no capital costs.

Cooke County Mining Reuse – On-site recycling – Currently mining operations discharge their process water. The strategy presented in this plan is to recirculate process water within the facility rather than discharging. No capital costs were included since any infrastructure needed would be internal to the mining operation site, similar to distribution system costs, which are not allowed to be included in regional planning.

Jacksboro/Jack County Mining – Currently mining (mostly oil and gas) companies obtain water from the City of Jacksboro. Currently oil/gas water tanker trucks get water from a water tank located at Jacksboro's water treatment plant. Jacksboro has recently obtained a permit to allow reuse of some of its wastewater. This strategy will now involve oil/gas water tanker trucks getting water from a non-potable water tank located at Jacksboro's wastewater treatment plant.

UTRWD Indirect Reuse of Lake Ralph Hall Water – UTRWD has a water right permit for Lake Ralph Hall which also grants the right to reuse a portion of this water. Once Lake Ralph Hall is constructed and water is being used by UTRWD customers, this water is returned to UTRWD wastewater plants which then discharge into Lake Lewisville. UTRWD already has water treatment plant facilities on Lake Lewisville which can make use of this returned Ralph Hall water. There are no additional transmission facilities needed to utilize this Ralph Hall reuse.

Water Management Strategy Evaluation

Based on the analysis provided above, the Additional Groundwater and New Wells strategy was evaluated across different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The evaluation results can be found in **Table G.3** and **Table G.4.**

Water User Group Application

The reuse strategy was evaluated on several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

G.2.6 Aquifer Storage and Recovery

Potential Sponsor(s):	Multiple
WMS/Project Type:	Aquifer Storage and Recovery
Potential Supply Quantity:	50,000 acre-feet per year
Implementation Decade:	Varies
Strategy Capital Cost:	$2,361,087,000
Unit Water Cost ($/kgal):	$12.88 during Debt Service; $5.00 after Debt Service
Application:	Potentially Feasible

Strategy Description

Aquifer Storage and Recovery (ASR) is a water management solution that allows for storing surplus water in local aquifers during periods of high or surplus surface flows and withdrawing the stored water later during periods of drought or peak demands. It also can be used to temporarily store treated brackish groundwater or treated wastewater for use during high demand periods. ASR can provide a cost-effective and reliable alternative to the construction of above-ground storage reservoirs; however, identifying and securing suitable aquifer formations for storage and the geochemical evaluation of the mixed waters can be challenging. ASR in Texas is currently being studied to assess if it is a reliable and cost-effective technology that should be considered as part of a diversified portfolio of water supply options. Current regulatory framework allows recharge of either fully treated or partially treated surface water, provided that recharge of the surface water is not degrading the native groundwater quality any further. The most desirable feature of the ASR as a water management strategy is its scalability. It can be developed as a region-wide strategy to serve as an alternative drought-resilient long-term WMS for multiple major water providers. It can also be developed as an entity-specific strategy to meet short-term peak demands. The WMS discussed in this technical memorandum is a region-wide strategy that benefits multiple major water providers in Region C.

In Region C, the most likely application of ASR would be to store surplus surface water when lakes are full and spilling, store reuse water, increase operational flexibility of multiple sources, and serve as a short-term source to meet peak demands. ASR could reduce evaporative losses, store water that otherwise would have spilled downstream, maximize use of water rights, and possibly delay infrastructure improvements that would be needed to meet peak demands.

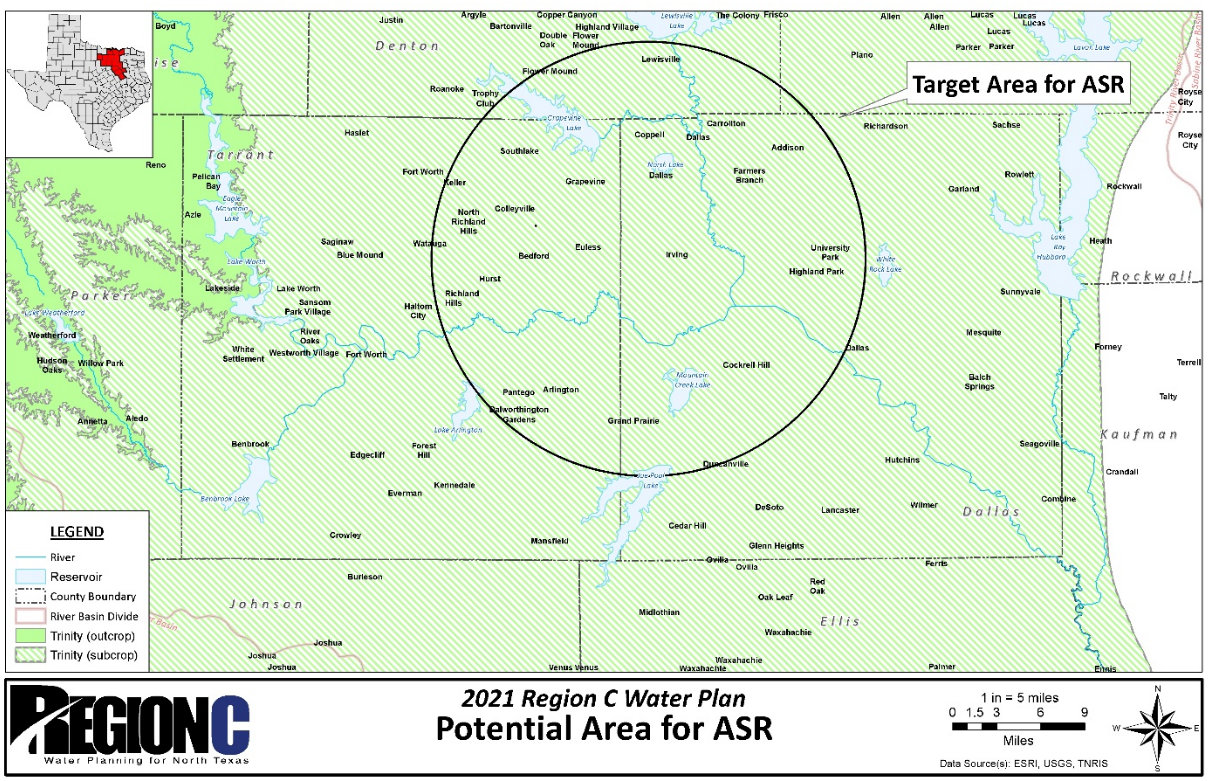
To fully evaluate an ASR strategy, detailed hydrogeological studies are needed to identify an appropriate receiving formation and size the infrastructure of the recharge system. Owing to that, there are fewer hydrogeological studies defining the aquifer characteristics of the Trinity Aquifer (the primary aquifer for potential ASR operations). There are a couple of studies that were recently conducted to define the storage and migration potential of the Trinity aquifer and some regional water providers are currently in the process of confirming the information from the hydrogeological models by means of a pilot study. For these reasons, a generic ASR strategy for 50,000 acre-feet per year was developed for the purpose of this study. Based on the available literature, this strategy assumes that an appropriate receiving site can be identified in the Trinity Aquifer within 50 miles of the major water providers. The depth of this formation is about 2,000 feet below ground surface and the migration potential is minimal to retain the stored water bubble. Since much of the shallow overlying formations in the metroplex area consist of clays and less permeable soils, it is assumed that recharge wells would be used rather than an infiltration basin. It is also assumed that there is existing infrastructure capacity to move water to within 50 miles of the ASR site. Additional infrastructure would be needed to move the water to the recharge site. For this strategy, it is assumed that the recharge wells will double as recovery wells.

In general, an ASR system in Region C would consist of a combination of the following infrastructure elements:

- Pump station, with ground storage, and transmission pipelines to move the water 50 miles from existing infrastructure to the ASR site
- Water Treatment Plant (in Texas it is required to treat source water to the same level as the groundwater formation prior to injecting it underground)
- Wellfield facilities (recharge / recovery wells) and wellfield piping
- Transmission system from the ASR site to the end location (the transmission system could connect directly to a treatment plant for further treatment or to a distribution system if the water quality meets drinking water standards. For this generic strategy, the transmission pipeline is assumed to be 50 miles long.)

Supply Development (Quantity, Reliability, Quality)

Water Quantity



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It is assumed that the source of water for this strategy would be excess surface water or reuse water from water rights owned by NTMWD, DWU, TRWD, TRA or UTRWD. The project is sized to store and use 50,000 acre-feet per year. Water would be pumped directly to the ASR site from existing raw water transmission systems. At the ASR site, the water is treated to the same level or better than the receiving formation groundwater. (Note: there could be scenarios where the water is pretreated at an existing water treatment facility and then diverted to the ASR site. However, this generic strategy assumes that the raw water is treated on site at the ASR facility.) The water is then recharged into the receiving formation through 49 recharge wells. It is assumed that these facilities are sized to transport and recharge the 50,000 acre-feet per year over a 6-month period, with a peaking factor of 2. This provides the peak capacity to recover and utilize excess flows over a short period and then have access to the water during peak demand periods. The assumed maximum recharge capacity for each recharge well is 1,500 gpm. A 102-in diameter transmission pipeline would be required to convey raw water to an on-site 180 MGD water treatment plant. In Texas, it is required to treat source water to the same level as the groundwater formation prior to injecting it underground.

Reliability

Successful ASR development is highly reliable. It is normally possible to achieve 90-95% recovery efficiency. Challenges to reliability include natural groundwater flow away from the ASR site and the associated drift of the storage bubble, thus reducing available supplies. Flat hydraulic gradients are not typical in Texas, especially in shallow aquifers. This migration of stored water is an important consideration in determining the reliability and viability of an ASR project. Also, since withdrawal of groundwater is a property right, competition with other nearby users could reduce the reliability of this water. One way to address the issue of other competing wells is to own the property rights over the storage bubble but that will drive up the strategy costs. If the water is recharged and recovered over a relatively short period (e.g., one year), the likelihood of reduced reliability is low. However, short-term ASR operations are highly dependent on the local aquifer hydrogeological features and that may impact reliability as well.

Water Quality

Because of the guidelines stipulated in the ASR regulations for Texas, the quality of the recharge water would be the same as the receiving aquifer, which is generally good. The recovered ASR water would be treated to standards required by the end use unless the native groundwater quality is equivalent to the potable water quality. When recharge water is treated to meet drinking water standards prior to storage, the recovered water will only need simple re-disinfection prior to being distributed to end-users.

Environmental Considerations

Environmental impacts are expected to be low. The footprint of an ASR project may be significantly smaller than a surface reservoir project of similar storage capacity and eliminates the need to inundate large areas of land. The transmission system and the ASR facilities can be designed to avoid environmentally sensitive areas. As previously mentioned, the recharge water must be of equal or better quality than the native groundwater in the receiving aquifer.

The challenge will be to locate the facilities (transmission, treatment, and wellfield) in areas that are increasingly urban.

Permitting and Development

There is much support for developing ASR projects in Texas, but the principal challenge for development is identifying appropriate receiving formations and aquifer zones that are near areas of water sources and demand. The Texas Legislature has enacted legislation to remove some of the legal and regulatory frameworks that have previously impeded application of this technology. This legislation now allows the water quality of the recharge water to be at the same level or higher as the receiving formation (versus drinking water standards) and permits the recovery of the same amount of recharge water under the new ASR regulations. However, there remains concerns for protection of the water once it is recharged for storage. Since groundwater is considered a property right, stored ASR water can become subject to competition for use by other property owners, especially if the natural flow is not restricted.

Recharge wells for ASR projects are regulated by TCEQ's Underground Injection Control (UIC) program and are classified as Class V Injection Wells. Thus, they must be permitted pursuant to Chapter 27, Texas Code, and Chapter 331, Title 30 of the Texas Administrative Code.

An ASR project may require groundwater permits from GCDs. The Northern Trinity GCD (Tarrant County) does not require permits for wells that are used solely for ASR. If a withdrawal well also extracts native groundwater, a permit is required. There are groundwater districts in Tarrant, Collin, Denton, Johnson and Ellis Counties. There are no groundwater districts in Dallas County.

Cost Analysis

For the Region C cost analysis, planning level opinions of costs for this strategy have been developed using the TWDB's costing tool. In accordance with TWDB Guidance, the analysis of costs for WMSs includes capital costs, debt service, and annual operating and maintenance expenses over the planning horizon. This strategy assumes that there are no purchased water costs, and water already developed by a sponsor is the source for the ASR project.

There may opportunities to reduce cost associated with treatment facilities, but for a large-scale ASR project it is unlikely that there are sufficient capacities at existing facilities to treat these quantities.

Table G.9 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
Region C WWP	$2,361,087,000	$12.88	$5.00	H.16

Water Management Strategy Evaluation

Based on the analysis provided above, the Aquifer Storage and Recovery strategy was evaluated across different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The evaluation results can be found in **Table G.3** and **Table G.4.**

Table G.10 below summarizes the main advantages and disadvantages of ASR projects.

Table G.10 Advantages and Disadvantages of ASR Projects

Advantages	Disadvantages
Conservation of water through reduced evaporation, capture of spills, and excess flows	Suitable ASR sites may not be located at a reasonable distance from demand centers
High recovery efficiency (could reach 90-95%)	Potential for water losses due to hydraulic gradients
Eliminates the need for inundating large areas of land for storage	Technical uncertainties for a large-scale ASR project. Technical operation of the system poses challenges to infrastructure that may not be used regularly.
No storage loss due to sedimentation	Lack of clarity in the regulatory processes
Minimal environmental impacts	Significant capital investment for a 50,000

Water User Group Application

This strategy is a considered strategy for water providers in Region C. It is not a recommended strategy. Specific ASR strategies are considered for individual water users.

G.2.7 Small Aquifer Storage and Recovery

Potential Sponsor(s):	Wholesale Water Providers
WMS/Project Type:	Aquifer Storage and Recovery
Potential Supply Quantity:	2,500 acre-feet per year during drought
Implementation Decade:	Varies
Strategy Capital Cost:	$ 6,041,000
Unit Water Cost ($/kgal):	$1.00 during Debt Service; $0.48 after Debt Service
Application:	Potentially Feasible

Strategy Description

Aquifer Storage and Recovery (ASR) is a water management solution that allows for storing surplus water in local aquifers during periods of excess surface water availability and withdrawing the stored water later during periods of drought or peak demands. Region C evaluated a large-scale generic ASR project to provide water each year to meet growing demands. This strategy was determined to be economically infeasible and uncertain from a technical perspective. However, a small-scale ASR project that is used to help meet peak demands during drought conditions may be feasible.

Conceptually, the small-scale ASR project would treat excess surface water or reuse water at an existing water treatment plant. The water is treated to a level that will not degrade receiving formation groundwater. The treated water would then be stored in a local aquifer within one mile of the water treatment plant during low demand months and normal to wet years. This concept recognizes that during summer months and periods of drought, the ability to store water may be limited. Therefore, this project would likely be operated as part of a system that stores water during wet periods and uses stored water during dry periods. During recovery, the water would be retrieved and pumped to the water treatment plant for subsequent treatment and distribution.

A small-scale ASR system would consist of a combination of the following infrastructure elements:

- Wellfield facilities (3 recharge / recovery wells) and wellfield piping. Wells are approximately 1,000 feet below the ground surface.
- Transmission infrastructure to move the water between the treatment plant and the wellfield.

It is assumed that there is sufficient capacity of existing infrastructure to move the raw water to the treatment plant and to treat this supply.

Supply Development (Quantity, Reliability, Quality)

<u>Water Quantity</u>

The quantity of water is contingent upon the excess treatment capacity at the water treatment plant, available excess surface water and/or reuse supplies, and the ability of the local aquifer to accept the stored water. Each of these factors will be unique to the sponsor and selected ASR site. For purposes of this generic analysis, it is assumed that the water would be stored in a lower layer of the Trinity Aquifer. Maximum recharge/recovery rates are assumed to be 550 gallons per minute, and a minimum of three wells would be installed. Based on these assumptions, a small-scale ASR project would store up to 5,000 acre-feet over a three-year period and recover this amount over a two-year period.

Based on these assumptions, the project would supply up to 2,500 acre-feet per year during a recovery year (up to four years each decade). This requires a minimum of two to three years of storage before water could be retrieved. The amount of retrievable water would be determined on a case-by-case basis.

Reliability

Successful ASR development is highly reliable. It is normally possible to achieve 90-95% recovery efficiency. Challenges to reliability include natural groundwater flow away from the ASR site and the associated drift of the storage bubble, thus reducing available supplies. This migration of stored water is an important consideration in determining the reliability and viability of an ASR project. The potential for migration increases as residence time in the aquifer increases. Also, since withdrawal of groundwater is a property right, competition with other nearby users could reduce the reliability of this water. One way to address the issue of other competing wells is to own the property rights over the storage bubble, which would increase strategy costs.

Water Quality

Because of the guidelines stipulated in the ASR regulations for Texas, the quality of the recharge water must not degrade the quality of the receiving aquifer, which is generally good. The recovered ASR water would be treated to standards required by the end use unless the native groundwater quality is equivalent to the potable water quality. When recharge water is treated to meet drinking water standards prior to storage, the recovered water may only need simple re-disinfection prior to being distributed to end-users.

Environmental Considerations

Environmental impacts are expected to be low. The footprint of an ASR project may be significantly smaller than a surface reservoir project of similar storage capacity and eliminates the need to inundate large areas of land. The transmission system and the ASR facilities can be designed to avoid environmentally sensitive areas. As previously mentioned, the recharge water must not degrade the quality of the groundwater in the receiving aquifer.

The challenge will be to locate the facilities (transmission, treatment, and wellfield) in areas that are increasingly urban.

Permitting and Development

There is much support for developing ASR projects in Texas, but the principal challenge for development is identifying appropriate receiving formations and aquifer zones that are near areas of water sources and demand. The Texas Legislature has enacted legislation to remove some of the legal and regulatory obstacles that have previously impeded application of this technology. This legislation now allows the water quality of the recharge water to be such that it does not degrade the quality of water in the formation (versus drinking water standards) and permits the recovery of nearly the same amount of recharge water under the new ASR regulations. However, there remains concerns for protection of the water once it is recharged for storage. Since groundwater is considered a property right, stored ASR water can become subject to competition for use by other property owners, especially if the natural flow is not restricted.

Recharge wells for ASR projects are regulated by TCEQ's Underground Injection Control (UIC) program and are classified as Class V Injection Wells. Thus, they must be permitted pursuant to Chapter 27, Texas Code, and Chapter 331, Title 30 of the Texas Administrative Code.

An ASR project may require groundwater permits from GCDs. Some GCDs do not require permits for wells that are used solely for ASR. If a withdrawal well also extracts native groundwater, a permit is required.

Cost Analysis

For the Region C cost analysis, planning level opinions of costs for this strategy have been developed using the TWDB's costing tool. In accordance with TWDB Guidance, the analysis of costs for WMSs includes capital costs, debt service, and annual operating and maintenance expenses over the planning horizon. This strategy assumes that there are no purchased water costs, and water already developed by a sponsor is the source for the ASR project.

Table G.11 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
Region C WWP	$6,041,000	$1.00	$0.48	H.18

Water Management Strategy Evaluation

ASR provides a drought resiliency strategy that has considerable potential for users with sources of excess water. Depending upon the storage formation, the recovery efficiency could be as high as 90 to 95 percent. Care must be taken to limit losses due to the natural movement of groundwater and competition from adjacent landowners. For multi-year droughts, this strategy may not provide supplies in some years.

Further study is needed to address technical uncertainties. Technical operation of the system may pose challenges to infrastructure that may not be used regularly.

Water User Group Application

This strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

This strategy is a considered strategy for wholesale providers with raw water sources.

G.2.8 Water Treatment Plants

Potential Sponsor(s)	Multiple
WMS/Project Type:	Water Treatment Plants
Potential Supply Quantity:	0 ac-ft/yr. This strategy does not create new supply, but it is necessary to utilize the supplies created by other strategies.
Implementation Decade:	Varies
Strategy Capital Cost:	Varies
Unit Water Cost ($/kgal)	Varies; See Tables H.12 and H.13
Application:	Varies

Strategy Description

This strategy is to develop required water treatment capacity to use raw water supplies developed as part of other strategies. In some cases, this strategy involves the construction of a new facility and in other instances it is an expansion of existing facilities.

For plant expansions, the cost estimates assume there is existing land available at the site for the expansion. The costs also assume there is existing piping such that the expansion would only require addition of basic infrastructure like treatment trains. For that reason, it was assumed that if the expansion capacity of a treatment plant was more than 50% of the existing water treatment plant capacity, there would not be existing land, piping, and other items that are assumed to be available in the costing of an expansion. Therefore, those expansions were costed as new water treatment plants.

Supply Development (Quantity, Reliability, Quality)

This strategy is to develop required water treatment capacity to use raw water supplies developed as part of other strategies. While this strategy does not explicitly create supply, it is necessary to utilize the supplies as drinking water.

Environmental Considerations

The construction of the treatment plant may temporarily impact the environment during construction. Additional study and mitigation may be required before construction of the water treatment plant. In most cases, water treatment plants can be located to avoid environmentally sensitive areas.

Permitting and Development

Wastewater discharge permits may be necessary for new facilities. Further evaluation and study will be needed to determine the impact of discharges on receiving water bodies. This will be performed as part of the permitting process.

Cost Analysis

Cost estimates were prepared using the TWDB Costing Tool. It was assumed that if the expansion capacity of a treatment plant was more than 50% of the existing water treatment plant capacity, there would not be existing land, piping, and other items that are assumed to be available in the costing of an expansion. Therefore, those expansions were costed as new water treatment plants. Also, if the capacity of a plant expansion was very large (example, Fort Worth 50 MGD expansion), this plant was costed as a new water treatment plant. **Tables H.12** and **H.13** summarize the costs.

Water Management Strategy Evaluation

Based on the analysis provided above, the Water Treatment Plants strategy was evaluated across different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The evaluation results can be found in **Table G.3** and **Table G.4.**

Water User Group Application

This strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

This strategy is a considered strategy for wholesale providers and water users with raw water sources.

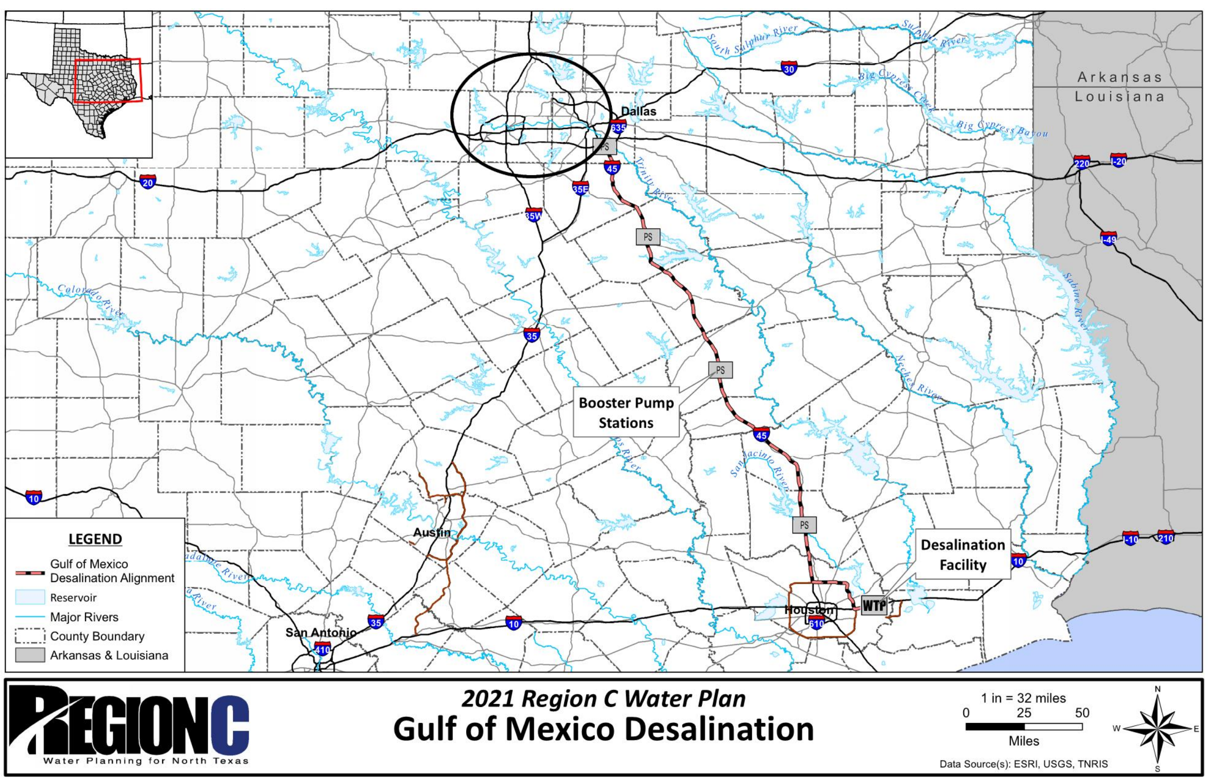
G.2.9 Gulf of Mexico Desalination

Potential Sponsor(s):	Metroplex Water Provider
WMS/Project Type:	New Surface Water (Desalination)
Potential Supply Quantity:	200,000 acre-feet per year
Implementation Decade:	N/A
Strategy Capital Cost:	$8,923,577,000
Unit Water Cost ($/kgal):	$13.87 during Debt Service; $6.43 after Debt Service
Application:	Potentially Feasible

Strategy Description

The cost of desalination has been decreasing in recent years, and some municipalities in Florida and California have developed desalinated seawater as a supply source. The State of Texas has sponsored initial studies of potential seawater desalination projects, and this is seen as a potential future supply source for the state. While Region C is not a coastal region, seawater desalination has been mentioned through public input during the planning process, and a generic strategy was evaluated in response to that input.

This strategy assumes seawater would be taken from the Gulf of Mexico near Baytown, Texas, and desalinated near the diversion location as shown. The treated water would be transported to the Metroplex generally following the I-45 corridor.



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For planning purposes, it is assumed that the initial strategy would deliver 200,000 acre-feet per year by means of one 132-inch pipeline (alternatively, could use two parallel pipelines) and multiple booster pump stations. The water would be desalinated by reverse osmosis and the reject stream from the treatment process would be discharged back to the Gulf of Mexico.

This would likely be developed as a joint strategy with multiple providers.

Supply Development (Quantity, Reliability, Quality)

Water Quantity

The quantity of water available from the Gulf of Mexico is relatively unlimited. For this strategy it is assumed that 200,000 acre-feet per year would be delivered to the Metroplex. Since all of the water would require desalination, the amount of source water would need to be 300,000 acre-feet per year and 100,000 acre-feet per year would be discharged as waste.

Reliability

The availability of the water from the Gulf of Mexico is high; however, due to the long transmission of the water to the Metroplex, the reliability of the transmission system may be moderate.

Water Quality

The treated water quality should be good. However, maintaining and operating a very large desalination plant is challenging and maintaining the treated quality will require highly skilled operators. Changes in the water quality of the source water can affect the operations and treated water quality.

Environmental Considerations

There are several environmental considerations associated with desalinating large quantities of Gulf of Mexico water. The location of the intake could potentially affect aquatic life near the intake. Care would be needed to be sure that aquatic life was not impinged in the intake pump station and there are no significant changes to general salt content of the source area, especially if the intake is located in a brackish area of the Gulf. The brine water in the reject stream could potentially affect aquatic life near the discharge location as well.

The transmission pipeline would likely cross wetlands and streams, but highly sensitive areas may be avoided.

Permitting and Development

Technology for desalination is still developing for this application at this scale. This strategy will require a state water right permit, interbasin transfer (IBT), and a discharge permit. It will also likely require a Section 404 permit for the intake structure, discharge structure, and stream crossings of the transmission system.

There are mixed views on seawater desalination and the project could face public opposition. Considering the permitting requirements, verification of the treatment technology, and construction of an approximately 300-mile transmission system, the strategy would likely take about 20 years to develop.

Cost Analysis

TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Table G.12 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
Metroplex Provider	$8,923,577,000	$13.87	$6.43	H.15

Water Management Strategy Evaluation

Because the cost of desalination and the distance to the Gulf of Mexico, seawater desalination is not a particularly promising source of supply for Region C. The major challenges for this strategy are the technical developments for a project of this scale. Maintaining and operating a remote desalination water treatment plant and a 300-mile transmission system is costly and difficult for the water providers.

The supply from seawater desalination is essentially unlimited, but the cost is a great deal higher than the cost of the other water management strategies for Region C.

Water User Group Application

The Gulf of Mexico desalination strategy was evaluated on a basis of several criteria to determine the providers to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Ultimately, the Gulf of Mexico Desalination Project is not a recommended or alternative strategy for any water supplier in Region C.

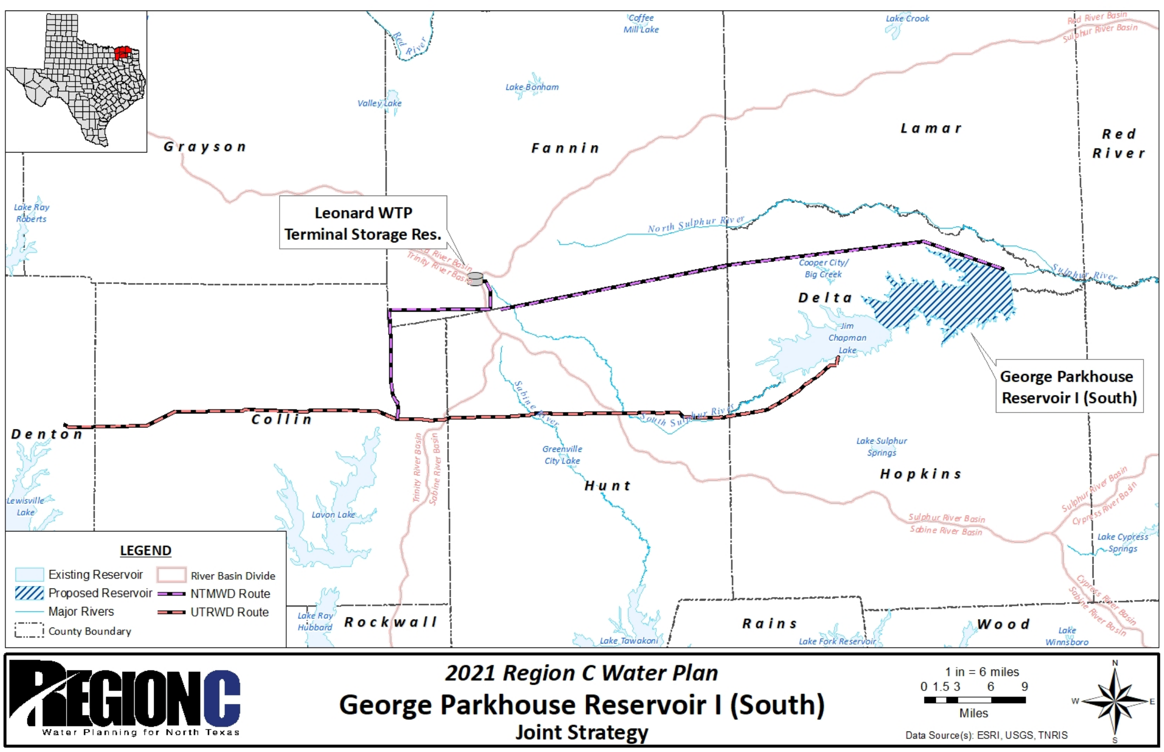
G.3 Joint Major Water Management Strategy Technical Memorandums

G.3.1 George Parkhouse Reservoir I (South)

Potential Sponsor(s):	NTMWD and/or UTRWD
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	Up to 92,800 ac-ft/yr (82.8 MGD) for Region C Users
Implementation Decade:	2050
Strategy Capital Cost:	$1,346,489,000
Unit Water Cost ($/kgal)	$2.85 during Debt Service; $0.57 after Debt Service
Application:	Alternative

Strategy Description

George Parkhouse Reservoir I (South) is a potential reservoir located on the South Sulphur River in Hopkins and Delta Counties as shown. This reservoir site was originally proposed as the first phase of the larger George Parkhouse Reservoir, also known as Sulphur Bluff. It is located immediately downstream from Jim Chapman Lake and would yield 116,000 acre-feet per year (with 80 percent available for Region C). At conservation elevation 401 ft. MSL, George Parkhouse Reservoir I (South) would inundate approximately 29,000 acres and store 652,000 acre-feet.



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The reservoir, as currently configured, would abut the dam for Jim Chapman Lake and over fifty percent of the land impacted would be bottomland hardwood forest or marsh (HDR et al, 2007). This project is considered a potential strategy for NTMWD and UTRWD. It is assumed that the project will either be pursued solely by NTMWD or as a joint strategy with UTRWD. As a joint strategy, UTRWD would receive approximately one-third of the supply (up to 35,000 AFY) and NTMWD would receive the remaining two thirds. It is assumed that the total amount of supply assumed available to Region C users is approximately 80% of the project yield and 20% would remain within Region D for local use; however, the amount to remain for local use would likely be determined at the time of development. Pipelines and pump station(s) are included in both strategies to transport the supplies from the reservoir to the service area of the sponsor.

Supply Development (Quantity, Reliability, Quality)

Water supplies from George Parkhouse I (South) were determined using a RiverWare model developed for the Sulphur Basin Feasibility Study (FNI, June 2015). This model includes an estimate of the quantity of water needed to be passed for major downstream senior water rights. The RiverWare model includes hydrology from 1938 to 2014. This model was chosen because the extended hydrology includes the recent drought-of-record conditions. The hydrology for the TCEQ WAM is from 1940 to 1996 and does not include the recent droughts.

Environmental flows as specified under the Senate Bill 3 have not been developed for the Sulphur Basin. Previous studies have used the Consensus Criteria for Environmental Flow Needs (CCEFN) or Lyons Method to estimate environmental flows. For this study, yields were evaluated using the CCEFN, as reported in the Site Protection Study (HDR et al. 2008). The new process set by Senate Bill 3 would result in different environmental releases and that could reduce the yields determined using the CCEFN.

Considerations regarding supplies from George Parkhouse I (South) include:

- A portion of the yield of the project is reserved for local use in the Sulphur Basin. Assumptions used in analyses reserve 20% of the yield for local use.
- The project, if constructed, would have an impact on the yield of other projects being considered for development in the Sulphur Basin, including the proposed Marvin Nichols Reservoir and Lake Wright Patman reallocation. This impact was not assessed.
- The 5 cfs low-flow release from Lake Chapman is not considered part of the water supply for this project. The Chapman release was passed through the reservoir.

<u>Water Quantity</u>

The quantity of water available to Region C water providers is 92,800 acre-feet per year. This represents 80% of the firm yield of the lake, which is 116,000 acre-feet per year. The yield of George Parkhouse I (South) is contingent upon other water development in the Sulphur River Basin. If other downstream projects are permitted with a senior priority to George Parkhouse I, then the yield would decrease. Previous studies have indicated the reduction in yield could be up to 60% of the stand-alone firm yield (HDR et.al., 2008). This would likely make this project not economically viable for Region C providers

This project could be developed in conjunction with George Parkhouse II (North). The yield of the combined projects has not been assessed.

Imposition of different environmental flow criteria could also impact the reliable supply from the project.

Table G.13 Summary of Quantities

Description	Percent of Total	Quantity
Region C	80%	92,800
NTMWD (Stand-Alone)	*100%*	*92,800*
NTMWD (Joint)	*67%*	*61,860*
UTRWD (Joint)	*33%*	*30,940*
Local Use in Sulphur Basin	20%	23,200
Total		**116,000**

Reliability

The reliability of this supply would be moderately high. However, a drought worse than the drought of record could occur which could impact the reservoir yield.

Water Quality

This project is located on the South Sulphur River immediately downstream of Lake Jim Chapman. Lake Jim Chapman has been listed on the 303(d) list for high pH levels. The high pH is assumed to come from natural sources. Since there is a required minimum release of 5 cfs from Lake Chapman, there could be an impact on George Parkhouse I (South).

Environmental Considerations

The reservoir is a new source of surface water, therefore environmental impacts have the potential to be greater than other strategies utilizing existing sources.

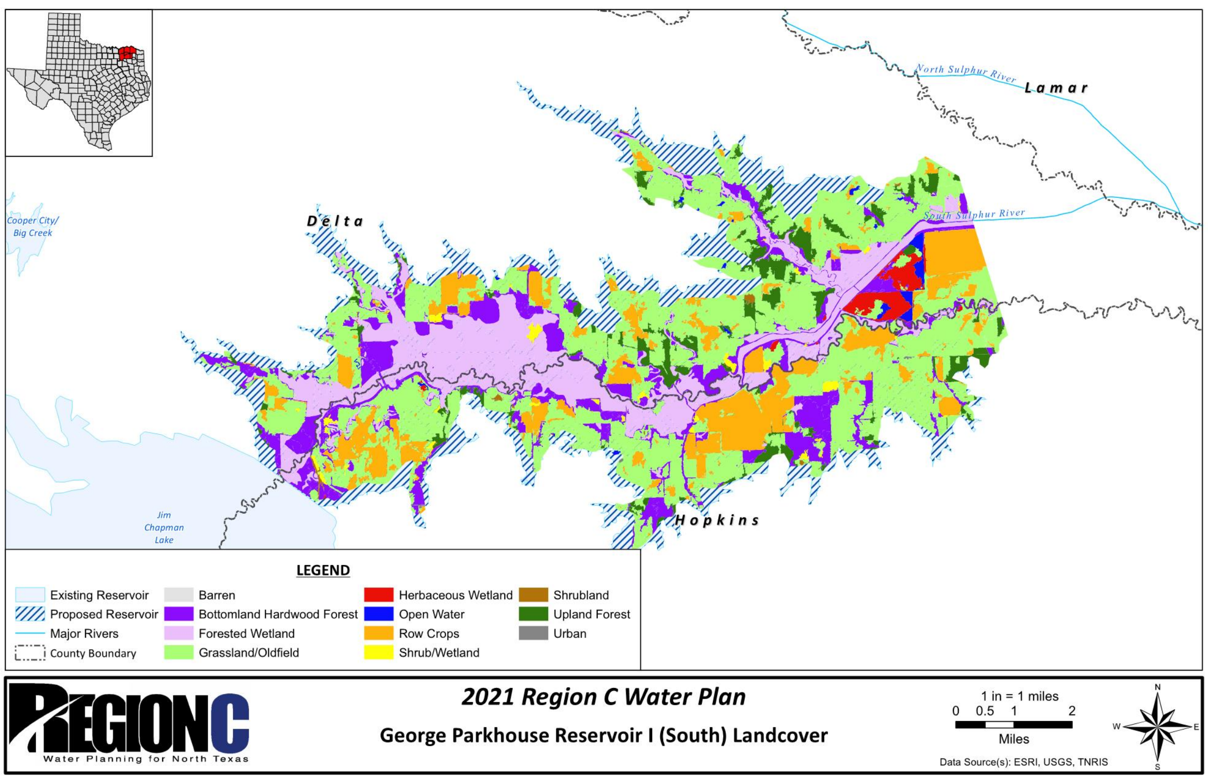
- **Habitat and Vegetative Cover**. George Parkhouse I (South) would impact approximately 28,362 acres. **Figure G.1** shows different cover types within the impact area at the reservoir site, and **Table G.14** documents the estimated acreages of each cover type. Most of the land cover is grassland and agricultural lands. Approximately 9,754 acres are classified as bottomland hardwoods or forested wetlands. All data are based on desktop evaluations. The proposed reservoir is upstream of priority 1 bottomland hardwoods in Red River County. Priority 1, as classified by USFWS, means excellent quality bottomlands of high value to key waterfowl species (USFWS, 1984). While these designated bottomland hardwoods are located to the east of the reservoir, further study would be needed to assess the potential indirect impacts of the proposed reservoir on these resources.

Table G.14 Vegetation Cover Types within Reservoir Footprint[a]

Type of Cover	Acres
Barren	1
Riparian Woodland/Bottomland Hardwood	4,267
Forested Wetland	5,487
Emergent/Herbaceous Wetland	432
Grassland/Old Field	12,133
Cropland	3,987
Shrub wetland	278
Evergreen forest	1,521
Upland deciduous forest	
Shrubland	65
Open water/Lacustrine	181
Urban	10
Total	***28,362***

[a]*Environmental Evaluation Interim Report, Sulphur River Basin Comparative Assessment, June 2013*

Figure G.1 Cover Types



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- **Threatened and endangered species.** There are 11 threatened or endangered species that are known to occur or have the potential to occur within Delta and Hopkins counties. Of these species, three are federally listed and 8 are state-listed. The three federally listed species: Red Knot, Least Tern, and Piping Plover have low to no potential to be negatively impacted by the proposed Parkhouse South reservoir. Of the state-listed species, there is a moderate potential that the reservoir could negatively impact the creek chubsucker and timber rattlesnake. No impact or low impact would be expected to the other species. The timber rattlesnake is listed as threatened by the TPWD and prefers moist lowland forests and hilly woodlands or thickets near streams. Within the Parkhouse South site, there are approximately 9,754 acres of bottomlands and forested wetlands that could provide habitat for this species. The creek chubsucker is a freshwater fish that prefers small rivers and creeks that are often highly vegetated. This species has potential to occur within the Parkhouse South area and is listed as threatened by the TPWD. This species seldom inhabits impoundments, such as ponds and lakes. Based on its preferred habitat, there are approximately 176 miles of potential stream habitats for the creek chubsucker within the Parkhouse South reservoir site (FNI, 2013).
- **Cultural resources.** There are nine known cultural resource sites within the Parkhouse South site. Eight sites are prehistoric. Several of these sites have moderate to high potential for listing under the National Register of Historic Places (NRHP). At this time no detailed cultural resource survey has been conducted at the Parkhouse South site.

Permitting and Development

Development of George Parkhouse Reservoir I (South) would require a water right permit and an interbasin transfer permit from the TCEQ and a Section 404 permit from the Fort Worth District USACE. The permitting process requires numerous studies and coordination with state and federal agencies. As part of the permitting process, a mitigation plan would be required to compensate for impacts to waters of the U.S. (includes wetlands and streams). Permits for a new lake can take 10 to 20 years to obtain, pending public opposition.

Cost Analysis

Detailed cost estimates for this strategy were provided by the sponsor where available. These costs are more detailed estimates developed during planning and/or design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance.

Table G.15 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
NTMWD (only)	$1,176,874,000	$2.41	$0.46	H.58
Joint Project	$1,346,489,000	$2.85	$0.57	H.69
-NTMWD	*$797,167,000*	*$2.41*	*$0.46*	*H.69*
-UTRWD	*$549,322,000*	*$3.78*	*$0.78*	*H.69*

Water Management Strategy Evaluation

The proposed George Parkhouse Reservoir I (South) reservoir is a potentially feasible strategy for two water providers in the Metroplex. The available yield of the project is contingent upon other water supply development in the basin. This reservoir site has over 10,000 acres of vegetative coverage in bottomland hardwood forest or potential wetlands (marsh and seasonally flooded shrubland). The impacts to these resources would require mitigation and likely face opposition from the public and environmental groups.

The proposed reservoir would be located immediately downstream of an existing water source for both NTMWD and UTRWD. There may be potential to operate these lakes as a system for both supply and transport.

Water User Group Application

The George Parkhouse Reservoir I (South) strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

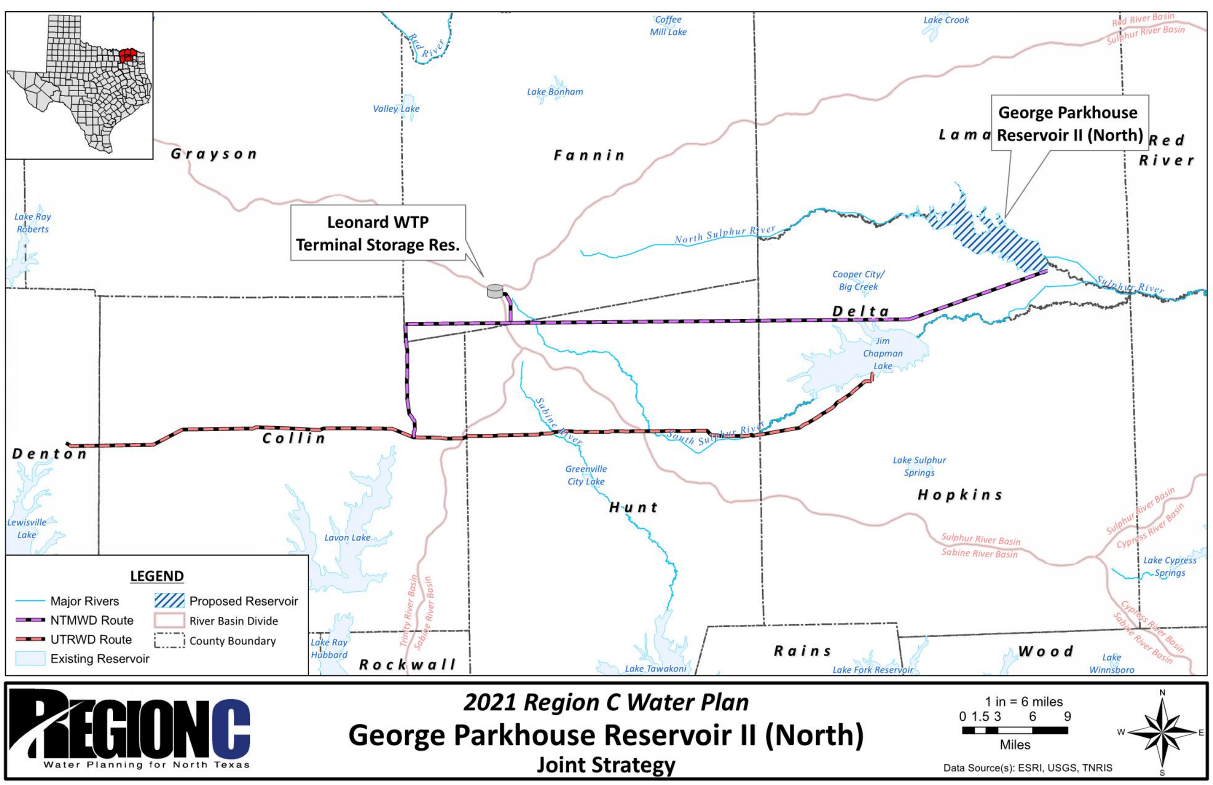
The potential sponsors of this strategy are NTMWD and UTRWD and their customers. This strategy is an alternative strategy for NTMWD and UTRWD.

G.3.2 George Parkhouse Reservoir II (North)

Potential Sponsor(s)	NTMWD and/or UTRWD
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	85,200 ac-ft /yr (76.0 MGD) for Region C Users
Implementation Decade:	2050
Strategy Capital Cost:	$1,099,808,000
Unit Water Cost ($/kgal)	$2.67 during Debt Service; $0.61 after Debt Service
Application:	Alternative

Strategy Description

George Parkhouse Reservoir II (North), also known as Parkhouse II, is a potential reservoir located on the North Sulphur River in Lamar and Delta Counties, about 15 miles southeast of the City of Paris as shown. This reservoir site was originally proposed as the second phase of the larger George Parkhouse Reservoir, also known as Sulphur Bluff. At a proposed conservation elevation of 410.0 ft MSL, the reservoir would store approximately 331,000 acre-feet of water and inundate 14,400 acres. This project is considered a potential strategy for NTMWD and UTRWD. It is assumed that the project will either be pursued solely by NTMWD or as a joint strategy with UTRWD. As a joint strategy, UTRWD would receive approximately one-third of the supply (up to 35,000 AFY) and NTMWD would receive the remaining two thirds. It is assumed that the total amount of supply assumed available to Region C users is approximately 80% of the project yield and 20% would remain within Region D for local use; however, the amount to remain for local use would likely be determined at the time of



TR116409: H:\WR_PLANNING\1 - Working\AppG\GeorgeParkhousReservoir(North)JointStrategy.mxd development. Pipelines and pump station(s) are included in both strategies to transport the supplies from the reservoir to the service area of the sponsor.

Facilities included in this strategy include both the proposed reservoir and the infrastructure needed to transport raw water to the Leonard Water Treatment Plant in Fannin County for NTMWD. For UTRWD, the transmission system delivers water to the Tom Harpool Water Treatment Plant and Lake Lewisville.

Supply Development (Quantity, Reliability, Quality)

Water supplies from George Parkhouse Reservoir II (North) were determined using a RiverWare model developed for the Sulphur Basin Feasibility Study (FNI June 2015). This model includes an estimate of the quantity of water needed to be passed for major downstream senior water rights. The RiverWare model includes hydrology from 1938 to 2014. This model was chosen because the extended hydrology includes the recent drought-of-record conditions. The hydrology for the TCEQ WAM is from 1940 to 1996 and does not include the recent droughts.

Environmental flows as specified under Senate Bill 3 have not been developed for the Sulphur Basin. Previous studies have used the Consensus Criteria for Environmental Flow Needs (CCEFN) or Lyons Method to estimate environmental flows. For this study, yields were evaluated using the CCEFN, as reported in the Site Protection Study (HDR et al. 2008). The new process set by Senate Bill 3 would result in different environmental releases and that could reduce the yields determined using the CCEFN.

Considerations regarding supplies from George Parkhouse Reservoir II (North) include:

- Lake Ralph Hall is located upstream of the project. This project has received a state water right from the TCEQ and has senior priority over George Parkhouse North. This reservoir is included in the hydrologic modeling used to develop the yields for this analysis.
- A portion of the yield of the project is reserved for local use in the Sulphur Basin. Assumptions used in analyses reserve 20% of the yield for local use.
- The project, if constructed, would have an impact on the yield of other projects being considered for development in the Sulphur Basin, including the proposed Marvin Nichols Reservoir and Lake Wright Patman reallocation. This impact was not assessed.

<u>Water Quantity</u>

With these assumptions, the firm yield of George Parkhouse Reservoir II (North) with CCEFN instream flow releases is estimated at 106,500 acre-feet per year. Of this amount, 85,200 acre-feet per year would be available to Region C. The remaining 20% of the yield would remain in the Sulphur Basin for local use. The yield of George Parkhouse Reservoir II (North) is contingent upon other water development in the Sulphur River Basin. If other downstream projects are permitted with a senior priority to George Parkhouse Reservoir II (North), then the yield would decrease. Previous studies have shown that the reduction in yield could be more than 70% (HDR et.al., 2008). This would likely make this project not economically viable for Region C providers.

This project could be developed in conjunction with George Parkhouse Reservoir I (South). The yield of the combined projects has not been assessed.

Imposition of different environmental flow criteria could also impact the reliable supply from the project.

Table G.16 Summary of Quantities

Description	Percent of Total	Quantity
Region C	80%	85,200
NTMWD (only)	100%	85,200
NTMWD (Joint)	67%	57,084
UTRWD (Joint)	33%	28,116
Local Use in Sulphur Basin	20%	21,300
Total		**106,500**

Reliability

The reliability of this supply would be moderately high. However, a drought worse than the drought of record could occur which could impact the reservoir yield.

Water Quality

The North Sulphur River and its tributaries are deeply incised and eroding. Current conditions are the result of channelization in the 1920s to early 1930s, which has caused accelerated erosion such that the river channel is now about 300 feet wide and 40 feet deep in some places. These drastic changes to the stream channel have resulted in an extremely flashy stream system with often little to no flow. Large flow events continue to erode the channel carrying heavy sediment loads which would accumulate in the proposed reservoir. The construction of Lake Ralph Hall would reduce some of this sediment transport downstream, but sediment loads into this alternative would still be relatively high.

The segment of the North Sulphur where Parkhouse North would be located has elevated chlorophyll-a levels. Also, a tributary to the proposed reservoir, Aud's Creek, has been listed for a concern for habitat and impaired macrobenthic community. The entire stretch of the North Sulphur River is listed as not fully supporting aquatic life (FNI, 2013). Aside from these impairments, the water in the North Sulphur is generally freshwater runoff. The watershed for George Parkhouse Reservoir II (North) is very similar to adjacent watersheds. Based on expected water quality parameters in Bois d'Arc Lake, total dissolved solids (TDS) levels are expected to be about 300 mg/L in Parkhouse North.

Environmental Considerations

The reservoir is a new source of surface water, therefore environmental impacts have the potential to be greater than other strategies utilizing existing sources.

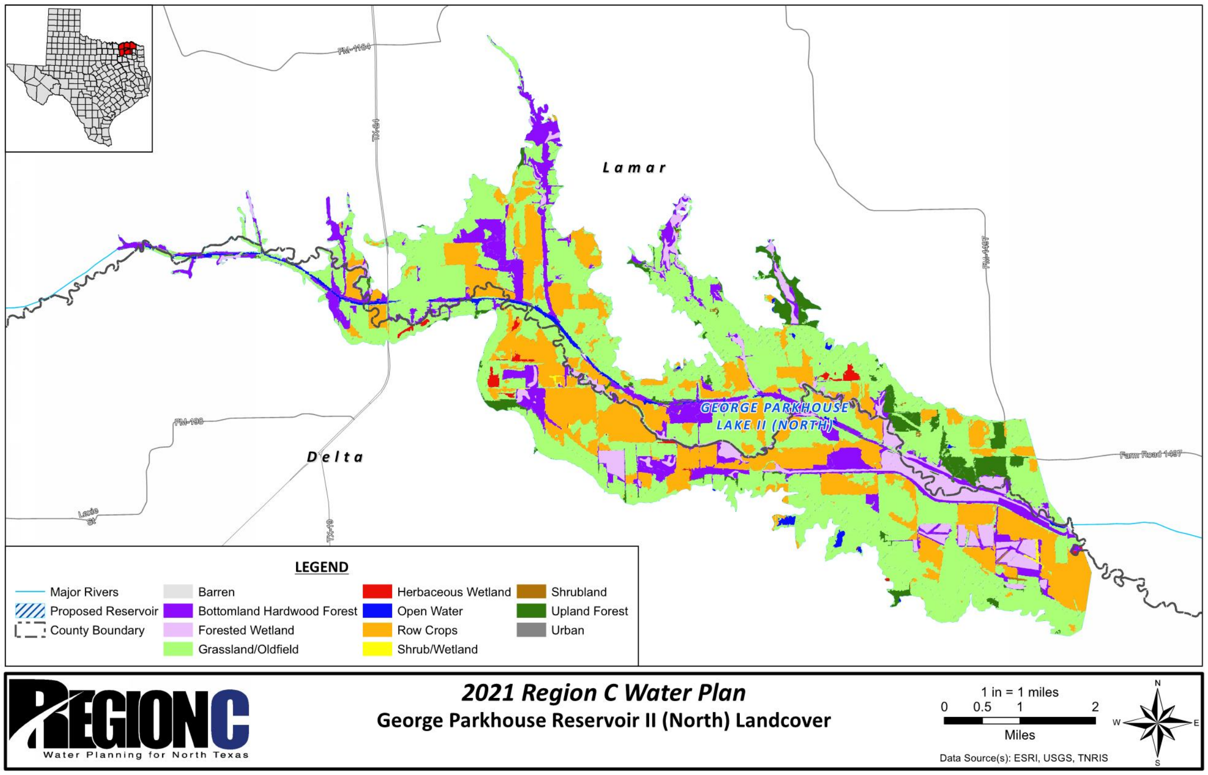
- **Habitat and Vegetative Cover.** Parkhouse North would inundate 14,400 acres and impact an additional 1,600 acres for construction of the dam, spillway, pump station and pipeline. **Figure G.2** shows different cover types within the impact area at Parkhouse North site (including the dam footprint), and **Table G.17** documents the estimated acreages of each cover type. Most of the land cover is grassland and agricultural lands. Approximately 3,076 acres are classified as bottomland hardwoods or forested wetlands. Using NHD stream data, approximately 93 miles of streams would be inundated. All data are based on desktop evaluations. Parkhouse North is upstream of priority 1 bottomland hardwoods in Red River County. Priority 1, as classified by USFWS, means excellent quality bottomlands of high value to key waterfowl species (USFWS, 1984). While these designated bottomland hardwoods are located approximately 27 miles to the east of the reservoir, further study would be needed to assess the potential indirect impacts of the proposed reservoir on these resources.

Table G.17 Vegetation Cover Types within Reservoir Footprint[a]

Type of Cover	Acres
Riparian Woodland/Bottomland Hardwood	1,960
Forested Wetland	1,116
Emergent/Herbaceous Wetland	91
Grassland/Old Field	7,718
Cropland	3,626
Shrub wetland	28
Evergreen forest Upland deciduous forest	602
Shrubland	19
Open water/Lacustrine	182
Urban	14
Total	*15,356*

[a]Environmental Evaluation Interim Report, Sulphur River Basin Comparative Assessment, June 2013

Figure G.2 Cover Types



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- **Threatened and endangered species**. There are 13 threatened or endangered species that are known to occur or have the potential to occur within Lamar and Delta counties. Of these species, four are federally listed and nine are state-listed. The three federally listed species: American Burying Beetle, Red Knot, Least Tern and Piping Plover have low to no potential to be negatively impacted by the proposed Parkhouse North reservoir. Of the state-listed species, there is a moderate potential that the reservoir could negatively impact the creek chubsucker and timber rattlesnake. No impact or low impact would be expected to the other species. The timber rattlesnake is listed as threatened by the TPWD and prefers moist lowland forests and hilly woodlands or thickets near streams. Within the Parkhouse North site, there are approximately 3,076 acres of bottomlands and forested wetlands that could provide habitat for this species. The creek chubsucker is a freshwater fish that prefers small rivers and creeks that are often highly vegetated. This species has potential to occur within the Parkhouse North area and is listed as threatened by the TPWD. This species seldom inhabits impoundments, such as ponds and lakes. Based on its preferred habitat, there are approximately 93 miles of potential stream habitats for the creek chubsucker within the Parkhouse North reservoir site (FNI, 2013).
- **Cultural resources**. Parkhouse North is located in an area with moderate potential for cultural resources. There are seven known cultural resource sites within the Parkhouse North site. Two sites are associated with the Caddo Nation and five sites are prehistoric. There is the possibility that one site may contain human remains. Several of these sites

have moderate to high potential for listing under the National Register of Historic Places (NRHP). Preliminary field investigations at the Lake Ralph Hall site, located 15 miles upstream of the Parkhouse North site, suggest that there is strong potential for unrecorded prehistoric and historic properties along the first terrace of the Sulphur River valley (Skinner et al, 2005). At this time no detailed cultural resource survey has been conducted at the Parkhouse North site.

Permitting and Development

To construct a new reservoir, both a state water right permit and a federal Section 404 permit are required. Parkhouse II also would require an interbasin transfer basin to move the water from the Sulphur River Basin to the Trinity River Basin. As part of the permitting process, a mitigation plan would be required to compensate for impacts to waters of the U.S. (includes wetlands and streams).

The permitting process for a new reservoir often takes 10 to 20 years, depending upon the permit requests, complexity of the project site, and potential opposition to the project. The project design and construction could then take an additional 5 to 10 years. Conservatively, the earliest this project could be developed is 2050.

Cost Analysis

Detailed cost estimates for this strategy were provided by the sponsor where available. These costs are more detailed estimates developed during planning and/or design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance.

Table G.18 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
NTMWD (only)	$930,193,000	$2.20	$0.50	H.57
Joint Project	$1,099,808,000	$2.67	$0.61	H.68
-NTMWD	*$630,075,000*	*$2.20*	*$0.50*	*H.68*
-UTRWD	*$469,733,000*	*$3.66*	*$0.83*	*H.68*

Water Management Strategy Evaluation

This project has the potential to produce a reliable source for Region C. The proposed George Parkhouse Reservoir II (North) reservoir is a potentially feasible strategy for two water providers in the Metroplex. The available yield of the project is contingent upon other water supply development in the basin. It is located near Lake Jim Chapman and Lake Ralph Hall, so it could be operated as a system with those sources.

Although this project has been considered for many years, it has not been studied in detail and a feasibility study is recommended before pursuing this project.

Water User Group Application

The George Parkhouse Reservoir II (North) strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

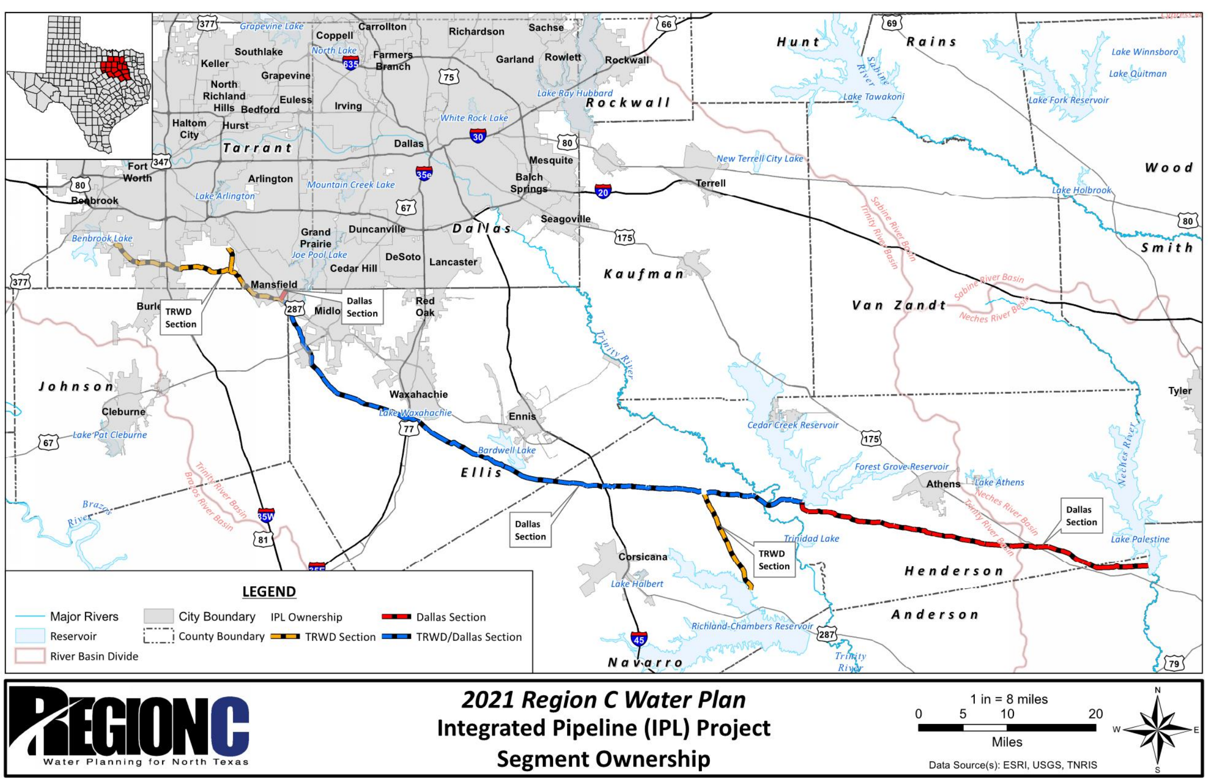
The potential sponsors of this strategy are NTMWD and/or UTRWD. This strategy is an alternative strategy for NTMWD and UTRWD.

G.3.3 Integrated Pipeline

Potential Sponsor(s):	TRWD and DWU
WMS/Project Type:	New Surface Water (Infrastructure)
Potential Supply Quantity:	313,880 acre-feet per year (Capacity) This is an infrastructure project that will transport supplies from multiple strategies for TRWD and DWU
Implementation Decade:	2030
Strategy Capital Cost:	$927,568,000
Unit Water Cost ($/kgal):	$1.88 during Debt Service and $0.89 after Debt Service
Application:	Recommended

Strategy Description

The Tarrant Regional Water District (TRWD) and Dallas Water Utilities (DWU) have partnered to construct and operate the Integrated Pipeline (IPL) Project. The IPL project is an integrated water delivery transmission system that extends from Lake Palestine to Benbrook Lake with connections to Cedar Creek and Richland-Chambers Reservoirs. The pipeline will have an ultimate capacity of approximately 350 MGD (200 MGD for TRWD and 150 MGD for DWU). Dallas's share of the project will deliver water from Lake Palestine and TRWD's share will deliver surface water and reuse supplies from Cedar Creek and Richland-Chambers Reservoirs.



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A portion of the IPL has been constructed and is currently delivering raw water to TRWD customers from the Richland-Chambers Reservoir. However, there is no infrastructure currently in place to transport DWU's supplies from Lake Palestine. Similarly, the Cedar Creek wetland has not yet been constructed, although supplies from the wetland will eventually be transported via the IPL as well.

This project addresses only the portions of the IPL that have not yet been completed and includes:

- Dallas Lake Palestine Pump Station (150 MGD with new intake)
- Dallas Pipeline Segment Section 19 (42.3 mile 84" Pipeline; Lake Palestine Pump Station to Cedar Creek Reservoir Connection)
- TRWD Richland-Chambers Pump Station (250 MGD ultimate design capacity)
- TRWD Pipeline Segment Section 9 (10.6 mile 84" Pipeline and 5 mile 120" tunnel; Kennedale Balancing Reservoir turn-out tee to existing Benbrook connection pipeline)
- TRWD Pipeline Segment Section 16 (12.3 mile 96" Pipeline; Joint Richland-Chambers Pump Station to JB2)
- TRWD Booster Pump Station (JB4 at 197 MGD)
- Shared Booster Pump Stations (JB2 and JB3 at 347 MGD). JB3 is existing however there will be a future expansion for additional pumps, motors, VFDs, and substation equipment.

Supply Development (Quantity, Reliability, Quality)

This project provides the infrastructure necessary to transport existing TRWD permitted water from Richland-Chambers and Cedar Creek Reservoirs and additional reuse supplies that will become available after the completion of the wetland project at Cedar Creek Reservoir (see TRWD Cedar Creek Wetlands Technical Memorandum). This joint project also includes the infrastructure needed to transport DWU's contracted water in Lake Palestine (see *DWU Connect to Bachman Technical Memorandum*).

Water Quantity

Since this project is addressing only the portions of the IPL that are not complete, the quantity of water represents the amount of TRWD water (both surface water and reuse supplies) that is not available today due to infrastructure constraints and future supplies to be developed. The quantities for future supplies are listed in **Table G.19** but are associated with the respective water management strategy. The future supplies include additional reuse from the Cedar Creek Wetlands, the reliable supply from DWU's contract for Lake Palestine water, and future developed water from the Neches Run-of-River strategy. The quantities of supplies available through this project are summarized in **Table G.19**.

Table G.19 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
TRWD Supplies - Additional Richland-Chambers Reservoir and Reuse	0	60,263	56,010	51,387	46,566	40,703
TRWD Supplies – Cedar Creek Wetland Reuse	0	38,323	55,807	70,819	83,870	88,059

Description	2020	2030	2040	2050	2060	2070
DWU Supplies - Lake Palestine	0	105,370	104,564	103,704	102,791	101,555
DWU Supplies—Neches Run-of-River	0	0	0	0	47,250	47,250

Supplies shown in gray are associated with the source water strategy. The IPL is a project that will move the water to its destination.

Reliability

The reliability of the source water is addressed under each strategy. The reliability of the IPL itself is high. Both TRWD and DWU have multiple sources of water and transmission systems to accommodate periodic downtimes for maintenance and/or repairs.

Water Quality

The water quality of the source water is expected to be good. There will be a review of the different sources to assess potential mixing concerns. Water from Lake Palestine is not intended to be stored but is planned to be delivered directly to a point upstream of Joe Pool Lake in Dallas.

Environmental Considerations

As previously noted, much of the IPL from TRWD's sources has been completed. Environmental studies for the remaining sections from Richland Chambers have been completed, and environmentally sensitive areas have been avoided. The environmental studies for the segment from Lake Palestine is on-going.

- **Habitat and Vegetative Cover**. Lake intake and transmission pipeline infrastructure were located to avoid conflicts with environmentally sensitive bottomland hardwoods and riparian areas in addition to ecologically significant stream sections. Where possible, the pipeline follows existing road rights-of-way or crosses areas of agricultural use.
- **Threatened and Endangered Species**. The project area includes 28 species that are federally or state listed as threatened or endangered or are federal candidate species in the counties for which the project is located. No designated areas of critical habitat currently occur within the project area.
- **Environmental Water Needs.** Implementation and operation of the IPL will have a very limited impact on daily flows since it will operate in accordance with authorized water right permits.
- **Wetlands.** Impacts to wetlands associated with this project are anticipated to be low.

Permitting and Development

This project would pose limited permitting challenges. A Section 404 permit from the USACE for impacts to a waterway from construction activities, such as the intake in Lake Palestine, would be needed for the construction of the diversion facilities and pipeline.

Cost Analysis

Detailed cost estimates for portions of the IPL were provided by TRWD where available. These costs are more detailed estimates developed during design and were used for the specific components. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs. Unit costs represent the cost to transport both current supplies that are limited by existing pipeline capacity and future supplies. These costs are based on the ultimate capacity of the Integrated Pipeline. It does not include transmission costs for portions of the project already constructed.

Unit costs are based on the full capacity of the pipeline. DWU has additional costs associated with connecting supplies from the IPL to their Bachman WTP that are not included in the costs below.

Table G.20 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
TRWD	$507,733,000	$0.95	$0.48	H.25
DWU	$419,835,000	$0.93	$0.41	
TOTAL	**$927,568,000**	**$1.88**	**$0.89**	

Water Management Strategy Evaluation

The IPL provides the means to use existing water supplies that are currently not available to TRWD or DWU because of infrastructure limitations. This project has minimal environmental impacts. Extensive environmental studies have been conducted or are on-going to identify potentially environmentally sensitive areas. Where possible, these areas have been avoided. The IPL also provides a means to share water resources between TRWD and DWU during emergencies or on an interim basis. This flexibility in operations, provided by the IPL, increases the resiliency of the source water.

Water User Group Application

The strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

The IPL Project is recommended by the Region C Regional Water Planning Group. The IPL Project is sponsored by TRWD and DWU and will serve the customers of both.

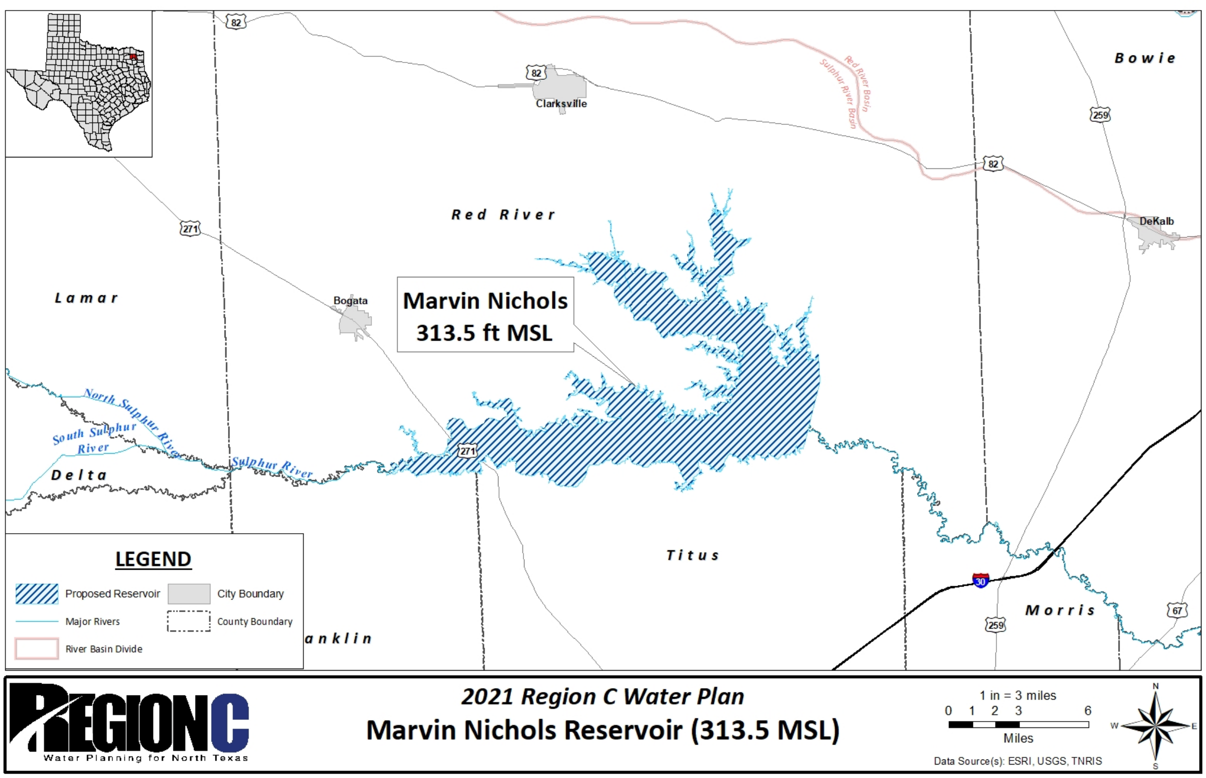
G.3.4 Marvin Nichols Reservoir Site 1A (313.5' MSL)

Potential Sponsor(s):	NTMWD, TRWD, UTRWD, DWU and/or Irving
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	235,200 acre-feet per year
Implementation Decade:	NA
Strategy Capital Cost:	$3,153,767,000
Unit Water Cost ($/kgal):	$3.18 during Debt Service; $0.97 after Debt Service
Application:	Potentially Feasible

Strategy Description

Marvin Nichols Reservoir (Site 1A) is a potential reservoir located on the Sulphur River in Titus and Red River Counties, about 45 miles west of Texarkana as shown. The reservoir, if constructed, would be approximately 100 miles from the Metroplex. A version of this project with a conservation elevation of 328 feet MSL has been included in every state water plan since 1968 (see Technical Memorandum for Marvin Nichols Reservoir 328 MSL). The strategy described in this memorandum evaluates a smaller reservoir footprint.

At a proposed conservation elevation of 313.5 feet MSL, the reservoir would store 744,300 acre-feet of water and impact 41,722 acres. The smaller Marvin Nichols reservoir could be pursued as a joint strategy or by an individual water provider. In the *2016 Region C Water Plan*, the smaller Marvin Nichols Reservoir was paired with reallocation of Lake Wright Patman for the "Sulphur Basin Supply Strategy".



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Supply Development (Quantity, Reliability, Quality)

The available supply from Marvin Nichols at 313.5 feet MSL was determined using a RiverWare model developed by the U.S. Army Corps of Engineers and modified to mimic the priority assumptions used in TCEQ's Sulphur River Basin water availability model (WAM). The USACE Model includes hydrology through 2014 and environmental flow releases determined using the Consensus method.

Considerations regarding supplies from Marvin Nichols include:

- Lake Ralph Hall is located upstream of the project. This project has received a state water right from the TCEQ and would have senior priority over Marvin Nichols Reservoir. This reservoir is included in the hydrologic model used to develop the yield of this project.
- A portion of the yield of the project is reserved for local use in the Sulphur Basin. Assumptions used in analyses for Region C reserve 20% of the yield for local use.
- Releases out of Marvin Nichols for environmental flows were based on the Consensus Criteria for Environmental Flow Needs (CCEFN) Method.
- The project, if constructed, would have an impact on the yield of other projects being considered for development in the Sulphur Basin, including the Lake Wright Patman reallocation.

Water Quantity

With these assumptions, the firm yield of Marvin Nichols at 313.5 feet MSL (with instream flow releases) is estimated to be 294,000 acre-feet per year. Of this amount, 235,200 acre-feet per year would be available to water providers in Region C. The remaining 20% of the yield would remain in the Sulphur Basin for local use. Also, if other proposed projects in the Sulphur River Basin are constructed prior to the Marvin Nichols Reservoir, this could have an impact to the quantity of available supply. Previous studies have shown that the reduction in yield could be approximately 25% if other new reservoirs are constructed prior to Marvin Nichols (HDR et al, 2008). The priority of reallocation of Wright Patman would also impact the available supply from this strategy.

If this strategy is pursued by a single provider, the supply would be delivered to Region C in two phases: Phase I would carry the first half of the yield (i.e., 120,000 acre-feet per year), and Phase II would carry the second half via a parallel pipeline. If this strategy is pursued as a joint strategy with multiple users, it may be constructed as a single phase.

Reliability

The Sulphur River Basin is in an area with average rainfall between 42 and 50 inches. The reliability of this supply would be moderately high. However, a drought worse than the drought of record could occur which could impact the reservoir yield.

Water Quality

There are no major impairments or concerns on the segment of the Sulphur River where Marvin Nichols would be located; however, Kickapoo Creek, a tributary to the Sulphur River within the footprint of Marvin Nichols, is listed for an impaired macrobenthic community (FNI, 2013). Inundation of the channel by the reservoir should serve to dilute the pollutants that may be affecting the macrobenthic organisms. There is also a concern for habitat and impaired macrobenthic community in Big Sandy Creek, a tributary of the North Sulphur River upstream of the reservoir. Existing impairments upstream are not currently affecting water quality in this reach, so they would not be expected to negatively impact the water quality of the reservoir (FNI, 2013).

Environmental Considerations

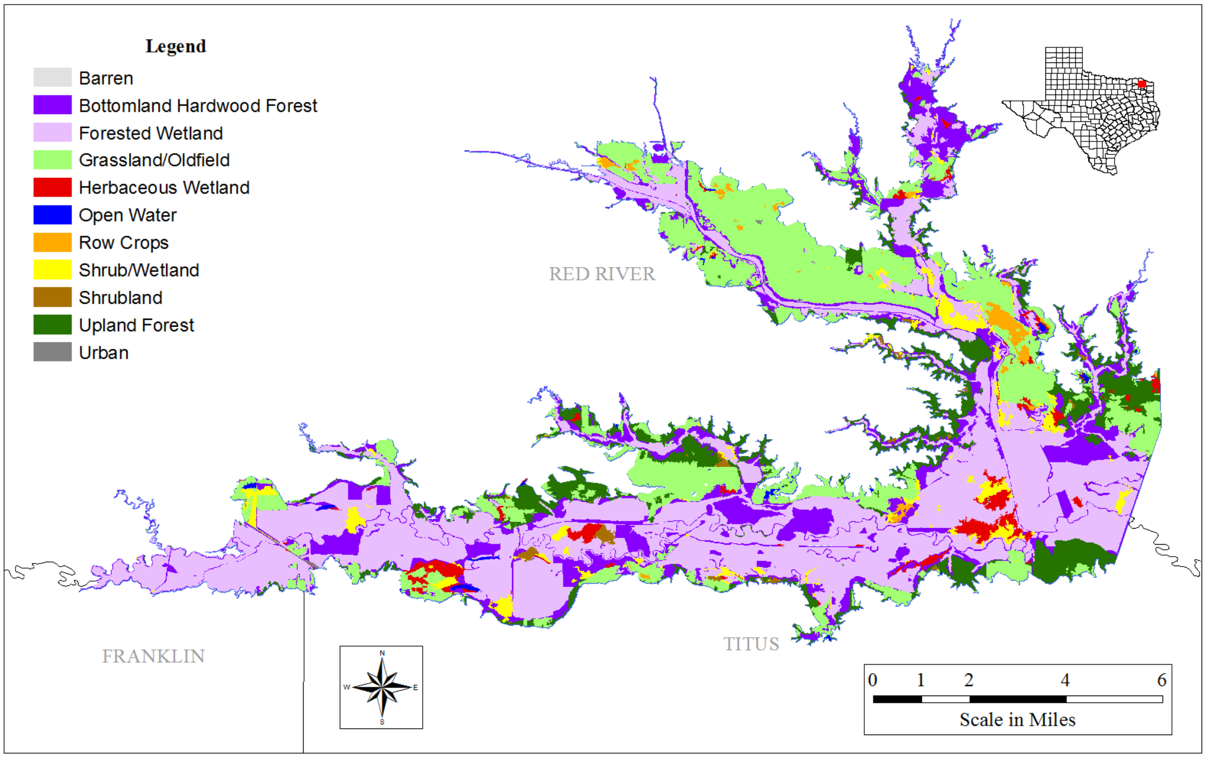
The reservoir is a new source of surface water, therefore environmental impacts have the potential to be greater than other strategies utilizing existing sources.

- **Habitat and Vegetative Cover**. Marvin Nichols Reservoir at 313.5 feet MSL would inundate 41,722 acres. The additional acres impacted by construction of the dam, spillway, pump station and pipeline were not available for this evaluation. Figure 2 shows different cover types within the impact area at the Marvin Nichols site, and Table 1 documents the estimated acreages of each cover type. Over 90% of the land cover is made up of four land use categories: forested wetland, grassland, bottomland hardwood forest, and upland forest. Approximately 24,591 acres are classified as bottomland hardwoods or forested wetlands. Using high resolution NHD stream data, approximately 322 miles of streams would be inundated at elevation 313.5 feet MSL. All data are based on desktop evaluations and have not been field verified. Priority 1 bottomland hardwoods are located within and downstream of the Marvin Nichols Reservoir site. Priority 1, as classified by USFWS, means excellent quality bottomlands of high value to key waterfowl species (USFWS, 1984). Further study would be needed to assess the potential indirect impacts of the proposed reservoir on the downstream bottomland hardwoods.

Table G.21 Vegetation Cover Types

Cover Type	Acres Impacted
Barren	1
Bottomland Hardwood Forest	6,880
Forested Wetland	17,711
Grassland/Oldfield	9,766
Herbaceous Wetland	931
Open Water	138
Row Crops	408
Shrub/Wetland	1,272
Shrubland	231
Upland Forest	4,344
Urban	40
Total	**41,722**

Figure G.3 Land Cover Types for Marvin Nichols at 313.5' MSL



- **Threatened and endangered species.** There are 17 threatened or endangered species that are known to occur or have the potential to occur within Titus and Red River counties. Of these species, four are federally listed and 13 are state-listed. The four federally listed species: American Burying Beetle, Red Knot, Least Tern and Piping Plover have low to no potential to be negatively impacted by the proposed Marvin Nichols Reservoir. Of the state-listed species, there is a moderate potential that the reservoir could negatively impact the Creek Chubsucker, the Northern Scarlet Snake, and the Timber Rattlesnake. No impact or low impact would be expected to the other species. The Timber Rattlesnake is listed as threatened by the TPWD and prefers moist lowland forests and hilly woodlands or thickets near streams. Within the Marvin Nichols site at 313.5 feet MSL, there are approximately 24,591 acres of bottomlands and forested wetlands that could provide habitat for this species. Northern Scarlet Snakes spend most of their lives underground in soils suitable for burrowing. This species is listed as threatened by the TPWD in Titus County. Within the Marvin Nichols site at 328.0 ft MSL, there are approximately 11,811 acres of shrubland, upland forest and grasslands that could provide habitat for the snake. The impacted habitat would be less with the smaller footprint. The Creek Chubsucker is a freshwater fish that prefers small rivers and creeks that are often highly vegetated. This species has potential to occur within the Marvin Nichols area and is listed as threatened by the TPWD. This species seldom inhabits impoundments, such as ponds and lakes. Based on its preferred habitat, there are approximately 322 miles of potential stream habitats for the Creek Chubsucker within the reservoir site of Marvin Nichols at 313.5 feet MSL (FNI, 2013).

- **Cultural Resources.** Marvin Nichols is located in an area with high potential for cultural resources. There are 66 known cultural resource sites within the full-sized Marvin Nichols site (i.e., up to elevation 328 feet MSL). Thirteen sites are associated with the Caddo Nation, 43 sites are prehistoric, 7 span more than one category, and 3 lack sufficient information to evaluate. Several of these sites have moderate to high potential for listing under the National Register of Historic Places (NRHP). No detailed cultural resource survey has been conducted at the Marvin Nichols site.

Permitting and Development

Feasibility studies have been conducted for the Marvin Nichols Reservoir, but no detailed field studies or permit applications have been submitted. To construct a new reservoir, both a state water right permit and a federal Section 404 permit are required. Marvin Nichols also would require an interbasin transfer permit to move the water from the Sulphur River Basin to the Trinity River Basin. Permits for a new lake can take 15 to 20 years or longer to obtain, pending public opposition.

Cost Analysis

Capital costs for this project are based on detailed costs developed for the Sulphur Basin Study and updated to September 2018 dollars. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance. The total costs were also developed assuming participation by all potential sponsors (NTMWD, TRWD, UTRWD, DWU and Irving).

Table G.22 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
TRWD	$1,215,250,000	$3.80	$1.15	H.22
DWU	$748,750,000	$3.19	$0.94	
NTMWD	$856,408,000	$2.56	$0.69	
UTRWD	$202,129,000	$2.77	$0.80	
Irving	$131,230,000	$3.80	$2.01	
Total	**$3,153,767,000**	**$3.18**	**$0.97**	

Water Management Strategy Evaluation

This strategy provides a reliable new source of fresh water supplies for Region C water providers at a reasonable cost. It is located near other existing water sources that could potentially be operated as a system. The smaller size reservoir would lend itself to development by an individual provider or as a joint strategy with other supplies in the Sulphur River Basin.

The challenges to this strategy are permitting and the current political opposition. There are nearly 19,000 acres of forested and emergent wetlands, and another nearly 7,000 acres of bottomland hardwoods. These natural resources are valuable to the local ecosystem and would require mitigation., A mitigation plan would be required to compensate for impacts to waters of the U.S. (includes wetlands and streams) as part of the permitting process. Based on recently permitted new reservoirs, the land required for mitigation is approximately equivalent to the total acreage of the proposed new reservoir (i.e., 1:1 ratio). The land most desirable for mitigation would be non-forested acreage that could be restored into emergent and forested wetlands and bottomland hardwoods.

Economic studies conducted as part of the Sulphur Basin Study show that the construction and operation of the reservoir would induce economic benefit to the local communities. The construction of the reservoir would provide a $1 billion economic benefit over the 3-year construction period and $37 million annually during operation (Freese and Nichols, 2014b).

Appendix Y of the 2016 Region C Water Plan (Freese and Nichols, 2016) contains additional information on the quantitative evaluation of this strategy. This evaluation was updated in this technical memorandum.

Water User Group Application

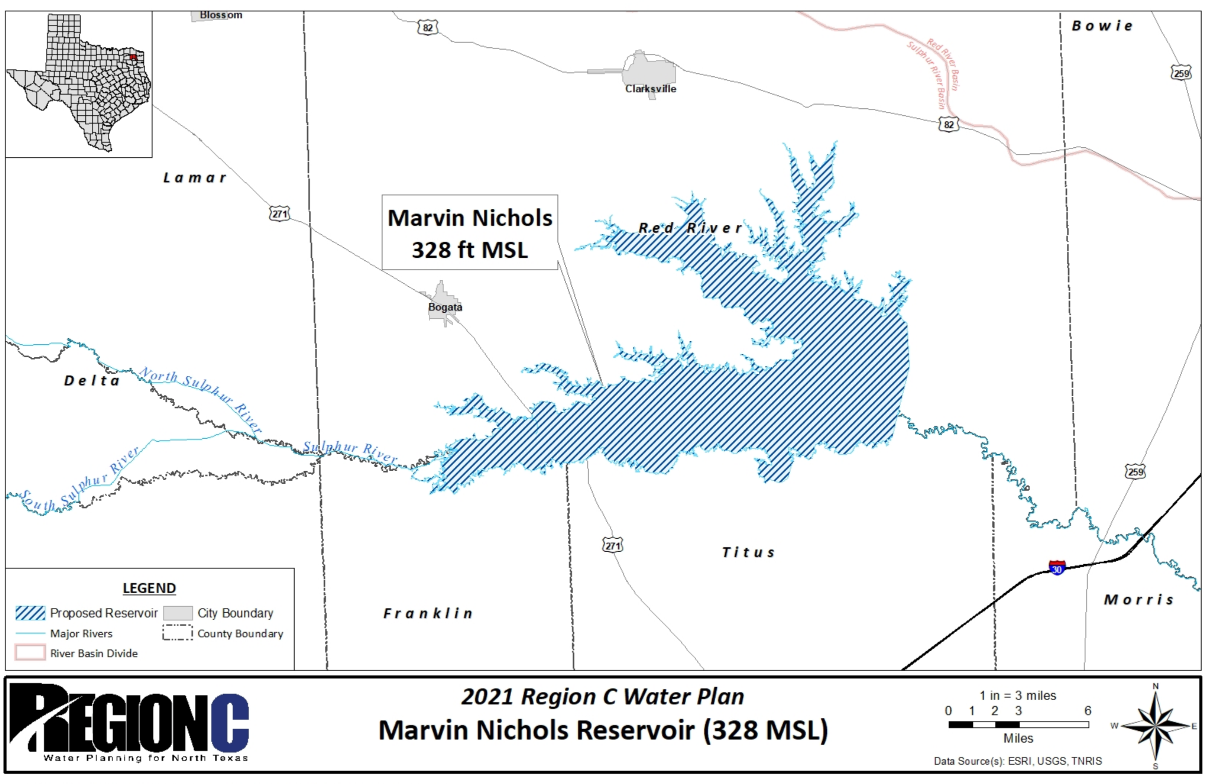
This strategy was considered for the major water providers in Region C. This is not a recommended or alternative strategy for any of the providers considered.

G.3.5 Marvin Nichols Reservoir Site 1A (328' MSL)

Potential Sponsor(s):	NTMWD, TRWD, UTRWD, DWU and/or Irving
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	361,200 acre-feet per year
Implementation Decade:	2050
Strategy Capital Cost:	$4,467,478,000
Unit Water Cost ($/kgal):	$2.67 during Debt Service; $0.57 after Debt Service
Application:	Recommended (NTMWD, TRWD, UTRWD) Alternative (DWU and Irving)

Strategy Description

Marvin Nichols Reservoir (Site 1A) is a potential reservoir located on the Sulphur River in Titus and Red River Counties, about 45 miles west of Texarkana as shown in Figure 1. The reservoir, if constructed, would be approximately 100 miles from the Metroplex. This strategy has been included in every state water plan since 1968. At a proposed conservation elevation of 328 feet MSL, the reservoir would store 1,532,000 acre-feet of water with a water surface area of 66,103 acres. This strategy has historically been developed as a joint strategy by several Metroplex water providers. A smaller version of this project with a conservation elevation of 313.5 feet MSL was also analyzed (see *Marvin Nichols Reservoir (313.5' MSL) Technical Memorandum*).



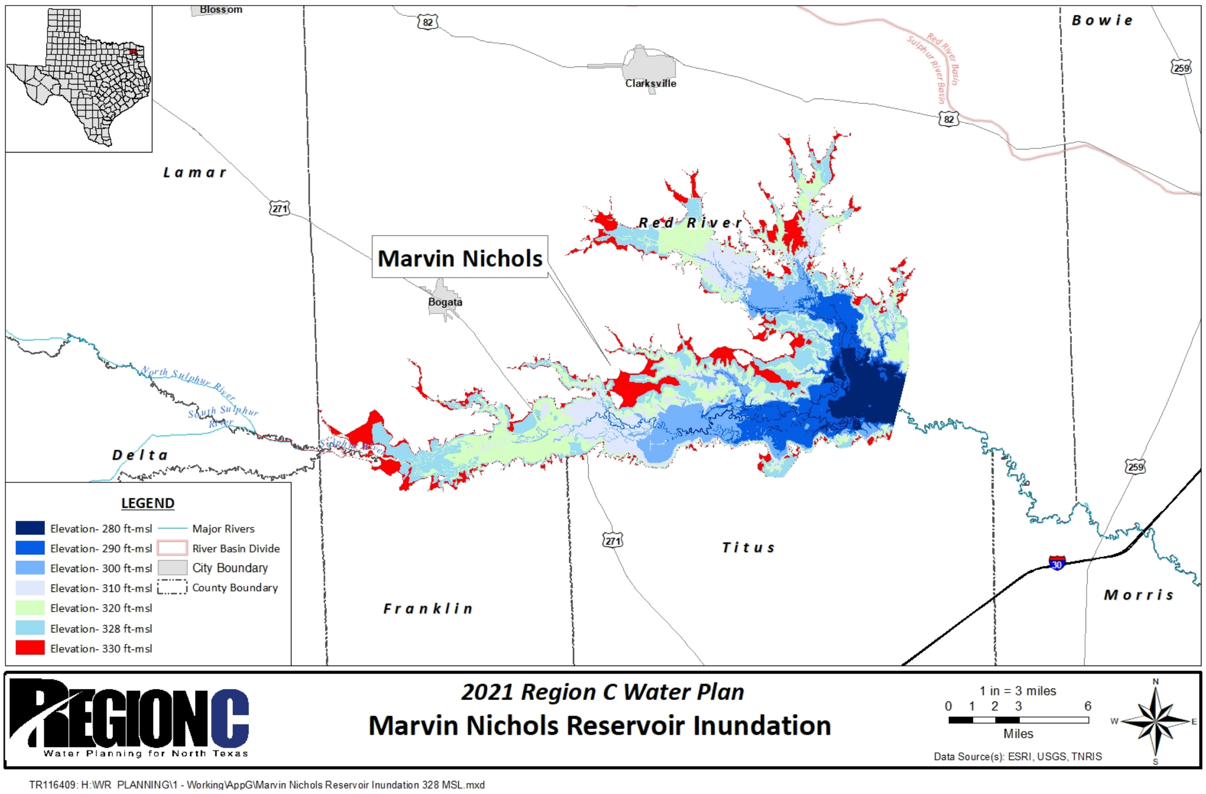
Supply Development (Quantity, Reliability, Quality)

The available supply from Marvin Nichols Reservoir at 328 feet MSL was determined using a RiverWare model developed by the U.S. Army Corps of Engineers and modified to mimic the priority assumptions used in TCEQ's Sulphur River Basin water availability model (WAM). The model was developed as part of the Sulphur River Basin Feasibility Study (FNI June 2015). This model has environmental flow bypasses based on the Consensus Criteria for Environmental Flow Needs (CCEFN), as calculated in the Reservoir Site Protection Study (HDR et al. 2008). The RiverWare Model includes hydrology from 1938 to 2014. This model was chosen because the extended hydrology includes the current drought of record which occurs after year 2000. The hydrology in the TCEQ WAM is from 1940 to 1996.

Considerations regarding supplies from Marvin Nichols Reservoir include:

- Lake Ralph Hall is located upstream of the project. This project has received a state water right from the TCEQ and would have senior priority over Marvin Nichols Reservoir. This reservoir is included in the hydrologic model used to develop the yield of this project.
- Twenty percent of the yield of the project is reserved for local use in the Sulphur Basin. This assumption has been used for other projects in the Sulphur Basin that could potentially supply Region C.
- Releases out of Marvin Nichols for environmental flows were based on CCEFN.
- The yield of the project assumed without consideration of other proposed Sulphur Basin projects, excluding Lake Ralph Hall. However, other projects being considered for development in the Sulphur Basin, including the Lake Wright Patman reallocation, could have an impact on the yield if permitted as senior to Marvin Nichols Reservoir.

Figure G.4 Inundation Map of Marvin Nichols Reservoir



Water Quantity

With these assumptions, the firm yield of Marvin Nichols Reservoir at 328 feet MSL (with CCEFN environmental flow releases) is estimated to be 451,500 acre-feet per year. Of this amount, 361,200 acre-feet per year would be available to water providers in Region C. The remaining 20% of the yield would remain in the Sulphur Basin for local use. Also, if other proposed projects in the Sulphur River Basin are permitted as senior to the Marvin Nichols Reservoir, this could have an impact to the quantity of available supply. Preliminary analyses indicate if the reallocation for Wright Patman was permitted prior to the Marvin Nichols Reservoir, the firm yield of Marvin Nichols would be reduced by more than 90,000 acre-feet per year. Application of different environmental flow requirements could also have an impact on project yield.

The supply from this strategy could be delivered to Region C in two phases: Phase I would carry the first half of the yield (i.e., 180,100 acre-feet per year), and Phase II would carry the second half via a parallel pipeline. Alternatively, since this is conceived as a joint strategy with multiple users, the project may be constructed as a single phase.

Table G.23 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Recommended Strategy						
TRWD	0	0	0	167,524	167,524	167,524
NTMWD	0	0	0	167,524	167,524	167,524
UTRWD	0	0	0	26,152	26,152	26,152

Description	2020	2030	2040	2050	2060	2070
Alternative Strategy						
TRWD	0	0	0	115,465	115,465	115,465
NTMWD	0	0	0	115,465	115,465	115,465
UTRWD	0	0	0	26,152	26,152	26,152
DWU	0	0	0	85,438	85,438	85,438
Irving	0	0	0	18,680	18,680	18,680
Total	***0***	***0***	***0***	***361,200***	***361,200***	***361,200***

Reliability

The Sulphur River Basin is in an area with average rainfall between 42 and 50 inches. The reliability of this supply would be high. However, a drought worse than the drought of record could occur which could impact the reservoir yield.

Water Quality

There are no major impairments or concerns on the segment of the Sulphur River where Marvin Nichols would be located; however, Kickapoo Creek, a tributary to the Sulphur River within the footprint of Marvin Nichols, is listed for an impaired macrobenthic community (FNI, 2013). Inundation of the channel by the reservoir should serve to dilute the pollutants that may be affecting the macrobenthic organisms. There is also a concern for habitat and impaired macrobenthic community in Big Sandy Creek, a tributary of the North Sulphur River upstream of the reservoir. Existing impairments upstream are not currently affecting water quality in this reach, so they would not be expected to negatively impact the water quality of the reservoir (FNI, 2013).

Environmental Considerations

The reservoir is a new source of surface water, therefore environmental impacts have the potential to be greater than other strategies utilizing existing sources.

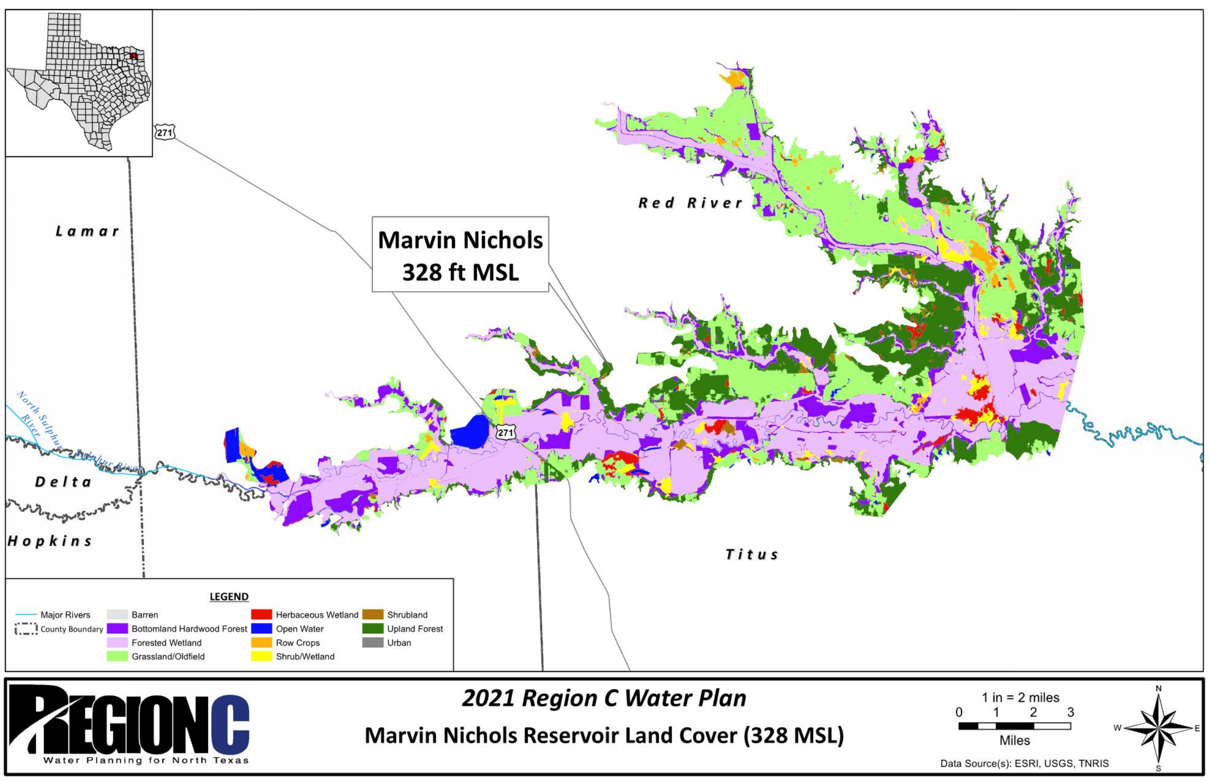
- **Habitat and Vegetative Cover.** Marvin Nichols Reservoir at 328 feet MSL would inundate 66,103 acres. The additional acres impacted by construction of the dam, spillway, pump station and pipeline were not available for this evaluation. Figure 3 shows different cover types within the impact area at the Marvin Nichols site, and Table 1 documents the estimated acreages of each cover type. Over 90% of the land cover is made up of four land use categories: forested wetland, grassland, bottomland hardwood forest, and upland forest. Approximately 31,600 acres are classified as bottomland hardwoods or forested wetlands. All data are based on desktop evaluations and have not been field verified. Priority 1 bottomland hardwoods are located within and downstream of the Marvin Nichols Reservoir site. Priority 1, as classified by USFWS, means excellent quality bottomlands of high value to key waterfowl species (USFWS, 1984). Further study would be needed to assess the potential indirect impacts of the proposed reservoir on the downstream bottomland hardwoods.

Table G.24 Vegetation Cover Types[a]

Cover Type	Acres Impacted
Barren	<1
Bottomland Hardwood Forest	10,156
Forested Wetland	21,444
Grassland/Old Field	18,241
Herbaceous Wetland	1,244
Open Water	1,162
Row Crops	706
Shrub Wetland	1,405
Shrubland	444
Upland Forest	11,223
Urban	78
Total	66,103

[a]*Watershed Overview Sulphur River Basin Overview Final Report January 2014*

Figure G.5 Land Cover Types



- **Threatened and endangered species.** There are 17 threatened or endangered species that are known to occur or have the potential to occur within Titus and Red River counties. Of these species, four are federally listed and 13 are state-listed. The four federally listed species: American Burying Beetle, Red Knot, Least Tern and Piping Plover have low to no potential to be negatively impacted by the proposed Marvin Nichols Reservoir. Of the state-listed species, there is a moderate potential that the reservoir could negatively impact the Creek Chubsucker, the Northern Scarlet Snake, and the Timber Rattlesnake. No impact or low impact would be expected to the other species. The Timber Rattlesnake is listed as threatened by the TPWD and prefers moist lowland forests and hilly woodlands or thickets near streams. Within the Marvin Nichols site, there are approximately 31,600 acres of bottomlands and forested wetlands that could provide habitat for this species. Northern Scarlet Snakes spend most of their lives underground in soils suitable for burrowing. This species is listed as threatened by the TPWD in Titus County. Within the Marvin Nichols site at 328.0 ft MSL, there are approximately 11,811 acres of shrubland, upland forest and grasslands that could provide habitat for the snake. The Creek Chubsucker is a freshwater fish that prefers small rivers and creeks that are often highly vegetated. This species has potential to occur within the Marvin Nichols area and is listed as threatened by the TPWD. This species seldom inhabits impoundments, such as ponds and lakes. Based on its preferred habitat, there are approximately 445 miles of potential stream habitats for the Creek Chubsucker within the reservoir site of Marvin Nichols (FNI, 2013).

- **Cultural Resources**. Marvin Nichols is located in an area with high potential for cultural resources. There are 66 known cultural resource sites within the Marvin Nichols site. Thirteen sites are associated with the Caddo Nation, 43 sites are prehistoric, seven span more than one category, and three lack sufficient information to evaluate. Several of these sites have moderate to high potential for listing under the National Register of Historic Places (NRHP). No detailed cultural resource survey has been conducted at the Marvin Nichols site.

Permitting and Development

Feasibility studies have been conducted for the Marvin Nichols Reservoir, but no detailed field studies or permit applications have been submitted. To construct a new reservoir, both a state water right permit and a federal Section 404 permit are required. Marvin Nichols also would require an interbasin transfer permit to move the water from the Sulphur River Basin to the Trinity River Basin. Permits for a new lake can take 15 to 20 years or longer to obtain, pending public opposition.

Cost Analysis

Capital costs for this project are based on detailed costs developed for the Sulphur Basin Study and updated to September 2018 dollars. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance.

Table G.25 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
Recommended Strategy				
TRWD	$2,360,638,000	$3.08	$0.68	H.20
NTMWD	$1,702,936,000	$2.17	$0.43	
UTRWD	$403,904,000	$3.33	$0.71	
Total	**$4,467,478,000**	**$2.67**	**$0.57**	
Alternative Strategy				
TRWD	$1,718,179,000	$3.39	$0.86	H.21
NTMWD	$1,230,629,000	$2.35	$0.53	
UTRWD	$295,944,000	$2.53	$0.60	
DWU	$1,092,760,000	$2.88	$0.71	
Irving	$180,439,000	$3.01	$1.35	
Total	**$4,517,951,000**	**$2.86**	**$0.73**	

Water Management Strategy Evaluation

This strategy provides a reliable new source of fresh water supplies for Region C water providers at a reasonable cost. It is located near other existing water sources that could potentially be operated as a system.

The challenges to this strategy are permitting and the current political opposition. Based on desktop analyses, there are approximately 24,000 acres of wetlands and another 10,000 acres of bottomland hardwoods. These natural resources are valuable to the local ecosystem and would require compensatory mitigation. A mitigation plan would be required to compensate for impacts to waters of the U.S. (includes wetlands and streams) as part of the permitting process. Based on recently permitted new reservoirs, the land required for mitigation is approximately equivalent to the total acreage of the proposed new reservoir (i.e., 1:1 ratio or more). The land most desirable for mitigation would be non-forested acreage that could be restored into emergent and forested wetlands and bottomland hardwoods.

Economic studies conducted as part of the Sulphur Basin Study show that the construction and operation of the reservoir would induce economic benefit to the local communities. The construction of the reservoir would provide nearly $1.5 billion economic benefit over the 3-year construction period and $52 million annually during operation (Freese and Nichols, 2014b).

Appendix J contains additional information on the quantitative evaluation of this strategy.

Water User Group Application

This strategy was considered for the major water providers in Region C. This strategy is a recommended strategy for NTMWD, TRWD, and UTRWD. It is an alternative strategy for NTMWD, TRWD, UTRWD, DWU and/or Irving.

G.3.6 Wright Patman Reallocation

Potential Sponsor(s):	NTMWD, UTRWD, TRWD, DWU and/or Irving
WMS/Project Type:	New Surface Water (Reallocation)
Potential Supply Quantity:	122,200 acre-feet per year
Implementation Decade:	2070
Strategy Capital Cost:	$1,645,711,000
Unit Water Cost ($/kgal):	$2.73 during Debt Service; $0.71 after Debt Service
Application:	Recommended (NTMWD, TRWD, UTRWD) Alternative (DWU and Irving)

Strategy Description

The Wright Patman Reallocation strategy involves development of new surface water supplies from the Sulphur River Basin through a reallocation of storage at Wright Patman Lake from its current purpose, flood control, to water conservation storage. The supply quantity and cost identified above are for a specific reallocation of Wright Patman at elevation 235 ft MSL. At that conservation pool elevation, the pool raise at Wright Patman Lake would inundate an additional 14,372 acres above the permitted conservation pool elevation (ultimate rule curve). Infrastructure would be developed to transport the water to the Region C water providers.

The Wright Patman Reallocation strategy is considered for NTMWD, UTRWD, TRWD, Dallas and the City of Irving. The water supplied is expected to serve customers of wholesale water providers in Region C and would also serve water needs in Region D.

Previously recommended or alternative Water Management Strategies from the Sulphur River Basin in past Region C Plans include: Marvin Nichols Reservoir, Wright Patman Lake (including reallocation of flood storage), Lake George Parkhouse North, and Lake George Parkhouse South. All of these reservoirs are located in the Region D (North East Texas) Regional Water Planning Area. Wright Patman Lake is an existing reservoir on the Sulphur River, about 150 miles from the Metroplex. It is owned and operated by the U.S. Army Corps of Engineers (USACE), and the City of Texarkana has contracted with the Corps of Engineers for storage in the lake and holds a Texas water right to use up to 180,000 acre-feet per year from the lake.

The Region C entities that are interested in development of Sulphur Basin Supplies (NTMWD, TRWD, Dallas, UTRWD, and Irving) have formed a Joint Committee on Program Development (JCPD). Since 2001, the JCPD has provided more than $7.9 million to the Sulphur River Basin Authority (SRBA) to further investigate the development of potential water supply sources in the Sulphur River Basin. Initial studies to optimize the specific combination of Wright Patman and Marvin Nichols in terms of cost, environmental, and social impacts were recently completed by the USACE, SRBA and the JCPD. At the direction of SRBA and the JCPD, these studies were developed to address concerns from Region D entities regarding the protection of natural resources, environmental impacts, and the socio-economic impacts of developing water supply within Region D and the Sulphur Basin. As a result, these studies have identified additional options for water supply in the Sulphur Basin that may address concerns from Region D and would also develop supply needed for Region C and Region D entities.

The 2014 Sulphur River Basin studies evaluated a total of sixty combinations of alternative scales and locations of new surface water development in the Sulphur Basin. Based on these analyses, the Fort Worth USACE recommended the reallocation of Wright Patman to 235 ft MSL and new storage at Marvin Nichols site for a conservation pool elevation of 328 ft MSL. This recommendation provides the desired quantity of water for Region C (approximately 600,000 AF/Y), while minimizing impacts to the White Oak Mitigation Area.

Supply Development (Quantity, Reliability, Quality)

The amount of supply available from Wright Patman was determined using a RiverWare model developed by the U.S. Army Corps of Engineers and modified to mimic the priority assumptions used in TCEQ's Sulphur River Basin water availability model (WAM). The model was developed as part of the Sulphur River Basin Feasibility Study (FNI, June 2015). This model has environmental flow bypasses based on the Consensus Criteria for Environmental Flow Needs (CCEFN), as calculated in the Reservoir Site Protection Study (HDR et al. 2008). The RiverWare Model includes hydrology from 1938 to 2014. This model was chosen because the extended hydrology includes the current drought of record which occurs after year 2000. The hydrology in the TCEQ WAM is from 1940 to 1996.

Considerations regarding Sulphur Basin Supplies include:

- Lake Ralph Hall is located upstream of the project. This project has received a state water right from the TCEQ and would have senior priority over Marvin Nichols Reservoir. This reservoir is included in the hydrologic model used to develop the yield of this project.
- Twenty percent of the yield of the reservoir project is reserved for local use in the Sulphur Basin. This assumption has been used for other projects in the Sulphur Basin that could potentially supply Region C.
- Releases out of Marvin Nichols and Wright Patman (only the portion for reallocation) for environmental flows were based on CCEFN.
- The yield of the project assumed senior priority over other proposed Sulphur Basin projects, excluding Lake Ralph Hall. However, other projects being considered for development in the Sulphur Basin, including Parkhouses I and II, could have an impact on the yield if permitted senior to either Marvin Nichols Reservoir or Lake Wright Patman reallocation.
- Yield for the Wright Patman reallocation assumed that the City of Texarkana would receive its full water right amount of 180,000 acre-feet per year that is associated with the Ultimate Rule Curve operation of Wright Patman.
- Sensitivity to project supplies was evaluated based on the order of priority between Marvin Nichols Reservoir and Lake Wright Patman.

Water Quantity

The firm yield with reallocation of Wright Patman to elevation 235 ft MSL, above the 180,000 acre-feet per year permitted to Texarkana, would be 122,200 acre-feet per year. It is assumed that all the reallocation supplies would be available to Region C providers. This reallocation would still increase the available reliable supply to Texarkana, which would become available to users in Region D.

These quantities assume that Marvin Nichols is permitted senior to Lake Wright Patman. If Lake Wright Patman is permitted as senior to the Marvin Nichols Reservoir, the supply from Wright Patman would increase to 228,600 acre-feet per year, but the supply from Marvin Nichols would decrease to 287,200 acre-feet per year. This represents a reduction of 57,900 acre-feet per year amount of supply, resulting in a combined yield of 515,800 acre-feet per year. Application of different environmental flow requirements could also have an impact on project yield.

Due to the impact to yield if Lake Wright Patman is senior to Marvin Nichols Reservoir, it is recommended that the project be developed with Marvin Nichols senior in priority. This does not require Marvin Nichols Reservoir to be constructed first. This order of priority can be accomplished through the water rights permitting process such that the Wright Patman reallocation is subordinated to Marvin Nichols Reservoir.

The supply from this strategy could be delivered to Region C in two phases: Phase I would likely develop the supplies from the Marvin Nichols Reservoir, and Phase II would carry the supplies from the Wright Patman Reallocation via a parallel pipeline. However, the components of this project could be constructed in reverse order or concurrently.

Table G.26 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Recommended Strategy						
TRWD	0	0	0	0	0	56,676
NTMWD	0	0	0	0	0	56,676
UTRWD	0	0	0	0	0	8,848
Alternative Strategy						
TRWD	0	0	0	0	0	39,064
NTMWD	0	0	0	0	0	39,064
UTRWD	0	0	0	0	0	8,848
DWU	0	0	0	0	0	28,904
Irving	0	0	0	0	0	6,320
Total	***0***	***0***	***0***	***0***	***0***	***122,200***

Reliability

The Sulphur River Basin is in an area with average rainfall between 42 and 50 inches. The reliability of this supply would be high. However, a drought worse than the drought of record could occur which could impact the reservoir yield. The development of Phase 2 could be delayed that could impact the timing of supplies.

Water Quality

There are no major impairments or concerns on the segment of the Sulphur River where Marvin Nichols would be located; however, Kickapoo Creek, a tributary to the Sulphur River within the footprint of Marvin Nichols, is listed for an impaired macrobenthic community (FNI, 2013). Inundation of the channel by the reservoir should serve to dilute the pollutants that may be affecting the macrobenthic organisms. There is also a concern for habitat and impaired macrobenthic community in Big Sandy Creek, a tributary of the North Sulphur River upstream of the reservoir. Existing impairments upstream are not currently affecting water quality in this reach, so they would not be expected to negatively impact the water quality of the reservoir (FNI, 2013).

Lake Wright Patman has been listed on the Texas 303(d) list since 1996. Some subsegments in the lake do not meet pH or dissolved oxygen (DO) criteria. Occasional fish kills have been attributed to low DO levels. There also has been concerns for chlorophyll-a, orthophosphorus, and total phosphorus. Increasing the water conservation pool will likely not improve or worsen current water quality issues since much of the source of the concerns are associated with the tributaries to the lake. Generally, this water source will continue to be a suitable municipal water supply (FNI, 2013).

Environmental Considerations

There are several environmental considerations associated with this joint strategy.

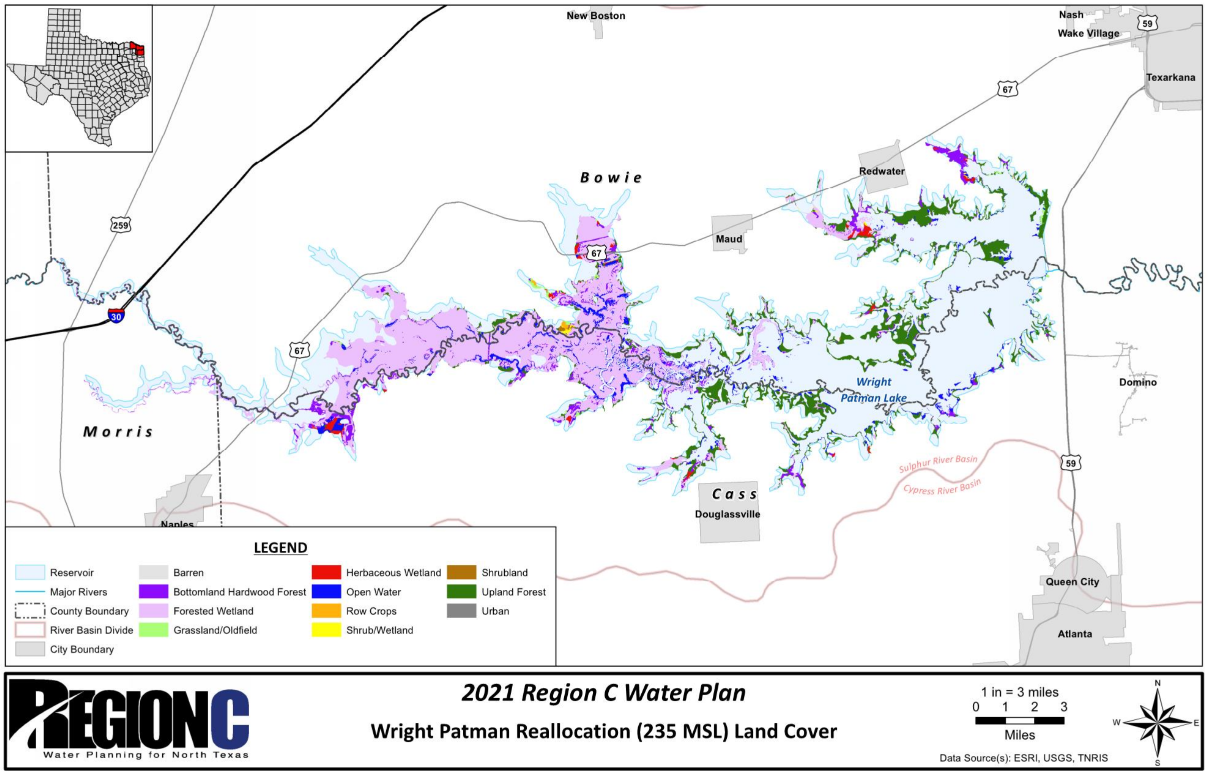
- **Habitat and Vegetative Cover.** Reallocated storage would permanently inundate agricultural, silvicultural, and natural resources. The pool raise at Wright Patman Lake would inundate an additional 14,327 acres above the ultimate rule curve conservation pool elevation. For the Wright Patman reallocation, the cover types were classified by the different types of bottomland forest wetlands (swamp, bottomland, seasonally flooded and temporarily flooded) and uplands, which are shown on **Table G.27**. These quantities are compared to the cover types and areas inundated under the Ultimate Rule Curve.

Table G.27 Vegetative Cover Type for Wright Patman Reallocation at 235' MSL[a]

Habitat	Wight Patman (URC)	Reallocation to 235' MSL	
		Remaining Habitat	Net Change
Open Water	36,870	51,242	14,372
Swamp	1,476	2,301	825
Bottomland	5,177	954	-4,223
Seasonally Flooded	20,629	19,273	-1,356
Temporarily Flooded	23,750	17,495	-6,255
Upland	17,704	17,898	194

[a]Sulphur Basin Study, Terrestrial habitat Modeling, September 2018
URC – Ultimate Rule Curve (elevation 228 ft)

Figure G.6 Vegetative Cover Types for Wright Patman Reallocation at 235' MSL



TR116409: H:\WR_PLANNING\1 - Working\AppG\WrightPatmanReallocation(235MSL)_LandCover.mxd

- **Threatened and Endangered Species**. There are three federally listed threatened and endangered species with the potential to occur within the counties in which this WMS is located: Red Knot, Least Tern and Piping Plover. There is low to no potential to impact any of these species from the construction of this project. There are no preferred habitats for the Least Tern, Red Knot, and Piping Plover within the project sites. In addition to these three species, there are 17 state listed species potentially occurring within the project counties (this includes the recently federally delisted bald eagle and black bear). Of these state-listed species, the western creek chubsucker, northern scarlet snake, and timber rattlesnake have moderate potential to be negatively impacted by the project. Further study would be needed to assess potential impacts, if any.
- **Cultural Resources.** A desktop assessment of the potential for cultural resources was conducted as part of the Sulphur Basin study. The Wright Patman reallocation would require additional cultural resources surveys. However, some of the areas have had surveys conducted as part of the initial development of the reservoir. Of the area for high potential for cultural resources, over half have been previously surveyed. There are approximately 150 known cultural resource sites, of which less than 50 have the potential for significance.
- **Other Considerations**. In addition to considerations of impacts to habitats and waters of the U.S., the reallocation of Wright Patman has the potential to impact the White Oak Creek Wildlife Management Area (WOCWMA). This site is located upstream of Lake Wright Patman and is designated as mitigation for the construction of Jim Chapman

Reservoir. At elevation 235 ft MSL, the increase in the conservation pool at Lake Wright Patman would increase water levels on approximately 450 acres of the WOCWMA and affect some riparian bottomland hardwoods. However, reallocation at this elevation would not affect the functioning of constructed wetland structures and would still allow the wetland structures to function as designed.

Permitting and Development

Reallocation at Wright Patman Lake on the scale envisioned in this strategy would require approval of the U.S. Congress. A new State water right and inter-basin transfer approval would be required from TCEQ in order to implement each component of the strategy. Depending upon the timing of development, each component could be permitted separately or as a joint project.

Cost Analysis

This planning level opinion of costs has been developed using the TWDB's costing tool, except where more detailed cost analysis has been provided by the WUG or WWP. The costs developed for the Sulphur Basin study were the basis of this cost update for the increased storage at Lake Wright Patman (FNI, 2014b). Transmission costs were updated to reflect updated quantities and delivery points using the TWDB costing tool.

Table G.28 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
Recommended Strategy				
TRWD	$765,040,000	$2.78	$0.75	H.23
NTMWD	$730,827,000	$2.56	$0.63	
UTRWD	$149,844,000	$3.51	$0.91	
Total	**$1,645,711,000**	**$2.73**	**$0.71**	
Alternative Strategy				
TRWD	$559,629,000	$3.12	$0.95	H.24
NTMWD	$534,229,000	$2.84	$0.78	
UTRWD	$103,292,000	$2.48	$0.76	
DWU	$397,470,000	$2.98	$0.91	
Irving	$49,834,000	$4.27	$3.18	
Total	**$1,644,454,000**	**$3.01**	**$0.99**	

Water Management Strategy Evaluation

This strategy provides a reliable new source of fresh water supplies for Region C water providers at a reasonable cost. It is located near other existing water sources that could potentially be operated as a system.

The challenges to this strategy are permitting and the current political opposition. Based on desktop analyses, there are approximately 34,500 acres of wetlands and another 10,000 acres of bottomland hardwoods. While impacts to the WOCWMA are minimized, there is uncertainty regarding mitigating for any impacts to an existing mitigation site. These natural resources are valuable to the local ecosystem and would require compensatory mitigation. A mitigation plan would be required to compensate for impacts to waters of the U.S. (includes wetlands and streams) as part of the permitting process. Based on recently permitted new reservoirs, the land required for mitigation is approximately equivalent to the total acreage of the proposed new reservoir (i.e., 1:1 ratio or slightly more). For compensation for impacts to high quality resources, the mitigation requirements may be slightly greater. The land most desirable for mitigation would be non-forested acreage that could be restored into emergent and forested wetlands and bottomland hardwoods.

Reallocation of Lake Wright Patman would be sponsored by the USACE and would require additional environmental studies. Currently, the USACE is reluctant to approve reallocations of flood storage to water conservation storage. Further study would be needed to ensure that there is no increase in flooding risks after reallocation.

Economic studies conducted as part of the Sulphur Basin Study show that the construction and operation of the Marvin Nichols Reservoir would induce economic benefit to the local communities. The construction of the reservoir would provide nearly $1.5 billion economic benefit over the 3-year construction period and $52 million annually during operation (Freese and Nichols, 2014b). Positive economic benefits are also expected for the construction and operation of the Lake Wright Patman reallocation. This project would also restore the full water right for the City of Texarkana, which is now limited by current operations (the interim rule curve).

Water User Group Application

The Wright Patman Reallocation strategy was considered for Dallas Water Utilities (DWU), Tarrant Regional Water District (TRWD), City of Irving (Irving), Upper Trinity Regional Water District (UTRWD), North Texas Municipal Water District (NTMWD), and various Region D WUG's. This strategy is a recommended strategy for TRWD, NTMWD, and UTRWD. This strategy is an alternative strategy for TRWD, NTMWD, UTRWD, DWU, and Irving.

G.3.7 Water from Oklahoma

Potential Sponsor(s):	NTMWD, UTRWD, Irving
WMS/Project Type:	New Surface Water (Purchase)
Potential Supply Quantity:	Up to 50,000 acre-feet per year (45 MGD)
Implementation Decade:	2070
Strategy Capital Cost:	Varies
Unit Water Cost ($/kgal):	Varies
Application:	Recommended (NTMWD) and Alternative (UTRWD and Irving)

Strategy Description

Several wholesale water providers in the Metroplex have been pursuing the purchase of water from Oklahoma. At the present time, the Oklahoma Legislature has established a moratorium on the export of water from the state. Previously, the Tarrant Regional Water District pursued a case in Federal Court to determine whether this moratorium could be overturned, and the Supreme Court subsequently ruled in favor of Oklahoma. For the long term, Oklahoma remains a potential source of water supply for Region C.

There are multiple sources of Oklahoma water that have been evaluated in previous studies. These sources include Lake Hugo, Kiamichi River, Boggy Creek, Cache Creek and Beaver Creek. Since this strategy would not be implemented for several decades, the source of water will be simply defined as Oklahoma water. For purposes of developing a cost estimate, it is assumed that the water would be taken from the Kiamichi River in southeastern Oklahoma, just north of the Texas-Oklahoma state line. For planning purpose, the strategy is evaluated for 50,000 acre-feet per year. Pending future agreements with Oklahoma, the ultimate amount of water from Oklahoma may be greater.

This strategy was evaluated for three wholesale water providers in Region C: NTMWD, UTRWD, and the City of Irving. It is assumed that if this strategy is pursued, it would be developed individually by each provider. As such, the infrastructure and delivery location will be unique to each provider. For all providers, a new river diversion and pump station would be constructed on the Kiamichi River just upstream of the confluence with the Red River. A transmission pipeline would be tunneled beneath the Red River, and then installed to the final delivery location. **Table G.29** shows the delivery locations for each water provider.

Table G.29 Water Provider and Delivery Location

Water Provider	Delivery Location
NTMWD	Bois d'Arc Lake
UTRWD	Lake Lewisville
Irving	Lake Lewisville

Supply Development (Quantity, Reliability, Quality)

Previous studies and the Oklahoma State Water Plan have shown substantial amounts of water is available in the Kiamichi watershed.

Water Quantity

Lake Hugo has a storage capacity of 157,600 acre-feet at conservation pool. The Kiamichi watershed encompasses approximately 1,830 square miles, of which some is regulated through existing lakes. No yield analyses were conducted for the supplies. It is assumed based on the Oklahoma Resource Board assessment of water supplies that there is 50,000 acre-feet per year or more water available to other users at this location. The quantity of supplies for each strategy is summarized in **Table G.30**.

Table G.30 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
NTMWD	-	-	-	-	-	50,000
UTRWD	-	-	-	-	-	10,000
Irving	-	-	-	-	-	25,000

Reliability

The water from Oklahoma is expected to be highly reliable. Historically these supplies have been reliable, however increased use in Oklahoma might change this. Additionally, there is always the potential that a new drought could occur that would reduce the supplies, but the quantity used in this evaluation is less than the firm yield. An availability analysis would be required prior to implementation. The greatest potential to reliability is a changing political climate that may impede out-of-state water sales.

Water Quality

Water quality in Lake Hugo and the lower Kiamichi River watershed is generally good. Main issues are turbidity (average turbidity is 36 NTU) and pH (6.3-8.3 pH units).

Environmental Considerations

Environmental studies will need to be conducted before construction begins on any of the strategies.

- **Habitat and Vegetative Cover.** Impacts to environmentally sensitive areas along the pipeline route should be minimal and would be avoided where possible. Lake intake and transmission pipeline infrastructure would be located to avoid conflicts with environmentally sensitive areas in addition to ecologically significant stream sections. Where possible, the pipeline follows existing road right-of-ways or crosses areas of agricultural use. Impacts to the Red River are avoided by tunneling beneath the river. This strategy proposes to transfer the water to existing lakes. Care should be taken to minimize the transfer of invasive species, especially since this water crosses state lines. If the placement of water into an existing lake becomes a concern, the water could be delivered directly to the intake at the receiving lake.
- **Threatened and Endangered Species**. The project area includes 19 species that are federally or state listed as threatened or endangered or are federal candidate species in the counties for which the project is located. No designated areas of critical habitat currently occur within the project area.

- **Environmental Water Needs**. Implementation and operation of the strategies will have a limited impact on daily flows since the strategies will operate in accordance with authorized water right permits.
- **Wetlands.** Impacts to wetlands associated with this project are anticipated to be low.

Permitting and Development

Permitting and development of Oklahoma water has been an obstacle to developing this strategy. Currently Oklahoma has moratorium for export of water out of state. This includes both sales of water that is already permitted and new water right permits.

There are also several issues beyond the moratorium:

- The Chickasaw and Choctaw Indian Nations have asserted legal claims to water in southeastern Oklahoma. Neither tribe has asserted their claims in court but may do so in the future.
- Oklahoma City has filed permit applications for water from the Kiamicihi River basin. The courts will have to assess the impact of intrastate needs in conjunction with the interstate permit applications filed by Texas entities.
- The use of Oklahoma water in Texas has no precedence in Texas Water law or TCEQ rules.

A new water right requires the granting of this right by the Oklahoma Water Resource Board. Alternatively, water could be sold directly from an existing water right holder, such as the City of Hugo or others. The river diversion and transmission pipeline would require a federal Section 404 permit. Since this water originates outside of Texas, an interbasin transfer permit is not required by TCEQ.

The public and political opposition to this strategy effectively limits development opportunities in the near future. It is expected that this opposition will subside over time. Another major obstacle is the federal Lacey Act that prohibits the transference of invasive species across state lines. This could be addressed through changes in legislation. The resolution of these development issues will likely take some time. As a result, this strategy is considered for implementation by 2070.

Cost Analysis

TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Table G.31 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
NTMWD	$259,924,000	$1.30	$0.43	H.49
UTRWD	$150,183,000	$3.56	$1.06	H.65
Irving	$272,247,500	$2.12	$0.30	H.96

Water Management Strategy Evaluation

This strategy provides a reliable water supply in close proximity to other existing water sources for the identified potential sponsors. There are minimal environmental concerns with the intake and pipeline. The challenges with this strategy are the development issues, including the political moratorium on out-of-state water sales and the Lacey Act. Under the Lacey Act, it is unlawful to import, export, sell, acquire or purchase fish, wildlife or plants that are taken, possessed, transported, or sold: 1) in violation of U.S. or Indian law, or 2) in interstate or foreign commerce involving any fish, wildlife, or plants taken, possessed or sold in violation of State or foreign law. Since there is considerable uncertainty as to when these obstacles could be overcome, this strategy cannot be counted on for near-term water supplies.

Water User Group Application

The Oklahoma strategies were evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which they may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

The Oklahoma Strategy for NTMWD is recommended and all of the remaining Oklahoma Strategies are recommended to remain as alternative strategies by the Region C Regional Water Planning Group.

G.3.8 Lake Texoma Supplies

Potential Sponsor(s)	DWU, GTUA, NTMWD, UTRWD, and Denison
WMS/Project Type:	New Surface Water (Desalination/Blending)
Potential Supply Quantity:	Varies.
Implementation Decade:	Varies.
Strategy Capital Cost:	Varies.
Unit Water Cost ($/kgal)	Varies.
Application:	Varies.

Strategy Description

Lake Texoma is an existing Corps of Engineers reservoir on the Red River on the border between Texas and Oklahoma. The reservoir is about 50 miles from the Metroplex. The lake is used for water supply, hydropower generation, flood control, and recreation. In Texas, the North Texas Municipal Water District (NTMWD), the Greater Texoma Utility Authority (GTUA), the City of Denison, Texas Utilities (TXU), and the Red River Authority (RRA) have contracts with the Corps of Engineers and Texas water rights allowing them to use water from Lake Texoma.

Water from Lake Texoma is brackish, which means that the use of Texoma water requires the water to be blended with a freshwater source or desalinated. This has historically limited the amount of water that is used from Lake Texoma, either due to limited quantities of fresh water for blending or operational constraints for desalination. The water rights for each entity is summarized in **Table G.32**. GTUA has contracted their water right to several entities within the region. Currently the only entities that have the transmission infrastructure to access these supplies through GTUA is Sherman and Denison.

Table G.32 Lake Texoma Region C Water Rights

Entity	Water Right Yield (AFY)	Constraint
NTMWD	**197,000**	**Must blend with other supplies due to quality (4:1 Blending Ratio).**
GTUA	**83,200**	**Limited by the Sherman Desalination Plant Capacity.**
Collinsville	*1,130*	*No transmission infrastructure.*
Denison	*12,204*	*Limited by plant capacity and quality. This is in addition to Denison's own right.*
Gainesville	*12,204*	*No transmission infrastructure.*
Gunter	*1,130*	*No transmission infrastructure.*
Lake Kiowa	*848*	*No transmission infrastructure.*
Lindsay	*1,695*	*No transmission infrastructure.*
Marilee SUD	*2,260*	*No transmission infrastructure.*
NWGCWCID #1	*678*	*No transmission infrastructure.*
Pottsboro	*5,650*	*No transmission infrastructure.*
Sherman	*37,209*	*Limited by the Sherman Desalination Plant Capacity.*

Entity	Water Right Yield (AFY)	Constraint
Southmayd	*565*	*No transmission infrastructure.*
Two Way SUD	*2,260*	*No transmission infrastructure.*
Whitesboro	*2,260*	*No transmission infrastructure.*
Woodbine	*848*	*No transmission infrastructure.*
Denison	**24,400**	**Limited by Plant capacity and quality. This is in addition to supplies contracted with GTUA.**
TXU	**16,400**	**Existing facility is not operational at this time.**
RRA	**2,250**	

Dallas (DWU) and Upper Trinity Regional Water District (UTRWD) have expressed interest in developing supplies from Lake Texoma. However, all of the currently authorized storage in the lake is contracted with other users. To obtain additional water from Texoma, there are two possibilities:

(1) Additional reallocation of hydropower storage to water supply in Lake Texoma. According to the Corps of Engineers, the firm yield of Lake Texoma with all hydropower storage reallocated to water supply would be 1,088,500 acre-feet per year. Texas' share would be 544,250 acre-feet per year, leaving about 220,000 acre-feet per year of additional supply available to Texas (beyond the supplies already contracted for the currently authorized reallocation). Further reallocation would require a new authorization by Congress.

(2) Texas water providers could contract directly with Oklahoma for supply from the Oklahoma share of Texoma. There are political issues with this option that are discussed in more detail under the *Water from Oklahoma Technical Memorandum* included within this appendix.

Due to the proximity of Lake Texoma to the Metroplex and the individual needs of the Region C water providers, there are multiple strategies that propose to use water from Lake Texoma.

Supply Development (Quantity, Reliability, Quality)

Water Quantity

The amount of water available for each of the Texoma blending strategies is highly dependent upon the water quality of Lake Texoma and the fresh water source. For NTMWD, there are three potential sources of water for blending: Bois d'Arc Lake, Marvin Nichols Reservoir, and Wright Patman Reservoir reallocation. All of these sources are expected to have good quality water with TDS levels at 300 mg/l or less. If all of the blending strategies are implemented, then there will be minimal remaining permitted supplies available for the desalination strategy and additional supplies would need to be permitted and/or contracted for. The blending source for UTRWD includes Marvin Nichols Reservoir and Wright Patman Reservoir reallocation. Considering these sources, a blend ratio of 3:1 is assumed to be achievable. However, operational testing after implementation would be needed to verify this assumption.

For desalination strategies, a portion of the Texoma source water would be discharged as waste. Loss amounts from the desalination process could range from 15% to 25%, depending on the quality of the incoming water. For this analysis, the loss from the treatment process is assumed to be 20%. To minimize the amount of reject water, the desalinated water could be blended back with non-treated or conventionally treated Texoma water.

A summary of the quantities of Texoma water for each strategy is shown in **Table G.33**.

Table G.33 Summary of Quantities

Sponsor	WMS	Blend Water	Texoma Raw (af/y)	2020	2030	2040	2050	2060	2070
NTMWD	Blending	Bois d'Arc Lake	40,000	-	-	39,571	39,333	38,600	37,867
		Marvin Nichols	56,000	-	-	-	55,841	55,841	55,841
		Wright Patman	19,000	-	-	-	-	-	18,892
		Total	***115,000***	***-***	***-***	***39,571***	***95,574***	***95,308***	***113,933***
	Desal	NA	40,000	-	-	-	-	-	33,630
GTUA	Desal	NA	42,000	297	14,648	22,762	23,178	34,677	35,872
DWU	Desal	NA	175,000	-	-	-	-	-	146,000
UTRWD	Blending	Sulphur Basin	25,000	-	-	-	-	-	25,000
Denison	Desal	NA	10,000	-	-	-	-	-	7,847

Reliability

Lake Texoma is a reliable source for water supply. NTMWD, GTUA and Denison hold the water rights to this source. Blending of Texoma water is as reliable as the fresh water source. If there is a decrease in available fresh water, then the amount of water Texoma will also decrease. For UTRWD and DWU, there is considerable uncertainty regarding reallocation of Texoma water for municipal water supply.

There is some uncertainty regarding the ability to desalinate and dispose of the large quantities of reject water. The technology to dispose of large quantities of saline waste for an inland desalination project is uncertain. For these strategies, it is assumed that the disposal will be by deep well injection. No hydrogeologic studies have been conducted to identify a suitable formation is to receive this quantity of water. If the sponsor cannot locate suitable disposal sites nearby, the quantity available from this alternative could be considerably smaller and/or considerably more expensive.

Water Quality

The lake has elevated levels of dissolved solids, and the water must be blended with higher quality water or desalinated for municipal use. The elevated dissolved solids in Lake Texoma would have some environmental impacts whether the water is used by blending or desalination. Use for most Region C needs will require an interbasin transfer permit. Blending water from Lake Texoma with water from other sources provides an inexpensive supply for Region C.

Desalination provides treated water but is a more expensive strategy, and there are uncertainties in the long-term costs.

Environmental Considerations

The reservoir is an existing source of water, therefore environmental impacts are limited. The primary environmental impacts of this project are associated with the pipeline, pump station, terminal storage reservoir, desalination plant and the carbon emissions associated with the electricity needed to pump the water. Additionally, for the blending strategies, there is the potential to transfer invasive species (zebra mussels) from Texoma. Infrastructure can be designed or improved in a way to minimize such transfers, however. Impacts of increased demand on Lake Texoma would also occur but have not been evaluated.

- **Vegetative Cover.** No detailed studies have been conducted of the vegetative cover for this alternative. The location of the proposed infrastructure generally lies within urban and rural areas. The proposed pipelines could be routed to avoid highly sensitive environmental areas. There are numerous stream crossings to move the water from Texoma as well.
- **Threatened and endangered species.** There are six threatened or endangered federal species that are known to occur or have the potential to occur within the counties in which the project is located. Also the bald eagle, which is delisted but being monitored, may occur in these counties. It is expected that implementation of this alternative would have low to no potential to negatively impact the species.
- **Other.** The presence of zebra mussels in Lake Texoma creates additional obstacles for entities planning on using this source. For example, NTMWD is no longer able to blend Texoma water in Lake Lavon as it had in the past. Additional steps need to be taken when developing transmission infrastructure to prevent the spread of the zebra mussels. Additionally, injecting large quantities of brackish water (desalination strategies) could potentially increase seismic activity in the area. Recent studies on oil and gas fracking activities in the Metroplex have indicated a connection with injection wells and increases in small earthquakes. Further studies are ongoing. Because the Trinity aquifer lies under the affected area, any local formation would need to be deep enough to prevent impacts to the aquifer.

Permitting and Development

Lake Texoma supplies requires an interbasin transfer permit, state water rights, possible Congressional authorization, and a contract with USACE. For the desalination strategies, a brine discharge permit or deep well injection would be needed as well.

The State of Oklahoma does retain the right to a significant portion of unpermitted water that is allocated to municipal and industrial use. However, Oklahoma has a moratorium on exporting water. UTRWD has applied for up to 115,00 acre-feet per year from any three sources in Oklahoma, including Lake Texoma.

Development of this supply will require agreement between the water rights stakeholders in Texas along with the state of Oklahoma and the Corps of Engineers.

Cost Analysis

Detailed cost estimates for the Lake Texoma Desalination and Blending Projects were provided by the associated sponsors where available. These costs are more detailed estimates developed during design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index.

When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Table G.34 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
NTMWD – Blending Phase I	$228,206,000	$1.24	$0.28	H.47
NTMWD – Blending Phase II	$346,367,000	$1.04	$0.32	H.48
NTMWD – Desalination	$880,563,000	$8.01	$3.65	H.55
GTUA – Phase 1	$243,985,500	$5.72	$3.06	H.72
GTUA – Phase 2	$161,191,000	$4.75	$2.93	H.73
DWU	$1,429,468,000	$3.41	$1.78	H.43
UTRWD	$270,614,000	$2.25	$0.46	H.67
Denison	$63,385,000	$5.08	$3.30	H.13, H.127 & H.128

Water Management Strategy Evaluation

Since the reservoir is existing, these strategies provide a reliable source of additional supplies with limited impacts. However, in order for this supply to be viable for the blending strategies, another freshwater source of supply must be acquired as well.

For the desalination strategies, there is no need to acquire a separate source, however, there is significant costs associated with desalination as well as issues with waste disposal. This is a recommended strategy for the strategies that have the majority of the necessary infrastructure in place (NTMWD’s blending strategy and GTUA’s desalination strategy). For these users, the associated issues are offset by the reliability of the source and the relative costs for developing the strategy. For the other users, new infrastructure such as desalination plants, would significantly increase the costs making the strategy less feasible than other proposed alternatives.

Water User Group Application

This is a recommended strategy for NTMWD Blending, GTUA Desalination and Denison Desalination. It is an alternative strategy for NTMWD Desalination, DWU Desalination, and UTRWD Blending.

G.3.9 Toledo Bend

Potential Sponsor(s):	NTMWD, TRWD, DWU, and UTRWD
WMS/Project Type:	New Surface Water (Purchase)
Potential Supply Quantity:	Phase One - 350,000 acre-feet per year
Implementation Decade:	2070
Strategy Capital Cost:	$6,979,042,000
Unit Water Cost ($/kgal):	$4.80 during Debt Service; $1.40 after Debt Service
Application:	Alternative

Strategy Description

Toledo Bend Reservoir is located on the state border with Louisiana, approximately 200 miles from the NTMWD service area. The reservoir is owned and operated by the Sabine River Authority (SRA) of Texas and the Sabine River Authority of Louisiana for water supply and hydropower generation. The reservoir has a conservation surface area of 181,600 acres and a shared storage capacity of 4,477,000 acre-feet. The SRA Texas holds a Texas water right to divert 750,000 acre-feet per year from Toledo Bend and is seeking the right to divert an additional 293,000 acre-feet per year.

Several Region C Metroplex suppliers have been investigating the possibility of developing additional water supplies from the Toledo Bend Reservoir, with ultimately up to 650,000 acre-feet per year delivered to Region C. Although these supplies are intended to be used within Region C, the Toledo Bend Reservoir is physically located in Region I, the East Texas Region. The development of this supply will require an agreement among the SRA and Metroplex suppliers, an interbasin transfer permit from the Sabine River Basin to the Trinity River Basin, and development of water transmission facilities.

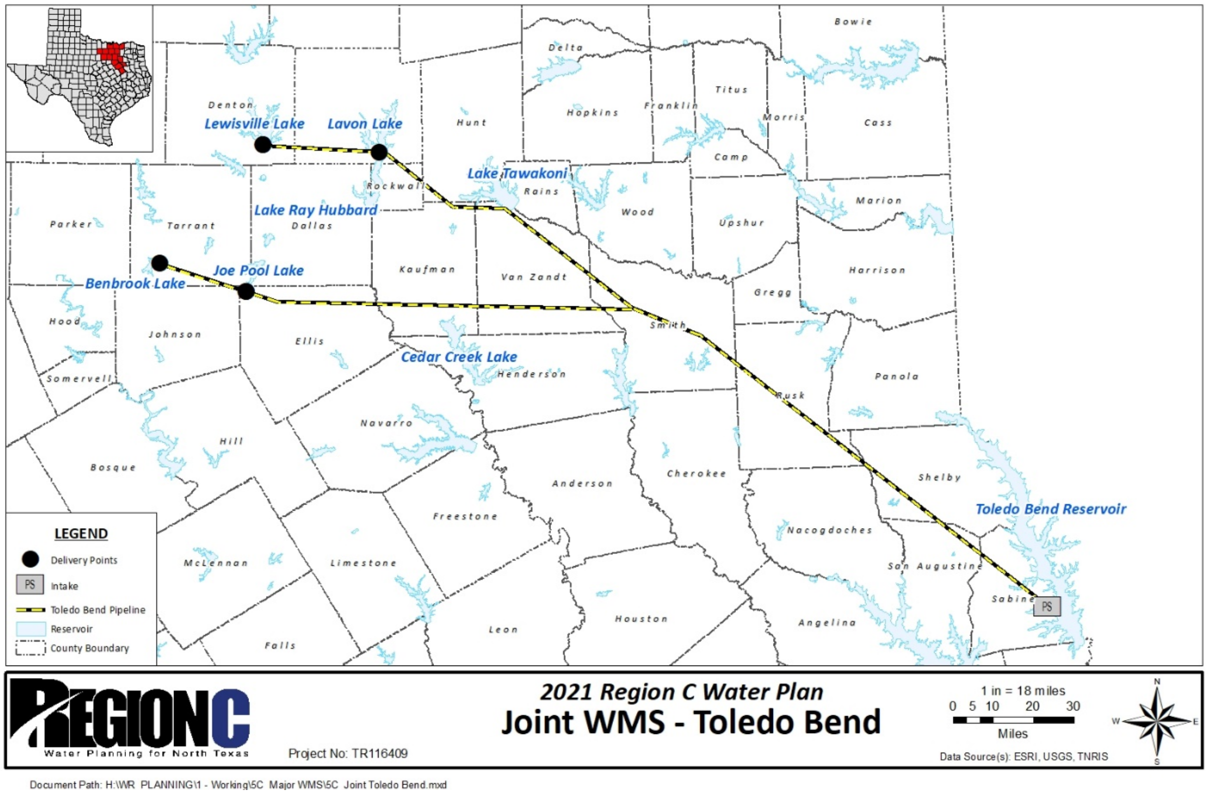
This strategy is envisioned as an alternative joint strategy with multiple water providers in the Region C area. Participants for the joint strategy would include NTMWD, TRWD, DWU, and UTRWD. The joint pipeline would convey supplies to the reservoirs or terminal storage area of each respective participating as summarized in **Table G.35**.

Table G.35 Proposed Storage for Participating Entity

Participating Entity	Proposed Storage
NTMWD	Wylie WTP
TRWD	Benbrook Lake/ Cedar Creek Lake
DWU	Joe Pool Lake/ Lewisville Lake
UTRWD	Lewisville Lake

Figure G.7 shows a potential layout for the alternative joint strategy. The strategy would be constructed in two phases, with half of the ultimate capacity constructed in the first phase and the remainder in the second phase. Phase 2 is not included in the strategy evaluation.

Figure G.7 Toledo Bend Route



Supply Development (Quantity, Reliability, Quality)

<u>Water Quantity</u>

Use of Texas' share of the water from Toledo Bend is authorized by Certificate of Adjudication 05-4658. The water right authorizes use of 750,000 acre-feet per year from Toledo Bend Reservoir for municipal, industrial and irrigation purposes. It is anticipated that the water right application to divert 293,000 acre-feet per year will be granted prior to the development of this project. While there is sufficient supply available to provide a project yield of 350,000 acre-feet per year (Phase 1), negotiations with SRA have not been initiated. The projected supplies for Phase 1 are summarized in **Table G.36**. Phase 2 would provide the same amounts as Phase 1 to NTMWD, TRWD and DWU.

Table G.36 Summary of Quantities

Description	Phase 1 Quantity
DWU	100,000
TRWD	100,000
NTMWD	100,000
UTRWD	50,000
Total	***350,000***

Reliability

The water is considered reliable since only a portion of the available supply is currently used and it is an existing supply. However, the water must be conveyed using multiple pump stations (including the intake) and over 200 miles of pipeline. There is concern that if there is a line breakage or pump failure, the down time could be great.

Water Quality

The Sabine River Basin and Toledo Bend Reservoir are considered to have good quality water. According to stream standards, Toledo Bend has lower total dissolved solids than Lake Lavon (TAC 307). Toledo Bend does contain giant salvinia, an invasive plant species. Specific management actions would be needed to limit transfer of this species to other lakes and streams along the pipeline route. Generally, it is not anticipated that there would be any water quality impact to Region C supplies from using Toledo Bend Reservoir.

Environmental Considerations

The reservoir is an existing source of water, therefore environmental impacts are limited. The primary environmental impacts of this project are associated with the pipeline, pump station, terminal storage reservoir and the carbon emissions associated with the electricity needed to pump the water. Impacts of increased demand on Toledo Bend Reservoir would also occur but have not been evaluated.

- **Habitat and Vegetative Cover.** No detailed studies have been conducted of the vegetative cover for this alternative. The location of the proposed infrastructure generally lies within rural areas. The pipeline route will cross through the Sabine National Forest which is adjacent to almost the entire shoreline of Toledo Bend Reservoir in Texas. The pipeline will cross three Texas Parks and Wildlife Department designated ecologically significant stream segments, an area of U.S. Fish and Wildlife Service (USFWS) Priority 1 bottomland hardwoods, and USFWS designated critical habitat areas for the endangered Texas golden gladecress. The proposed pipeline alignments possibly could be routed to avoid other sensitive environmental areas as pipelines generally have sufficient design flexibility to avoid most impacts or reduce potential impacts.
- **Threatened and endangered species**. The strategy crosses portions of ten counties which include numerous state and federally listed endangered or threatened species, and federal candidate species that use these various habitats. More detailed analysis of the pipeline alignment would need to be conducted to identify if any potential habitat for these species is impacted.

- **Environmental Water Needs.** Implementation and operation of this strategy could have an impact on daily flows in the Sabine River due to the amount of supply diverted from storage that might have been previously passed downstream. The strategy however will still leave adequate flows in the Sabine River to meet required TCEQ environmental flow requirements.
- **Bays and Estuaries**. Quantifying the impact from transporting supplies out of the basin will require additional detailed analysis. The implementation of the strategy may impact flows to Sabine Lake and its estuary downstream of the Toledo Bend Reservoir since freshwater stream flows are critical to the health of the Sabine estuary system. However,

since this strategy proposes to use existing water sources that have been permitted (i.e., no new appropriations), utilization of existing water rights was considered as part of the SB3 environmental flow evaluations.

- **Wetlands.** There are several wetlands along the proposed pipeline alignments; however, flexibility in the pipeline siting can be used to minimize or avoid potential impacts.

Permitting and Development

As previously discussed, this strategy would require an interbasin permit to transfer the water from the Sabine River Basin to the Trinity River Basin. It is uncertain if the transfer of water from the Sabine River Basin to the Trinity River Basin would subject the existing water right to Texas environmental flow standards (TAC Title 30 Chapter 298). Construction of a transmission system would require a Section 404 permit for the intake pump station and stream and wetland crossings of the pipeline and related infrastructure. Because of the size of the Toledo Bend pipeline alternative and its current conceptual status, development and implementation of this alternative would take 15 to 20 years.

Cost Analysis

Detailed cost estimates for the Toledo Bend Project were provided by the associated sponsors where available.

When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Table G.37 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
DWU	$2,010,393,000	$4.74	$1.39	H.19
TRWD	$2,246,057,000	$5.25	$1.50	
NTMWD	$1,663,942,000	$4.15	$1.26	
UTRWD	$1,058,650,000	$5.09	$1.45	
Total	***$6,979,042,000***	***$4.80***	***$1.40***	

Water Management Strategy Evaluation

Toledo Bend Reservoir is approximately 200 miles from Region C, so this is a relatively expensive source of supply for the Region. Additionally, the project would pose several permitting challenges as well, including obtaining an interbasin permit as well as a Section 404 permit. However, it does offer a substantial water supply, and environmental impacts will be limited because it is an existing source.

There is some uncertainty regarding reaching agreements with SRA and other water providers if a joint strategy is pursued. Negotiations with SRA have not been initiated and if SRA enters into additional contracts, there may be competition for this supply.

Water User Group Application

The Toledo Bend strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. This is an alternative strategy for DWU, UTRWD, TRWD, and NTMWD.

G.3.10 Red River Off-Channel Reservoir

Potential Sponsor(s):	DWU, UTRWD, Region G
WMS/Project Type:	New Surface Water (Off-Channel Reservoir)
Potential Supply Quantity:	114,000 acre-feet per year (102 MGD)
Implementation Decade:	2060
Strategy Capital Cost:	$963,458,000
Unit Water Cost ($/kgal):	$2.16 during Debt Service; $0.76 after Debt Service
Application:	Alternative

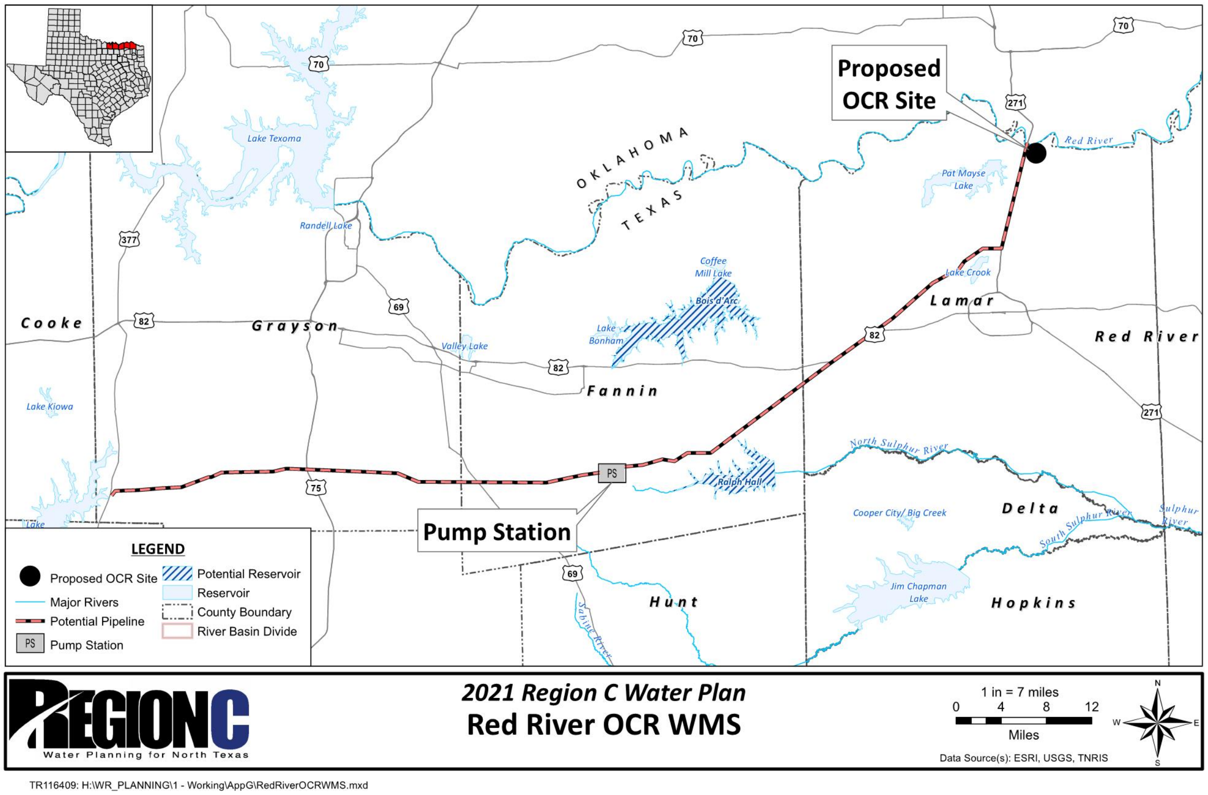
Strategy Description

This strategy would develop new water supplies from the Red River, downstream of Lake Texoma. In this stretch of the Red River, water flowing in the river is equally split between Texas and Oklahoma. Dallas proposes to permit a portion of Texas' share of this flow for diversion and impoundment in a series of off-channel reservoirs. The water would then be transported to Lake Ray Roberts for subsequent diversion and use. UTRWD is also interested in a joint version of this strategy where UTRWD would connect to Dallas' pipeline and transport supplies to the Tom Harpool Water Treatment plant.

This project includes a 162 MGD (250 cfs) intake and pump station on the Red River at Arthur City, TX immediately downstream of the Highway 271 Bridge as shown. Diversions from the Red River would be pumped approximately 2 miles to three off-channel reservoirs (OCR) in series. The first OCR would consist of a 2,500 AF basin for initial sediment settling and removal. The next OCR in the series would have a capacity of 5,300 AF and would provide additional sediment removal and water quality improvement. The third and final OCR would consist of a 32,000 AF storage basin to allow for extended pumping when the flow in the Red River is extremely low or water quality is impaired. Water would then be diverted from the third OCR by a 129 MGD (200 cfs) intake and pump station that would transport supplies via an 84-inch transmission pipeline to Lake Ray Roberts for subsequent blending and use by Dallas.

The total area of the reservoirs is 803 acres with a total capacity of 39,800 AF. The upper OCR has a conservation pool elevation of 525 ft-msl, a storage capacity of 2,500 AF and surface area of 76 acres. The middle OCR has a conservation pool elevation of 151 ft-msl, a storage capacity of 5,300 AF with a surface area of 189 acres. The third and largest OCT has a conservation pool elevation of 505 ft-msl with an embankment height of 70 feet and an active conservation pool capacity of 32,000 AF.

Figure G.8 Red River Off Channel Reservoir and Route



Supply Development (Quantity, Reliability, Quality)

Water Quantity

As part of the *Dallas Long Range Water Supply Plan*, a yield analysis was completed using monthly available flow at Arthur City extracted from the TCEQ Red River WAM. The flows were adjusted to account for instream flow requirements in the Red River Compact (RRC). The results found that the 129 MGD river diversion would be able to be exercised approximately 94% of the time without consideration of water quality. However, the available yield from this supply, as an alternative strategy for Dallas, is limited by the proposed infrastructure to approximately 102 MGD. If this WMS is pursued jointly, UTRWD would participate for 15,000 acre-feet/year and Region G would participate for some portion of the remaining supply.

Table G.38 Summary of Quantities

Description	Quantity
DWU	114,000
UTRWD	15,000

Reliability

The reliability of the water supplies is projected to be good.

Water Quality

From 1968 to 2012, the City of Dallas in cooperation with the USGS conducted water quality sampling of the Red River for the reach downstream of Denison Dam and specifically at the Arthur City USGS stream gage. The sampling done showed that slightly less than 15% of the time, the water quality within the Red River would not meet drinking water standards for TDS, chlorides and sulfates without blending from other water sources with better quality. Additionally, since the city of Dallas uses ozone in its water treatment process the formation of bromates can be a problem when bromide concentration exceeds 0.2 mg/L. Dallas plans to mitigate these concerns by not operating the Red River Pump Station when water quality is problematic and would also plan to blend the Red River water with other water supplies.

Environmental Considerations

Environmental issues for this project are expected to be low.

- **Habitat and Vegetative Cover.** River and transmission infrastructure would be located to avoid conflicts with environmentally sensitive areas where feasible. There are currently no areas of designated critical habitat within the project area. The OCR site is primarily pasture areas with some forested areas. The use of best management practices during construction activities will help to minimize potential impacts to these areas.
- **Threatened and Endangered Species.** The counties within which the project is located include 18 species that are federally or state listed as threatened or endangered or are federal candidate species. No known designated areas of critical habitat currently occur within the project area.
- **Environmental Water Needs.** Implementation will have a limited impact on daily flows in the Red River since average gaged streamflow from 1998 to 2013 has been over 13 million AF per year and the 162 MGD intake facility would divert less than 2 percent of the flows on average.
- **Wetlands.** Impacts to wetlands associated with this project are anticipated to be low.

Permitting and Development

Dallas would need to obtain a water rights permit for the river diversion from the TCEQ including an interbasin transfer authorization. In addition to the water rights permit, Dallas would need to obtain a 404 permit from the USACE for impacts to a waterway from construction activities.

Diversions from the Red River would potentially need to comply with provisions of the Lacey Act which prohibits the transport of non-native species across state boundaries. In this case zebra mussels might be a concern, depending on where the intake and pump station facilities are constructed. Diversions would also need to comply with the Red River Compact.

Cost Analysis

Detailed cost estimates for the strategy were provided by DWU where available. These costs are more detailed estimates developed during planning and/or design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for the Integrated Pipeline supplies are included in **Appendix H**. Any infrastructure cost related to the additional infrastructure needed to supply Region G would be borne solely by Region G entities and can be found in the Brazos-G Regional Water Plan.

Table G.39 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
DWU (Stand-Alone)	$963,458,000	$2.16	$0.76	H.42
UTRWD (Joint)	*$126,771,000*	*$2.16*	*$0.76*	
Region G				

Water Management Strategy Evaluation

Although the Red River OCR project has the potential to provide DWU with significant new water supplies, there are several concerns with the project in its current state. These issues include bank stability for the intake structure along the Red River, water quality, sediment control and invasive species. Additionally, the Red River OCR project possesses a high level of risk associated with permitting as well as performance risk associated with a worse drought of record and future upstream diversions and impoundments. A significant portion of the available flow to the project originates in the Blue and Muddy Boggy River watershed in Oklahoma. If large reservoirs are constructed in these watersheds, the available flow could be reduced.

Water User Group Application

The Red River OCR project is recommended to remain as an alternative strategy by the Region C Regional Water Planning Group for Dallas Water Utilities and Upper Trinity Regional Water District. It is additionally an alternative strategy in the Region G Regional Water Plan.

G.4 DWU Major Water Management Strategy Technical Memorandums

G.4.1 Main Stem Balancing Reservoir

Potential Sponsor(s):	DWU
WMS/Project Type:	Reuse (Off-Channel Reservoir)
Potential Supply Quantity:	95,829 acre-feet per year
Implementation Decade:	2050
Strategy Capital Cost:	$772,904,000
Unit Water Cost ($/kgal):	$1.89 during Debt Service; $0.63 after Debt Service
Application:	Recommended

Strategy Description

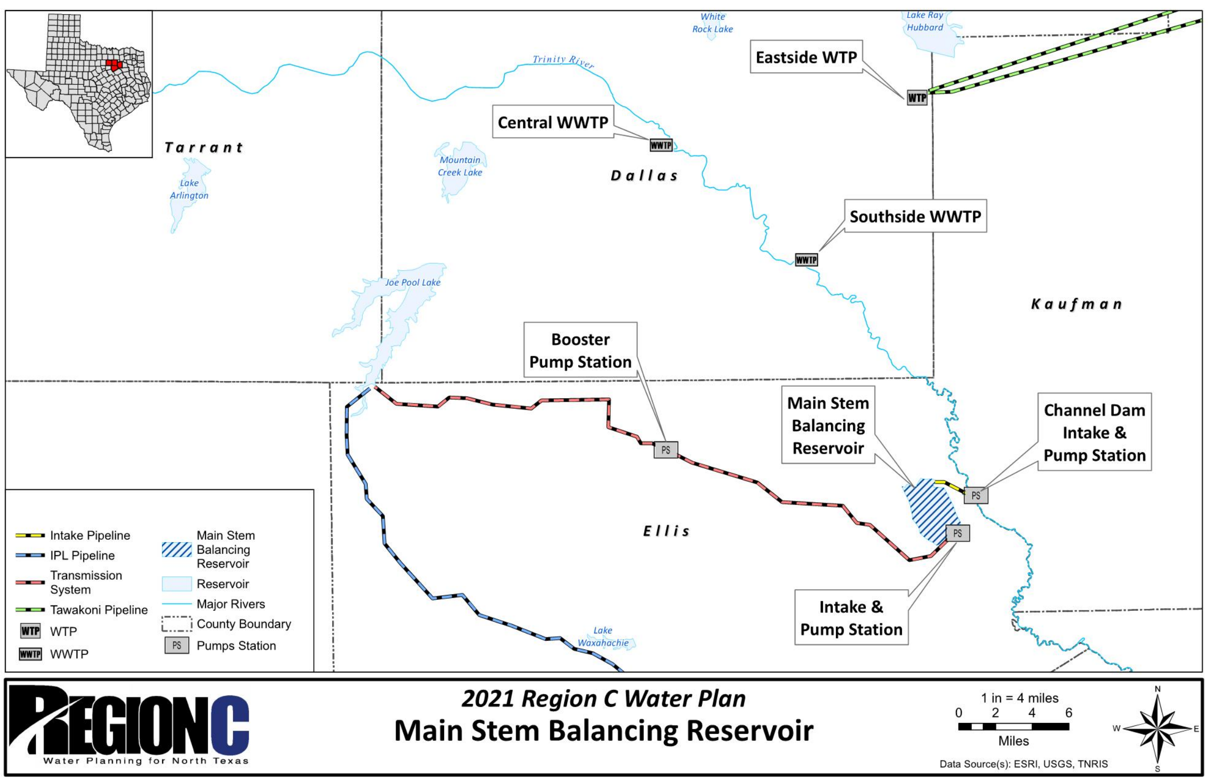
The project description for the Main Stem Balancing Reservoir is based on the information provided by the Dallas Long Range Plan (DWU, 2015). Dallas has been granted water rights (permit 12468) to store return flows from the Central and Southside wastewater treatment plants in an off-channel reservoir, the Main Stem Balancing Reservoir. The Main Stem Balancing Reservoir would be located in Ellis County southeast of Bristol, Texas, and will receive diversion from the Trinity River. This project has a good amount of flexibility and different potential configurations require additional evaluation. For the configuration selected for Region C, reuse water is delivered from the balancing reservoir to Joe Pool Lake through a 36.5 mile transmission system. The proposed siting and transmission infrastructure for the Main Stem Balancing Reservoir are shown.

The source of water for the Main Stem Balancing Reservoir is return flows from Dallas' Central and Southside wastewater treatment plants. However, total return flows available to be stored in the reservoir consider certain obligations and an amendment to instream flow requirements. Obligations pertain to the proposed Elm Fork and Lake Ray Hubbard Swap, which are agreements made with North Texas Municipal Water District (NTMWD). DWU will provide NTMWD with water from the Central and Southside WWTP in equal exchange for NTMWD's reuse flows into Lake Lewisville (above agreed upon historical amounts) and Lake Ray Hubbard. The quantities shown in the 2021 Region C Regional Water Plan are projected for planning purposes, however it is important to note that these return flows are contingent on actual return flows. The return flows available for the Main Stem Balancing Reservoir considering obligations, detailed quantities associated with those obligations, and quantities of amended instream flow requirements are shown in **Table G.40**.

Table G.40 Projected DWU Return Flows for Central and Southside WWTPs (acre-feet/year)

	2020	2030	2040	2050	2060	2070
Return Flows Considering Conservation	157,003	166,239	183,447	200,859	215,432	224,441
Obligations on Return Flows						
Amended DWU Instream Flow Requirement	82,954	82,954	82,954	82,954	82,954	82,954
Replace NTMWD Lake Ray Hubbard Return Flows	20,477	22,783	24,899	25,483	26,931	28,778
Replace NTMWD Future Elm Fork Return Flows	7,591	8,617	10,645	13,975	15,806	16,880
Subtotal Obligations on Return Flows	111,022	114,354	118,498	122,412	125,691	128,612
Quantity Available						
Return Flows Available for Main Stem Balancing Reservoir	**45,980**	**51,885**	**64,950**	**78,447**	**89,741**	**95,829**
DWU Main Stem Balancing Reservoir Strategy	**-**	**-**	**-**	**78,447**	**89,741**	**95,829**

Figure G.9 Main Stem Balancing Reservoir



Supply Development (Quantity, Reliability, Quality)

Water Quantity

The quantity of water from this strategy is shown in **Table G.41**. These supplies include a swap agreement with NTMWD and an amendment to Dallas' instream flow requirement.

Table G.41 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
DWU	0	0	0	78,447	89,741	95,829

Reliability

The return flows from the Central and Southside wastewater treatment plants are expected to be highly reliable.

Water Quality

Water quality is to be evaluated and addressed during design.

Environmental Considerations

- **Habitat and Vegetative Cover.** The footprint of the Main Stem Balancing Reservoir and associated pipeline will cover developed agricultural land, forested areas, wooded riparian areas, and wetlands. No critical habitat lies within the project area. Utilizing previously disturbed agricultural areas in preference to preferred habitats will help reduce impacts. Where necessary, impacts to different species and wetland areas should be avoided as much as possible. Best management practices (BMPs) during construction of the pipeline will reduce potential impacts to wetlands.
- **Environmental Flows.** This project proposes to conform to the environmental flow standards adopted by TCEQ for the Trinity River, as granted by TCEQ in a January 2019 amendment to the reuse authorization. It is presumed that compliance with the TCEQ environmental flow criteria provides adequate instream flows for the Trinity River.
- **Bays and Estuaries.** Implementation and operation of the Main Stem Balancing Reservoir relies on permitted return flows and is expected to have limited effects on flow to the Trinity Bay by TCEQ environmental flow standards.
- **Threatened and Endangered Species.** The Main Stem Balancing Reservoir project area includes 14 species that are federally or state listed as threatened or endangered species and federal candidate species in the county for which the project will be located.

Permitting and Development

Dallas has water rights for the use of return flows for the Main Stem Balancing Reservoir. Additional permits would be required. A Section 404 permit will be required for the river diversion and construction of the pipeline. It is assumed that the existing Main Stem Pump Station would be shared between DWU and NTMWD. A new surface water permit would be required to store the diverted water in the off-channel reservoir and behind a new channel dam and to transport the water through Joe Pool Lake. **Table G.42** summarizes the permits required and the challenges associated with implementation of this strategy.

Table G.42 Summary of Required Permits and Potential Challenges

Permit	Regulatory Entity	Potential Challenges
Water Right and Storage Permit	TCEQ	Additional permits to store water in the reservoir and behind the channel dam. If water is transported through Joe Pool Lake, a bed and banks permit would be needed.
Section 404	USACE	Required for construction in waters of the US.

Cost Analysis

The costs for this project are based on the costs developed for the Dallas Long-Range Water Supply Plan. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for the Main Stem Balancing Reservoir supplies are included in **Appendix H**.

Table G.43 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
DWU	$ 772,904,000	$ 1.89	$ 0.63	H.34

Water Management Strategy Evaluation

The Main Stem Balancing Reservoir is a potentially feasible strategy for DWU. The reservoir would provide a means to store reuse water and manage water supplies across the DWU system. With the diversion pump station located downstream of the confluence of the Trinity River and East Fork of the Trinity River, water could be released from DWU's eastern supplies and moved to the western areas of its service area. The size of the balancing reservoir would allow temporary storage of both reuse water and other DWU supplies.

Reuse water is a reliable supply, and this project does not require additional appropriation of state water. An off-channel reservoir is expected to have fewer environmental concerns

Water User Group Application

The Main Stem Balancing Reservoir strategy was evaluated for DWU and its customers. It is a recommended strategy in Dallas' Long-Range Water Supply Plan. This strategy is recommended for DWU by the Region C Regional Water Planning Group.

G.4.2 Connect to Bachman

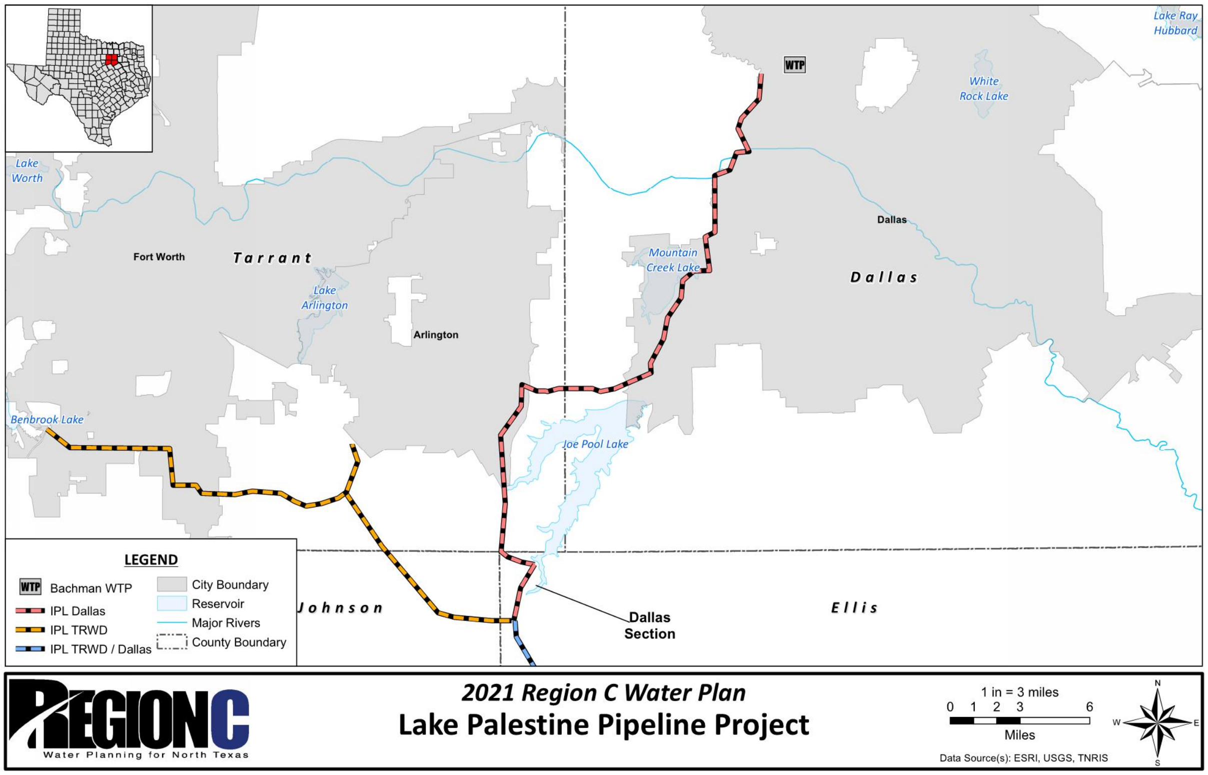
Potential Sponsor(s):	Dallas Water Utilities
WMS/Project Type:	Surface Water (Infrastructure)
Potential Supply Quantity:	105,370 acre-feet per year
Implementation Decade:	2030
Strategy Capital Cost:	$297,546,000 (Capital costs associated with the IPL Project for DWU are shown with the IPL Project)
Unit Water Cost ($/kgal)	$0.52 during Debt Service; $0.05 after Debt Service
Application:	Recommended

Strategy Description

Lake Palestine is an existing reservoir located in the East Texas Region (Region I) on the Neches River. The lake is owned and operated by the Upper Neches River Municipal Water Authority (UNRMWA). The permitted diversion is 238,110 acre-feet per year. Dallas Water Utilities (DWU) has a contract with UNRMWA for 53.73% of the yield of the reservoir up to a maximum of 114,337 acre-feet per year (102 MGD). The contract includes an interbasin transfer permit allowing the use of water from the lake in the Trinity River Basin.

To date, DWU has not used water from Lake Palestine because there is no infrastructure to transport the water to the Dallas area. DWU is working with TRWD to build the Integrated Pipeline (IPL), which would include a segment to move DWU's share of Lake Palestine to Dallas County. The infrastructure necessary to move the water from Lake Palestine to a location near the upper end of Joe Pool Lake for this strategy is discussed under the IPL Project Technical Memorandum. There will be a separate project to move the water from the IPL delivery point to the Bachman Water Treatment Plant as shown in **Figure G.10.** It is assumed that the water from the IPL will be delivered directly to the Bachman WTP by pipeline. As shown, the route used for cost estimates would parallel State Highway 360 along the west side of Joe Pool, then east on Camp Wisdom Road, then head north meandering east of Mountain Creek Lake until ultimately delivering water to the Bachman WTP. This route allows for a closed conduit utilizing gravity and residual head from the IPL. Dallas is in the process of final design of this project, and a different route may be selected in design. This Technical Memorandum addresses the evaluation of the use of the source water, Lake Palestine, and the cost to move the water from the IPL delivery point to the Bachman WTP.

Figure G.10 Lake Palestine Pipeline Project



Supply Development (Quantity, Reliability, Quality)

The supply available from Lake Palestine for use by DWU was obtained using the Neches Basin Water Availability Model (WAM Run 3) with the most recent estimates of sedimentation. A new volumetric and sedimentation survey of the lake was completed in 2012 and published by the TWDB February 2014.

Water Quantity

The firm yield of Lake Palestine is estimated to be 197,710 acre-feet per year in 2020. This represents a 17% decrease from the authorized diversion, which is attributed to reduced storage capacity of the lake and releases for senior water rights downstream. Since the last round of regional water planning, TCEQ has made changes to the Neches WAM to better represent the subordination of the Lake Rayburn-Steinhagen system. These changes resulted in more water being passed downstream from Lake Palestine to senior water right holders. The quantity of supplies available through this strategy are summarized in **Table G.52**. The yield over time decreases due to sedimentation in Lake Palestine.

Table G.44 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Lake Palestine (DWU Portion)	0	105,370	104,564	103,704	102,791	101,555

Reliability

The water from Lake Palestine is expected to be highly reliable.

Water Quality

Water quality in Lake Palestine is considered to be generally good. However, it was listed by the TCEQ in the Texas Integrated Report as impaired due to pH (TCEQ, 2018). The Texas Integrated Report describes the status of the state's waters, as required by Sections 305(b) and 303(d) of the federal Clean Water Act. It summarizes the condition of the state's surface waters, including concerns for public health, fitness for use by aquatic species and other wildlife, and specific pollutants and their possible sources. The segment was first listed in 2006. Elevated pH should not affect the use of the water for municipal supplies.

Environmental Considerations

The environmental concerns for use of an existing surface water source are low. Environmental studies are currently ongoing for this project.

- **Habitat and Vegetative Cover.** Where possible, the pipeline route follows existing road rights-of-way to minimize impacts to habitat and vegetative cover by utilizing these previously disturbed areas. Wooded riparian areas commonly occur along and adjacent to stream and river crossings that will be crossed by the pipeline corridor. These areas are commonly utilized by many different species and should be avoided as much as reasonably possible. However, pipelines generally have sufficient design flexibility to avoid most impacts, or significantly reduce potential impacts to geographically limited environmental habitats.
- **Threatened and Endangered Species.** There are 17 species that are federally or state listed as threatened or endangered species in Tarrant and Dallas Counties. Much of the pipeline connection to Bachman Lake will be constructed in urban areas in Dallas County. No designated areas of critical habitat currently occur within the project area.
- **Environmental Water Needs.** Implementation and operation of this project could reduce flows in the Neches River as more water is diverted and exported to the Trinity River Basin. Return flows from this project will either be reused for beneficial use or discharged to the Trinity River Basin, which could increase instream flows in the Trinity River.
- **Wetlands**. Flexibility in the pipeline siting would be used to minimize or avoid potential impacts to wetland areas. Therefore, impacts to wetlands associated with this project are expected to be low.

Permitting and Development

Permits to use the water from Lake Palestine have already been obtained. Any permits associated with the transmission system to Joe Pool Lake are discussed under the IPL Project. For the pipeline from the IPL delivery point to the Bachman WTP a Section 404 permit from the USACE for impacts to a waterway from construction activities will be needed for the construction of the pipeline. A Section 408 permit from the USACE will likely be required for construction activities near a levee as well. Since the recommended alternative requires a micro-tunnel underneath a USACE levee, the Section 408 permit could be a significant permitting obstacle to be overcome. The currently recommended pipeline corridor is highly developed and will require significant coordination for construction activities.

The project is expected to be online by 2030. There are no known development issues.

Cost Analysis

Capital costs for this strategy include only the pipeline portion from the IPL delivery point to the Bachman WTP. Capital costs to move the water from Lake Palestine to the IPL delivery point are shown in the IPL Technical Memorandum. To understand DWU's total unit cost for the supplies from Lake Palestine, the transport cost to Joe Pool Lake is included as an annual cost.

Cost estimates for this project are included in **Appendix H.**

Table G.45 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
DWU	$297,546,000	$0.52	$0.05	H.35

Water Management Strategy Evaluation

As previously discussed, DWU plans to connect Lake Palestine to its water supply system as part of the IPL Project being developed jointly with Tarrant Regional Water District. This is a source that DWU contracted for when the reservoir was built for long-term water supply. Several alternatives were evaluated to bring the IPL supplies from the delivery point to the DWU service area. Delivery of the water directly to the Bachman WTP through a pipeline was recommended because it carried the lowest implementation and permitting risk. Development of a supply from Lake Palestine provides water at a low cost and with a low environmental impact.

Water User Group Application

The Lake Palestine strategy is sponsored by DWU and the strategy is recommended for DWU by the Region C Regional Water Planning Group. The water provided from Lake Palestine and transported by the IPL Project will be used by DWU and customers.

G.4.3 Neches River Run-of-River Diversion

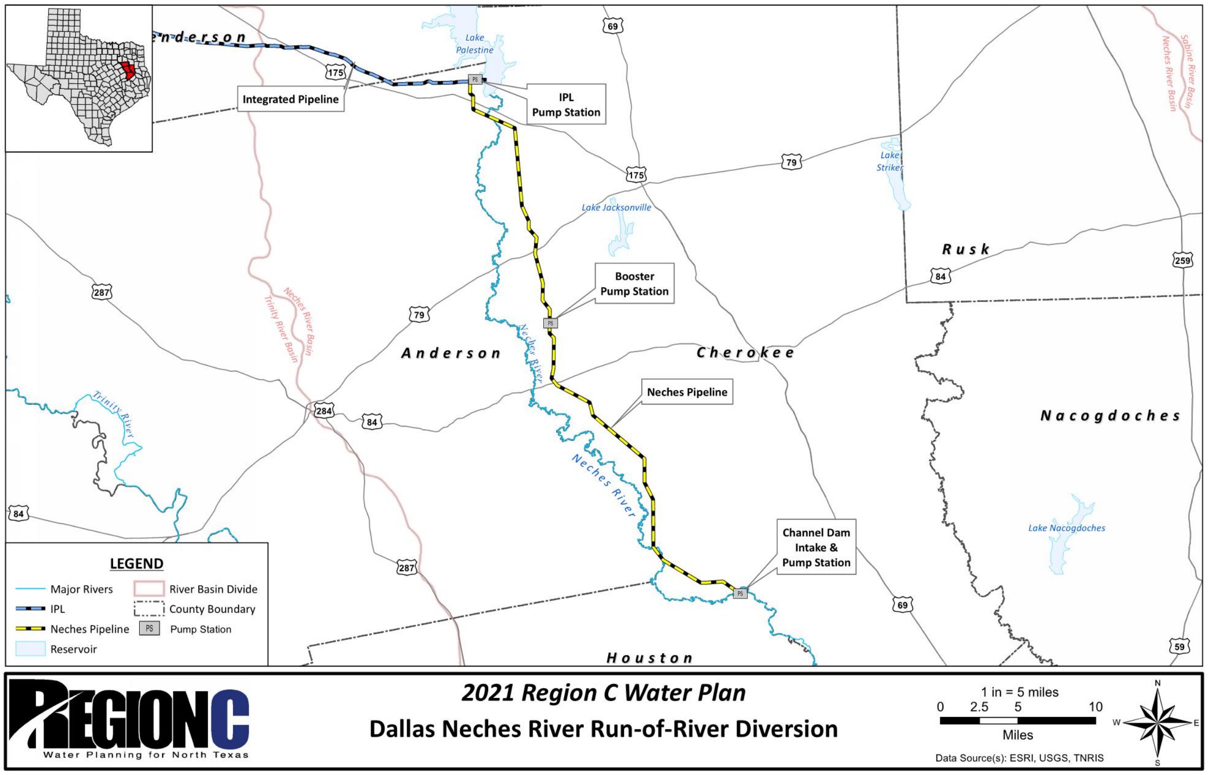
Potential Sponsor(s):	Upper Neches River Municipal Water Authority
WMS/Project Type:	Existing Surface Water (Run-of-River)
Potential Supply Quantity:	47,250 acre-feet per year
Implementation Decade:	2060
Strategy Capital Cost:	$261,616,000
Unit Water Cost[a] ($/kgal):	$1.89 during Debt Service; $0.97 after Debt Service
Application:	Recommended

[a]*These unit costs do not include the cost to transport this water from Lake Palestine to DWU through the IPL.*

Strategy Description

The Neches River Run-of-River Diversion Strategy was originally developed as an alternative to the Lake Fastrill project after the development of the reservoir was determined unlikely due to the designation of Neches River National Wildlife Refuge (NRNWR) within the reservoir site. This project would be sponsored by the Upper Neches River Municipal Water Authority (UNRMWA) with contracted water supplies to Dallas Water Utilities (DWU).

As shown, the Neches River Run-of-River Diversion Strategy would include a new river intake and pump station (91 MGD) on the Neches River near SH.21 crossing. Water would be delivered through a 42-mile, 72-inch diameter pipeline to DWU's pump station at Lake Palestine for delivery to DWU through the Integrated Pipeline (see separate technical memorandum). The run-of-river diversions would be operated as a system with Lake Palestine to supplement existing water supplies.



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Supply Development (Quantity, Reliability, Quality)

The firm yield of the project was determined using the TCEQ Neches River Water Availability Model. The run-of-river supplies are modeled with back-up from storage in Lake Palestine when stream flows are not available due to drought conditions, senior water rights calls and/or TCEQ environmental flow restrictions. Using a maximum diversion rate of 141 cfs (91 MGD), the firm yield of this strategy is about 47,250 acre-feet per year (42 MGD).

<u>Water Quantity</u>

Dallas' existing contract with UNRMWA for Lake Palestine water is for an annual quantity of 114,337 ac-ft/yr (102 MGD). The IPL will have a capacity of 150 MGD, so there is a remaining infrastructure capacity of approximately 48 MGD available for this strategy.

The new run-of-river diversion will be interruptible, so the quantity available with this strategy is the incremental increase in the firm yield of Lake Palestine resulting from system operations of the new diversion and the existing reservoir. Therefore, the firm yield for this strategy is 47,250 acre-feet per year (42 MGD). However, if other new water rights are granted in the Neches River Basin prior to obtaining a water right for this project, the yield could be affected.

Table G.46 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
DWU	-	-	-	-	47,250	47,250

Reliability

The reliability of this source is moderately high, provided Lake Palestine provides the back-up supplies as modeled. A drought worse than the drought of record could affect the run-of-river supplies and back-up from Lake Palestine.

Water Quality

The water quality is expected to be good.

Environmental Considerations

Environmental considerations were investigated in the Dallas Long Range Water Supply Plan and are as identified below.

- **Habitat and Vegetative Cover.** The vegetation near the river ranges from bald-cypress dominated swamps to mixed pine-hardwood stands depending on local river flooding and floodplain topography. River and transmission infrastructure would be located to avoid conflicts with the Neches River National Wildlife Refuge (NRNWR) and ecologically significant stream segments upstream of the proposed intake site. There is currently no designated critical habitat in the project area. The proposed pipeline route will cross a Texas Parks and Wildlife Department designated ecologically significant stream segment, and areas of U.S. Fish and Wildlife Service (USFWS) Priority 1 bottomland hardwoods. A large portion of the pipeline route occurs within forested areas, but it also crosses areas of agricultural use including crops and pasture. Impacts to preferred habitats will be minimized by utilizing the agricultural areas which have been previously disturbed. Wooded riparian areas also commonly occur along and adjacent to stream and river areas that will be affected by the pipeline corridor. These areas are commonly utilized by many different species and would be avoided as much as reasonably possible. The pipeline route would also cross wetland areas which will be disturbed by construction activities. The use of best management practices (BMPs) during construction activities would help to minimize potential impacts to these areas. However, specific project components such as pipelines generally have sufficient design flexibility to avoid most impacts, or significantly reduce potential impacts to geographically limited environmental habitats. As a result, any impacts to existing habitat are anticipated to be low.
- **Threatened and Endangered Species.** The project area includes twenty-eight species that are federally or state listed as threatened or endangered or are federal candidate species in the counties for which the project is located. No designated areas of critical habitat currently occur within the project area.
- **Environmental Water Needs.** Implementation and operation of the Upper Neches Project will comply with TCEQ environmental flow standards and will leave adequate flows in the Neches River to sustain a healthy eco-system. Similarly, the Upper Neches Project will have very limited effects on freshwater inflow to the Sabine Lake and Sabine Lake Estuary with long-term average freshwater inflows to the Sabine Lake Estuary being reduced less than 1.0 percent.
- **Wetlands.** Although a number of wetlands occur along the proposed pipeline corridor flexibility in the pipeline siting would be used to minimize or avoid potential impacts to the majority of these areas.

Permitting and Development

The Neches River Run-of-the-River Diversion would require a new water right permit for the river diversion and an interbasin transfer permit to move the water from the Neches River Basin to the Trinity River Basin. A federal Section 404 permit would be needed for the river diversion and pump station.

This project would be developed by UNRMWA. In 2010, the UNRMWA reached a settlement agreement with the Lower Neches Valley Authority regarding water right subordination in the Neches River Basin.

Cost Analysis

Detailed capital costs for this strategy were provided by the sponsor. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

The cost estimate for this strategy is included in **Appendix H**.

Table G.47 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
DWU	$261,616,000	$1.89	$0.97	H.36

Water Management Strategy Evaluation

The Neches Run-of-the-River strategy provides supplemental water for DWU that is located near existing DWU water sources. This strategy assumes existing and planned (IPL) infrastructure can be used to transport this water to DWU service area, which minimizes transmission costs. Also, the use of a small river diversion structure provides fewer environmental impacts than a new reservoir, and the operations with Lake Palestine provide the necessary reliability for the river diversion.

Water User Group Application

The Neches River Run-of-the-River Diversion strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Based on consideration of these criteria, the strategy is recommended for DWU by the Region C Regional Water Planning Group.

G.4.4 Lake Columbia

Potential Sponsor(s):	DWU
WMS/Project Type:	New Surface Water (Reservoir and Water Purchase)
Potential Supply Quantity:	56,050 acre-feet per year
Implementation Decade:	2070
Strategy Capital Cost:	$322,267,000 (DWU Portion Only)[a]
Unit Water Cost ($/kgal):	$1.77 during Debt Service; $0.86 after Debt Service
Application:	Recommended

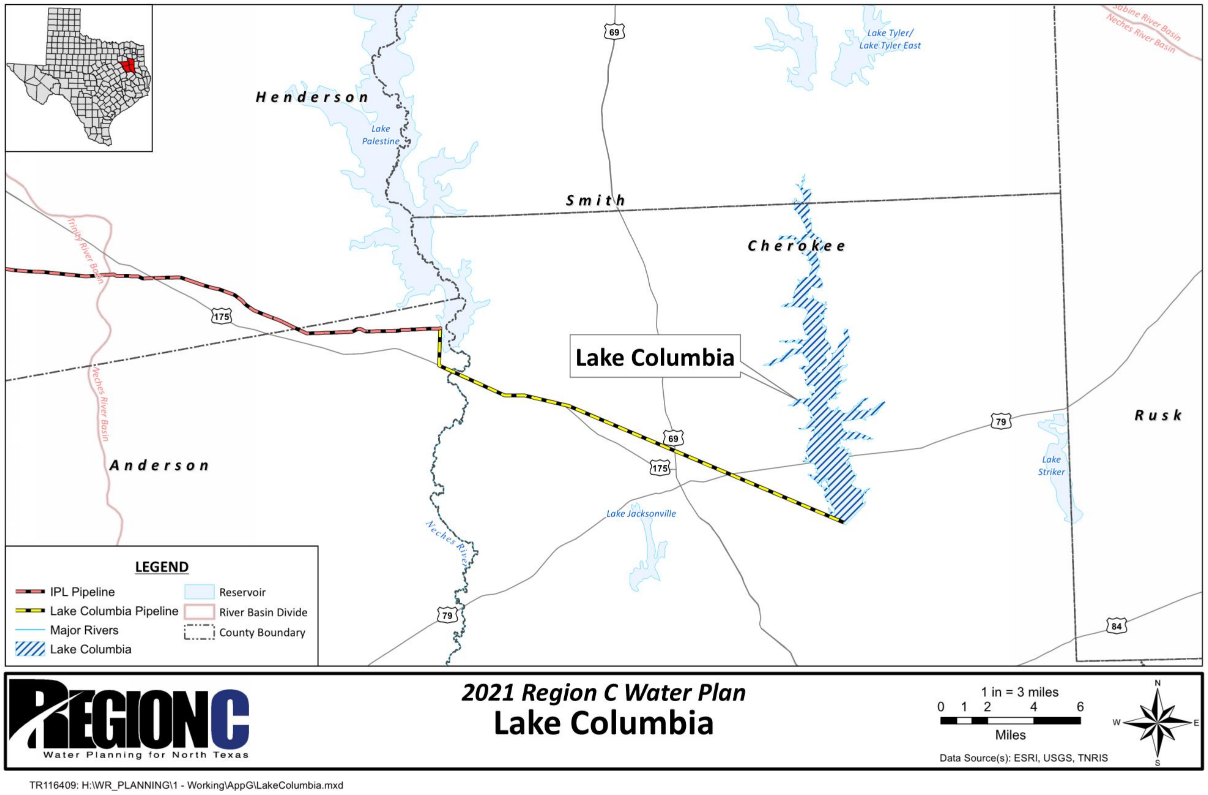
[a]Cost reflects transmission to Lake Palestine. Additional infrastructure to move the water to DWU is discussed under DWU infrastructure expansion.

Strategy Description

The project description for the Lake Columbia Strategy is based on the information provided by Angelina and Neches River Authority (ANRA) and summarized in the Dallas Long Range Water Supply Plan (DWU, 2015). ANRA is the sponsor for the Lake Columbia project on Mud Creek in Cherokee and Rusk Counties. ANRA has been granted a water right permit (Permit No. 4228) by the TCEQ to impound 195,500 acre-feet per year and to divert 85,507 acre-feet per year (76.3 MGD) for municipal and industrial purposes. Lake Columbia is identified as a recommended WMS for Dallas Water Utilities (DWU) in Dallas' Long-Range Water Supply Plan (DWU, 2015). After considering the local needs in the East Texas Region, Dallas' projected share of the proposed Lake Columbia project is 56,000 ac-ft per year by 2070.

The Lake Columbia dam site is located two to three miles downstream of Highway 79 on Mud Creek in Cherokee County. The contributing drainage area for the reservoir is approximately 384 square miles. The total conservation pool volume is 195,500 acre-feet and the top of conservation pool is at the elevation of 315 ft MSL. The conservation pool covers an area of approximately 10,133 acres.

Lake Columbia would be connected to Dallas' western system via a pipeline from the reservoir to the IPL pump station at Lake Palestine. Supplies would then be transported to the Lake Joe Pool area via a new pipeline parallel to the IPL. The new pipeline from Lake Palestine to DWU is considered a separate strategy and is discussed under a separate memorandum. The proposed siting and transmission infrastructure to Lake Palestine are shown.



Supply Development (Quantity, Reliability, Quality)

The firm yield for Lake Columbia is estimated to be 75,600 acre-feet per year in 2020 and reducing to 75,350 acre-feet per year in 2070. Dallas does not anticipate connecting to Lake Columbia supplies until 2070. Approximately 75% of the firm supply (66% of permitted supply) would be available to DWU as part of this strategy. The remaining supply would be allocated to the other local entities involved in the project.

Water Quantity

The quantity of water from this strategy is assumed to be 56,000 acre-feet per year.

Table G.48 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
DWU	-	-	-	-	-	56,050

Reliability

The reliability of this water is high. The reservoir has a water right permit for 85,507 acre-feet per year. If the required permitting process specifies additional environmental flow releases, the project yield may be affected and the amount available to DWU may be reduced.

Water Quality

Water quality is expected to be good.

Environmental Considerations

The summary of environmental considerations for the dam and lake was developed based on the known environmental factors that have been discussed in the Draft Environmental Impact Study (DEIS).

- **Habitat and Vegetative Cover.** The footprint of Lake Columbia will impact approximately 5,746.5 acres of waters of the U.S., including 3,689 acres of forested wetlands and the remainder comprised of shrub and emergent wetlands (144 and 1,518 acres, respectively), open water, streams and a hillside bog.

Table G.49 Vegetation Cover Types

Type of Cover	Acres
Forested Wetlands	3,689
Shrub-scrub Wetlands	144
Herbaceous Wetlands	1,518
Intermittent Streams (204,864 linear feet)	47
Perennial Streams (370,128 linear feet)	255
Open Water	63
Hillside Bog	0.5
New Channel (14,256 linear feet)	30
Total	**5,746.5**

- **Environmental Flows.** The current TCEQ Permit No. 4228 allowing the construction and operation of Lake Columbia does not require any instream flow releases. However, if Dallas wants to move water from Lake Columbia in the Neches Basin to Trinity River Basin, an amendment to the Permit is required to allow interbasin transfers. This amendment may trigger environmental flow compliance in the Neches River Basin. Also, it is likely the federal permitting process would require the review and possible consideration of environmental flow releases.
- **Bays and Estuaries.** Lake Columbia project is over 280 river miles upstream from the Neches estuary at Sabine Lake and is therefore expected to have no measurable effect on the freshwater inflows into Sabine Lake and Sabine Lake estuary. Recognizing the diminishing effect of upstream distance on bay and estuary inflows, the Texas Water Code (Section 11.147) requires consideration of such effects only if a proposed project is within 200 river miles of the coast.
- **Threatened and Endangered Species.** The Lake Columbia project area includes six federally listed species, five of which are also listed by the state. The state lists 18 additional species within Smith and Cherokee Counties where the lake would be developed. According to the draft EIS for Lake Columbia, no known threatened or endangered species are known to exist in the Permit Area. Project components such as pipelines are expected to have sufficient design flexibility to avoid any known threatened or endangered species along the route from Lake Columbia to the proposed Lake Palestine pump station.

Permitting and Development

Lake Columbia would require a contract with ANRA and an interbasin transfer permit. Angelina Neches River Authority has a water right for Lake Columbia and is currently seeking a 404 permit for construction. A draft environmental impact study (DEIS) was prepared for Lake Columbia by the USACE. The DEIS was published on January 29, 2010 and public and agency comments were provided on March 30, 2010. Currently, the Lake Columbia project is subject to completion of the NEPA process and issuance of a 404 permit from the U.S Army Corps of Engineers (USACE).

If Dallas were to participate in the Lake Columbia project, the current Permit No. 4228 has to be amended for an interbasin transfer from the Neches to the Trinity basin. There is a potential that the authorized diversions from Lake Columbia project may be subject to some reductions due to the environmental flow standards that may be applied during the amendment process. **Table G.50** summarizes the permits required and the challenges associated with implementation of this strategy.

Table G.50 Summary of Required Permits and Potential Challenges

Permit	Regulatory Entity	Potential Challenges
Water Right Permit Amendment	TCEQ	Will require interbasin transfer authorization for Dallas to transfer water from Neches to Trinity basin.
404	USACE	Required to proceed with construction in waters of the US.

Cost Analysis

This water management strategy for ANRA was developed to address the total current contracted and potential future customer demand through the construction of Lake Columbia. ANRA holds the water right for the supply source and will be the project sponsor. It was specified in the 2015 Dallas Long Range Supply Plan that DWU will be responsible for 70 percent of the dam, reservoir land acquisition, and relocations, and ANRA will be responsible for the remaining 30 percent of the reservoir construction and land acquisition costs. This cost split is subject to change during the potential negotiations between DWU and ANRA. Additionally, these costs differ from the Dallas Long Range Water Supply Plan because a parallel pipeline to the IPL is assumed to be needed since the Neches Run-of-River Strategy is both recommended and is scheduled to be implemented prior to the supplies from Lake Columbia.

When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for the Lake Columbia supplies are included in **Appendix H**.

Table G.51 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
DWU	$322,267,000	$1.77	$0.86	H.37

Water Management Strategy Evaluation

Lake Columbia would provide a new water source near existing water resources for DWU. This makes it easier to operate and maintain as part of the overall DWU system.

The environmental concerns are relatively low for a new reservoir site. However, further study is needed to better understand the potential for impacts to threatened and endangered species.

Also, the yield of the project is subject to future permitting requirements and negotiations with ANRA since the authority holds the water rights.

Water User Group Application

The Lake Columbia strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Based on consideration of these criteria, the strategy is recommended for DWU by the Region C Regional Water Planning Group. This strategy is also recommended for other users located in Region I.

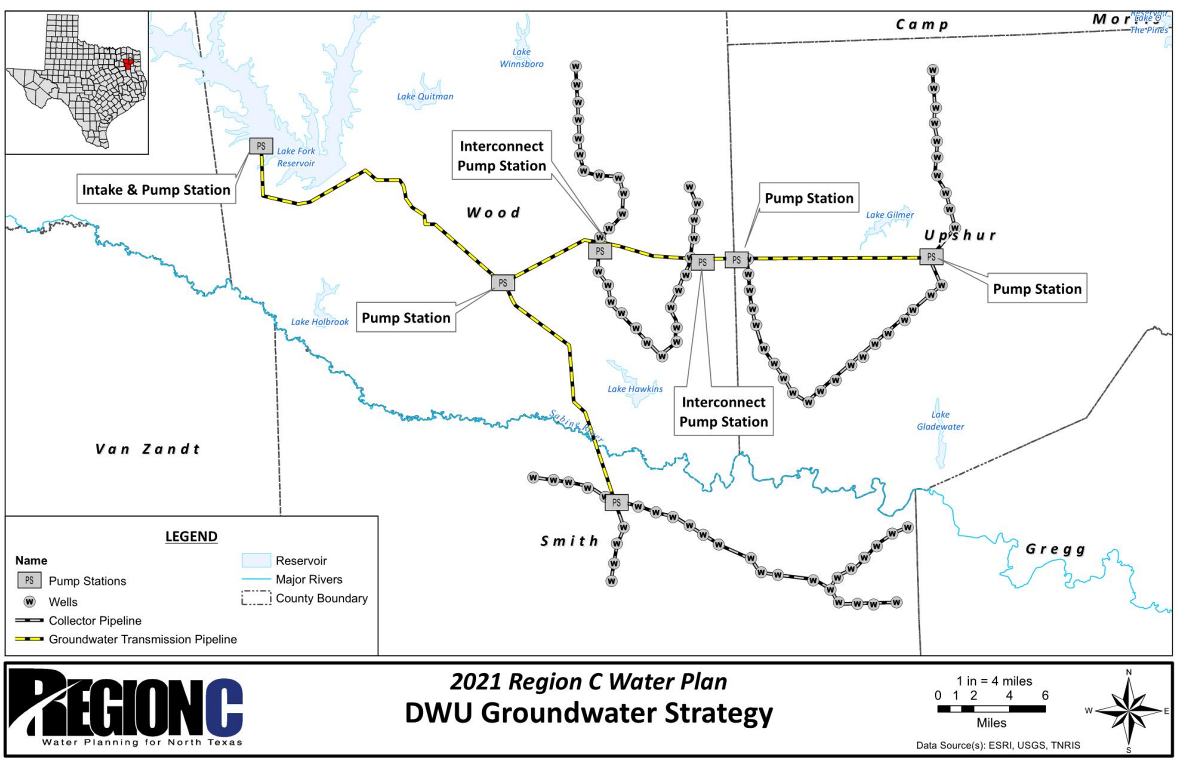
G.4.5 Carrizo-Wilcox/Queen City (Region D) Groundwater

Potential Sponsor(s):	Dallas Water Utilities
WMS/Project Type:	New Groundwater
Potential Supply Quantity:	30,000 acre-feet per year
Implementation Decade:	2020
Strategy Capital Cost:	$185,710,000
Unit Water Cost ($/kgal)	$1.78 during Debt Service; $0.75 after Debt Service
Application:	Alternative

Strategy Description

The Carrizo-Wilcox and Queen City aquifers cover a large portion of northeast Texas. This strategy evaluates the potential for groundwater development in Smith, Wood, and Upshur Counties in Region D for DWU. Use of these aquifers for other major water providers are discussed separately.

The proposed infrastructure for this strategy is as shown. Where appropriate, the wells would be co-screened in both the Carrizo-Wilcox and Queen City aquifers to provide the greatest amount of available supply. A series of wellfields and pump stations would be strategically located to transport the water 58 miles to the Lake Fork intake and pump station. From this location the groundwater would be transported to DWU Eastside water treatment plant via existing infrastructure.



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Supply Development (Quantity, Reliability, Quality)

Water Quantity

The quantity of water for this strategy is 30,000 acre-feet per year. This is less than half of the potentially available supply from the two aquifers within the target counties. Most of this supply would be from the Queen City Aquifer. There is less than 10,000 acre-feet per year of available supply from the Carrizo-Wilcox Aquifer.

There are no groundwater conservation districts (GCD) in Region D. Therefore, the quantities of available groundwater for regional planning purposes is developed by the regional water planning group. With no GCDs in the targeted counties, there are no pumping regulations or limitations. The amount of available water is limited to the economically sustainable production from specific well fields.

For this strategy, supply availability was estimated considering the reliable supply reported in the Technical Memorandum for the 2021 Region D water plan and the amount of water that is not currently being used by others. A summary of the supply potentially available for this strategy is shown on **Table G.52**.

Table G.52 Summary of Local Groundwater Availability

County	Aquifer	2020 Source Balance (Ac-Ft/Yr)	2070 Source Balance (Ac-Ft/Yr)
Smith	Carrizo-Wilcox	2,325	812
Smith	Queen City	26,964	26,403
Upshur	Carrizo-Wilcox	83	1
Upshur	Queen City	27,012	26,812
Wood	Carrizo-Wilcox	7,323	6902
Wood	Queen City	9,511	9,492
Total		**73,218**	**70,422**

Reliability

The reliability is expected to be moderately high. However, since groundwater is a property right, there could be competing development that may impact supplies. Securing sufficient groundwater rights would help protect the long-term productivity of the well fields.

Water Quality

Water is generally fresh in both the Carrizo and Queen City aquifers. While there are areas with elevated dissolved solids, the quality tends to improve near the outcrop and in the northern portion of the formation. There are areas within the Queen City Aquifer that contain high iron concentrations and high acidity. Magnesium and iron may also be a concern for the deeper portions of the Carrizo-Wilcox. Water quality testing and compatibility analyses would be needed to assess treatability.

Environmental Considerations

Environmental impacts would be low.

- **Habitat and Vegetative Cover.** Well field and transmission pipeline infrastructure were located to avoid conflicts with environmentally sensitive areas in addition to ecologically significant stream sections. Where possible, the pipeline follows existing road rights-of-way or crosses areas of agricultural use.
- **Threatened and Endangered Species.** The project area includes twenty-six species that are federally or state listed as threatened or endangered or are federal candidate species in the counties for which the project is located. No designated areas of critical habitat currently occur within the project area.
- **Environmental Water Needs.** Implementation and operation of the groundwater project will not have any impact to stream flows as the source of supply is groundwater.
- Wetlands. Impacts to wetlands associated with this project are anticipated to be low.

Permitting and Development

At this time, there are no GCDs and therefore, no groundwater permits are required. If a GCD is formed in one or more of the identified counties, the permitting requirements would be developed at that time. A federal Section 404 permit may be needed to construct the transmission pipeline. This would be confirmed during design.

While there are few regulatory requirements with this strategy, there may be public opposition to a large groundwater project that exports the water outside of the county and region.

This strategy could take 5 to 10 years to develop, considering acquisition of water rights, pilot tests, and final design and construction.

Cost Analysis

The capital costs for the well field and transmission system were obtained from the Dallas Long Range Water Supply Plan. These costs were updated to September 2018 dollars using the ENR index. Annual costs were developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for the strategy supplies are included in **Appendix H.**

Table G.53 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
DWU	$185,710,000	$1.78	$0.75	H.40

Water Management Strategy Evaluation

Groundwater provides a reliable water supply to DWU's portfolio of water resources. This source is less susceptible to drought-related impacts, such as evaporation. The source of water is relatively near existing infrastructure and other DWU resources. The quantity of water is limited and there may be water quality concerns for mixed supplies (groundwater and surface water). However, these concerns can be addressed through treatment, if needed. At this time, it is assumed that no additional treatment is required. There are few development concerns.

Further study would be needed to confirm the quantity and quality of the groundwater and verify the sustainability of this source for the long-term.

Water User Group Application

The Carrizo-Wilcox/Queen City (Region D) Groundwater strategy was evaluated for DWU. It is recommended to remain an alternative strategy by the Region C Regional Water Planning Group.

G.5 NTMWD Major Water Management Strategy Technical Memorandums

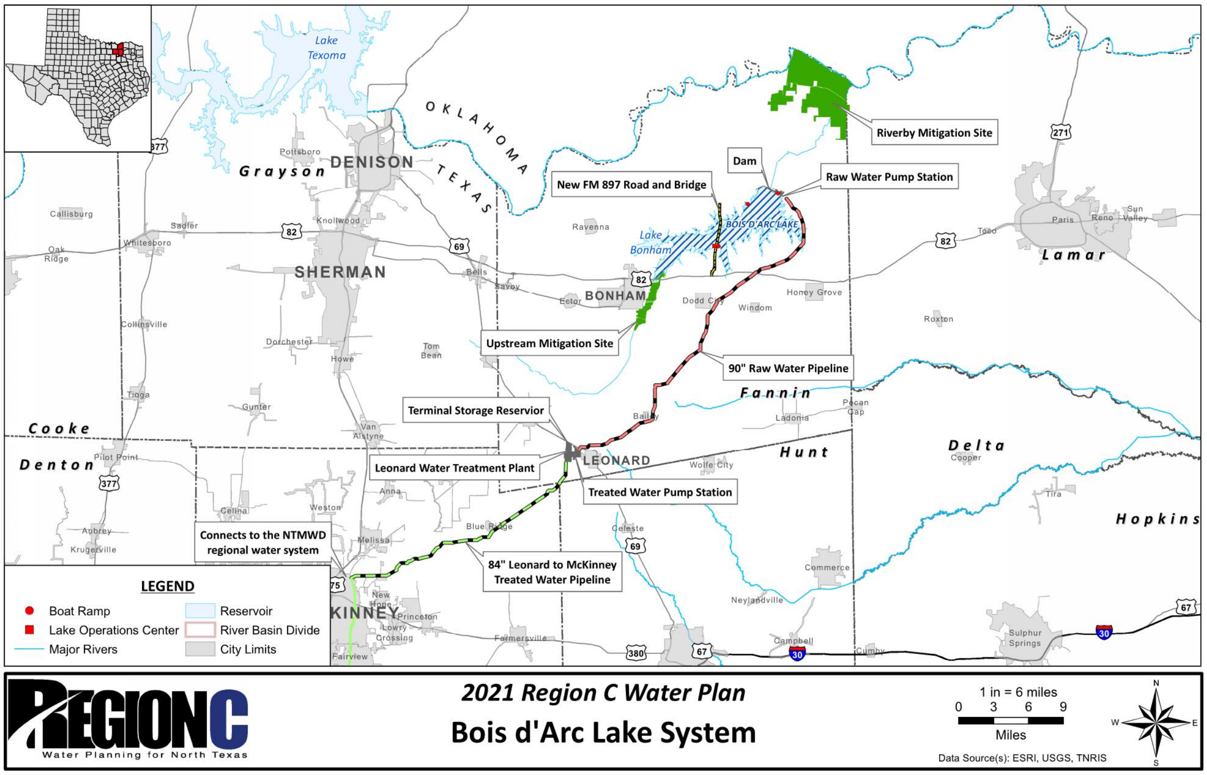
G.5.1 Bois d'Arc Lake

Potential Sponsor(s):	NTMWD
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	120,200 acre-feet per year (107 MGD)
Implementation Decade:	2020
Strategy Capital Cost:	$939,638,000
Unit Water Cost ($/kgal):	$1.49 during Debt Service; $0.25 after Debt Service
Application:	Recommended

Strategy Description

The proposed Bois d'Arc Lake, formerly known as Lower Bois d'Arc Creek Reservoir, was a recommended strategy for the North Texas Municipal Water District (NTMWD) in the past four Region C Water Plans. The project is located in Region C on Bois d'Arc Creek in Fannin County, northeast of the City of Bonham. At the conservation pool elevation of 534 feet MSL, the lake will have a surface area of 16,641 acres and a capacity of 367,609 acre-feet.

This project is currently under construction and includes the dam and lake, raw water intake, and transmission pipeline to the Leonard Water Plant (also currently under construction), and approximately 19,000 acres of mitigation. Impoundment of water is expected to begin in 2021 with initial operation beginning in 2022.



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Supply Development (Quantity, Reliability, Quality)

Water Quantity

Bois d'Arc Lake is permitted to divert 175,000 acre-feet per year. The firm yield of the reservoir is 120,200 acre-feet per year, which was obtained using the Red River Water Availability Model with the instream flow requirements specified in the water right. Supplies shown in 2020 are lower than the firm yield due to the assumption that the lake will be in the process of filling and there would be no diversions before 2022. The decrease over time is due to projected sedimentation buildup.

Table G.54 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
NTMWD	50,000	120,200	120,200	119,200	118,400	117,600

Reliability

The reliability of this water is high. This strategy will also add redundancy to NTMWD's overall water supply system during the early decades of use.

Water Quality

Water quality is expected to be good. Based on water quality modeling conducted for permitting, the average total dissolved solids in Bois d'Arc Lake are expected to be less than 200 mg/l.

Environmental Considerations

Bois d'Arc Lake would inundate 16,641 acres, and construction of the project would impact a total of 17,068 acres for the dam and lake and 860 acres for the transmission system. A jurisdictional determination was conducted for the reservoir in 2007. Based on this study, there are 5,874 acres of wetlands and 651,024 linear feet of streams within the project site. The vegetative cover types for the lake and dam are shown on **Table G.55.**

Table G.55 Vegetation Cover Types for Bois d'Arc Lake

Habitat Type	Acreage
Evergreen Forest	228
Upland / Deciduous Forest	2,216
Riparian Woodland / Bottomland Hardwood	1,728
Forested Wetland	4,602
Shrubland	63
Shrub Wetland	49
Grassland / Old Field	4,761
Emergent / Herbaceous Wetland	1,223
Cropland	1,757
Riverine	219
Lacustrine	87
Tree Savanna	132
Shrub Savanna	4
Total	**17,068**

There are three federally listed threatened and endangered species in Fannin County (Interior Least Tern, Piping Plover and Red Knot), but there are no habitats for these species within the Bois d'Arc Lake project area. Of the state listed species potentially located in Fannin County, five fish, three mussel and three reptile species have potential habitat in the project area. However, none of these species were observed or collected during field studies for the reservoir.

NTMWD developed a mitigation plan to mitigate for impacts associated with the reservoir project. This plan has been accepted by the state and the USACE. Mitigation construction has begun.

Permitting and Development

NTMWD has been granted the necessary permits to construct Bois d'Arc Lake. These permits include a water right permit, an interbasin transfer permit, and a Section 404 permit.

The project is currently under development and expected to be online by 2022.

Cost Analysis

The cost estimate for Bois d'Arc Lake is based on actual construction costs provided by NTMWD and as reported in the project's Monthly Program Reporting. Financing costs are based on actual financing terms and conditions for the project. Other annual costs were developed following TWDB guidance for operation and maintenance costs.

Cost estimates for this strategy are included in **Appendix H.**

Table G.56 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
NTMWD	$939,638,000	$1.49	$0.25	H.46

Water Management Strategy Evaluation

Bois d'Arc Lake will provide NTMWD with sufficient supply to meet its demands through 2030. It also provides a new fresh water source that NTMWD intends to use to blend with its existing Lake Texoma supplies. These two sources will provide sufficient water to NTMWD for the next 20 years.

Additionally, the development of the lake and approved mitigation will provide approximately 50,000 acres of aquatic and terrestrial habitat along a 42-mile corridor adjacent to and connected by Bois d'Arc Creek.

Water User Group Application

The Bois d'Arc Lake project is a recommended strategy for NTMWD. Water from Bois d'Arc Lake will be used as part of NTMWD's system and will meet the needs of NTMWD customers. Consideration was given to where the water can be used based on the IBT permit. No customers outside of the Red and Trinity Basins, and Sulphur Basin within Fannin County, were assigned supply from this strategy.

G.5.2 Expanded Wetland Reuse

Potential Sponsor(s):	NTMWD
WMS/Project Type:	Reuse
Potential Supply Quantity:	37,510 acre-feet per year
Implementation Decade:	2030
Strategy Capital Cost:	$625,891,000
Unit Water Cost ($/kgal):	$5.03 during Debt Service; $2.30 after Debt Service
Application:	Recommended

Strategy Description

The proposed Expanded Wetland Reuse project will treat return flows from wastewater treatment plants owned and operated by NTMWD and the City of Dallas. The return flows will be pumped from a pump station on the Trinity River and delivered to a new constructed wetlands facility and membrane treatment plant for nutrient removal before being blended in Lake Lavon. At this time specific locations for the pumping facility, the new wetlands and the membrane treatment plant have not been identified. For costing purposes, it was assumed that the pumping facilities would be located near the existing Main Stem Pump Station and the wetland near the existing East Fork Wetland projects in Kaufman and Ellis County.

The return flows for this project come from two sources. The first is through growth in return flows from plants owned and operated by NTMWD that discharge into the East Fork of the Trinity River. It is expected that the quantity of return flows available from this source will exceed the treatment capacity of the existing East Fork Wetlands by the year 2030. The second source of water for the project are return flows from Dallas' (DWU) Central and Southside wastewater treatment plants, provided through a swap agreement between DWU and NTMWD. This agreement provides NTMWD return flow from DWU's Central and Southside WWTPs in equal exchange for NTMWD's return flows into DWU's reservoirs. The return flows available for the pump station and wetland expansion are shown in **Table G.57**.

Supply Development (Quantity, Reliability, Quality)

Water Quantity

Table G.57 shows the quantity of water expected to be produced by the project over the planning period. The water quantity is based on expected growth in return flows in the East Fork and Lake Lewisville watersheds. The quantities also consider losses during treatment in the wetlands, as well as estimates of water bypassed for environmental purposes.

Table G.57 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Elm Fork Swap	0	2,289	3,663	7,723	11,153	15,346
Additional East Fork Reuse	0	9,845	19,551	28,708	36,655	44,137
Total	**0**	**12,134**	**23,214**	**36,431**	**47,808**	**59,483**

Reliability

The reliability of the reuse supplies is high. There is the potential for the reuse supplies to develop at a faster or slower rate, depending on the volume of return flows.

Water Quality

The water quality is expected to be good. The wetlands will filter out excess nutrients and pollutants and trap natural sediment and organic matter, providing higher quality water than diverted from the Trinity River.

Environmental Considerations

The most significant environmental consideration for this project will be the permitting of the reject stream from the membrane treatment facility. For this conceptual design it will be assumed that this reject stream will be returned to the Trinity River. A benefit of the project is that the created wetlands will provide habitat for wildlife. The project assumes that environmental flows similar to those applied to existing permits will be applied to the authorizations for this project.

Permitting and Development

The proposed project would require an amendment to the existing NTMWD reuse water rights for the additional return flows and the expanded wetlands. A federal Section 404 permit would be needed to construct the intake pump station, pipelines, and wetlands because of possible impacts to waters of U.S. The project is expected to be online by 2030. A TPDES wastewater discharge permit will be required for the reject stream from the membrane treatment facility. There are no know development issues.

Cost Analysis

TWDB costing guidance was followed for pump stations, pipelines and water treatment plants. Wetlands costs are based on the TRWD Cedar Creek Reuse Project. Annual costs were developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for this project are included in **Appendix H.**

Table G.58 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
NTMWD	$625,891,000	$ 5.03	$ 2.30	H.51

Water Management Strategy Evaluation

The Expanded Wetland Reuse strategy provides NTMWD with a new water supply in an ecologically sustainable manner. The source water will increase over time as return flows increase, providing a highly reliable supply. The created wetland also provides increased habitats for wildlife.

Water User Group Application

The Expanded Wetland Reuse strategy will provide water to NTMWD customers. This strategy is recommended for NTMWD by the Region C Regional Water Planning Group.

G.5.3 Cypress Basin Supplies (Lake O' The Pines)

Potential Sponsor(s):	NTWMD
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	50,000 acre-feet per year
Implementation Decade:	2030
Strategy Capital Cost:	$ 567,896,000
Unit Water Cost ($/kgal):	$2.83 during Debt Service; $0.94 after Debt Service
Application:	Alternative

Strategy Description

Lake O' the Pines is an existing Corps of Engineers reservoir, with Texas water rights held by the Northeast Texas Municipal Water District (NETMWD). The lake is on Cypress Creek in the Cypress Basin in Senate Bill One water planning Region D, the North East Texas Region. Some Metroplex water suppliers have explored the possibility of purchasing supplies in excess of local needs from the Cypress Basin for use in the Metroplex.

Lake O' the Pines is about 120 miles from the Metroplex, and the distance and limited supply make this a relatively expensive water management strategy. Based on the most recent information available from Region D, there is no available water from the Lake o' the Pines Reservoir. However, this is through contracted amounts and not actual use. This strategy is therefore maintained as a potentially feasible strategy, as water could potentially be purchased by Region C water providers.

Supply Development (Quantity, Reliability, Quality)

Water Quantity

Supply Availability was determined using the Cypress Basin WAM.

Table G.59 Summary of Quantities

Description	Quantity
NTMWD	50,000

Reliability

The water from this strategy would be moderately reliable. There is currently no available water remaining in the reservoir, however additional supplies could be gained by purchasing surplus supplies from those with contracts. As demands increase for the water users who hold the existing contracts, there will be less surplus supplies to sell to Region C water users.

Water Quality

The water quality is expected to be good.

Environmental Considerations

Since the Lake O' the Pines water management strategy obtains water from an existing source, the environmental impacts are expected to be low.

- **Threatened and Endangered Species.** There are 29 threatened and endangered species potentially impacted by this WMS, based on the species listed in the counties in which this WMS is located.

Permitting and Development

Development of this source would require contracts with NTMWD and other Cypress River Basin suppliers with excess supplies, and an interbasin transfer permit.

Cost Analysis

For the Region C cost analysis, planning level opinion of costs have been developed using the TWDB's costing tool, except where more detailed cost analysis has been provided by the WUG or WWP. In accordance with TWDB Guidance, the analysis of costs for recommended and alternative WMSs includes capital costs, debt service, and annual operating and maintenance expenses over the planning horizon.

Costs include expenses associated with infrastructure needed to convey water from sources and treat water for end user requirements.

Cost estimates for this strategy are included in **Appendix H.**

Table G.60 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
NTMWD	$ 567,896,000	$2.83	$0.94	H.54

Water Management Strategy Evaluation

Based on the analysis provided above, the Cypress Basin Supplies (Lake O' the Pines) strategy was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan.

Water User Group Application

The Cypress Basin Supplies (Lake O' the Pines) strategy was evaluated for NTWMD and customers. This is an alternative strategy for NTMWD.

G.5.4 Carrizo-Wilcox Groundwater from Region I

Potential Sponsor(s):	NTMWD
WMS/Project Type:	New Groundwater
Potential Supply Quantity:	42,000 acre-feet per year
Implementation Decade:	2030
Strategy Capital Cost:	$607,023,000
Unit Water Cost ($/kgal):	$3.60 during Debt Service; $1.19 after Debt Service
Application:	Alternative

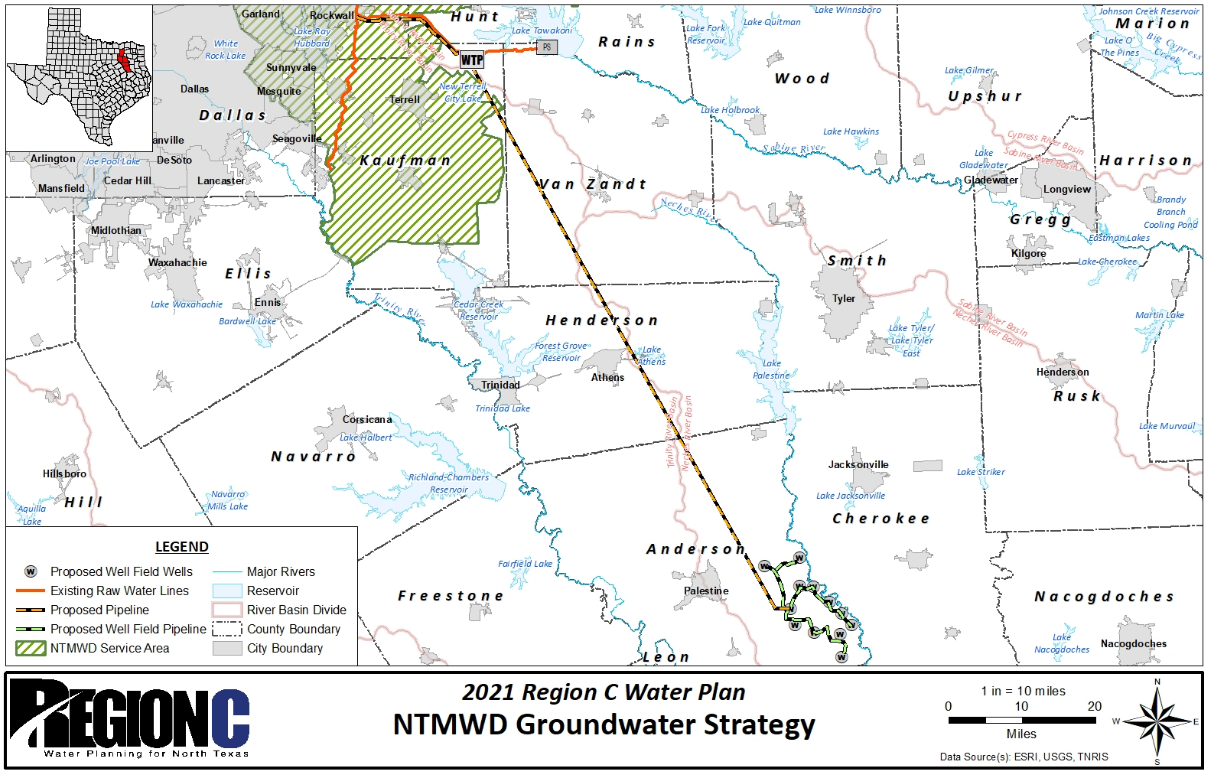
Strategy Description

A local water marketer has groundwater holdings in multiple counties in east Texas south of Lake Palestine. A portion of these holdings, as shown, lies in the eastern part of Anderson county. Additionally, there are groundwater supplies available in Wood, Upshur and Smith counties.

This strategy would develop a well field and pump the water to existing infrastructure near Lake Tawakoni. Much of NTMWD's Sabine Basin supply is transported to Lake Lavon for subsequent diversion and treatment, but an interim contract with SRA for 40,000 acre-feet expires in 2025. The proposed groundwater supplies would provide up to 42,000 acre-feet per year of supply. This could replace the current interim supplies from SRA for NTMWD.

This strategy assumes that new infrastructure is needed from the well field to existing transmission facilities. For NTMWD, the new infrastructure would connect a well field in Anderson County to NTMWD's existing 84-inch East Fork Wetlands Project pipeline. The groundwater would then be transported to Lake Lavon using the existing 84-inch pipeline as shown. The existing pump station and 54-inch raw water pipeline from the Lake Tawakoni water treatment plant to the East Fork Wetlands Project pipeline will be converted to a treated water line in the near future and is not available for this strategy.

The additional infrastructure for this project includes a new well field, pump station and transmission pipeline from the well field to the Lake Tawakoni water treatment plant, and a new pump station and 60-inch pipeline from the water plant to the existing 84-inch East Fork Wetlands Project pipeline.



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Supply Development (Quantity, Reliability, Quality)

Water Quantity

Previous studies indicate there is approximately 42,000 acre-feet of groundwater available from the Carrizo-Wilcox and Queen City aquifers beneath existing holdings in Anderson County. The amount of water from each aquifer was not distinguished.

Table G.61 shows the total amount of supply available from each aquifer for Anderson County, the amount that is currently being used, and the resulting amount that could potentially be developed.

For planning purposes, this strategy is sized for the full 42,000 acre-feet per year. However, the amount of groundwater that could be developed under regional planning rules is limited to about 25,000 acre-feet per year. This allows some additional development for local use.

Table G.61 Summary of Quantities

County	Aquifer	Basin	Total Available MAG[a] (Ac-Ft/Yr)	Amount Currently Used (Ac-ft/yr)	Amount Available
Anderson	Carrizo-Wilcox	Neches	23,335	5,561	17,774
Anderson	Queen City	Neches	11,828	1,354	10,474
Total			**35,163**	**6,915**	**28,248**

[a]*Modeled Available Groundwater (MAG) values and existing use reported for the Neches portion of the basin.*

Reliability

The reliability is low to moderate. Previous studies indicate the water is available, but the regulatory framework does not confirm these amounts. Even with regulatory management of these aquifers, the aquifers are subject to recharge and pumpage from other users, both within the GCD and adjacent areas.

Water Quality

Water from the Carrizo-Wilcox and Queen City aquifers in Anderson County is fresh water with TDS levels of 200 to 300 mg/l. Assuming the quality of water from the well field is similar, there should not be any impacts to receiving waters (e.g., Lake Lavon). If the water quality is poorer, further study would likely be needed to confirm any potential additional impacts to water quality.

Environmental Considerations

Environmental impacts would be low. The pipeline would require multiple stream crossings, but likely could be routed to avoid and/or minimize environmentally sensitive areas.

Permitting and Development

Anderson County is in the Neches and Trinity Valley GCD. Development of a well field would require groundwater permits. As shown in Table 1, the amount of water that could be permitted under the current Modeled Available Groundwater (MAG) value is less than the proposed total quantity for this strategy. This poses some uncertainty on whether the full 42,000 acre-feet per year can be permitted. Under current law, the groundwater conservation districts must manage to the Desired Future Conditions (DFCs) as established by the Groundwater Management Areas. These DFCs are represented by the MAG values. Exceedance of the MAG is indicative of exceedance of the DFC. With the current MAG values, it is uncertain whether this well field could be permitted at the full amount without changes to the DFCs.

The construction of groundwater project such as described above could be implemented by 2030. This time frame includes negotiations with seller, water testing, design and construction of the infrastructure. Permitting of the wells may take more time if the DFCs have to be amended and/or the permit application is protested. The next update of the DFCs is scheduled for 2021.

Cost Analysis

Detailed cost estimates for this strategy were provided by the sponsor where available. These costs are more detailed estimates developed during planning and/or design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for the strategy supplies are included in **Appendix H.**

Table G.62 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
NTMWD	$607,023,000	$3.60	$1.19	H.56

Water Management Strategy Evaluation

This strategy can provide additional supplies, but the reliability is uncertain. Changes in GCD operating rules and DFCs, as well as the MAG, for this source of groundwater would likely be needed in order to permit the well field. There is uncertainty whether the quantities as specified in this alternative can actually be permitted. Supply amounts can change based on changes in regulatory rules. This can impact the long-term reliability of this source.

There also may be political opposition to a large export of local groundwater. This could delay the project and increase costs.

Water User Group Application

The Carrizo Groundwater Project for NTMWD is recommended to remain as an alternative strategy by the Region C Regional Water Planning Group.

G.6 TRWD Major Water Management Strategy Technical Memorandums

G.6.1 Aquifer Storage and Recovery Pilot

Potential Sponsor(s):	TRWD
WMS/Project Type:	Aquifer Storage and Recovery
Potential Supply Quantity:	5,000 acre-feet per year during drought
Implementation Decade:	2020
Strategy Capital Cost:	$ 14,264,000
Unit Water Cost ($/kgal):	$0.92 during Debt Service; $0.30 after Debt Service
Application:	Recommended

Strategy Description

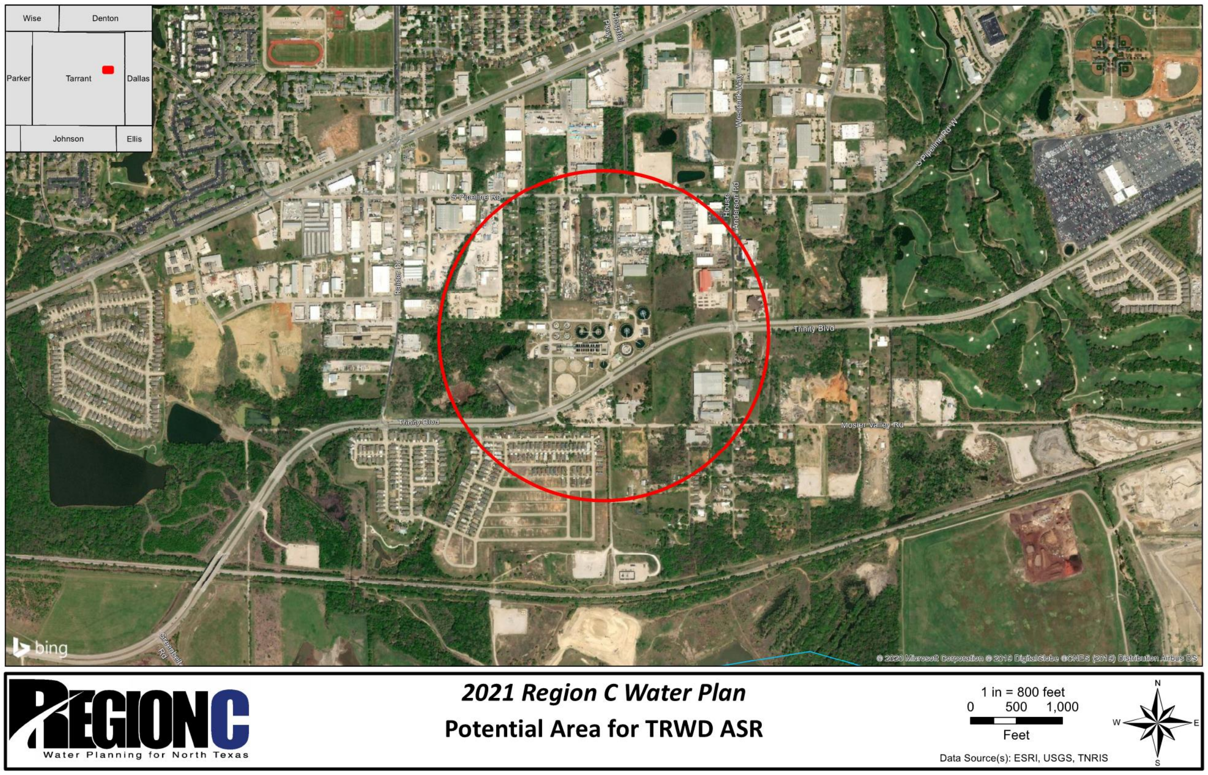
Aquifer Storage and Recovery (ASR) is a water management solution that allows for storing surplus water in local aquifers during periods of excess surface water availability and withdrawing the stored water later during periods of drought or peak demands. TRWD is currently evaluating the potential for an ASR project near an existing surface water treatment facility. This pilot study is on-going, and the results are not available.

Conceptually, the ASR project would treat excess surface water at an existing water treatment plant. The treated water would then be stored in the Trinity Aquifer during low demand winter or spring months and normal to wet years. This concept recognizes that during drought conditions, the ability to store water may be limited. Therefore, this project would likely be operated as part of a system that stores water during wet periods and uses stored water during dry periods.

An ASR system for TRWD would consist of a combination of the following infrastructure elements:

- Wellfield facilities (3 recharge / recovery wells) and wellfield piping. Wells are approximately 1,000 to 1,500 feet below the ground surface.

Should additional treatment be needed after recovering the stored water, the treatment would be provided by the end user.



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Supply Development (Quantity, Reliability, Quality)

Water Quantity

It is assumed that the source of water for this strategy would be excess surface water from water rights owned by TRWD. The project is sized to store up to 5,000 acre-feet per year over a three-year period and recover this amount over a two-year period. Water would be pumped directly to the water treatment and ASR site from existing raw water transmission systems. The water is treated to a level that will not degrade receiving formation groundwater. The water is then recharged into the receiving formation through recharge wells. It is assumed that these facilities are sized to transport and recharge 1,600 acre-feet per year over a 9-month period, with a peaking factor of 1.25. This provides the peak capacity to recover and utilize excess flows over a short period and store sufficient quantities to meet demands during dry periods. The assumed maximum recharge/recovery capacity for each well is 450 gpm.

Table G.63 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
TRWD	2,500	2,500	5,000	5,000	5,000	5,000

Reliability

Successful ASR development is highly reliable. It is normally possible to achieve 90-95% recovery efficiency. Challenges to reliability include natural groundwater flow away from the ASR site and the associated drift of the storage bubble, thus reducing available supplies. This migration of stored water is an important consideration in determining the reliability and viability of an ASR project. The potential for migration increases as residence time in the aquifer increases. Also, since withdrawal of groundwater is a property right, competition with other nearby users could reduce the reliability of this water. One way to address the issue of other competing wells is to own the property rights over the storage bubble, which would increase strategy costs.

Water Quality

Because of the guidelines stipulated in the ASR regulations for Texas, the quality of the recharge water must not degrade the quality of the receiving aquifer, which is generally good. The recovered ASR water would be treated to standards required by the end use unless the native groundwater quality is equivalent to the potable water quality. When recharge water is treated to meet drinking water standards prior to storage, the recovered water may only need simple re-disinfection prior to being distributed to end-users.

Environmental Considerations

Environmental impacts are expected to be low. The footprint of an ASR project may be significantly smaller than a surface reservoir project of similar storage capacity and eliminates the need to inundate large areas of land. The transmission system and the ASR facilities can be designed to avoid environmentally sensitive areas. As previously mentioned, the recharge water must not degrade the quality of the groundwater in the receiving aquifer.

The challenge will be to locate the facilities (transmission, treatment, and wellfield) in areas that are increasingly urban.

Permitting and Development

There is much support for developing ASR projects in Texas, but the principal challenge for development is identifying appropriate receiving formations and aquifer zones that are near areas of water sources and demand. The Texas Legislature has enacted legislation to remove some of the legal and regulatory obstacles that have previously impeded application of this technology. This legislation now allows the water quality of the recharge water to be such that it does not degrade the quality of water in the formation (versus drinking water standards) and permits the recovery of nearly the same amount of recharge water under the new ASR regulations. However, there remains concerns for protection of the water once it is recharged for storage. Since groundwater is considered a property right, stored ASR water can become subject to competition for use by other property owners, especially if the natural flow is not restricted.

Recharge wells for ASR projects are regulated by TCEQ's Underground Injection Control (UIC) program and are classified as Class V Injection Wells. Thus, they must be permitted pursuant to Chapter 27, Texas Code, and Chapter 331, Title 30 of the Texas Administrative Code.

An ASR project may require groundwater permits from GCDs. The Northern Trinity GCD (Tarrant County) does not require permits for wells that are used solely for ASR. If a withdrawal well also extracts native groundwater, a permit is required.

Cost Analysis

For the Region C cost analysis, planning level opinions of costs for this strategy have been developed using the TWDB's costing tool. In accordance with TWDB Guidance, the analysis of costs for WMSs includes capital costs, debt service, and annual operating and maintenance expenses over the planning horizon. This strategy assumes that there are no purchased water costs, and water already developed by a sponsor is the source for the ASR project.

Cost estimates for this project are included in **Appendix H.**

Table G.64 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
TRWD	$14,264,000	$0.92	$0.30	H.28

Water Management Strategy Evaluation

ASR provides a drought resiliency strategy that has considerable potential for users with sources of excess water. Depending upon the storage formation, the recovery efficiency could be as high as 90 to 95 percent. Care must be taken to limit losses due to the natural movement of groundwater and competition from adjacent landowners.

Further study is needed to address technical uncertainties. Technical operation of the system may pose challenges to infrastructure that may not be used regularly.

Water User Group Application

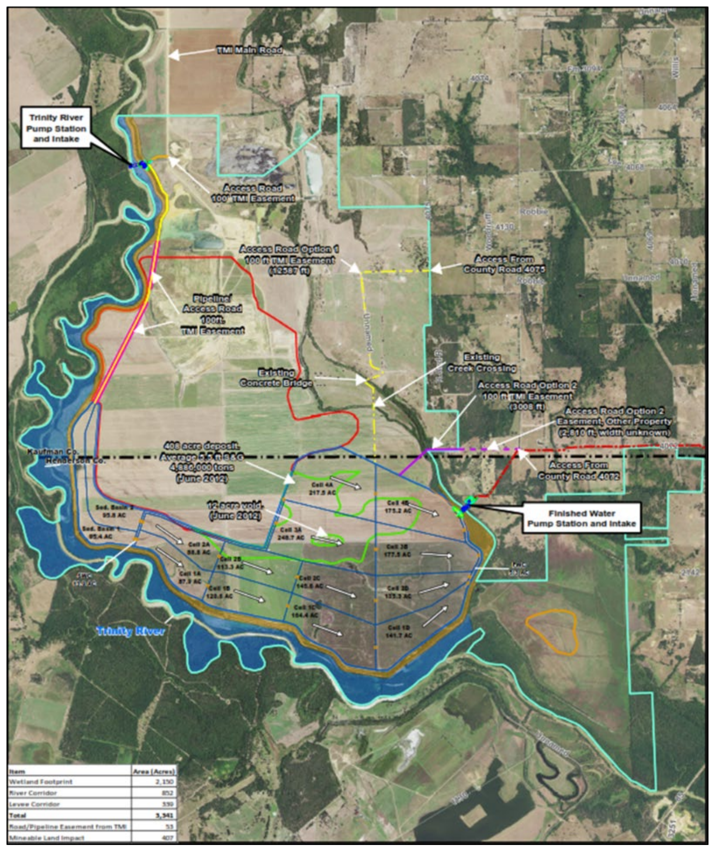
This strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

This is a recommended strategy for TRWD.

G.6.2 Cedar Creek Wetland

Potential Sponsor(s):	Tarrant Regional Water District
WMS/Project Type:	Reuse
Potential Supply Quantity:	88,059 acre-feet per year
Implementation Decade:	2030
Strategy Capital Cost:	$226,318,000
Unit Water Cost ($/kgal):	$0.94 during Debt Service and $0.51 after Debt Service
Application:	Recommended

Strategy Description



The Tarrant Regional Water District (TRWD) has water rights allowing the diversion of return flows of treated wastewater from the Trinity River. To utilize these flows, TRWD has developed a reuse project at Richland-Chambers Reservoir. Treated wastewater is discharged to the Trinity River and its tributaries, flows downstream, is pumped from the Trinity River into the constructed George W. Shannon Wetlands and then pumped into Richland-Chambers Reservoir. The reuse water is then diverted from Richland-Chambers Reservoir and transported to the TRWD service area. However, this project can only divert and treat a portion of the permitted reuse supplies. To fully utilize the available reuse, TRWD will develop a similar reuse project at Cedar Creek Reservoir. In November 2014, TRWD's certificates of adjudication for these reuse projects were amended to increase the total permitted reuse supply to 188,524 acre-feet per year. This includes 100,465 acre-feet per year at Richland-Chambers and 88,059 acre- feet per year at Cedar Creek Reservoir.

This strategy addresses the development of a reuse project at Cedar Creek Reservoir, which includes a new diversion structure, created wetlands, and infrastructure necessary to discharge the treated return flows into Cedar Creek Reservoir. The wetlands will be constructed adjacent to the Trinity River, east of the City of Ennis as shown. The reuse supplies would then be diverted from the lake and transported by the Integrated Pipeline (see Integrated Pipeline Technical Memorandum).

Supply Development (Quantity, Reliability, Quality)

Supply availability was evaluated by the Region C Consultants with consideration to the maximum return flow available to TRWD for diversion.

Water Quantity

The water quantity for the Cedar Creek Wetlands considers available return flows, amount diverted and treated by the Richland Chambers Wetlands, and any evaporative losses during treatment in the wetlands. As municipal water demands increase, the available return flows increase. The quantity of supplies available through this strategy is summarized in **Table G.65**. According to these projections, the project will not reach the total permitted amount (88,059 AFY) until after 2070.

Table G.65 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
TRWD	0	38,323	55,807	70,819	83,870	88,059

Reliability

The reliability of the reuse supplies is high. There is the potential for the reuse supplies to develop at a faster or slower rate, depending on the volume of return flows.

Water Quality

The water quality is expected to be good. The wetlands will filter out excess nutrients and pollutants and trap natural sediment and organic matter, providing higher quality water than diverted from the Trinity River.

Environmental Considerations

There are no significant environmental considerations associated with this strategy. The wetlands will be designed to handle the volume and quality of the return flows appropriately. In addition to their function of improving the water quality of the diversions, the created wetlands will provide habitat for wildlife.

There are no federally listed threatened and endangered species at the proposed Cedar Creek wetlands site. State listed species that could potentially be impacted are five mussel species: the Texas Pigtoe, Sandbank Pocketbook, Southern Hickorynut, Louisiana Pigtoe, and Texas Heelsplitter. A survey would need to be conducted to confirm the presence of any of these species at the site.

Permitting and Development

Tarrant Regional Water District has already secured water right permits to develop the wetlands on Cedar Creek. A federal Section 404 permit would be needed to construct the intake pump station, pipelines, and wetlands because of possible impacts to waters of U.S. TRWD acquired the property for the Cedar Creek Wetlands in 2014 and is in the process of acquiring the site and right-of-way for the finished water pipeline and pump station facilities.

The project is expected to be online by 2030. There are no known development issues.

Cost Analysis

Capital construction costs for this project were obtained from TRWD based on 30% design of pump stations and pipelines and 10% design for wetlands sedimentation basins and cells. Original capital costs were in 2013 dollars and were updated to September 2018 dollars using the ENR index. Annual costs were developed following TWDB guidance for debt service, operation and maintenance costs, and pumping costs.

Cost estimates for this project are included in **Appendix H.**

Table G.66 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
TRWD	$226,318,000	$0.94	$0.51	H.29

Water Management Strategy Evaluation

The Cedar Creek Wetland provides TRWD with a low-cost water supply in an ecologically sustainable manner. The source water will increase over time as demands increase, providing a highly reliable supply. Additionally, the strategy is to pump water out of the reservoirs and to TRWD customers on the same day as it is delivered from the wetlands. This eliminates evaporative losses and will not impact reservoir storage that could otherwise be used. The created wetlands also provide increased habitats for wildlife and a source of clean water to Cedar Creek Lake.

Water User Group Application

The Cedar Creek Wetland Reuse Project is sponsored by TRWD and the strategy is recommended for TRWD by the Region C Regional Water Planning Group. The water provided from the Cedar Creek Wetland Reuse Project will be used by TRWD customers.

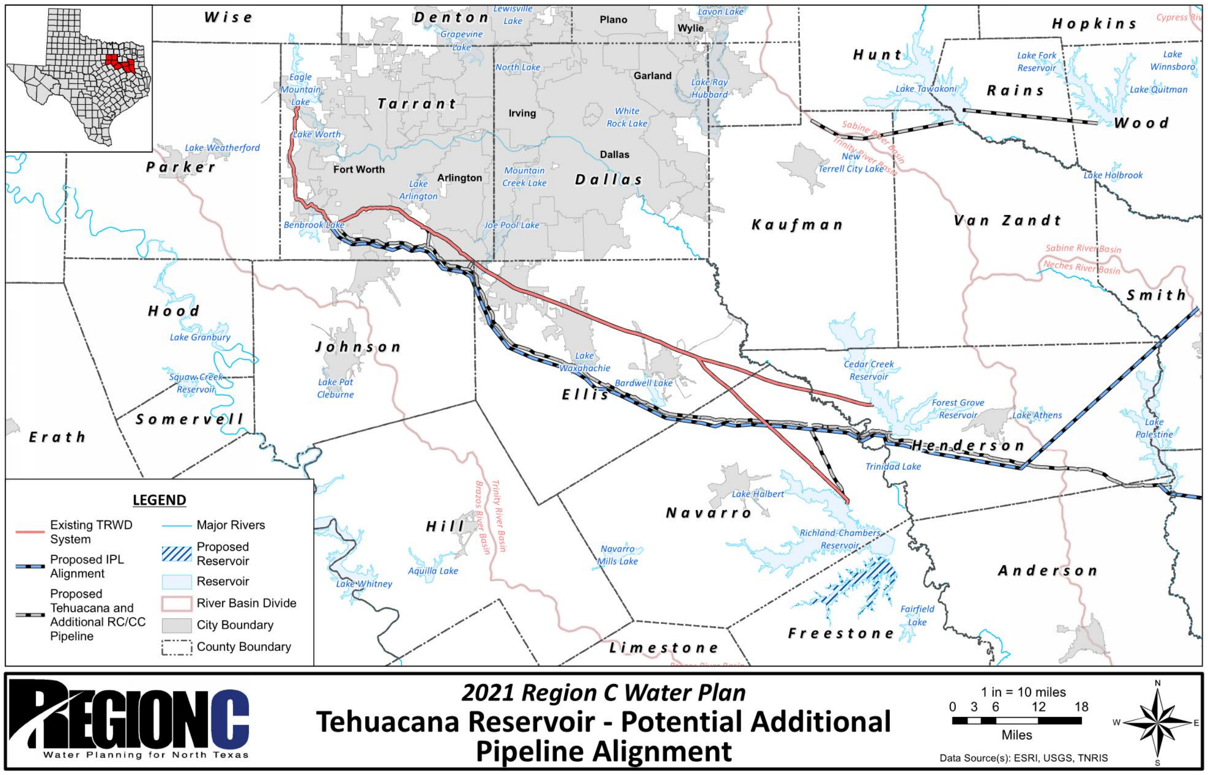
G.6.3 Tehuacana Reservoir

Potential Sponsor(s):	Tarrant Regional Water District
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	21,070 acre-feet per year
Implementation Decade:	2040
Strategy Capital Cost:	$325,468,000
Unit Water Cost ($/kgal):	$3.28 during Debt Service; $0.96 after Debt Service
Application:	Recommended

Strategy Description

Tehuacana Reservoir is a proposed reservoir in Freestone County on Tehuacana Creek within the Trinity River Basin. Tehuacana Creek is a tributary of the Trinity River and lies immediately south and adjacent to Richland Creek on which the existing Richland-Chambers Reservoir is located. Tehuacana Reservoir would connect to Richland-Chambers Reservoir by a 9,000-foot channel and be operated as an integrated extension of that reservoir. The project would have a firm yield of 25,400 acre-feet per year and a safe yield of 21,070 acre-feet per year. The reservoir would store approximately 338,000 acre-feet and inundate approximately 15,000 acres. The existing spillway for Richland-Chambers Reservoir was designed to provide enough discharge capacity to accommodate the increased flood flows from Tehuacana Reservoir for the probable maximum flood event at the time of design. Therefore, it is assumed that the dam for Tehuacana Reservoir can be constructed without a spillway and can function as merely increased storage for the Richland-Chambers-Tehuacana Reservoir. Supplies derived from Tehuacana would be transported from the expanded reservoir utilizing existing and proposed TRWD transmission facilities.

The strategy includes a zoned earthen embankment with a maximum height of 81 feet, a 9,000-foot channel at elevation 290 feet connecting to Richland-Chambers Reservoir and a booster pump station to access the full yield of Tehuacana down to elevation 270 feet. According to the TRWD's Integrated Water Supply Plan, because the Integrated Pipeline will not be operated at full capacity in the near terms, Tehuacana supply will be initially delivered through facilities included in the IPL Project. In the future however, the IPL will become fully utilized to deliver existing permitted supplies. At that point a new pipeline will be needed to convey Tehuacana yield. The new pipeline could be built within the IPL right of way and designed to carry Tehuacana yield as well as supply sources from Southeast of Dallas/Fort Worth as shown. Costs for this new, parallel pipeline are not currently included in this strategy cost estimate but are included as a separate strategy cost since this infrastructure will be associated with other supplies aside from Tehuacana Reservoir supplies.



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Supply Development (Quantity, Reliability, Quality)

The supply available for Tehuacana Reservoir was developed using the Trinity Basin Water Availability Model (WAM), modified for Region C strategy evaluation. This model includes the adopted environmental flow standards for the Trinity Basin. It also includes an estimate of the environmental flows at the reservoir site based on scaling the SB3 standards (using naturalized flows and drainage area ratios) from the Trinity River near Oakwood (USGS 0806500), shown in **Table G.67**. The scaling is based on methods recommended by TCEQ (Wood, 2013).

Table G.67 Environmental Flow Criteria for Tehuacana Reservoir

Season	Subsistence	Base	Pulse (2 per Season)
Winter	3 cfs	9 cfs	Trigger: 104 cfs Volume: 500 af Duration: 4 days
Spring	4 cfs	12 cfs	Trigger: 243 cfs Volume: 3,285 af Duration: 8 days
Summer	2 cfs	7 cfs	Trigger: 87 cfs Volume: 639 af Duration: 4 days
Fall	3 cfs	7 cfs	Trigger: 87 cfs Volume: 639 af Duration: 4 days

Water Quantity

Tehuacana Reservoir was analyzed as a stand-alone project junior to all existing Trinity Basin priority rights. TRWD uses safe yield for its reliable supply estimates. The stand-alone safe yield of Tehuacana Reservoir is 21,070 acre-feet per year, which includes environmental flow releases as shown in **Table G.67**. However, if other new water rights are granted in the Trinity River Basin prior to obtaining a water right for this project, the yield of the reservoir could be affected. The yield has already been reduced from previous estimates due to new water rights and the incorporation of the environmental flow standards.

The yield of the project may offer more benefit to the TRWD system than indicated by the safe yield. The additional storage may provide more opportunity to use water from the TRWD Richlands reuse project and the TRWD Excess Flows permit. Additional studies will be required to evaluate this benefit.

Reliability

The reliability is expected to be moderately high. The use of safe yield provides a buffer if there is a new drought of record.

Water Quality

The water quality is expected to be adequate with composition like Richland-Chambers Reservoir.

Environmental Considerations

The reservoir is a new source of surface water, therefore environmental impacts have the potential to be greater than other strategies utilizing existing sources.

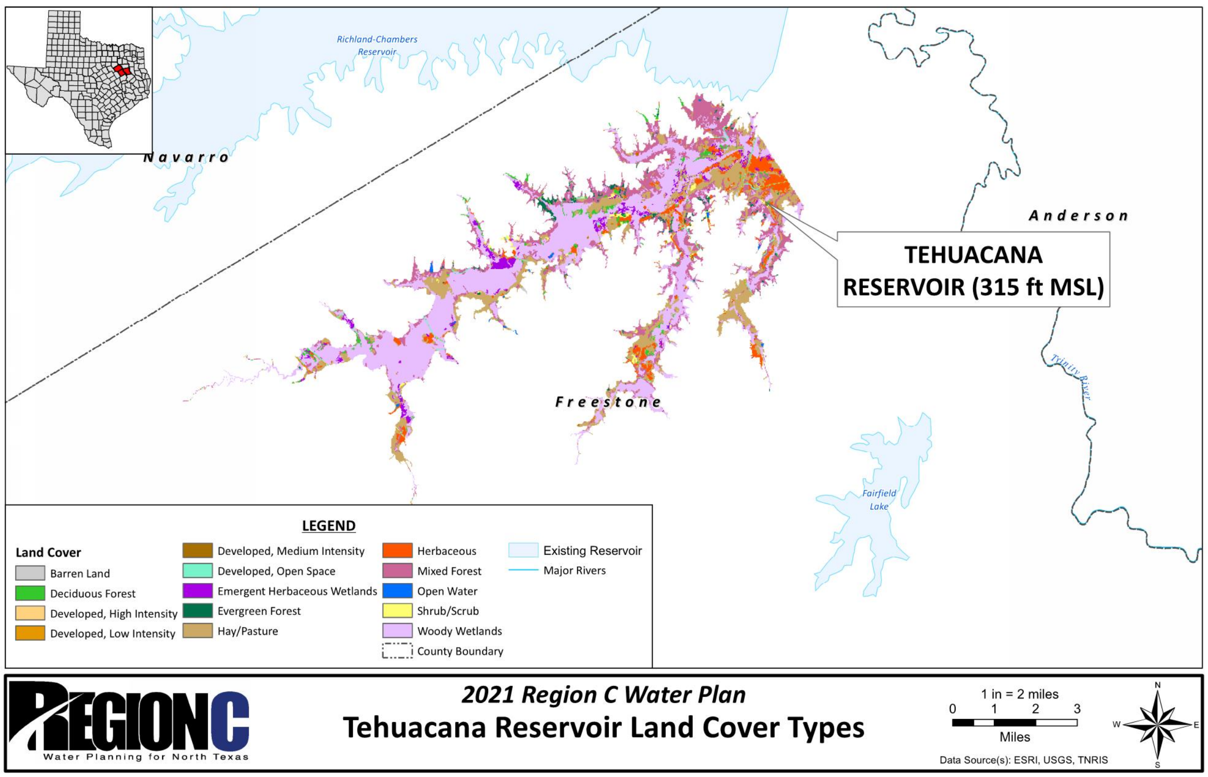
- **Habitat and Vegetative Cover.** Tehuacana Reservoir would inundate about 15,000 acres adjacent to Richland-Chambers Reservoir. Most of the reservoir site is classified as upland deciduous forest and grassland. Less than 3 percent is presently classified as marsh or open water. There are about 1,200 acres of bottomland hardwood forest, which is concentrated near the dam site (see **Figure G.11**). There are no priority bottomland hardwoods within the site, but the Tehuacana Reservoir site is also located immediately upstream of two Priority 5 bottomland hardwood preservation sites identified as Tehuacana Creek and Boone Fields (USFWS, 1985). The vegetative cover as reported in the TWDB Reservoir Site Protection Study is shown on **Table G.68**.

Table G.68 Vegetative Land Cover

Landcover Classification	Acreage[a]	Percent
Bottomland Hardwood Forest	1,213	8.2%
Marsh	285	1.9%
Evergreen Forest	65	0.4%
Upland Deciduous Forest	8,605	58.0%
Grassland	2,992	20.1%
Shrubland	427	2.9%
Agricultural Land	1,136	7.7%
Open Water	122	0.8%
Total	**14,845**	**100.0%**

[a]Acreage based on approximate GIS coverage rather than calculated elevation-area-capacity relationship.

Figure G.11 Land Cover for Tehuacana Reservoir



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- **Threatened and Endangered Species.** The reservoir is located just upstream of a segment of the Trinity River identified by the Texas Parks and Wildlife Department as ecologically significant due to a population of rare endemic Texas heelsplitter freshwater mussels. There are nine federally listed threatened or endangered species and 11 other state-listed species in the one county affected by this project.

Permitting and Development

Developing this site will require obtaining a new water right and a federal Section 404 permit to construct the dam and reservoir. Part of the Tehuacana Reservoir site is underlain by lignite, which has impeded development to date. As these resources are diminished, the economic feasibility of obtaining the land for this project improves.

This project has been in TRWD's water supply planning since prior to the design, permitting and construction of the Richland-Chambers Reservoir which commenced in the late 1970's.

Cost Analysis

Detailed cost estimates for this strategy were provided by the sponsor where available. These costs are more detailed estimates developed during planning and/or design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance.

Cost estimates for this project are included in **Appendix H**.

Table G.69 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
TRWD	$325,468,000	$3.28	$0.96	H.31

Water Management Strategy Evaluation

Lake Tehuacana would provide a new water source near existing water resources for TRWD. This makes it easier to operate and maintain as part of the TRWD East Texas Reservoir System. There also would be cost savings with construction of the dam since a new spillway is not needed.

The environmental concerns are relatively low for a new reservoir site. However, further study is needed to better understand the potential for impacts to threatened and endangered species. The lignite deposits in the lake site have historically posed some obstacles in development but are expected to diminish over time. Based on current development and expected future demand for these resources, it was assumed that the lignite deposits have minimal impact to the reservoir development and cost. The yield of the project is less than previously estimated and is subject to potential new water rights granted in the Trinity River Basin.

This project, as currently proposed, would provide a reliable supply for a moderate cost and potentially low environmental impacts.

Water User Group Application

The Tehuacana Reservoir strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Based on consideration of these criteria, the strategy is recommended for TRWD by the Region C Regional Water Planning Group.

G.6.4 Eastern Study Area Carrizo-Wilcox Groundwater

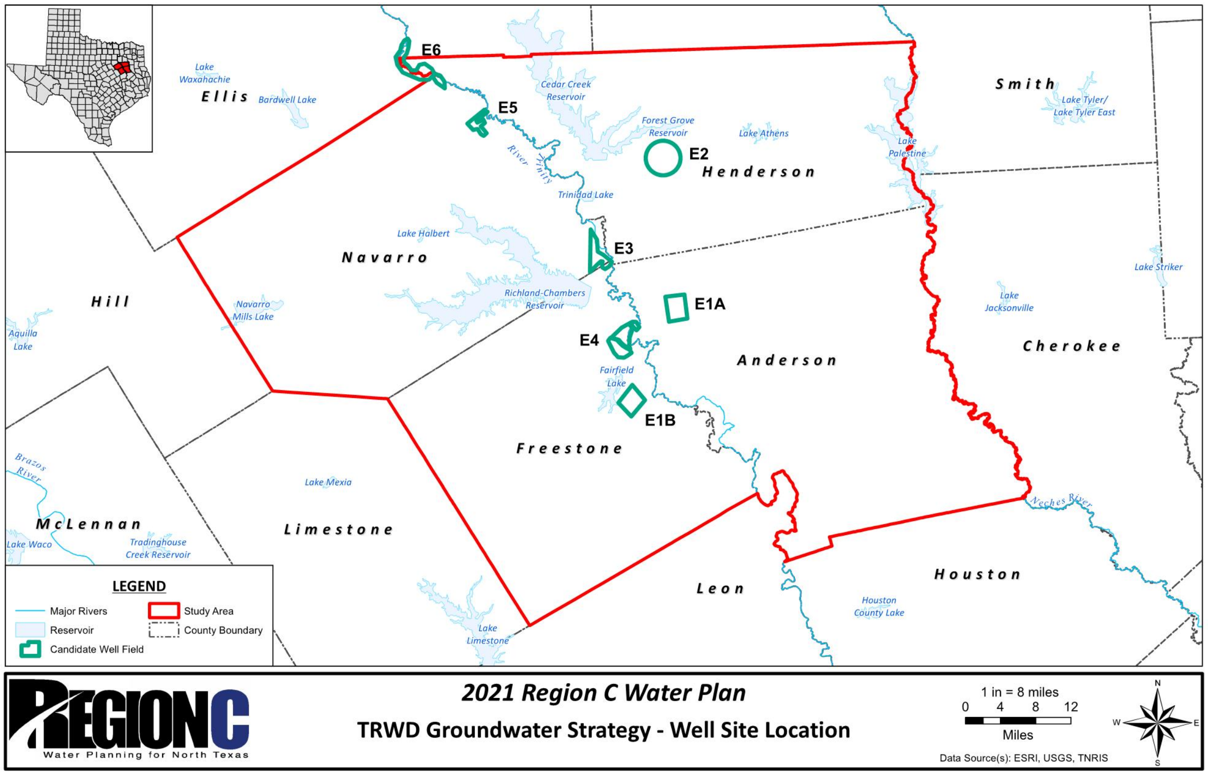
Potential Sponsor(s):	TRWD
WMS/Project Type:	New Groundwater
Potential Supply Quantity:	32,000 acre-feet per year
Implementation Decade:	2040
Strategy Capital Cost:	$191,469,000
Unit Water Cost ($/kgal):	$2.15 during Debt Service and $1.15 after Debt Service
Application:	Recommended

Strategy Description

This strategy proposes to develop groundwater from the Carrizo-Wilcox and Queen City aquifers in Freestone and Anderson Counties. The groundwater would be transported approximately 28 miles to the Integrated Pipeline (IPL) near Cedar Creek Reservoir. The IPL would then be used to move the groundwater to TRWD's service area. This strategy assumes the groundwater is mixed directly in the IPL with surface water and/or reuse water. Alternatively, TRWD could blend the groundwater in one of its East Texas Reservoirs (Cedar Creek and Richland Chambers) prior to transporting via the IPL.

This groundwater supply would supplement TRWD's existing water sources and provide diversity to its existing portfolio. As a supplemental supply, TRWD may choose to operate the well system on a continual basis or seasonally to provide water during the higher demand periods. This strategy assumes the wells are operated continuously on an average annual basis.

The infrastructure required for this strategy includes 39 wells (most likely distributed over multiple well fields), well field piping, ground storage, pump station, and 28 miles of 36- to 54-inch diameter transmission pipeline. The proposed water management strategy includes costs for sites E1A, E4, and E1B.



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Supply Development (Quantity, Reliability, Quality)

A preliminary study was conducted by TRWD to assess the potential available supply within the designated target area. The study evaluated two different potential operation scenarios this project. The Average Scenario assumes that up to 32,000 acre-feet per year could be developed from the targeted area, with the project operating year-round at a fairly steady level of production. The Peak Scenario assumes that the project would operate only for four months per year during high demand periods, with delivery at a higher rate. Operating this way, the Peak Scenario could deliver 21,000 acre-feet per year. Further study would be needed to confirm the long-term reliable supply for either scenario.

Water Quantity

For regional water planning purposes, the amount of available water for this strategy is limited by the Modeled Available Groundwater (MAG) and current users. **Table G.70** shows the total amount of supply available from each aquifer for Anderson and Freestone Counties, the amount that is currently being used, and the resulting amount that could potentially be developed.

Table G.70 Summary of Quantities

County	Aquifer	Basin	Total Available MAG[a] (Ac-Ft/Yr)	Amount Available
Anderson	Carrizo-Wilcox	23,335	5,561	17,774
Anderson	Queen City	11,828	1,354	10,474
Subtotal		*35,163*	*6,915*	28,248

County	Aquifer	Basin	Total Available MAG[a] (Ac-Ft/Yr)	Amount Available
Freestone	Carrizo-Wilcox (Trinity Basin)	7,924	4,021	3,903
TOTAL				**32,151**

[a] *MAG values and existing use reported for 2030*

Reliability

The reliability is moderate. Previous studies indicate the water is available, but the long-term sustainability is unknown. Even with regulatory management of these aquifers, the aquifers are subject to recharge and pumpage from other users, both within the GCD and adjacent areas. There are also known water marketers actively pursuing development of groundwater in eastern Anderson County. This could affect the amount of water that is available to permit.

Water Quality

Water from the Carrizo-Wilcox and Queen City aquifers in Anderson and Freestone Counties is generally fresh water with TDS levels of 200 to 300 mg/l. Some local wells indicate exceedances for nitrates and iron. Both of these constitutes can be addressed through treatment and/or blending. Further study and testing would be needed to confirm compatibility for blending with the surface water sources.

Environmental Considerations

Environmental considerations were investigated in the Study of Impaired Groundwater Availability and Quality Report (Intera, 2016) produced for TRWD and Wichita Falls and are as identified below.

- **Wildlife Management Areas (WMA).** There are three wildlife management areas (WMA) designated within the target area for groundwater development. These WMAs include the Gus Engeling WMA in northwest Anderson County, Big Lake Bottom WMA in southwest Anderson County, and the Richland Creek WMA, which lies between Richland-Chambers Reservoir and the Trinity River. A groundwater development project would be sited outside these areas and is not expected to affect the WMAs, and the pipeline would be routed to avoid these areas.
- **Rivers and Other Environmental Sensitive Areas**. As conceived for this strategy, the pipeline to move water from Freestone County would need to cross the Trinity River. This strategy proposes to tunnel under the river to avoid impacting waters of the U.S. Where possible, the pipeline would be routed to avoid environmental sensitive areas.
- **Threatened and Endangered Species.** There are 11 federally listed and 18 state-listed threatened and endangered species potentially occurring in the counties affected by this project (Anderson, Freestone, and Henderson Counties). None of these species are expected to be permanently impacted by this project.

Permitting and Development

Groundwater in Texas is a property right, which can be purchased with the land or acquired through a lease or severing of the water right from the property. In some counties, groundwater is managed by groundwater conservation districts (GCD). This project falls under two GCDs: Mid-East Texas GCD in Freestone County and Neches and Trinity Valleys GCD in Anderson County.

Development of a well field would require groundwater permits. As shown in Table 1, the amount of water that could be permitted under the current Modeled Available Groundwater (MAG) value is near the proposed total quantity for this strategy. This leaves little water available to new in-county users and poses some uncertainty on whether the full 32,000 acre-feet per year can be permitted. Under current law, the GCDs must manage to the Desired Future Conditions (DFCs) as established by the Groundwater Management Areas. These DFCs are represented by the MAG values. Exceedance of the MAG is indicative of exceedance of the DFC. With the current MAG values, it is uncertain whether this well field could be permitted at the full amount without changes to the DFCs.

The construction of groundwater project such as described above could be implemented by 2030. This time frame includes negotiations with seller, water testing, design and construction of the infrastructure. Permitting of the wells may take more time if the DFCs have to be amended and/or the permit application is protested. The next update of the DFCs is scheduled for 2021.

Large-scale groundwater export proposals could face public opposition, especially if it is perceived to affect neighboring wells. Further study is likely to address these potential concerns.

Cost Analysis

When detailed costs were not available, TWDB costing guidance was followed. Annual costs were also developed following TWDB guidance for debt service and operation and maintenance costs.

Cost estimates for these supplies are included in **Appendix H**.

Table G.71 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal)		Table for Details
		With Debt Service	After Debt Service	
TRWD (Average)	$191,469,000	$2.45	$1.15	H.32

Water Management Strategy Evaluation

This strategy provides a new water source that provides higher level of resistance to future droughts than current surface water sources. The proposed groundwater well fields are located near TRWD's existing water sources, and existing infrastructure can be used to transport the water to TRWD's service area. The quality of the water is generally good and likely would not require extensive treatment.

The amount of water is limited and due to limitations of the formations, numerous wells would be required to develop this supply. Over time, the permitted amount of diversion can be adjusted by the GCD as part of its management objectives. This may affect the long-term reliability of this supply.

Water User Group Application

This strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Based on consideration of these criteria, the strategy is recommended for TRWD by the Region C Regional Water Planning Group.

G.7 UTRWD Major Water Management Strategy Technical Memorandums

G.7.1 Lake Ralph Hall and Reuse

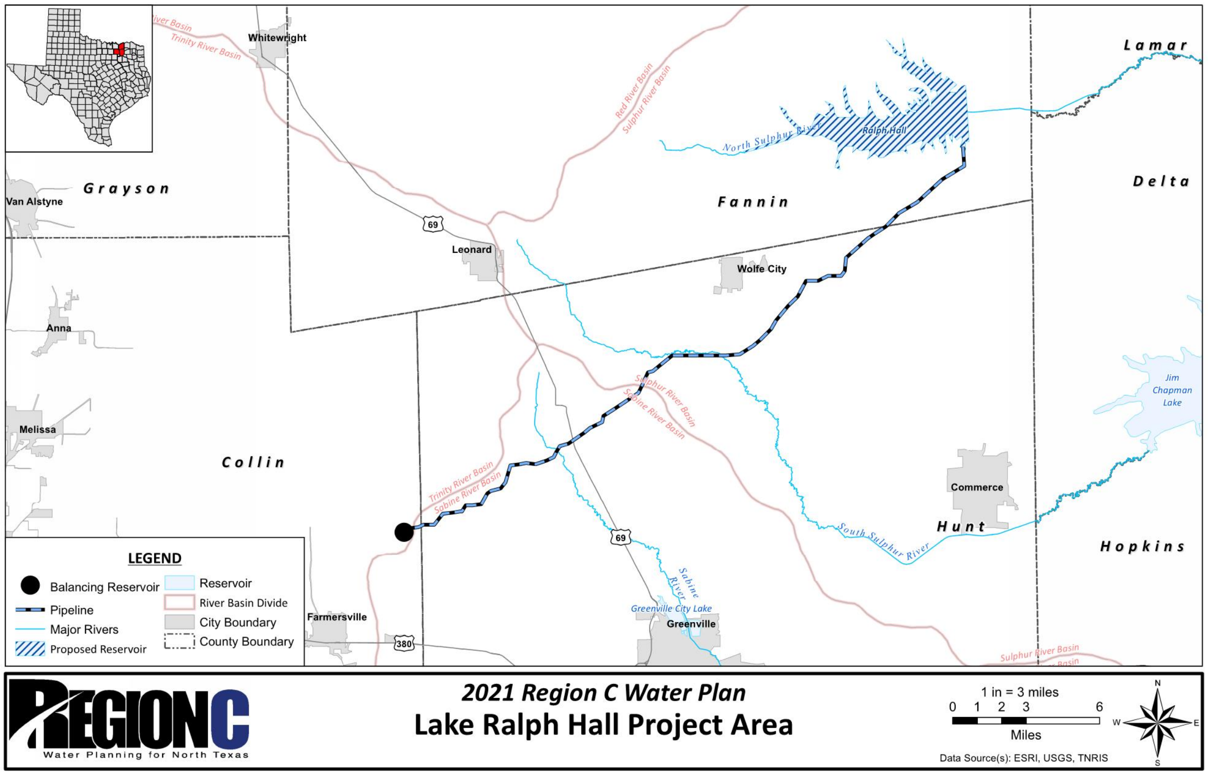
Potential Sponsor(s):	UTRWD
WMS/Project Type:	New Surface Water (Reservoir)
Potential Supply Quantity:	39,220 acre-feet per year (firm yield of Lake Ralph Hall) 15,391 acre-feet per year (reuse of water from Lake Ralph Hall)
Implementation Decade:	2030
Strategy Capital Cost:	$469,158,000
Unit Water Cost ($/kgal):	$1.40 during Debt Service; $0.25 after Debt Service **with reuse** $2.15 during Debt Service; $0.38 after Debt Service **without reuse**
Application:	Recommended

Strategy Description

Lake Ralph Hall is proposed new reservoir on the North fork of the Sulphur River in Fannin County in Region C. The lake would store 160,235 acre-feet of water and inundate 7,568 acres at the normal pool elevation of 551 ft MSL. This project is sponsored by the Upper Trinity Regional Water District (UTRWD) that has a water right permit to impound and divert 45,000 acre-feet per year from Lake Ralph Hall. Of this amount, 39,220 acre-feet per year is firm supply. UTRWD will be seeking a state water right to reuse return flows from water originating from the project, providing an additional 21,179 acre-feet per year by 2070. The source of this reuse water will be various UTRWD WWTPs in the Lewisville Lake Basin, based on a percentage of effluent that originates from Lake Ralph Hall. This reclaimed water would augment UTRWD's supply.

The strategy includes construction of the Lake Ralph Hall, a 60-inch, 32-mile transmission pipeline from the reservoir to a new 20 million gallon (MG) balancing reservoir, a 2,400 HP lake intake pump station (intake is sized for full permitted amount), roadway and utility relocations, mitigation, reservoir and administration/support facilities and land acquisition of the reservoir site and transmission system easements.

The Lake Ralph Hall project would include the construction of an earth-filled dam embankment across the valley of the North Sulphur River with a concrete uncontrolled principal spillway located adjacent to the existing channel of the river and an excavated unlined earthen channel emergency spillway. The surface area of the reservoir would be approximately 7,568 acres and the reservoir would have a maximum depth at the dam of approximately 90 ft.



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Supply Development (Quantity, Reliability, Quality)

Water Quantity

The supply available from Lake Ralph Hall was determined using the Sulphur Basin WAM. The initial firm yield of the reservoir is 39,220 acre-feet per year (Brandes, 2019). According to a fluvial morphology study of the reservoir's watershed, after 50 years of operation Lake Ralph Hall is expected to lose 2,570 acre-feet of storage capacity, or about 1.6 percent of the initial storage in the reservoir. A yield analysis of the reservoir with 50 years of sedimentation reduced the yield to 38,830 acre-feet per year.

For this strategy, it was assumed that UTRWD would also obtain authorization for the reuse of wastewater discharges from the use of Lake Ralph Hall water. This reuse is limited to the actual amount discharged. Based on the projected use of the of the lake, the amount of reuse is estimated to be 21,179 acre-feet per year by 2040. This is approximately 60% of the diverted water from the lake, which is consistent with current return flows. The total quantity of supplies available through this strategy is summarized in **Table G.72.**

Table G.72 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Lake Ralph Hall	-	39,220	39,142	39,064	38,986	38,908
Lake Ralph Hall Indirect Reuse	-	13,944	14,689	15,428	15,390	15,391
Total		**53,164**	**53,831**	**54,492**	**54,376**	**54,299**

Reliability

The reliability of the supplies from the reservoir and return flows is high. This additional source of raw water supplies will help the UTRWD system to accommodate periodic downtimes for maintenance and/or repairs on system infrastructure.

Water Quality

Water quality is expected to be good and similar in composition to the North Sulphur River and Lewisville Lake.

Environmental Considerations

Environmental considerations were analyzed as part of the Lake Ralph Hall Environmental Impact Statement. Additionally, a mitigation plan has been developed for this project. It has been accepted by TCEQ for the water right and it is under review by the USACE for the federal 404 permit. This plan proposes to fully compensate for impacts to the project.

- **Habitat and Vegetative Cover.** The Lake Ralph Hall Reservoir site lies within an extremely eroded and widened section of the North Sulphur River. Previous channelization of the river has contributed to the erosion such that there is little connection between the channel and adjacent floodplain. The dam would impound water within this section of the North Sulphur and reduce further erosion of the downstream corridor. Lake intake and transmission pipeline infrastructure will be located to avoid conflicts with environmentally sensitive areas and ecologically significant stream sections. Where possible, the pipeline will follow existing road right-of-ways or cross areas of agricultural use. The vegetative cover types in Lake Ralph Hall, as determined for the federal Section 404 permit application, are shown in **Table G.**73**.** The acreage includes the area impacted by the dam.

Table G.73 Vegetative Cover for Lake Ralph Hall Reservoir

Land Use Cover Type	Area (acres)
Grasses	1,435
Pasture	2,192
Partially Wooded Areas	516
Young Forest	1,299
Forest	602
Cropland	1,720
Stream Channels	252
Roads and Houses	44
Fringe Wetlands	8
Total	**8,068**

- **Threatened and Endangered Species.** There are expected to be no impacts to threatened or endangered species. The state listed timber rattlesnake and four state listed mollusks have the potential to be impacted during construction of Lake Ralph Hall and the Raw Water Pipeline Alignment. Impacts, if occur, are expected to be minor.
- **Environmental Water Needs.** Implementation and operation of Lake Ralph Hall will have a very limited impact on daily flows since it will operate in accordance with authorized water right permits.

- **Wetlands.** Impacts to wetlands associated with this project are anticipated to be low. There are eight acres of fringe wetlands along the edge of the reservoir site.

Permitting and Development

UTRWD has been granted a state water right to impound, divert, and use water associated with the Lake Ralph Hall project. Additional authorizations will be needed for reuse of the water. UTRWD also has an interbasin transfer permit to move the water from the Sulphur River Basin to the Trinity River Basin. The federal 404 permit was received in January 2020. The project is expected to be constructed and supplying water by 2030. The development of the reuse supplies from Lake Ralph Hall source water will occur over time beginning as early as 2030.

Cost Analysis

Detailed cost estimates for Lake Ralph Hall were provided by UTRWD where available. These costs are more detailed estimates developed during planning and/or design. For consistency with SB1 planning guidance, the costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were developed following TWDB guidance for debt service and operation and maintenance costs.

Table G.74 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	Unit Cost ($/1,000 gal) After Debt Service	Table for Details
UTRWD – Ralph Hall with Reuse	$469,158,000	$1.40	$0.25	H.62
UTRWD – Ralph Hall without Reuse	$469,158,000	$2.15	$0.38	

Water Management Strategy Evaluation

The Lake Ralph Hall project with additional indirect reuse provides UTRWD with a long-term reliable supply. The project has received the necessary state water rights and has minimal environmental impacts. The construction of a lake at this site has beneficial environmental impacts as it acts to reduce erosion in the North Sulphur River Basin. The water is expected to be compatible with other UTRWD water sources including nearby Lake Chapman. The reuse portion of this project, which only becomes available with the development of Lake Ralph Hall, provides an environmentally friendly, low cost source of additional water to UTRWD.

Water User Group Application

The sponsor of this strategy is UTRWD and the strategy provides supplies for UTRWD for their customers. This is a recommended strategy for UTRWD.

G.8 Other Major Water Management Strategy Technical Memorandums

G.8.1 GTUA Regional System with Treatment Expansions at Sherman

Potential Sponsor(s):	GTUA with Participating Entities
WMS/Project Type:	Existing Surface Water (Infrastructure)
Potential Supply Quantity:	35,872 acre-feet per year (32 MGD)
Implementation Decade:	2020 (Phase 1) and 2030 (Phase 2)
Strategy Capital Cost:	$243,985,500 (Phase 1) and $224,083,000 (Phase 2)
Unit Water Cost ($/kgal):	$5.72 during Debt Service and $3.06 after Debt Service (Phase 1) $4.75 during Debt Service and $2.93 after Debt Service (Phase 2)
Application:	Recommended

Strategy Description

A regional water system strategy was developed for communities in northern Collin, Cooke, northern Denton and Grayson counties. Several of the entities in this area hold water rights in Lake Texoma but currently do not have access to this resource. This strategy focuses on treating and connecting these entities to Lake Texoma supplies. The Lake Texoma supplies would be transported to and then treated at the site of the existing Sherman Water Treatment Plant. Due to the higher level of TDS of the supplies from Lake Texoma, advanced treatment is necessary to achieve drinking water level standards. For siting of physical transmission infrastructure, delivery points are located at existing water system infrastructure where possible and transmission pipelines generally follow existing highways or county roads to minimize right-of-way impacts.

This strategy includes:

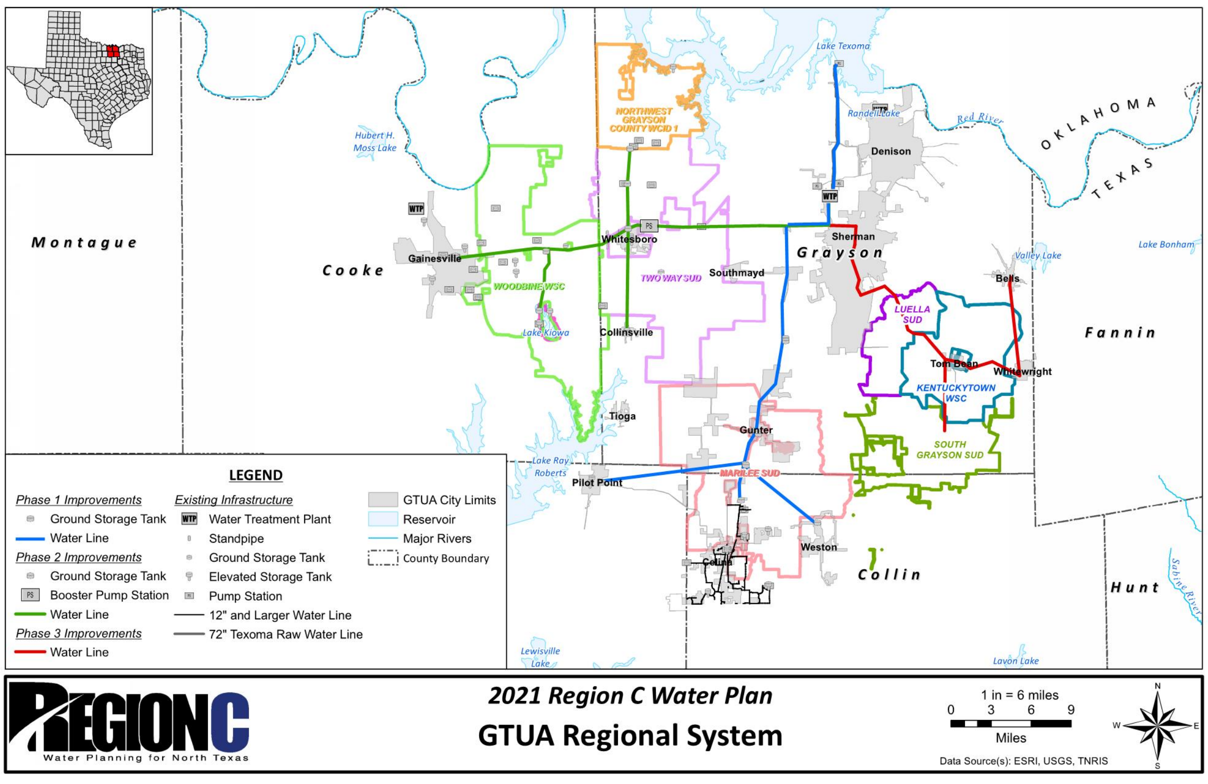
- Expansion at Sherman Desalination Plant
- Expansion of the existing Lake Texoma Intake Pump Station
- New transmission line providing additional capacity between the intake pump station and the water treatment plant.
- Transmission infrastructure such as pipelines and booster pump stations

Supply Development (Quantity, Reliability, Quality)

The GTUA was designated as a cooperating local sponsor to negotiate with the U.S. Army Corps of Engineers for purchase of water from Lake Texoma on behalf of the cities in the area. The GTUA has an existing water right for 83,200 acre-feet per year from Lake Texoma. Potable supplies are limited by the capacity of the existing Sherman Water Treatment Plant and transmission. Several of the participating entities have water rights from Lake Texoma as shown in **Table G.75**.

Table G.75 Total Storage and Yield of Water Rights of Participating Entities in Lake Texoma (Acre-Feet)

Entity	Storage	Yield
Collinsville	1,000	1,130
Gainesville	10,800	12,204
Gunter	1,000	1,130
Marilee SUD	2,000	2,260
Northwest Grayson County WCID #1	600	678
Sherman	33,400	37,209
Two Way SUD	2,000	2,260
Whitesboro	2,000	2,260
Lake Kiowa	750	848
Woodbine WSC	750	848
Total	**54,300**	**60,827**



Water Quantity

As part of the GTUA Regional System Study (2019) projected demands were evaluated in-depth for 2027 and 2042. Several of the participating entities showed demands greater than Region C projections. Although this region has historically lower populations, it is expected to experience quick growth as a result of developing transportation corridors in the area. The quantities assigned in this strategy use the revised water demands as developed for the GTUA Regional System Study. Additionally, the GTUA study did not consider supplies from existing groundwater for some entities in sizing the infrastructure for the surface water. This allows the entities to reduce reliance on groundwater. For the purposes of the *2021 Region C Regional Water Plan*, existing groundwater supplies are assumed to be utilized as needed to account for any differences between participating entity's need from the GTUA Regional System Study (2042 demands without groundwater supplies) and 2021 Region C Regional Water Plan 2070 projections.

Fourteen entities participated in the GTUA Regional System Study (Collinsville, Celina, Gainesville, Northwest Grayson County WCID 1, Pilot Point, Two Way SUD, Whitesboro, Lake Kiowa SUD, Weston, Woodbine WSC, Denison, Pottsboro, Sherman, Marilee SUD, and Gunter). Weston is no longer a WUG and demand was allocated to Collin County-Other. It is assumed that Denison would not participate in this strategy and would utilize their own intake and treatment facilities instead. Likewise, since Pottsboro currently gets their supplies through Denison is assumed that they would continue to do so as well.

Several water users are included in the *2021 Region C Regional Water Plan* as future customers of Sherman that did not participate in the GTUA Regional System Study (2019). These entities include Bells, KentuckyTown WSC, Luella SUD, South Grayson SUD, Southmayd, Tioga, Tom Bean and Whitewright. These customers are not included in this strategy. As part of the study, additional supplies were assumed for both Gainesville and Sherman to accommodate potential future customers. The quantity and infrastructure to treat these additional supplies assumed within the study are sufficient to cover the projected demands for the additional entities.

For this strategy, Phase One is planned for an average demand of 15,332 acre-feet/year and Phase Two for 20,540 acre-feet/year as shown in **Table G.76**.

Table G.76 Summary of Quantities

Description	2020	2030	2040	2050	2060	2070
Phase One						
Sherman Municipal	15,035	6,118	2,955	2,955	2,955	2,955
Celina	0	5,605	5,605	5,605	5,605	5,605
County-Other, Collin	0	550	1,099	1,099	1,099	1,099
Gunter	297	695	2,859	2,859	2,859	2,859
Marilee SUD	0	1,390	1,558	1,558	1,558	1,558
Pilot Point	0	975	1,256	1,256	1,256	1,256
Subtotal	*15,332*	*15,332*	*15,332*	*15,332*	*15,332*	*15,332*
Phase Two						
Sherman Municipal	0	15,693	10,922	10,659	10,205	9,971
Collinsville	0	333	348	348	348	348
Gainesville and Customers	0	1,882	5,605	5,605	5,605	5,605

Description	2020	2030	2040	2050	2060	2070
Lake Kiowa SUD	0	886	886	886	886	886
Northwest Grayson County WCID 1	0	194	572	572	572	572
Two Way SUD	0	867	1,007	1,204	1,603	1,682
Whitesboro	0	461	453	441	471	471
Woodbine WSC	0	566	942	942	942	942
Subtotal	*0*	*20,540*	*20,540*	*20,540*	*20,540*	*20,540*
Total - Phase 1 and 2	**15,332**	**35,872**	**35,872**	**35,872**	**35,872**	**35,872**

Reliability

The reliability of this water is high. The reservoir has a water right permit for 323,250 acre-feet per year divided between NTMWD, GTUA, Denison, TXU and RRA. GTUA's water right is inclusive of the water rights held by the entities shown in **Table G.75**.

Water Quality

The lake has elevated levels of dissolved solids, and the water must be blended with higher quality water or desalinated for municipal use. The elevated dissolved solids in Lake Texoma would have some environmental impacts whether the water is used by blending or desalination.

Environmental Considerations

The reservoir is an existing source of water, therefore environmental impacts are limited. The potential for environmental impacts of this project are associated with the pipeline, pump station, desalination plant expansions. Impacts of increased demand on Lake Texoma would also occur but are expected to be minimal.

- **Vegetative Cover.** No detailed studies have been conducted of the vegetative cover for this alternative. The location of the proposed infrastructure generally lies within urban and rural areas and pipelines follow road rights-of-way. If needed, the proposed pipelines could be routed to avoid highly sensitive environmental areas.
- **Threatened and endangered species**. There are 18 threatened or endangered federal species that are known to occur or have the potential to occur within Collin, Cooke, Denton, Grayson counties. Also, the bald eagle, which is delisted but being monitored, may occur in these counties. It is expected that implementation of this alternative would have low to no potential to negatively impact the species.
- **Other.** The presence of zebra mussels in Lake Texoma presents additional operational considerations for entities planning on using this source. The city of Sherman is currently using water from Texoma and it is expected that similar practices will be employed for the new treatment facilities.

Permitting and Development

Permits have already been obtained for the source of water for this strategy. Since the strategy assumes the use of shared infrastructure, coordination will be needed for infrastructure improvements and operations.

Cost Analysis

Detailed cost estimates for the GTUA Regional Water Supply System were provided where available. For consistency with SB1 planning guidance, all costs were updated to September 2018 dollars using the ENR index. When detailed costs were not available, TWDB costing guidance was followed. Annual costs were developed following TWDB guidance for debt service and operation and maintenance costs. It is assumed that the additional Sherman customers that were not included in the GTUA Regional System Study had sufficient storage infrastructure.

Cost estimates for the strategy supplies are included in **Appendix H.**

Table G.77 Summary of Costs

Entity	Capital Cost	Unit Cost ($/1,000 gal) With Debt Service	After Debt Service	Table for Details
Phase One	$243,985,500	$5.72	$3.06	H.72
Phase Two	$224,083,000	$4.75	$2.93	H.73

Water Management Strategy Evaluation

Since the reservoir is existing, these strategies provide a reliable source of additional supplies with limited impacts. This strategy would utilize water that is already developed and permitted, and it will enable several of the participating entities to begin using water that has been contracted. However, this strategy would provide water that is considerably more expensive than current supplies. The strategy is costly mainly because of the advanced treatment required as well as the lengths of transmission pipeline required to connect the treated supplies to the end-users.

Due to the transmission distance and relatively small quantities of water for each entity, this strategy supports a regional concept. To make the regional system effective, it requires commitment from the participants and a sponsor for the operation, maintenance, and administration of the system. For purposes of this study, it is assumed that GTUA will fil that role.

Water User Group Application

The GTUA Regional Water System Supply strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Based on consideration of these criteria, the strategy is recommended for GTUA by the Region C Regional Water Planning Group.

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Appendix H

Cost Estimates

Appendix H Cost Estimates

Section Outline

Section H.1 – Introduction

Section H.2 – Assumptions for Capital Costs

Section H.3 – Assumptions for Annual Costs

Section H.4 – Costs Estimates for Strategies

H.1 Introduction

The evaluation of water management strategies requires developing cost estimates. Guidance for cost estimates may be found under Section 5.5 in the TWDB's "Second Amended General Guidelines for Fifth Cycle of Regional Water Plan Development (2017-2021)". Costs are reported in September 2018 dollars.

Since the completion of the 2012 State Water Plan, the TWDB developed a costing tool to aid in the development of cost estimates included in the regional water plans. That tool was updated and used as the basis for the development of costs for the 2021 Region C Plan. Many of the costs were developed using the costing tool. However, there were some exceptions which are discussed below. In such cases the assumptions outlined in the costing tool were used for consistency.

- Cost estimates where more detailed information was provided were completed outside of the costing tool. Because of the wide range of line items provided in more detailed costs, it was more efficient to develop these costs outside of the costing tool.
- The costing tool was used to develop cost estimates for new and expanded water treatment plants and new wells. To create a more concise report, the results are presented in consolidated tables. Individual costing tool outputs for each plant or well are not included in the plan.
- For strategy types that are not addressed in the costing tool, data from other projects were used. This included dredging projects and other non-conventional water strategies.
- For conservation costs, Region C has developed a unique spreadsheet tool to determine conservation costs. This spreadsheet tool is more detailed than the conservation portion of the current costing tool. For this reason, the costing tool was not used to develop costs for conservation. This process is explained in detail in **Appendix I**.
- Lastly, the costing tool was not used for multiple owner WMSs due to restrictions within the tool itself.

Within the costing tool provided by the TWDB, standard unit costs for installed pipe, pump stations, standard treatment facilities, and well fields were developed. The unit costs do not include engineering, contingency, financial and legal services, costs for land and rights-of-way, permits, environmental and archeological studies, or mitigation. The costs for these items are determined separately in the cost tables.

It is important that when comparing water management strategies that the cost estimates be similar and include similar items. If an existing reliable cost estimate was available for a project it was used where appropriate. All cost estimates must meet the requirements set forth in the "TWDB's Second Amended General Guidelines for Fifth Cycle of Regional Water Plan Development (2017-2021)".

The cost estimates, generated by the costing tool, have two components:

- Initial capital costs, including total construction cost of facilities, engineering and legal contingencies, environmental and archaeology studies and mitigation, land acquisition and surveying, and interest incurred during construction (3.0% annual interest rate less a 0.5% rate of return on investment of unspent funds).
- Average annual costs, including annual operation and maintenance costs, pumping energy costs, purchase of water and debt service.

TWDB does not require the consultant to determine life cycle or present value analysis. For most situations annual costs are sufficient for comparison purposes and a life-cycle analysis is not required.

Anticipated water losses for treatment were considered when sizing the raw water infrastructure for water management projects. For desalination treatment plants, losses were estimated at 25 percent of the source water. Water losses for conventional treatment are expected to be minimal and were not considered unless specially requested. WMS yields shown in the tables represent finished water. Water losses associated with delivery are incorporated into the demand calculations and are not addressed separately unless requested. Both NTMWD and UTRWD requested that 5% of total demand (both existing and potential future) be reserved for assumed losses in treatment and delivery. These losses are included within the major water provider plans discussed in **Chapter 5D**.

H.2 Assumptions for Capital Cost

H.2.1 Conveyance Systems

Standard pipeline costs used for these cost estimates are shown in **Table H.1**. Pump station costs are shown in **Table H.2A**, based on required horsepower, and in **Table H.2B**, based on capacity. Of the two values obtained, the higher cost should be used. The power capacity was determined from the hydraulic analyses included in the TWDB costing tool (or detailed analysis if available). Pipelines and pump stations are to be sized for peak pumping capacity. Pump efficiency is assumed to be 70 percent.

A peaking factor of two times the average demand was used for strategies when the water is pumped directly to a water treatment plant (or historical peaking factor, if available). A peaking factor of 1.2 to 1.5 was used if there are additional water sources and/or the water is transported to a terminal storage facility.

Ground storage is to be provided at each booster pump station along the transmission line unless there is a more detailed design. Ground storage tanks should provide sufficient storage for 2.5 to 4 hours of pumping at peak capacity. Costs for ground storage are shown in **Table H.3**. Covered storage tanks are used for all strategies transporting treated water.

Costs for elevated storage tanks are shown in **Table H.4**.

When a pipeline discharges into a reservoir or river, use project-specific discharge structure costs if available. If no project-specific information is available, the costs in **Table H.5** may be used to estimate discharge structure costs.

H.2.2 Water Treatment Plants

Water treatment plants are to be sized for peak day capacity (assume peaking factor of 2 if no specific data is available). Costs estimated include six different treatment levels of varying degree. These levels are:

- Level 0 - groundwater disinfection,
- Level 1 - iron and manganese removal,
- Level 2 - simple filtration,
- Level 3 (new) - construction of a new conventional treatment plant,
- Level 3 (exp) - expansion of a conventional treatment plant,
- Level 4 - brackish groundwater desalination, and
- Level 5 - seawater desalination.

For plants that will treat brackish surface water (ex, Lake Texoma water), cost was based on a combination of Level 3 and 4. Costs are also based upon a total dissolved solids (TDS) factor that will increase or decrease the cost of treatment accordingly. These costs are summarized in **Table H.6**. All treatment plants are to be sized for finished water capacity. An expansion of a water treatment plant is considered an increase in capacity less than or equal to half of the current capacity. For costing an expansion, if the increase in capacity is more than half of the current capacity, the expansion will be costed as a new plant.

Direct reuse refers to the introduction of reclaimed water directly from a water reclamation plant to a distribution system. The TWDB costing tool currently does not have a direct reuse treatment plant improvements option, therefore the following assumptions were made.

For direct non-potable reuse, it was assumed that the cost of an iron and manganese removal plant would be an appropriate approximation of the improvements that would be needed at the wastewater treatment plant (WWTP). This cost was further refined by assuming that only upgrades to an existing facility would be required, and not construction of an entirely new plant. It was also assumed that the pump station was included in the WWTP improvements.

For direct potable reuse, it was assumed that due to the high level of treatment that is required, the wastewater treatment plant improvements cost would be equivalent to 75 percent of a conventional treatment plant expansion plus brackish desalination treatment improvements. The 25 percent discount was given to Level 3 Treatment in order to alleviate any redundancy being assumed by the costing tool.

H.2.3 New Groundwater Wells

Cost estimates required for water management strategies that include additional wells or well fields were determined through the TWDB costing tool. The unit costs associated with wells are shown in **Table H.7**.

The TWDB costing tool assumes construction methods required for public water supply wells, including carbon steel surface casing and pipe-based, stainless steel, and wire-wrap screen. The cost estimates assume that wells would be gravel-packed in the screen sections and the surface casing cemented to their total depth. Estimates include the cost of drilling, completion, well development, well testing, pump, motor, motor controls, column pipe, installation and mobilization. Engineering and contingencies are included as a separate line item in the cost estimates. A more detailed cost analysis should be completed prior to developing a project.

The costing tool uses Contingencies of 35% for wells and 30% for pipelines. Operation and Maintenance costs for pipelines and wells are 1% of construction cost.

The costing tool differentiated the wells based upon purpose. The categories were Public Supply, Irrigation, and ASR. These cost relationships are “rule-of-thumb” in nature and are only appropriate in the broad context of the cost evaluations for the RWP process.

The costs associated with conveyance systems for multi-well systems can vary widely based on the distance between wells, terrain characteristics, well production, and distance to the treatment facility. These costs should be estimated using standard engineering approaches and site-specific information. For planning purposes, these costs were estimated using the TWDB costing tool’s assumptions for conveyance.

Even with the costing tool, certain assumptions had to be made regarding well parameters and costs. Below are the assumptions made for Region C well costs:

- Construction time was assumed to be six months.
- Depth to water, well depth, and well yields were based on averages for existing wells in same the general location (county). Existing well data was collected from TWDB’s Record of Wells by county and from TCEQ’s Public Water System Search.
- Number of wells needed for a WUG was based on the need divided by the average supply calculated based on the peak gpm times 1.61 divided by 2.
- It was assumed that there was a ground storage tank at the delivery point of each well.
- For Municipal WUGs:

- The cost to connect to a municipal system was calculated by an assumed pipeline length of 0.5 miles per well and a pipeline diameter based on the flow.
- Pump Station to deliver water to WUG was based on calculated Horsepower using flow, pump efficiency and head lift.
- An estimated purchase cost for leasing groundwater rights was included. Negotiation between a groundwater right holder and a water provider can be accomplished in a variety of ways including a lease cost for water or an outright sale of land that includes the groundwater rights. For the purpose of this plan, $0.75 per 1,000 gallons was used for the unit cost to purchase water.
- Land purchase cost for well facilities are based on 0.5 acres per well, 20-foot right-of-way for transmission pipeline, and 0.5 acre per MGD of chlorination treatment needed.
- Cost of a chlorination facility (shown as "water treatment plant" in the TWDB costing tool) was based on the O&M Cost for Level 0 Treatment (per MGD of capacity of treatment plant). Capacity of treatment plant is 2 x average flow (need).

* For Non-Municipal WUGs:
  - Non-municipal WUGs were considered point-of-use users, meaning well would be located near to the end user so no conveyance cost (pipeline and pump station) is needed.
  - It was assumed that wells would be constructed on property already owned by the WUG, so no land purchase costs were included.
  - No treatment costs were needed for non-municipal uses.
  - No cost to purchase water was needed.

H.2.4 New Reservoirs

Site-specific cost estimates will be made for reservoir sites. The elements required for reservoir sites are included in **Table H.8**. Lake intake structures for new reservoirs will be determined on a case-by-case basis. Generally, costs for construction of such facilities prior to filling of the reservoir will be less than shown on **Table H.2** because they can be constructed on dry ground.

H.2.5 Other Costs

Engineering, contingency, construction management, financial and legal costs are to be estimated at 30 percent of construction cost for pipelines and 35 percent of construction costs for pump stations, treatment facilities and reservoir projects in accordance with TWDB guidance.

Permitting and mitigation for transmission and treatment projects are to be estimated at $25,000 per mile. For reservoirs, mitigation and permitting costs are assumed equal to twice the land purchase cost for the conservation pool, unless site specific data are available.

Right-of-way (ROW) costs for transmission lines are estimated through costs provided by the Texas A&M University Real Estate Center (http://recenter.tamu.edu/data/rland/) which gives current land costs based on county, shown in **Table H.10**. The ROW width is assumed to be 20 ft. If a small pipeline follows existing rights-of-way (such as highways), no additional right-of-way cost is assumed. Large pipelines will require ROW costs regardless of routing.

The costs for property acquisition for reservoirs are to be based on previous cost estimates, if available. If no site-specific data is available, land costs will be based on the median rural land cost published by the Texas A&M Real Estate Center website for 2018 or a minimum of $2,000 per acre, whichever is higher.

Interest during construction is the total of interest accrued at the end of the construction period using a 3.5 percent annual interest rate on total borrowed funds, less a four percent rate of return on investment of unspent funds. This is calculated assuming that the total estimated project cost (excluding interest during construction) would be drawn down at a constant rate per month during the construction period. Factors were determined for different lengths of time for project construction. These factors were used in cost estimating and are presented in **Table H.9**.

H.3 Assumptions for Annual Cost

Annual costs were estimated using the following assumptions:

Debt service for all transmission and treatment facilities is to be annualized over 20 years, but not longer than the life of the project. Non-reservoir projects, with project cost greater than $250 million were amortized over 30 instead of 20 years. Debt service for reservoirs is to be annualized over 40 years. For projects that already have financing, such as Bois d'Arc Lake, the actual amortization period was used. (Note: uniform amortization periods should be used when evaluating similar projects for an entity.)

Annual interest rate for debt service is 3.5 percent.

Water purchase costs are to be based on wholesale rates reported by the selling entity when possible. In lieu of known rates, a typical regional cost for treated water and raw water will be used.

Operation and Maintenance costs are to be calculated based on the construction cost of the capital improvement. Engineering, permitting, etc. should not be included as a basis for this calculation. However, a 20 percent allowance for construction contingencies should be included for all O&M calculations. All costs developed outside of the costing tool include this 20 percent allowance. Per the "First Amended General Guidelines for Regional Water Plan Development (2012-2017)", O&M should be calculated at:1 percent of the construction costs for pipelines

- 1.5 percent for dams
- 2.5 percent of the construction costs for pump stations, storage tanks, meters and SCADA systems
- O&M Costs for the varying levels of water treatment plant improvements were developed by the TWDB and are shown in **Table H.6**.

Reject water disposal for treatment of brackish water is to be estimated on a case-by-case basis depending on disposal method. If no method is defined, assume a cost of $0.35 per 1,000 gallons of reject water. [This value represents a moderate cost estimate. If the water were returned to a brackish surface water source, the costs could be lower. If evaporation beds or deep well injection were used, the costs could be much higher.]

Pumping costs are to be estimated using an electricity rate of $0.08 per kilowatt hour. If local data is available, this can be used.

H.4 Cost Estimates for Strategies

Table H.1 through **Table H.10** are unit costs used in all other cost estimates. **Table H.11** through **Table H.11F** detail the conservation savings and costs for all WUGs. **Table H.12** and **Table H.13** show costs for new and expanded water treatment plants for multiple WUGs. **Table H.15** shows the new well costs for multiple WUGs. The remaining tables are cost estimates for individual strategies.

List of Tables used in Developing Cost Estimates:

Table H.1 Pipeline Costs

Diameter	Soil		Rock	
	Rural	Urban	Rural	Urban
(Inches)	($/Foot)	($/Foot)	($/Foot)	($/Foot)
6	$25	$31	$35	$49
8	$40	$50	$56	$77
10	$54	$69	$76	$106
12	$68	$87	$97	$134
14	$82	$106	$118	$162
16	$97	$125	$138	$191
18	$111	$144	$159	$219
20	$125	$162	$179	$248
24	$154	$200	$220	$304
30	$196	$256	$282	$390
36	$239	$312	$344	$475
42	$282	$369	$406	$560
48	$325	$425	$467	$645
54	$367	$481	$529	$730
60	$410	$537	$591	$815
66	$453	$594	$653	$901
72	$496	$650	$714	$986
78	$605	$776	$865	$1,156
84	$713	$902	$1,016	$1,326
90	$822	$1,028	$1,167	$1,496
96	$931	$1,154	$1,317	$1,667
102	$1,040	$1,280	$1,468	$1,837
108	$1,149	$1,406	$1,619	$2,007
114	$1,258	$1,533	$1,769	$2,177
120	$1,366	$1,659	$1,920	$2,347
132	$1,584	$1,911	$2,221	$2,688
144	$1,802	$2,163	$2,523	$3,028

a. Costs developed outside of the costing tool were based on an average unit cost for rock and soil.
b. Costs do not include Right-of-Way.

Table H.2A Pump Station Costs for Transmission Systems by Horsepower

Horsepower	Booster PS	Lake PS with Intake
	Cost (in millions)	
5	$2.75	$0.73
10	$2.84	$0.80
20	$3.00	$0.84
25	$3.08	$0.88
50	$3.49	$0.92
100	$4.31	$0.97
200	$5.96	$1.28
300	$7.60	$1.90
400	$9.25	$2.51
500	$10.89	$3.12
600	$12.53	$3.72
700	$14.18	$4.32
800	$15.82	$4.92
900	$17.46	$5.51
1,000	$19.11	$6.10
2,000	$35.55	$11.75
3,000	$37.09	$16.99
4,000	$38.31	$23.78
5,000	$39.53	$30.56
6,000	$41.09	$31.92
7,000	$42.31	$32.94
8,000	$43.52	$34.13
9,000	$44.73	$35.32
10,000	$45.94	$36.51
20,000	$58.06	$48.40
30,000	$70.18	$60.30
40,000	$82.30	$72.19
50,000	$94.42	$84.08

Table H.2B Pump Station Costs for Transmission Systems by Capacity

MGD	Booster PS	Lake PS with Intake
	Cost (in millions)	
5	$6.05	$2.76
10	$7.85	$3.09
20	$10.17	$3.75
25	$10.50	$4.08
50	$12.66	$5.73
100	$16.68	$9.03
200	$21.84	$14.21
300	$26.53	$20.21
400	$30.96	$26.21
500	$36.15	$32.21
600	$42.03	$38.21
700	$44.97	$40.88

Table H.3 Costs for Ground Storage Tanks

Size (MG)	With Roof	Without Roof
0.05	$833,996	$413,402
0.1	$901,492	$432,305
0.5	$1,077,270	$583,324
1	$1,296,813	$772,047
1.5	$1,516,458	$960,769
2	$1,736,104	$1,149,595
2.5	$1,955,647	$1,338,317
3	$2,175,292	$1,527,143
3.5	$2,394,938	$1,715,865
4	$2,614,480	$1,904,588
5	$3,053,771	$2,282,136
6	$3,492,960	$2,659,683
7	$3,932,251	$3,037,231
8	$4,371,439	$3,414,779
10	$5,376,487	$4,444,586
12	$6,603,646	$5,474,393
14	$7,815,600	$6,504,302

Table H.4 Costs for Elevated Storage Tanks

Size (MG)	Cost
0.5	$1,951,948
0.75	$2,388,568
1.0	$2,826,215
1.5	$3,699,455
2.0	$4,573,723
2.5	$5,446,963

Table H.5 Costs for Discharge Structures

Capacity (MG)	Cost
0.5	$36,000
1	$37,000
2	$41,000
5	$48,000
10	$60,000
60	$156,000
80	$179,000
120	$268,000

a. Costs not provided in costing tool. Developed by the Region C Consultants.

Table H.6 Water Treatment Plant Capital Costs and O&M Costs

	Level 0 Chlorine Disinfection (GW)	Level 1 Iron & Manganese Removal	Level 2 Simple Filtration	Level 3 (new) Conventional Treatment	Level 3 (exp) Conventional Treatment	Level 4 Brackish Desalination	Level 5 Seawater Desalination
Capacity (MGD)	**Capital Costs ($)**						
0.1	$23,087	$288,588	$1,325,778	$1,767,123	$1,767,123	$1,178,589	$2,833,393
1	$88,885	$1,158,201	$4,640,222	$6,231,155	$6,231,155	$4,714,357	$18,958,622
10	$566,903	$4,820,001	$24,526,888	$42,424,887	$23,863,999	$31,872,968	$126,854,757
50	$2,834,513	$13,998,840	$92,804,441	$174,438,444	$86,175,552	$121,218,137	$478,967,996
75	$4,251,769	$20,197,138	$135,671,254	$256,406,422	$137,000,217	$169,716,220	$669,375,527
100	$5,669,026	$24,745,097	$178,538,068	$336,992,859	$166,063,345	$215,487,708	$848,802,709
150	$8,503,538	$37,868,167	$264,271,694	$495,344,555	$249,090,998	$301,702,040	$1,186,233,245
200	$11,338,051	$43,605,494	$350,005,321	$651,027,289	$307,211,963	$383,069,344	$1,504,204,967
Capacity (MGD)	**Annual Costs ($)**						
0.1	$5,384	$37,017	$103,064	$68,687	$68,687	$83,293	$374,449
1	$20,729	$148,561	$360,725	$242,201	$242,201	$333,171	$2,505,493
10	$132,211	$618,256	$1,906,690	$1,649,029	$927,579	$2,252,513	$16,764,602
50	$661,054	$1,795,616	$7,214,502	$6,780,314	$3,349,590	$8,566,679	$63,298,437
75	$991,582	$2,590,666	$10,546,914	$9,966,358	$5,325,113	$11,994,116	$88,461,912
100	$1,322,109	$3,174,027	$13,879,327	$13,098,702	$6,454,779	$15,228,860	$112,174,269
150	$1,983,163	$4,857,310	$20,544,152	$19,253,734	$9,682,012	$21,321,764	$156,767,698
200	$2,644,218	$5,593,231	$27,208,977	$25,305,025	$11,941,137	$27,072,121	$198,789,531

a. Plant are sized for finished peak day capacity.

Table H.7 Cost Elements for Water Wells

	Well Capacity (MGD)					
Well Depth	**100**	**175**	**350**	**700**	**1000**	**1800**
Public Supply Wells						
150	$145,169	$220,377	$376,039	$425,012	$529,953	$774,816
300	$195,890	$279,843	$447,749	$512,463	$633,146	$897,247
500	$253,608	$349,804	$531,702	$612,157	$753,828	$1,044,164
700	$306,079	$412,769	$606,910	$703,106	$862,267	$1,173,592
1000	$402,275	$528,204	$746,831	$869,263	$1,063,404	$1,414,957
1500	$563,184	$722,345	$977,702	$1,147,357	$1,395,717	$1,813,734
2000	$724,094	$914,737	$1,208,573	$1,425,451	$1,729,781	$2,214,259
Irrigation Wells						
150	$80,455	$124,181	$211,631	$243,114	$307,828	$444,251
300	$106,690	$159,161	$258,854	$306,079	$388,283	$542,196
500	$132,926	$199,389	$309,576	$374,290	$475,734	$655,883
700	$153,913	$229,122	$353,302	$432,008	$552,690	$753,828
1000	$201,137	$295,585	$444,251	$550,941	$704,855	$946,220
1500	$281,593	$409,271	$594,667	$748,580	$956,714	$1,264,541
2000	$360,298	$519,459	$745,082	$944,471	$1,210,322	$1,584,612
ASR Wells						
150	$160,910	$248,360	$432,008	$487,977	$608,659	$897,247
300	$211,631	$307,828	$503,717	$575,427	$711,851	$1,021,427
500	$269,349	$379,538	$587,670	$675,122	$834,283	$1,166,596
700	$323,568	$442,502	$664,628	$766,071	$940,973	$1,297,772
1000	$418,015	$557,938	$802,801	$932,228	$1,142,111	$1,537,389
1500	$580,675	$750,330	$1,033,670	$1,210,322	$1,474,424	$1,936,165
2000	$739,836	$942,722	$1,264,541	$1,488,416	$1,808,486	$2,336,690

Table H.8 Cost Elements for Reservoir Sites

Capital Costs	Studies and Permitting
Embankment	Environmental and archeological studies
Spillway	Permitting
Outlet works	Mitigation studies
Site work	Engineering and contingencies
Land	Construction management
Administrative facilities	
Supplemental pumping facilities	
Conflict resolution[1]	
Flood protection	

[1]Conflicts include transportation and utility relocations and modifications to other infrastructure that would be impacted by the proposed project.

Table H.9 Factors for Interest during Construction

Construction Period	Factor
6 months	0.01375
12 months	0.0275
18 months	0.04125
24 months	0.055
36 months	0.0825

Table H.10 Land Purchase Costs

County	Land Cost $/acre
Collin	$4,947
Cooke	$5,000
Dallas	$4,947
Denton	$4,947
Ellis	$4,947
Fannin	$5,000
Freestone	$3,383
Grayson	$5,000
Henderson	$3,267
Jack	$1,798
Kaufman	$4,947
Navarro	$3,383
Parker	$7,020
Rockwall	$4,947
Tarrant	$7,020
Wise	$7,020

List of Remaining Cost Estimates

H.54 NTMWD - Lake of the Pines (From Lake of the Pines to New WTP at Farmersville)
H.55 NTMWD - Lake Texoma Already Authorized with Desal at Leonard
H.56 NTMWD - Groundwater
H.57 NTMWD - George Parkhouse Reservoir (North)
H.58 NTMWD - George Parkhouse Reservoir (South)
H.59 Fort Worth - Village Creek WRF Future Direct Reuse
H.60 Fort Worth - Mary's Creek WRF Future Direct Reuse
H.61 Fort Worth - Direct Reuse - Alliance Corridor*
H.62 UTRWD - Lake Ralph Hall and Reuse
H.63 UTRWD - Direct Reuse
H.64 UTRWD Water Treatment Plant and Treated Water Distribution System Water Management Strategies
H.65 UTRWD - Oklahoma Water (From Hugo to Lake Lewisville)
H.66 UTRWD - Additional Reuse
H.67 UTRWD - Lake Texoma Blend with Sulphur Basin Water
H.68 UTRWD - George Parkhouse Reservoir (North)
H.69 UTRWD - George Parkhouse Reservoir (South)
H.70 GTUA - Collin-Grayson Municipal Alliance Water Treatment System Parallel Line
H.71 GTUA - Connection from Sherman to CGMA
H.72 GTUA - Regional Water System Phase 1
H.73 GTUA - Regional Water System Phase 2
H.74 GTUA - Grayson County Water Supply
H.75 B H P WSC - Connect to and Purchase Water from NTMWD
H.76 Blue Ridge - Connect to and Purchase Water from NTMWD
H.77 Blue Ridge - Increase Delivery Infrastructure from NTWMD-Phase 1
H.78 Blue Ridge - Increase Delivery Infrastructure from NTWMD-Phase 2
H.79 Celina - Connect to and Purchase Water from NTMWD
H.80 East Fork SUD - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.81 Frisco - Additional Reuse
H.82 Melissa - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.83 Parker - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.84 Prosper - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD Phase 1
H.85 Wylie NE SUD - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.86 Gainesville - Direct Reuse
H.87 Gainesville - Increase Delivery Infrastructure to Provide Water to Customers
H.88 Gainesville - Lake Texoma
H.89 Muenster - Connect to and Purchase Water from Gainesville
H.90 Muenster - Develop Muenster Lake Supply
H.91 Glenn Heights - Increase Delivery Infrastructure to Purchase Additional Water from DWU
H.92 Grand Prairie - Connect to and Purchase Water from Arlington
H.93 Grand Prairie - Increase Delivery Infrastructure to Purchase Additional Water from DWU
H.94 Irving - Main Stem Balancing Reservoir
H.95 Irving - TRA Central Reuse
H.96 Irving - Oklahoma (Lake Hugo)
H.97 Rowlett - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD

H.98 Sunnyvale - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.99 Wilmer - Connect to and Purchase Water from DWU
H.100 Wilmer - Increase Delivery Infrastructure to Purchase Additional Water from DWU via Lancaster
H.101 Cross Timbers WSC - Infrastructure Improvements
H.102 Hackberry - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.103 Ennis - Indirect Reuse
H.104 Ferris - Increase Delivery Infrastructure to Purchase Additional Water from Rockett SUD
H.105 Midlothian - Direct Reuse Expansion
H.106 Midlothian - Purchase Duncanville's Joe Pool Yield
H.107 Ovilla - Increase Delivery Infrastructure to Purchase Additional Water from DWU
H.108 Palmer - Increase Delivery Infrastructure to Purchase Additional Water from Rockett SUD
H.109 Rice WSC - Increase Delivery Infrastructure to Purchase Additional Water from Corsicana
H.110 Rockett SUD - Connect to and Purchase Water from DWU
H.111 Sardis-Lone Elm WSC - Increase Delivery Infrastructure to Purchase Additional Water from Rockett SUD
H.112 Waxahachie - 30" Raw water line from IPL to Howard Road Water Treatment Plant
H.113 Waxahachie - 36" Raw water line from IPL to Lake Waxahachie
H.114 Waxahachie - 36" Raw water line from Lake Waxahachie to Howard Rd WTP
H.115 Waxahachie - 48" TRWD Parallel Supply Line to Sokoll WTP
H.116 Waxahachie - Dredge Lake Waxahachie
H.117 Waxahachie - Increase delivery infrastructure to Rockett SUD (30" Raw water Line)
H.118 Waxahachie - Phase I Delivery Infrastructure to Customers in South Ellis County
H.119 Waxahachie - Phase II Delivery Infrastructure to Customers in South Ellis County
H.120 Waxahachie - Raw Water Intake Improvements at Lake Bardwell
H.121 Bois D Arc MUD - Connect to and Purchase Water from NTMWD
H.122 Ladonia - Connect to and Purchase Water from UTRWD (Lake Ralph Hall)
H.123 Leonard - Water System Improvements
H.124 Fairfield - Connect to and Purchase Water from TRWD (Richland-Chambers)
H.125 County-Other, Freestone - Increase Delivery Infrastructure to Purchase Additional Water from Corsicana
H.126 County-Other, Freestone - Connect to and Purchase Water from TRWD
H.127 Denison - Expand Raw Water Delivery from Lake Texoma Phase I
H.128 Denison - Expand Raw Water Delivery from Lake Texoma Phase II
H.129 Van Alstyne - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD via GTUA
H.130 Manufacturing, Grayson - Direct Non-Potable Reuse (Sherman)
H.131 Athens - Infrastructure Improvements at WTP
H.132 County-Other, Jack - Connect to and Purchase Water from Jacksboro
H.133 County-Other, Jack - Connect to and Purchase Water from Walnut Creek SUD
H.134 College Mound - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD via Terrell
H.135 Forney - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.136 Mabank - Increase Delivery Infrastructure to Provide Water to Customers (Cedar Creek Lake)

H.137 Terrell - Ground Storage Tank and Pump Station Expansion at West Side Pump Station (NTMWD Delivery Point)
H.138 Terrell - Infrastructure Improvements
H.139 County-Other, Kaufman - Connect to and Purchase Water from TRWD
H.140 Mining, Kaufman - Connect to and Purchase Water from NTMWD
H.141 M E N WSC - Increase Delivery Infrastructure to Purchase Additional Water from Corsicana
H.142 M E N WSC - Alternative Raw Surface Water from Additional Source
H.143 Annetta - Connect to and Purchase Water from Weatherford
H.144 Aledo - Increase Delivery Infrastructure to Purchase Additional Water from TRWD via Fort Worth
H.145 Hudson Oaks - Connect to and Purchase Water from Fort Worth
H.146 Springtown - Increase Delivery Infrastructure - Surface Water Treatment Plant & Supply Project
H.147 Weatherford - Additional Indirect Reuse (Lake Weatherford) Phase I
H.148 Weatherford - Additional Indirect Reuse (Lake Weatherford) Phase II
H.149 Weatherford - Increase Benbrook Pump Station Capacity
H.150 Willow Park - Connect to and Purchase Water from TRWD via Fort Worth
H.151 County-Other, Parker - Connect to and Purchase Water from TRWD
H.152 Blackland WSC - Connect to and Purchase Water from NTMWD
H.153 Cash WSC - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.154 Fate - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.155 Rockwall - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD
H.156 Burleson - Increase Delivery Infrastructure to Purchase Additional Water from Fort Worth
H.157 Crowley - Increase Delivery Infrastructure to Purchase Additional Water from Fort Worth
H.158 Keller - Increase Delivery Infrastructure to Purchase Additional Water from Fort Worth
H.159 Kennedale - Connect to and Purchase Water from Arlington
H.160 Kennedale - Increase Delivery Infrastructure to Purchase Additional Water from Fort Worth
H.161 Pantego - Connect to and Purchase Water from Arlington
H.162 Pantego - Connect to and Purchase Water from Fort Worth
H.163 Pelican Bay - Connect to and Purchase Water from TRWD via Azle
H.164 Southlake - Increase Delivery Infrastructure to Purchase Additional Water from Fort Worth
H.165 Watauga and North Richland Hills - Increase Delivery Infrastructure to Purchase Additional Water from Fort Worth
H.166 County-Other, Tarrant - Connect to and Purchase Water from Euless for Service to DFW International Airport
H.167 Steam Electric Power, Tarrant - Direct Reuse
H.168 Alvord Connect to and Purchase Water from West Wise SUD (TRWD)
H.169 Bridgeport - Increase Delivery Infrastructure to Provide Additional Water to Customers (Lake Intake and PS)
H.170 Chico - Increase Delivery Infrastructure to Purchase Additional Water from West Wise SUD
H.171 Newark - Connect to and Purchase Water from Rhome

H.172 Runaway Bay - Increase Delivery Infrastructure to Provide Additional Water to Customers (Lake Intake)

Table H.11A
Conservation Savings and Costs for all Municipal Conservation Strategies Combined

Entity Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
ABLES SPRINGS WSC	3	5	5	8	13	19	$342	$205	$0	$0	$25	$34	$1,025	$1,025	$0	$0	$326	$652	$14,562
ADDISON	324	401	421	475	535	598	$337	$275	$43	$40	$38	$36	$109,251	$110,290	$18,168	$19,207	$20,245	$21,284	$1,324,016
ALEDO	7	16	17	27	35	46	$274	$120	$38	$48	$47	$35	$1,917	$1,917	$652	$1,303	$1,629	$1,629	$27,245
ALLEN	1,436	1,592	1,483	1,574	1,690	1,813	$148	$104	$30	$28	$27	$25	$212,956	$165,206	$44,000	$44,500	$45,000	$45,500	$1,516,556
ALVORD	2	3	3	5	7	10	$185	$123	$0	$0	$0	$0	$369	$369	$0	$0	$0	$0	$5,247
ANNA	238	805	80	132	207	316	$593	$269	$0	$0	$0	$0	$141,020	$216,282	$0	$0	$0	$0	$181,763
ANNETTA	3	5	6	8	12	16	$263	$158	$0	$0	$0	$0	$790	$790	$0	$0	$0	$0	$11,234
ARGYLE WSC	25	260	436	451	465	478	$873	$670	$434	$415	$403	$392	$21,837	$174,082	$189,053	$187,241	$187,241	$187,241	$336,085
ARLEDGE RIDGE WSC	2	2	2	4	6	10	$97	$97	$0	$0	$0	$0	$194	$194	$0	$0	$0	$0	$2,763
ARLINGTON	2,674	5,198	5,152	5,377	5,606	5,837	$243	$175	$56	$54	$52	$50	$649,265	$912,081	$288,103	$292,904	$292,904	$292,904	$8,757,589
ATHENS	29	192	228	265	483	753	$1,015	$484	$301	$277	$242	$214	$29,449	$93,002	$68,576	$73,395	$116,661	$161,094	$444,264
AUBREY	5	9	8	13	20	32	$673	$374	$0	$0	$16	$41	$3,364	$3,364	$0	$0	$326	$1,303	$47,811
AVALON WATER SUPPLY & SEWER SERVICE	1	2	2	4	6	11	$607	$304	$0	$0	$0	$0	$607	$607	$0	$0	$0	$0	$8,624
AZLE	28	39	27	36	53	80	$677	$486	$0	$0	$0	$0	$18,949	$18,949	$0	$0	$0	$0	$269,308
B AND B WSC	2	3	3	4	6	9	$195	$130	$0	$0	$0	$0	$389	$389	$0	$0	$0	$0	$5,528
B H P WSC	0	1	1	1	2	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
BALCH SPRINGS	95	112	116	134	157	181	$170	$144	$0	$0	$0	$0	$16,167	$16,167	$0	$0	$0	$0	$229,772
BEAR CREEK SUD	26	43	61	93	132	192	$149	$90	$11	$18	$17	$15	$3,883	$3,883	$652	$1,629	$2,281	$2,933	$55,186
BECKER JIBA WSC	3	5	5	9	17	28	$364	$218	$0	$0	$19	$35	$1,092	$1,092	$0	$0	$326	$978	$15,523
BEDFORD	997	1,390	459	522	556	592	$124	$125	$113	$102	$96	$90	$124,034	$173,209	$51,829	$53,343	$53,343	$53,343	$1,779,050
BELLS	2	2	2	3	10	16	$10,285	$10,285	$0	$0	$0	$0	$20,570	$20,570	$0	$0	$0	$0	$292,347
BENBROOK WATER AUTHORITY	293	395	421	497	578	603	$327	$263	$212	$196	$183	$175	$95,858	$103,772	$89,326	$97,496	$105,662	$105,662	$290,773
BETHEL ASH WSC	2	3	3	4	5	6	$179	$119	$0	$0	$0	$0	$358	$358	$0	$0	$0	$0	$5,087
BETHESDA WSC	92	119	127	148	172	196	$285	$232	$114	$106	$99	$93	$26,260	$27,596	$14,441	$15,725	$17,012	$18,272	$205,732
BLACK ROCK WSC	2	4	4	29	40	46	$619	$310	$0	$329	$275	$255	$1,238	$1,238	$0	$9,531	$11,012	$11,744	$26,169
BLACKLAND WSC	43	59	60	66	77	87	$809	$620	$276	$258	$249	$237	$34,802	$36,588	$16,547	$17,016	$19,140	$20,596	$300,923
BLOOMING GROVE	2	2	2	12	15	17	$453	$453	$0	$413	$356	$303	$906	$906	$0	$4,956	$5,343	$5,152	$21,457
BLUE RIDGE	21	46	423	1,042	1,558	2,255	$593	$392	$638	$465	$417	$379	$12,455	$18,017	$269,837	$484,834	$648,919	$853,977	$64,468
BOIS D ARC MUD	2	3	4	6	11	18	$306	$204	$0	$0	$0	$0	$612	$612	$0	$0	$0	$0	$8,698
BOLIVAR WSC	10	17	18	26	37	51	$361	$212	$0	$0	$0	$0	$3,611	$3,611	$0	$0	$0	$0	$51,327
BONHAM	20	36	42	72	108	155	$256	$142	$0	$0	$0	$0	$5,111	$5,111	$0	$0	$0	$0	$72,634
BOYD	3	18	40	5	9	12	$113	$2,549	$1,212	$0	$0	$0	$340	$45,877	$48,487	$0	$0	$0	$13,413
BRANDON IRENE WSC	0	0	0	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
BRIDGEPORT	10	82	110	162	225	296	$279	$391	$318	$289	$272	$255	$2,786	$32,023	$34,983	$46,896	$61,138	$75,383	$48,173
BUENA VISTA-BETHEL SUD	10	18	94	146	224	319	$204	$113	$231	$189	$174	$165	$2,042	$2,042	$21,694	$27,554	$39,082	$52,544	$37,603
BURLESON	48	54	57	87	118	141	$195	$173	$0	$7	$17	$16	$9,336	$9,336	$0	$652	$1,955	$2,281	$132,685
BUTLER WSC	2	2	2	3	4	4	$155	$155	$0	$0	$0	$0	$310	$310	$0	$0	$0	$0	$4,404
CADDO BASIN SUD	2	4	4	7	12	18	$180	$90	$0	$0	$0	$0	$359	$359	$0	$0	$0	$0	$5,095
CALLISBURG WSC	2	2	1	2	2	3	$105	$105	$0	$0	$0	$0	$209	$209	$0	$0	$0	$0	$2,975
CARROLLTON	1,195	1,376	1,314	1,382	1,459	1,537	$209	$183	$78	$74	$70	$67	$249,817	$251,503	$102,762	$102,764	$102,766	$102,769	$2,114,013
CASH SUD	5	7	9	11	14	18	$32	$23	$0	$0	$0	$0	$162	$162	$0	$0	$0	$0	$2,304
CEDAR HILL	760	1,023	1,177	1,356	1,410	1,465	$160	$132	$84	$79	$76	$73	$121,806	$135,185	$98,999	$106,650	$106,650	$106,650	$704,382
CELINA	236	744	1,224	1,941	2,441	2,980	$392	$213	$152	$131	$121	$113	$92,618	$158,106	$186,058	$254,929	$295,348	$335,765	$393,446
CHATFIELD WSC	3	5	5	7	10	13	$288	$173	$0	$0	$0	$0	$864	$864	$0	$0	$0	$0	$12,274
CHICO	2	15	18	35	47	62	$249	$404	$323	$274	$258	$243	$497	$6,064	$5,813	$9,589	$12,129	$15,094	$15,646
COCKRELL HILL	29	31	7	5	9	24	$32	$30	$0	$0	$0	$14	$923	$923	$0	$0	$0	$326	$13,114
COLLEGE MOUND WSC	8	13	15	23	41	61	$327	$201	$0	$0	$0	$0	$2,617	$2,617	$0	$0	$0	$0	$37,197
COLLEYVILLE	187	641	705	765	799	835	$608	$220	$41	$38	$36	$34	$113,668	$140,778	$28,557	$28,757	$28,757	$28,757	$1,624,070
COLLINSVILLE	2	4	4	6	8	13	$563	$282	$0	$0	$0	$0	$1,126	$1,126	$0	$0	$0	$0	$16,010
COMBINE WSC	3	5	5	8	11	16	$707	$424	$0	$0	$0	$0	$2,120	$2,120	$0	$0	$0	$0	$30,127
COMMUNITY WSC	3	4	4	6	8	10	$161	$121	$0	$0	$0	$0	$483	$483	$0	$0	$0	$0	$6,859
COPEVILLE SUD	9	11	14	21	41	80	$152	$124	$0	$0	$8	$20	$1,368	$1,368	$0	$0	$326	$1,629	$19,436
COPPELL	770	868	842	874	910	946	$178	$159	$48	$47	$45	$43	$137,133	$137,856	$40,769	$40,769	$40,769	$40,769	$1,380,558
CORBET WSC	2	3	3	4	6	7	$160	$107	$0	$0	$0	$0	$320	$320	$0	$0	$0	$0	$4,543
CORINTH	41	330	365	380	396	413	$575	$402	$299	$282	$271	$260	$23,578	$132,644	$109,066	$107,257	$107,257	$107,257	$360,827
CORSICANA	59	93	89	447	585	671	$740	$470	$0	$211	$172	$159	$43,668	$43,668	$0	$94,165	$100,676	$107,024	$629,197
CRANDALL	39	58	66	86	92	97	$423	$339	$305	$290	$274	$260	$16,484	$19,663	$20,104	$24,982	$25,234	$25,234	$41,836
CRESCENT HEIGHTS WSC	2	2	2	2	4	6	$311	$311	$0	$0	$0	$0	$621	$621	$0	$0	$0	$0	$8,820
CROSS TIMBERS WSC	13	111	124	133	145	156	$869	$380	$252	$234	$225	$217	$11,303	$42,192	$31,279	$31,111	$32,600	$33,779	$169,214
CROWLEY	95	122	137	178	242	296	$87	$68	$0	$0	$0	$0	$8,309	$8,309	$0	$0	$0	$0	$118,084
CULLEOKA WSC	5	7	9	16	24	35	$584	$417	$0	$20	$41	$37	$2,920	$2,920	$0	$326	$978	$1,303	$41,495

Table H.11A
Conservation Savings and Costs for all Municipal Conservation Strategies Combined

Entity Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
DALLAS	17,663	24,632	37,392	43,655	46,402	47,947	$85	$162	$157	$156	$157	$157	$1,502,022	$3,979,624	$5,872,241	$6,826,709	$7,263,434	$7,506,203	$16,933,907
DALWORTHINGTON GARDENS	8	44	46	50	54	58	$366	$178	$108	$77	$73	$69	$2,928	$7,819	$4,969	$3,839	$3,916	$3,990	$58,768
DAWSON	1	2	2	2	3	3	$667	$334	$0	$0	$0	$0	$667	$667	$0	$0	$0	$0	$9,479
DECATUR	118	198	254	345	426	519	$401	$293	$195	$182	$172	$160	$47,295	$58,103	$49,559	$62,961	$73,211	$82,947	$287,170
DENISON	512	930	915	1,030	1,235	1,695	$538	$317	$269	$258	$243	$224	$275,531	$294,849	$246,126	$265,234	$300,098	$380,454	$724,483
DENTON	1,548	2,358	2,799	4,001	5,980	7,685	$378	$273	$135	$123	$112	$106	$584,648	$644,335	$378,361	$491,005	$668,308	$815,421	$4,654,114
DENTON COUNTY FWSD 10	12	208	278	290	302	315	$5,675	$654	$289	$271	$260	$250	$68,102	$136,013	$80,473	$78,664	$78,664	$78,664	$993,628
DENTON COUNTY FWSD 1-A	200	416	486	511	537	562	$383	$246	$144	$137	$130	$125	$76,647	$102,346	$70,000	$70,000	$70,000	$70,000	$565,854
DENTON COUNTY FWSD 7	32	234	260	271	282	293	$393	$288	$211	$196	$188	$181	$12,571	$67,417	$54,846	$53,034	$53,034	$53,034	$204,395
DESERT WSC	2	3	3	4	6	10	$422	$281	$0	$0	$0	$0	$843	$843	$0	$0	$0	$0	$11,979
DESOTO	538	750	792	896	1,010	1,087	$578	$441	$420	$400	$379	$362	$311,189	$330,547	$333,011	$358,308	$382,960	$393,021	$296,156
DOGWOOD ESTATES WATER	2	2	2	3	5	7	$168	$168	$0	$0	$0	$0	$335	$335	$0	$0	$0	$0	$4,765
DORCHESTER	1	2	1	2	2	3	$364	$182	$0	$0	$0	$0	$364	$364	$0	$0	$0	$0	$5,172
DUNCANVILLE	241	280	212	225	243	264	$180	$155	$0	$0	$0	$0	$43,318	$43,318	$0	$0	$0	$0	$615,654
EAST CEDAR CREEK FWSD	14	22	21	30	39	52	$554	$352	$0	$0	$0	$0	$7,754	$7,754	$0	$0	$0	$0	$110,198
EAST FORK SUD	87	105	113	130	155	179	$426	$353	$0	$0	$0	$0	$37,026	$37,026	$0	$0	$0	$0	$526,225
EAST GARRETT WSC	2	17	23	30	41	99	$218	$512	$433	$373	$334	$326	$435	$8,706	$9,962	$11,199	$13,677	$32,257	$23,331
EDGECLIFF	5	22	23	24	26	27	$1,072	$506	$251	$190	$176	$169	$5,358	$11,131	$5,773	$4,567	$4,567	$4,567	$93,306
ELMO WSC	2	3	3	6	10	17	$134	$89	$0	$0	$0	$19	$268	$268	$0	$0	$0	$326	$3,802
ENNIS	38	356	636	928	1,536	2,623	$1,133	$686	$350	$316	$279	$248	$43,070	$244,042	$222,765	$293,429	$428,255	$650,134	$629,280
EULESS	443	817	769	445	474	504	$242	$196	$69	$0	$0	$0	$107,239	$160,106	$52,867	$0	$0	$0	$1,541,283
EUSTACE	1	2	1	3	4	6	$540	$270	$0	$0	$0	$0	$540	$540	$0	$0	$0	$0	$7,675
EVERMAN	21	23	20	22	23	25	$172	$157	$0	$0	$0	$0	$3,610	$3,610	$0	$0	$0	$0	$51,306
FAIRFIELD	8	11	10	96	141	203	$744	$541	$0	$296	$246	$224	$5,951	$5,951	$0	$28,450	$34,745	$45,438	$93,149
FAIRVIEW	186	259	331	368	396	420	$167	$127	$70	$65	$61	$58	$31,000	$32,961	$23,125	$23,930	$24,158	$24,158	$214,094
FARMERS BRANCH	669	775	749	820	906	996	$146	$129	$65	$63	$59	$57	$97,721	$100,058	$48,678	$51,279	$53,814	$56,355	$764,273
FARMERSVILLE	8	33	71	137	236	399	$924	$254	$64	$52	$43	$36	$7,388	$8,366	$4,562	$7,169	$10,101	$14,337	$105,003
FATE	139	209	273	382	490	573	$387	$290	$149	$136	$126	$118	$53,728	$60,637	$40,764	$51,857	$61,719	$67,882	$421,243
FERRIS	4	9	11	16	23	32	$551	$245	$0	$0	$0	$20	$2,205	$2,205	$0	$0	$0	$652	$31,341
FILES VALLEY WSC	1	2	2	3	5	7	$161	$81	$0	$0	$0	$0	$161	$161	$0	$0	$0	$0	$2,291
FLO COMMUNITY WSC	0	0	1	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FLOWER MOUND	791	1,034	1,015	1,106	1,206	1,318	$387	$302	$70	$65	$61	$57	$305,840	$311,892	$71,063	$72,420	$73,778	$75,631	$3,440,124
FOREST HILL	14	19	18	27	41	63	$964	$710	$0	$0	$0	$0	$13,499	$13,499	$0	$0	$0	$0	$191,853
FORNEY	93	125	151	206	329	474	$166	$124	$0	$0	$0	$0	$15,441	$15,441	$0	$0	$0	$0	$219,451
FORNEY LAKE WSC	61	87	105	142	249	370	$401	$324	$224	$213	$199	$183	$24,465	$28,158	$23,504	$30,218	$49,482	$67,775	$129,337
FORT WORTH	26,789	31,747	22,722	22,342	21,964	21,247	$532	$451	$22	$25	$28	$31	$14,242,790	$14,328,291	$503,150	$559,315	$607,920	$656,863	$195,851,589
FRISCO	2,433	3,134	3,698	4,739	5,500	6,044	$374	$302	$107	$102	$97	$93	$911,012	$945,309	$393,842	$484,088	$535,339	$560,085	$8,759,700
FROGNOT WSC	2	2	2	4	5	7	$289	$289	$0	$0	$0	$0	$578	$578	$0	$0	$0	$0	$8,218
GAINESVILLE	25	39	35	46	68	111	$954	$612	$0	$0	$0	$0	$23,858	$23,858	$0	$0	$0	$0	$339,073
GARLAND	2,757	3,083	2,797	2,939	3,100	3,252	$200	$180	$0	$0	$0	$0	$550,915	$555,990	$0	$0	$0	$0	$6,779,585
GASTONIA SCURRY SUD	7	12	14	21	44	80	$405	$236	$0	$0	$0	$0	$2,836	$2,836	$0	$0	$0	$0	$40,309
GLENN HEIGHTS	18	36	40	62	90	143	$340	$170	$0	$0	$0	$0	$6,117	$6,117	$0	$0	$0	$0	$86,942
GRAND PRAIRIE	2,061	2,578	2,276	2,408	2,552	2,698	$84	$71	$0	$0	$0	$0	$173,341	$181,798	$0	$0	$0	$0	$1,521,652
GRAPEVINE	1,054	1,182	1,129	1,181	1,242	1,303	$276	$247	$23	$22	$21	$20	$291,084	$291,532	$26,009	$26,009	$26,009	$26,009	$3,773,715
GUNTER	24	65	5	9	13	19	$2,054	$812	$0	$0	$0	$0	$49,294	$52,800	$0	$0	$0	$0	$31,474
HACKBERRY	27	42	53	67	86	111	$394	$306	$237	$231	$220	$205	$10,650	$12,836	$12,563	$15,478	$18,887	$22,776	$40,887
HALTOM CITY	296	318	313	353	401	459	$181	$169	$0	$0	$0	$0	$53,603	$53,603	$0	$0	$0	$0	$761,824
HASLET	5	102	155	296	316	331	$1,014	$172	$112	$99	$97	$93	$5,070	$17,531	$17,359	$29,175	$30,804	$30,804	$97,784
HEATH	213	372	457	486	532	581	$425	$288	$161	$153	$146	$139	$90,596	$106,988	$73,452	$74,368	$77,559	$80,751	$679,204
HICKORY CREEK SUD	0	0	1	1	1	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HIGH POINT WSC	3	6	6	10	20	33	$239	$119	$0	$0	$16	$39	$716	$716	$0	$0	$326	$1,303	$10,172
HIGHLAND PARK	202	219	210	224	237	251	$143	$132	$0	$0	$0	$0	$28,926	$28,926	$0	$0	$0	$0	$411,107
HIGHLAND VILLAGE	260	450	472	482	495	508	$172	$221	$116	$112	$109	$106	$44,823	$99,367	$54,544	$53,940	$53,940	$53,940	$645,618
HILCO UNITED SERVICES	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
HONEY GROVE	3	4	3	4	5	5	$602	$452	$0	$0	$0	$0	$1,806	$1,806	$0	$0	$0	$0	$25,668
HORSESHOE BEND WATER SYSTEM	2	2	2	4	6	9	$426	$426	$0	$0	$0	$0	$852	$852	$0	$0	$0	$0	$12,104
HOWE	2	4	3	5	7	9	$1,017	$508	$0	$0	$0	$0	$2,033	$2,033	$0	$0	$0	$0	$28,900
HUDSON OAKS	77	127	126	133	139	145	$361	$262	$164	$155	$148	$142	$27,797	$33,213	$20,607	$20,607	$20,607	$20,607	$187,589
HURST	326	391	320	328	350	371	$229	$246	$67	$65	$61	$57	$74,763	$96,091	$21,328	$21,328	$21,328	$21,328	$1,062,568
HUTCHINS	99	162	202	262	328	400	$511	$359	$171	$161	$151	$140	$50,580	$58,102	$34,581	$42,094	$49,404	$56,084	$441,083
IRVING	3,428	3,993	3,853	4,029	4,230	4,438	$65	$58	$22	$21	$20	$19	$224,438	$231,821	$83,654	$83,654	$83,654	$83,654	$2,126,293

Table H.11A
Conservation Savings and Costs for all Municipal Conservation Strategies Combined

Entity Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
ITALY	3	5	5	8	12	20	$174	$104	$0	$0	$0	$0	$522	$522	$0	$0	$0	$0	$7,419
JACKSBORO	5	9	7	10	12	15	$246	$136	$0	$0	$0	$0	$1,228	$1,228	$0	$0	$0	$0	$17,449
JOHNSON COUNTY SUD	3	4	4	6	8	10	$145	$109	$0	$0	$0	$0	$436	$436	$0	$0	$0	$0	$6,197
JOSEPHINE	13	22	30	42	47	50	$316	$231	$122	$112	$104	$98	$4,112	$5,074	$3,648	$4,701	$4,897	$4,897	$34,852
JUSTIN	10	20	20	28	34	39	$485	$242	$33	$47	$38	$33	$4,846	$4,846	$652	$1,303	$1,303	$1,303	$68,869
KAUFMAN	54	75	23	48	78	110	$264	$217	$28	$48	$38	$36	$14,268	$16,308	$652	$2,281	$2,933	$3,910	$79,538
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	44	69	82	114	171	243	$324	$256	$228	$218	$206	$193	$14,258	$17,674	$18,708	$24,812	$35,217	$46,900	$33,583
KAUFMAN COUNTY MUD 11	30	46	53	68	88	114	$610	$455	$336	$320	$303	$291	$18,297	$20,938	$17,823	$21,793	$26,665	$33,184	$90,314
KELLER	768	946	854	893	935	978	$122	$126	$30	$29	$27	$26	$93,444	$118,938	$25,494	$25,494	$25,494	$25,494	$1,328,066
KEMP	21	41	49	63	101	144	$2,283	$1,219	$1,033	$855	$621	$505	$47,935	$49,987	$50,594	$53,849	$62,713	$72,669	$22,292
KENNEDALE	12	77	97	121	147	175	$1,011	$359	$192	$173	$161	$152	$12,135	$27,640	$18,582	$20,873	$23,720	$26,566	$189,619
KENTUCKYTOWN WSC	3	5	5	7	11	17	$423	$254	$0	$0	$0	$0	$1,270	$1,270	$0	$0	$0	$0	$18,044
KERENS	2	3	2	4	5	6	$238	$159	$0	$0	$0	$0	$476	$476	$0	$0	$0	$0	$6,764
KRUM	58	86	102	130	167	213	$437	$340	$245	$232	$220	$207	$25,322	$29,220	$24,941	$30,147	$36,669	$44,071	$127,092
LADONIA	3	6	3	5	8	9	$44	$22	$0	$0	$0	$0	$131	$131	$0	$0	$0	$0	$1,864
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	21	34	35	46	56	66	$1,060	$655	$0	$0	$0	$0	$22,255	$22,255	$0	$0	$0	$0	$316,302
LAKE KIOWA SUD	7	11	9	13	16	20	$1,493	$950	$0	$0	$0	$0	$10,452	$10,452	$0	$0	$0	$0	$148,550
LAKE WORTH	10	57	66	82	101	151	$16,779	$3,123	$169	$141	$134	$127	$167,788	$177,983	$11,168	$11,540	$13,528	$19,214	$2,401,817
LAKESIDE	21	26	26	28	30	31	$334	$277	$210	$202	$188	$182	$7,010	$7,190	$5,469	$5,647	$5,647	$5,647	$26,998
LANCASTER	388	575	652	766	892	1,026	$349	$253	$92	$85	$79	$74	$135,456	$145,358	$59,734	$65,108	$70,483	$75,856	$1,321,125
LEONARD	3	4	4	5	6	8	$452	$339	$0	$0	$0	$0	$1,357	$1,357	$0	$0	$0	$0	$19,291
LEWISVILLE	858	1,130	1,237	1,500	1,780	1,886	$274	$222	$135	$126	$117	$111	$234,969	$251,136	$166,870	$188,456	$208,947	$208,947	$1,472,245
LINDSAY	2	2	2	3	4	7	$554	$554	$0	$0	$0	$0	$1,108	$1,108	$0	$0	$0	$0	$15,743
LITTLE ELM	201	238	231	245	259	275	$126	$107	$0	$0	$0	$0	$25,406	$25,406	$0	$0	$0	$0	$361,083
LUCAS	161	296	390	474	544	559	$481	$276	$225	$213	$203	$198	$77,440	$81,613	$87,756	$100,866	$110,520	$110,520	$138,638
LUELLA SUD	3	5	5	7	10	13	$557	$334	$0	$0	$0	$0	$1,671	$1,671	$0	$0	$0	$0	$23,749
M E N WSC	4	6	6	8	11	15	$435	$290	$0	$0	$0	$0	$1,741	$1,741	$0	$0	$0	$0	$24,737
MABANK	110	148	159	221	324	474	$461	$375	$307	$288	$270	$244	$50,683	$55,558	$48,749	$63,608	$87,571	$115,504	$160,153
MACBEE SUD	0	0	0	0	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MALAKOFF	2	3	3	4	5	6	$780	$520	$0	$0	$0	$0	$1,560	$1,560	$0	$0	$0	$0	$22,166
MANSFIELD	771	1,149	1,319	1,746	2,132	2,553	$418	$291	$62	$57	$52	$49	$322,386	$334,913	$82,310	$99,072	$111,841	$124,546	$3,751,937
MARILEE SUD	10	14	12	16	20	23	$8,228	$5,877	$0	$0	$0	$0	$82,279	$82,279	$0	$0	$0	$0	$1,169,389
MARKOUT WSC	20	34	38	53	79	109	$544	$385	$322	$305	$285	$275	$10,888	$13,102	$12,230	$16,191	$22,530	$29,967	$43,709
MCKINNEY	2,509	3,279	3,753	4,819	5,760	6,396	$296	$244	$216	$197	$193	$186	$743,281	$801,175	$811,788	$951,557	$1,109,235	$1,189,217	$775,316
MELISSA	176	611	825	1,100	1,348	1,480	$136	$64	$39	$34	$31	$29	$23,966	$39,210	$32,500	$37,500	$41,268	$42,268	$177,086
MESQUITE	1,302	1,499	1,597	1,816	2,060	2,321	$200	$174	$0	$0	$0	$0	$261,037	$261,037	$0	$0	$0	$0	$3,709,960
MIDLOTHIAN	318	557	584	656	733	844	$383	$269	$174	$162	$153	$143	$121,924	$149,672	$101,624	$106,338	$111,846	$120,930	$736,659
MILLIGAN WSC	4	6	6	10	15	19	$1,125	$750	$0	$0	$0	$0	$4,498	$4,498	$0	$0	$0	$0	$63,934
MINERAL WELLS	17	21	3	4	5	6	$473	$379	$0	$0	$0	$0	$8,048	$7,957	$0	$0	$0	$0	$16,069
MOUNT ZION WSC	22	29	34	44	56	69	$432	$362	$177	$164	$155	$147	$9,497	$10,497	$6,021	$7,237	$8,668	$10,132	$78,888
MOUNTAIN PEAK SUD	293	682	723	1,042	1,232	1,409	$320	$164	$152	$143	$137	$132	$93,824	$111,818	$110,085	$148,674	$168,662	$186,642	$119,361
MOUNTAIN SPRINGS WSC	4	5	5	7	48	91	$432	$346	$0	$0	$352	$290	$1,729	$1,729	$0	$0	$16,902	$26,383	$33,143
MUENSTER	2	3	3	3	4	5	$880	$587	$0	$0	$0	$0	$1,760	$1,760	$0	$0	$0	$0	$25,014
MURPHY	214	248	241	256	270	285	$163	$141	$120	$113	$107	$101	$34,927	$34,927	$28,896	$28,896	$28,896	$28,896	$85,696
MUSTANG SUD	44	119	153	255	382	536	$1,078	$399	$0	$0	$0	$0	$47,426	$47,426	$0	$0	$0	$0	$674,034
NAVARRO MILLS WSC	3	4	4	5	7	10	$249	$187	$0	$0	$0	$0	$747	$747	$0	$0	$0	$0	$10,610
NEVADA SUD	10	12	13	49	130	250	$112	$93	$0	$7	$18	$16	$1,119	$1,119	$0	$326	$2,281	$3,910	$15,904
NEWARK	2	3	3	6	11	17	$38	$25	$0	$0	$0	$0	$76	$76	$0	$0	$0	$0	$1,083
NORTH COLLIN SUD	7	11	11	17	26	38	$212	$135	$0	$0	$25	$34	$1,487	$1,487	$0	$0	$652	$1,303	$21,134
NORTH FARMERSVILLE WSC	3	7	8	10	12	14	$825	$387	$255	$256	$243	$231	$2,474	$2,711	$2,037	$2,561	$2,915	$3,230	$14,845
NORTH HUNT SUD	0	0	0	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NORTH KAUFMAN WSC	2	3	3	5	9	16	$415	$276	$0	$0	$0	$20	$829	$829	$0	$0	$0	$326	$11,783
NORTH RICHLAND HILLS	633	797	762	800	840	883	$233	$225	$42	$40	$38	$36	$147,477	$179,347	$31,870	$31,870	$31,870	$31,870	$2,095,999
NORTH RURAL WSC	0	1	1	1	1	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NORTHLAKE	16	198	294	437	595	632	$647	$183	$125	$109	$99	$93	$10,351	$36,219	$36,668	$47,662	$58,633	$58,633	$155,685
NORTHWEST GRAYSON COUNTY WCID 1	2	2	2	3	5	8	$143	$143	$0	$0	$0	$0	$285	$285	$0	$0	$0	$0	$4,053
OAK RIDGE SOUTH GALE WSC	2	2	2	3	6	9	$239	$239	$0	$0	$0	$0	$478	$478	$0	$0	$0	$0	$6,787
OVILLA	82	195	240	314	396	751	$717	$326	$271	$231	$211	$186	$58,812	$63,530	$64,985	$72,637	$83,513	$140,028	$56,204
PALMER	2	4	4	7	11	26	$1,188	$594	$0	$0	$0	$25	$2,376	$2,376	$0	$0	$0	$652	$33,764
PALOMA CREEK NORTH	15	154	173	181	188	196	$370	$344	$280	$257	$248	$238	$5,553	$52,955	$48,379	$46,570	$46,570	$46,570	$104,645
PALOMA CREEK SOUTH	7	77	87	91	94	98	$381	$357	$285	$253	$245	$235	$2,665	$27,463	$24,798	$22,986	$22,986	$22,986	$63,606

Table H.11A
Conservation Savings and Costs for all Municipal Conservation Strategies Combined

Entity Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
PANTEGO	5	7	7	9	11	13	$1,478	$1,056	$0	$0	$0	$0	$7,392	$7,392	$0	$0	$0	$0	$105,058
PARKER	178	202	211	259	305	372	$162	$143	$73	$70	$70	$71	$28,800	$28,800	$15,435	$18,004	$21,433	$26,388	$203,790
PARKER COUNTY SUD	6	14	19	30	44	61	$564	$265	$69	$54	$44	$37	$3,384	$3,710	$1,303	$1,629	$1,955	$2,281	$48,090
PELICAN BAY	1	2	1	2	2	2	$283	$142	$0	$0	$0	$0	$283	$283	$0	$0	$0	$0	$4,028
PILOT POINT	7	12	16	31	51	80	$1,051	$613	$41	$53	$45	$37	$7,355	$7,355	$652	$1,629	$2,281	$2,933	$104,529
PINK HILL WSC	2	3	2	4	6	10	$386	$257	$0	$0	$0	$0	$771	$771	$0	$0	$0	$0	$10,957
PLANO	3,661	4,094	4,383	4,153	4,401	4,691	$104	$64	$21	$22	$21	$20	$380,526	$261,472	$92,430	$92,614	$92,708	$93,333	$1,563,143
PLEASANT GROVE WSC	1	2	1	2	4	8	$272	$136	$0	$0	$0	$0	$272	$272	$0	$0	$0	$0	$3,871
POETRY WSC	1	2	1	3	4	7	$224	$112	$0	$0	$0	$0	$224	$224	$0	$0	$0	$0	$3,186
POINT ENTERPRISE WSC	0	1	1	1	2	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
PONDER	3	6	7	12	18	29	$275	$138	$0	$0	$0	$22	$825	$825	$0	$0	$0	$652	$11,730
POST OAK SUD	0	0	1	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
POTTSBORO	27	40	48	66	110	211	$459	$380	$323	$306	$295	$266	$12,398	$15,218	$15,510	$20,227	$32,440	$56,167	$35,399
PRINCETON	11	56	100	147	178	209	$758	$149	$0	$0	$0	$0	$8,337	$8,337	$0	$0	$0	$0	$118,491
PROSPER	230	346	423	556	701	744	$319	$223	$46	$40	$36	$34	$73,256	$77,057	$19,397	$22,386	$25,250	$25,250	$859,194
PROVIDENCE VILLAGE WCID	8	11	9	12	15	19	$1,174	$854	$0	$0	$0	$0	$9,391	$9,391	$0	$0	$0	$0	$133,467
R C H WSC	47	77	88	112	154	202	$469	$364	$287	$274	$261	$244	$22,042	$28,055	$25,225	$30,659	$40,225	$49,229	$92,268
RED OAK	10	14	19	38	56	103	$621	$444	$34	$51	$41	$35	$6,213	$6,213	$652	$1,955	$2,281	$3,584	$88,296
RED RIVER AUTHORITY OF TEXAS	3	5	4	6	8	9	$709	$425	$0	$0	$0	$0	$2,126	$2,126	$0	$0	$0	$0	$30,217
RENO (Parker)	2	2	2	2	3	4	$289	$289	$0	$0	$0	$0	$578	$578	$0	$0	$0	$0	$8,218
RHOME	20	35	42	72	101	138	$443	$339	$324	$300	$286	$267	$8,860	$11,857	$13,607	$21,595	$28,905	$36,854	$18,788
RICE WATER SUPPLY AND SEWER SERVICE	10	18	20	31	45	63	$424	$272	$65	$53	$43	$36	$4,239	$4,891	$1,303	$1,629	$1,955	$2,281	$60,243
RICHARDSON	1,325	1,468	1,442	1,568	1,683	1,828	$88	$80	$29	$27	$25	$24	$116,817	$117,573	$41,398	$42,229	$42,646	$43,517	$1,093,469
RICHLAND HILLS	10	14	12	20	29	38	$437	$312	$0	$33	$45	$34	$4,368	$4,368	$0	$652	$1,303	$1,303	$62,079
RIVER OAKS	11	13	8	10	13	16	$756	$640	$0	$0	$0	$0	$8,314	$8,314	$0	$0	$0	$0	$118,161
ROANOKE	19	150	192	204	215	226	$402	$201	$145	$128	$121	$115	$7,642	$30,084	$27,825	$26,013	$26,013	$26,013	$134,339
ROCKETT SUD	44	83	80	133	214	325	$935	$496	$0	$0	$0	$0	$41,140	$41,140	$0	$0	$0	$0	$584,694
ROCKWALL	620	927	1,271	1,440	1,666	1,911	$223	$156	$32	$30	$27	$25	$138,332	$144,537	$41,202	$42,567	$45,067	$47,567	$1,600,987
ROSE HILL SUD	3	6	6	10	18	35	$576	$288	$0	$0	$18	$37	$1,729	$1,729	$0	$0	$326	$1,303	$24,571
ROWLETT	409	483	493	557	623	700	$136	$116	$0	$0	$0	$0	$55,793	$55,793	$0	$0	$0	$0	$792,959
ROYSE CITY	13	32	41	95	171	244	$753	$306	$0	$0	$0	$0	$9,784	$9,784	$0	$0	$0	$0	$139,057
RUNAWAY BAY	28	38	42	52	62	77	$276	$221	$162	$157	$149	$143	$7,728	$8,387	$6,797	$8,153	$9,227	$11,016	$32,265
SACHSE	389	407	397	416	433	447	$107	$102	$43	$41	$40	$38	$41,502	$41,502	$17,014	$17,139	$17,174	$17,174	$348,028
SAGINAW	205	243	245	267	280	294	$401	$339	$0	$0	$0	$0	$82,279	$82,279	$0	$0	$0	$0	$1,169,389
SANGER	44	59	71	92	118	151	$104	$88	$18	$18	$17	$15	$4,554	$5,206	$1,303	$1,629	$1,955	$2,281	$64,721
SANSOM PARK	5	7	6	8	11	14	$84	$60	$0	$0	$0	$0	$422	$422	$0	$0	$0	$0	$5,993
SARDIS LONE ELM WSC	441	655	751	815	875	904	$172	$143	$112	$105	$100	$97	$75,957	$93,364	$83,875	$85,804	$87,733	$87,733	$246,991
SEAGOVILLE	72	94	104	129	158	170	$305	$233	$0	$0	$0	$0	$21,940	$21,940	$0	$0	$0	$0	$311,822
SEIS LAGOS UD	24	27	26	29	31	33	$600	$533	$90	$84	$79	$74	$14,389	$14,389	$2,333	$2,426	$2,452	$2,452	$171,337
SHERMAN	152	206	195	251	1,048	1,868	$291	$215	$0	$0	$140	$106	$44,234	$44,234	$0	$0	$146,585	$197,504	$642,081
SOUTH ELLIS COUNTY WSC	3	5	6	152	502	705	$347	$208	$0	$361	$120	$97	$1,041	$1,041	$0	$54,814	$60,455	$68,581	$23,372
SOUTH FREESTONE COUNTY WSC	2	3	3	5	8	16	$336	$224	$0	$0	$0	$0	$671	$671	$0	$0	$0	$0	$9,541
SOUTH GRAYSON SUD	5	7	7	10	13	17	$110	$79	$0	$0	$0	$0	$552	$552	$0	$0	$0	$0	$7,852
SOUTHLAKE	509	712	807	981	1,170	1,380	$323	$260	$66	$61	$57	$53	$164,330	$185,442	$53,132	$60,033	$67,017	$73,729	$1,977,712
SOUTHMAYD	1	2	2	2	4	6	$763	$382	$0	$0	$0	$0	$763	$763	$0	$0	$0	$0	$10,849
SOUTHWEST FANNIN COUNTY SUD	5	7	7	11	19	30	$207	$148	$0	$0	$17	$33	$1,035	$1,035	$0	$0	$326	$978	$14,710
SPRINGTOWN	115	301	298	301	304	308	$534	$228	$219	$217	$215	$212	$61,407	$68,526	$65,398	$65,398	$65,398	$65,398	$44,470
STARR WSC	2	3	2	4	6	10	$506	$337	$0	$0	$0	$0	$1,012	$1,012	$0	$0	$0	$0	$14,384
SUNNYVALE	89	148	189	240	255	271	$161	$118	$80	$81	$76	$71	$14,366	$17,521	$15,147	$19,347	$19,347	$19,347	$98,538
TALTY SUD	93	132	148	217	319	461	$517	$400	$301	$281	$252	$220	$48,071	$52,836	$44,610	$61,067	$80,377	$101,381	$192,754
TEAGUE	51	101	129	173	213	258	$1,171	$605	$516	$439	$393	$363	$59,740	$61,093	$66,625	$75,912	$83,741	$93,732	$23,567
TERRELL	160	355	465	578	686	848	$379	$220	$114	$104	$95	$87	$60,706	$78,261	$53,229	$60,018	$65,448	$74,184	$521,083
THE COLONY	124	175	169	214	247	280	$350	$248	$0	$0	$0	$0	$43,386	$43,386	$0	$0	$0	$0	$616,616
TIOGA	17	17	20	21	68	95	$61	$61	$0	$0	$0	$0	$1,044	$1,044	$0	$0	$0	$0	$14,836
TOM BEAN	2	33	80	89	111	168	$343	$1,403	$580	$525	$440	$324	$685	$46,312	$46,437	$46,769	$48,866	$54,387	$18,318
TRENTON	1	8	22	47	84	127	$134	$493	$341	$288	$275	$261	$134	$3,940	$7,505	$13,521	$23,116	$33,188	$10,484
TRINIDAD	1	1	1	1	2	3	$419	$419	$0	$0	$0	$0	$419	$419	$0	$0	$0	$0	$5,961
TROPHY CLUB MUD 1	241	286	277	293	309	325	$305	$286	$31	$29	$27	$26	$73,387	$81,866	$8,479	$8,479	$8,479	$8,479	$1,042,999
TWO WAY SUD	5	10	10	18	31	46	$554	$277	$0	$36	$42	$35	$2,768	$2,768	$0	$652	$1,303	$1,629	$39,344
UNIVERSITY PARK	362	393	374	395	420	444	$909	$837	$0	$0	$0	$0	$329,118	$329,118	$0	$0	$0	$0	$4,677,554
VAN ALSTYNE	24	33	45	61	131	181	$122	$88	$0	$0	$7	$14	$2,919	$2,919	$0	$0	$978	$2,607	$41,490

Table H.11A
Conservation Savings and Costs for all Municipal Conservation Strategies Combined

Entity Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
VENUS	0	1	1	2	3	3	$0	$953	$439	$283	$231	$281	$881	$953	$439	$566	$693	$843	$8,576
VERONA SUD	2	4	4	6	8	11	$532	$266	$0	$0	$0	$0	$1,063	$1,063	$0	$0	$0	$0	$15,102
VIRGINIA HILL WSC	2	3	3	4	6	7	$232	$155	$0	$0	$0	$0	$464	$464	$0	$0	$0	$0	$6,596
WALNUT CREEK SUD	15	26	25	44	78	120	$360	$208	$0	$0	$0	$0	$5,397	$5,397	$0	$0	$0	$0	$76,702
WATAUGA	112	121	114	120	128	136	$284	$262	$0	$0	$0	$0	$31,754	$31,754	$0	$0	$0	$0	$451,306
WAXAHACHIE	66	109	509	755	964	1,229	$1,870	$1,132	$246	$189	$168	$152	$123,419	$123,419	$125,390	$142,718	$162,163	$186,453	$1,764,061
WEATHERFORD	220	432	543	939	1,602	2,292	$1,232	$1,168	$455	$390	$338	$306	$271,111	$504,635	$247,039	$366,661	$541,509	$702,012	$3,853,135
WEST CEDAR CREEK MUD	12	17	16	23	33	48	$342	$241	$0	$0	$0	$0	$4,105	$4,105	$0	$0	$0	$0	$58,343
WEST LEONARD WSC	2	2	2	3	5	8	$414	$414	$0	$0	$0	$0	$827	$827	$0	$0	$0	$0	$11,752
WEST WISE SUD	4	5	5	7	8	10	$577	$461	$0	$0	$0	$0	$2,307	$2,307	$0	$0	$0	$0	$32,789
WESTLAKE	15	268	460	545	575	605	$201	$40	$26	$22	$21	$20	$3,010	$10,799	$11,932	$11,990	$11,990	$11,990	$59,928
WESTMINSTER WSC	2	3	4	6	8	11	$580	$386	$0	$0	$0	$0	$1,159	$1,159	$0	$0	$0	$0	$16,477
WESTOVER HILLS	8	71	105	111	116	122	$2,603	$886	$401	$364	$349	$332	$20,821	$62,912	$42,153	$40,410	$40,476	$40,536	$321,651
WESTWORTH VILLAGE	3	5	4	6	8	11	$1,465	$879	$0	$0	$0	$0	$4,395	$4,395	$0	$0	$0	$0	$62,467
WHITE SETTLEMENT	20	30	26	39	60	85	$188	$125	$0	$0	$0	$0	$3,761	$3,761	$0	$0	$0	$0	$53,447
WHITE SHED WSC	3	4	4	7	12	21	$339	$255	$0	$0	$0	$16	$1,018	$1,018	$0	$0	$0	$326	$14,466
WHITESBORO	4	5	5	6	9	15	$786	$628	$0	$0	$0	$0	$3,142	$3,142	$0	$0	$0	$0	$44,649
WHITEWRIGHT	2	3	3	3	4	6	$770	$513	$0	$0	$0	$0	$1,539	$1,539	$0	$0	$0	$0	$21,871
WILLOW PARK	11	20	17	30	45	60	$409	$225	$38	$54	$43	$38	$4,494	$4,494	$652	$1,629	$1,955	$2,281	$63,875
WILMER	3	5	7	19	39	83	$308	$185	$0	$34	$42	$35	$924	$924	$0	$652	$1,629	$2,933	$13,132
WOLFE CITY	0	0	0	0	0	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WOODBINE WSC	5	9	8	11	15	21	$390	$217	$0	$0	$0	$16	$1,950	$1,950	$0	$0	$0	$326	$27,709
WORTHAM	2	2	2	2	5	7	$315	$315	$0	$0	$0	$0	$629	$629	$0	$0	$0	$0	$8,939
WYLIE	377	435	443	499	546	622	$86	$75	$0	$0	$0	$0	$32,547	$32,547	$0	$0	$0	$0	$462,569
WYLIE NORTHEAST SUD	5	9	9	22	43	74	$2,468	$1,371	$0	$30	$45	$35	$12,342	$12,342	$0	$652	$1,955	$2,607	$175,408
COUNTY-OTHER, COLLIN	5	7	6	8	20	37	$270	$193	$0	$0	$0	$0	$1,349	$1,349	$0	$0	$0	$0	$19,179
COUNTY-OTHER, COOKE	6	9	8	16	25	71	$208	$139	$0	$0	$0	$0	$1,247	$1,247	$0	$0	$0	$0	$17,725
COUNTY-OTHER, DALLAS	78	90	87	95	106	117	$65	$55	$4	$4	$5	$6	$5,106	$4,980	$370	$393	$565	$693	$65,914
COUNTY-OTHER, DENTON	10	18	19	55	121	273	$337	$187	$0	$0	$0	$0	$3,374	$3,374	$0	$0	$0	$0	$47,949
COUNTY-OTHER, ELLIS	3	4	5	20	77	192	$166	$125	$0	$0	$0	$0	$499	$499	$0	$0	$0	$0	$7,089
COUNTY-OTHER, FANNIN	5	7	6	11	37	77	$195	$139	$0	$0	$0	$0	$975	$975	$0	$0	$0	$0	$13,853
COUNTY-OTHER, FREESTONE	3	5	4	6	18	54	$215	$129	$0	$0	$0	$0	$644	$644	$0	$0	$0	$0	$9,159
COUNTY-OTHER, GRAYSON	6	7	4	6	24	47	$209	$179	$0	$0	$0	$0	$1,254	$1,254	$0	$0	$0	$0	$17,821
COUNTY-OTHER, HENDERSON	3	2	2	2	1	2	$112	$169	$0	$0	$0	$0	$337	$337	$0	$0	$0	$0	$4,793
COUNTY-OTHER, JACK	5	7	6	8	10	12	$176	$126	$0	$0	$0	$0	$882	$882	$0	$0	$0	$0	$12,542
COUNTY-OTHER, KAUFMAN	2	4	3	5	23	64	$96	$48	$0	$0	$0	$0	$191	$191	$0	$0	$0	$0	$2,712
COUNTY-OTHER, NAVARRO	2	5	5	8	13	32	$187	$75	$0	$0	$0	$0	$373	$373	$0	$0	$0	$0	$5,296
COUNTY-OTHER, PARKER	55	73	50	104	203	355	$1,072	$808	$0	$0	$0	$0	$58,969	$58,969	$0	$0	$0	$0	$838,090
COUNTY-OTHER, ROCKWALL	14	24	23	23	28	46	$172	$119	$67	$63	$58	$54	$2,407	$2,846	$1,545	$1,444	$1,616	$2,506	$19,028
COUNTY-OTHER, TARRANT	255	282	252	426	596	865	$103	$90	$46	$50	$50	$49	$26,287	$25,474	$11,587	$21,419	$29,589	$41,956	$183,122
COUNTY-OTHER, WISE	33	47	40	56	72	134	$262	$184	$0	$0	$0	$0	$8,630	$8,630	$0	$0	$0	$0	$122,652
Grand Total	**94,063**	**126,929**	**134,500**	**154,010**	**173,268**	**192,404**	**$160,598**	**$102,925**	**$22,272**	**$20,796**	**$19,602**	**$18,477**							**$334,051,758**

Table H.11B

Conservation Savings and Costs for Municipal Measures with no Capital Costs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	Cost
Conservation - ABLES SPRINGS WSC	1	3	5	8	13	19	$0	$0	$0	$0	$25	$34	$0	$0	$0	$0	$326	$652	$0
Conservation - ADDISON	127	174	215	258	305	356	$76	$59	$51	$45	$40	$36	$9,715	$10,314	$10,912	$11,511	$12,109	$12,708	$0
Conservation - ALEDO	3	9	17	27	35	46	$0	$0	$38	$48	$47	$35	$0	$0	$652	$1,303	$1,629	$1,629	$0
Conservation - ALLEN	670	768	769	850	955	1,066	$159	$76	$57	$52	$47	$43	$106,250	$58,500	$44,000	$44,500	$45,000	$45,500	$0
Conservation - ALVORD	1	2	3	5	7	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - ANNA	47	118	80	132	207	316	$835	$539	$0	$0	$0	$0	$39,253	$63,621	$0	$0	$0	$0	$0
Conservation - ANNETTA	1	3	6	8	12	16	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - ARGYLE WSC	12	80	140	155	169	183	$0	$552	$397	$358	$328	$303	$0	$44,127	$55,512	$55,512	$55,512	$55,512	$0
Conservation - ARLEDGE RIDGE WSC	1	1	2	4	6	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - ARLINGTON	1,443	2,086	2,161	2,357	2,588	2,819	$24	$59	$51	$47	$43	$40	$34,279	$122,547	$109,511	$111,476	$111,476	$111,476	$0
Conservation - ATHENS	14	77	111	134	251	404	$0	$536	$401	$364	$296	$243	$0	$41,281	$44,519	$48,792	$74,343	$98,262	$0
Conservation - AUBREY	2	5	8	13	20	32	$0	$0	$0	$0	$16	$41	$0	$0	$0	$0	$326	$1,303	$0
Conservation - AVALON WATER SUPPLY & SEWER SERVICE	0	1	2	4	6	11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - AZLE	8	19	27	36	53	80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - B AND B WSC	1	2	3	4	6	9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - B H P WSC	0	1	1	1	2	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BALCH SPRINGS	81	98	116	134	157	181	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BEAR CREEK SUD	2	7	17	32	52	82	$0	$0	$38	$51	$44	$36	$0	$0	$652	$1,629	$2,281	$2,933	$0
Conservation - BECKER JIBA WSC	1	3	5	9	17	28	$0	$0	$0	$0	$19	$35	$0	$0	$0	$0	$326	$978	$0
Conservation - BEDFORD	31	113	153	198	233	269	$0	$226	$174	$139	$118	$102	$0	$25,586	$26,564	$27,542	$27,542	$27,542	$0
Conservation - BELLS	1	1	2	3	10	16	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BENBROOK WATER AUTHORITY	100	163	198	244	296	321	$563	$381	$333	$291	$258	$238	$56,254	$62,040	$65,926	$71,124	$76,320	$76,320	$0
Conservation - BETHEL ASH WSC	1	2	3	4	5	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BETHESDA WSC	21	34	47	61	77	94	$344	$235	$186	$156	$133	$117	$7,233	$8,003	$8,764	$9,504	$10,246	$10,972	$0
Conservation - BLACK ROCK WSC	1	2	4	15	22	26	$0	$0	$0	$517	$410	$392	$0	$0	$0	$7,750	$9,030	$10,184	$0
Conservation - BLACKLAND WSC	16	25	30	35	42	50	$738	$534	$478	$421	$395	$357	$11,812	$13,355	$14,333	$14,738	$16,573	$17,831	$0
Conservation - BLOOMING GROVE	1	1	2	6	8	10	$0	$0	$0	$633	$517	$449	$0	$0	$0	$3,798	$4,132	$4,489	$0
Conservation - BLUE RIDGE	7	19	200	528	824	1,239	$983	$615	$434	$272	$223	$190	$6,879	$11,684	$86,868	$143,759	$183,853	$235,378	$0
Conservation - BOIS D ARC MUD	1	2	4	6	11	18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BOLIVAR WSC	5	11	18	26	37	51	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BONHAM	10	23	42	72	108	155	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BOYD	1	5	9	5	9	12	$0	$825	$636	$0	$0	$0	$0	$4,127	$5,725	$0	$0	$0	$0
Conservation - BRANDON IRENE WSC	0	0	0	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - BRIDGEPORT	4	33	56	88	127	174	$0	$751	$532	$461	$415	$373	$0	$24,775	$29,790	$40,566	$52,698	$64,833	$0
Conservation - BUENA VISTA-BETHEL SUD	4	10	45	77	125	187	$0	$0	$406	$303	$271	$244	$0	$0	$18,258	$23,321	$33,864	$45,590	$0
Conservation - BURLESON	4	9	14	28	46	61	$0	$0	$0	$23	$43	$37	$0	$0	$0	$652	$1,955	$2,281	$0
Conservation - BUTLER WSC	1	1	2	3	4	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CADDO BASIN SUD	1	2	4	7	12	18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CALLISBURG WSC	1	1	1	2	2	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CARROLLTON	419	529	600	675	753	831	$108	$86	$76	$68	$61	$55	$45,120	$45,741	$45,742	$45,743	$45,744	$45,745	$0
Conservation - CASH SUD	0	1	2	3	5	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CEDAR HILL	220	325	432	533	587	642	$118	$89	$74	$63	$57	$53	$25,985	$29,004	$32,023	$33,750	$33,750	$33,750	$0
Conservation - CELINA	90	338	637	1,057	1,382	1,747	$617	$314	$228	$183	$160	$143	$55,500	$106,286	$145,224	$193,425	$221,713	$250,000	$0
Conservation - CHATFIELD WSC	1	3	5	7	10	13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CHICO	1	6	9	18	26	36	$0	$721	$504	$462	$404	$363	$0	$4,326	$4,538	$8,322	$10,516	$13,078	$0
Conservation - COCKRELL HILL	27	29	7	5	9	24	$0	$0	$0	$0	$0	$14	$0	$0	$0	$0	$0	$326	$0
Conservation - COLLEGE MOUND WSC	4	8	15	23	41	61	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COLLEYVILLE	141	241	288	332	367	403	$0	$65	$57	$50	$46	$42	$0	$15,700	$16,375	$16,750	$16,750	$16,750	$0
Conservation - COLLINSVILLE	1	2	4	6	8	13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COMBINE WSC	1	3	5	8	11	16	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COMMUNITY WSC	1	2	4	6	8	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COPEVILLE SUD	7	9	14	21	41	80	$0	$0	$0	$0	$8	$20	$0	$0	$0	$0	$326	$1,629	$0
Conservation - COPPELL	414	475	508	541	578	614	$53	$47	$44	$41	$39	$36	$21,993	$22,330	$22,354	$22,354	$22,354	$22,354	$0
Conservation - CORBET WSC	1	2	3	4	6	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CORINTH	20	120	161	177	193	210	$0	$577	$430	$391	$359	$330	$0	$69,280	$69,280	$69,280	$69,280	$69,280	$0
Conservation - CORSICANA	28	60	89	238	331	393	$0	$0	$0	$329	$252	$226	$0	$0	$0	$78,319	$83,382	$88,788	$0
Conservation - CRANDALL	14	25	33	45	51	56	$838	$579	$527	$480	$428	$390	$11,736	$14,482	$17,406	$21,620	$21,838	$21,838	$0

Table H.11B
Conservation Savings and Costs for Municipal Measures with no Capital Costs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	Cost
Conservation - CRESCENT HEIGHTS WSC	1	1	2	2	4	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CROSS TIMBERS WSC	5	45	62	70	81	91	$0	$582	$428	$385	$350	$323	$0	$26,202	$26,539	$26,915	$28,334	$29,435	$0
Conservation - CROWLEY	11	25	40	62	94	127	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - CULLEOKA WSC	2	4	9	16	24	35	$0	$0	$0	$20	$41	$37	$0	$0	$0	$326	$978	$1,303	$0
Conservation - DALLAS	6,652	12,936	27,585	32,810	34,724	35,863	$47	$216	$213	$208	$209	$209	$310,534	$2,788,136	$5,872,241	$6,826,709	$7,263,434	$7,506,203	$0
Conservation - DALWORTHINGTON GARDENS	3	11	14	18	21	25	$0	$152	$122	$97	$84	$72	$0	$1,669	$1,703	$1,737	$1,772	$1,804	$0
Conservation - DAWSON	0	1	2	2	3	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - DECATUR	43	88	132	188	241	304	$545	$373	$326	$290	$262	$235	$23,441	$32,863	$43,018	$54,491	$63,251	$71,368	$0
Conservation - DENISON	141	231	257	308	392	565	$468	$306	$277	$246	$214	$181	$66,010	$70,615	$71,152	$75,708	$84,019	$102,403	$0
Conservation - DENTON	710	1,203	1,572	2,314	3,563	4,711	$275	$197	$177	$152	$132	$121	$195,000	$236,773	$278,124	$352,497	$469,560	$570,694	$0
Conservation - DENTON COUNTY FWSD 10	5	72	120	132	144	157	$0	$619	$444	$403	$370	$339	$0	$44,553	$53,230	$53,230	$53,230	$53,230	$0
Conservation - DENTON COUNTY FWSD 1-A	72	189	253	278	304	329	$512	$331	$277	$252	$230	$213	$36,833	$62,532	$70,000	$70,000	$70,000	$70,000	$0
Conservation - DENTON COUNTY FWSD 7	15	83	111	122	133	144	$0	$430	$321	$292	$268	$248	$0	$35,667	$35,667	$35,667	$35,667	$35,667	$0
Conservation - DESERT WSC	1	2	3	4	6	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - DESOTO	158	212	265	324	390	448	$165	$128	$108	$93	$81	$71	$26,126	$27,235	$28,570	$30,020	$31,432	$32,008	$0
Conservation - DOGWOOD ESTATES WATER	1	1	2	3	5	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - DORCHESTER	0	1	1	2	2	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - DUNCANVILLE	211	248	212	225	243	264	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - EAST CEDAR CREEK FWSD	7	14	21	30	39	52	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - EAST FORK SUD	20	34	46	59	77	94	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - EAST GARRETT WSC	1	7	12	16	22	56	$0	$777	$560	$536	$476	$439	$0	$5,439	$6,724	$8,583	$10,467	$24,595	$0
Conservation - EDGECLIFF	2	5	7	8	10	11	$0	$412	$294	$257	$206	$187	$0	$2,059	$2,059	$2,059	$2,059	$2,059	$0
Conservation - ELMO WSC	1	2	3	6	10	17	$0	$0	$0	$0	$0	$19	$0	$0	$0	$0	$0	$326	$0
Conservation - ENNIS	18	112	170	266	466	839	$0	$560	$401	$326	$249	$191	$0	$62,667	$68,242	$86,629	$116,145	$160,073	$0
Conservation - EULESS	219	312	333	312	341	371	$0	$86	$81	$0	$0	$0	$0	$26,922	$26,922	$0	$0	$0	$0
Conservation - EUSTACE	0	1	1	3	4	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - EVERMAN	2	4	5	7	8	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - FAIRFIELD	3	6	10	49	79	119	$0	$0	$0	$492	$375	$331	$0	$0	$0	$24,095	$29,640	$39,385	$0
Conservation - FAIRVIEW	43	78	125	154	179	203	$245	$150	$118	$99	$86	$76	$10,537	$11,667	$14,807	$15,271	$15,402	$15,402	$0
Conservation - FARMERS BRANCH	362	419	420	469	531	598	$49	$44	$46	$43	$39	$36	$17,718	$18,429	$19,158	$19,949	$20,720	$21,493	$0
Conservation - FARMERSVILLE	3	20	71	137	236	399	$0	$49	$64	$52	$43	$36	$0	$978	$4,562	$7,169	$10,101	$14,337	$0
Conservation - FATE	27	51	85	134	189	238	$384	$258	$197	$150	$122	$105	$10,372	$13,169	$16,750	$20,125	$23,125	$25,000	$0
Conservation - FERRIS	2	5	11	16	23	32	$0	$0	$0	$0	$0	$20	$0	$0	$0	$0	$0	$652	$0
Conservation - FILES VALLEY WSC	0	1	2	3	5	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - FLO COMMUNITY WSC	0	0	1	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - FLOWER MOUND	182	298	374	453	538	630	$172	$113	$91	$76	$65	$57	$31,389	$33,618	$34,068	$34,568	$35,068	$35,750	$0
Conservation - FOREST HILL	7	12	18	27	41	63	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - FORNEY	78	107	151	206	329	474	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - FORNEY LAKE WSC	10	18	30	49	93	149	$536	$369	$283	$234	$198	$159	$5,361	$6,639	$8,498	$11,489	$18,396	$23,669	$0
Conservation - FORT WORTH	3,156	4,702	5,546	6,502	8,207	10,102	$147	$117	$91	$86	$74	$65	$462,461	$547,962	$503,150	$559,315	$607,920	$656,863	$0
Conservation - FRISCO	832	1,344	1,839	2,424	2,926	3,345	$354	$245	$214	$200	$183	$167	$294,670	$328,967	$393,842	$484,088	$535,339	$560,085	$0
Conservation - FROGNOT WSC	1	1	2	4	5	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - GAINESVILLE	12	25	35	46	68	111	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - GARLAND	1,318	1,548	1,437	1,576	1,731	1,883	$56	$51	$0	$0	$0	$0	$73,896	$78,971	$0	$0	$0	$0	$0
Conservation - GASTONIA SCURRY SUD	3	8	14	21	44	80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - GLENN HEIGHTS	8	23	40	62	90	143	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - GRAND PRAIRIE	653	946	951	1,091	1,237	1,383	$101	$79	$0	$0	$0	$0	$66,276	$74,733	$0	$0	$0	$0	$0
Conservation - GRAPEVINE	410	524	569	623	685	746	$62	$50	$46	$42	$38	$35	$25,561	$26,009	$26,009	$26,009	$26,009	$26,009	$0
Conservation - GUNTER	5	11	5	9	13	19	$1,058	$653	$0	$0	$0	$0	$5,289	$7,187	$0	$0	$0	$0	$0
Conservation - HACKBERRY	9	16	22	30	40	54	$596	$428	$392	$353	$323	$288	$5,368	$6,852	$8,621	$10,600	$12,914	$15,555	$0
Conservation - HALTOM CITY	113	137	155	184	220	262	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - HASLET	2	21	38	87	107	122	$0	$178	$143	$128	$120	$105	$0	$3,731	$5,425	$11,163	$12,792	$12,792	$0
Conservation - HEATH	77	162	227	254	289	327	$421	$274	$242	$219	$200	$184	$32,421	$44,407	$54,830	$55,500	$57,833	$60,167	$0
Conservation - HICKORY CREEK SUD	0	0	1	1	1	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - HIGH POINT WSC	1	3	6	10	20	33	$0	$0	$0	$0	$16	$39	$0	$0	$0	$0	$326	$1,303	$0
Conservation - HIGHLAND PARK	60	74	87	101	114	128	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - HIGHLAND VILLAGE	241	323	354	365	378	391	$0	$143	$131	$127	$122	$118	$0	$46,213	$46,213	$46,213	$46,213	$46,213	$0
Conservation - HILCO UNITED SERVICES	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table H.11B
Conservation Savings and Costs for Municipal Measures with no Capital Costs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation - HONEY GROVE	1	2	3	4	5	5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - HORSESHOE BEND WATER SYSTEM	1	1	2	4	6	9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - HOWE	1	2	3	5	7	9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - HUDSON OAKS	26	51	57	64	70	76	$430	$300	$276	$246	$225	$207	$11,167	$15,285	$15,737	$15,737	$15,737	$15,737	$0
Conservation - HURST	92	157	123	134	156	177	$0	$136	$173	$159	$137	$120	$0	$21,328	$21,328	$21,328	$21,328	$21,328	$0
Conservation - HUTCHINS	21	43	68	99	136	178	$324	$213	$169	$140	$118	$98	$6,808	$9,161	$11,505	$13,849	$15,990	$17,498	$0
Conservation - IRVING	1,432	1,752	1,899	2,087	2,291	2,499	$52	$47	$44	$40	$37	$33	$74,830	$82,213	$83,654	$83,654	$83,654	$83,654	$0
Conservation - ITALY	1	3	5	8	12	20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - JACKSBORO	2	5	7	10	12	15	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - JOHNSON COUNTY SUD	1	2	4	6	8	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - JOSEPHINE	3	5	10	16	20	23	$348	$327	$227	$182	$152	$132	$1,045	$1,635	$2,265	$2,911	$3,031	$3,031	$0
Conservation - JUSTIN	2	8	20	28	34	39	$0	$0	$33	$47	$38	$33	$0	$0	$652	$1,303	$1,303	$1,303	$0
Conservation - KAUFMAN	13	21	23	48	78	110	$411	$314	$28	$48	$38	$36	$5,346	$6,598	$652	$2,281	$2,933	$3,910	$0
Conservation - KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	16	29	41	60	95	142	$645	$457	$395	$358	$322	$286	$10,315	$13,266	$16,200	$21,473	$30,548	$40,670	$0
Conservation - KAUFMAN COUNTY MUD 11	11	20	27	36	48	66	$941	$632	$572	$524	$481	$436	$10,355	$12,637	$15,435	$18,865	$23,074	$28,780	$0
Conservation - KELLER	274	420	462	502	545	588	$0	$61	$55	$51	$47	$43	$0	$25,494	$25,494	$25,494	$25,494	$25,494	$0
Conservation - KEMP	6	9	13	18	31	46	$817	$668	$553	$497	$444	$416	$4,903	$6,014	$7,192	$8,954	$13,753	$19,143	$0
Conservation - KENNEDALE	5	19	30	44	58	75	$0	$335	$268	$228	$196	$170	$0	$6,365	$8,042	$10,039	$11,386	$12,732	$0
Conservation - KENTUCKYTOWN WSC	1	3	5	7	11	17	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - KERENS	1	2	2	4	5	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - KRUM	21	37	51	68	93	125	$676	$474	$423	$384	$342	$306	$14,188	$17,556	$21,585	$26,082	$31,775	$38,230	$0
Conservation - LADONIA	1	2	3	5	8	9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - LAKE CITIES MUNICIPAL UTILITY AUTHORITY	10	22	35	46	56	66	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - LAKE KIOWA SUD	3	6	9	13	16	20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - LAKE WORTH	4	14	21	29	39	65	$0	$287	$212	$177	$154	$138	$0	$4,015	$4,446	$5,144	$6,024	$8,980	$0
Conservation - LAKESIDE	7	11	12	13	15	16	$565	$372	$352	$335	$291	$273	$3,953	$4,089	$4,225	$4,361	$4,361	$4,361	$0
Conservation - LANCASTER	126	206	277	349	432	522	$184	$132	$108	$91	$78	$69	$23,161	$27,195	$29,896	$31,875	$33,854	$35,833	$0
Conservation - LEONARD	1	2	4	5	6	8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - LEWISVILLE	193	318	443	598	773	879	$204	$135	$107	$87	$74	$65	$39,332	$42,981	$47,342	$52,214	$56,839	$56,839	$0
Conservation - LINDSAY	1	1	2	3	4	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - LITTLE ELM	59	78	94	109	123	139	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - LUCAS	20	30	55	83	107	122	$270	$204	$168	$148	$127	$111	$5,393	$6,132	$9,225	$12,304	$13,568	$13,568	$0
Conservation - LUELLA SUD	1	3	5	7	10	13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - M E N WSC	2	3	6	8	11	15	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MABANK	35	59	74	108	165	249	$767	$515	$454	$402	$359	$305	$26,855	$30,377	$33,599	$43,409	$59,203	$75,976	$0
Conservation - MACBEE SUD	0	0	0	0	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MALAKOFF	1	2	3	4	5	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MANSFIELD	178	331	486	716	951	1,221	$165	$103	$79	$62	$52	$44	$29,403	$34,016	$38,210	$44,383	$49,086	$53,765	$0
Conservation - MARILEE SUD	4	8	12	16	20	23	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MARKOUT WSC	7	15	19	28	44	62	$970	$580	$558	$501	$443	$418	$6,787	$8,700	$10,603	$14,025	$19,502	$25,927	$0
Conservation - MCKINNEY	946	1,289	1,804	2,463	2,941	3,341	$69	$54	$41	$34	$32	$30	$64,941	$69,342	$74,034	$84,098	$95,451	$101,210	$0
Conservation - MELISSA	38	176	304	451	601	708	$303	$152	$107	$83	$69	$60	$11,506	$26,750	$32,500	$37,500	$41,268	$42,268	$0
Conservation - MESQUITE	520	665	807	963	1,140	1,333	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MIDLOTHIAN	137	262	312	368	425	503	$382	$272	$236	$209	$189	$171	$52,373	$71,343	$73,750	$76,750	$80,254	$86,034	$0
Conservation - MILLIGAN WSC	2	3	6	10	15	19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MINERAL WELLS	6	9	3	4	5	6	$1,002	$659	$0	$0	$0	$0	$6,014	$5,935	$0	$0	$0	$0	$0
Conservation - MOUNT ZION WSC	5	7	11	16	23	31	$357	$318	$246	$203	$168	$146	$1,785	$2,227	$2,703	$3,241	$3,874	$4,522	$0
Conservation - MOUNTAIN PEAK SUD	92	151	183	270	338	408	$283	$225	$204	$191	$175	$161	$26,049	$33,905	$37,292	$51,608	$59,008	$65,707	$0
Conservation - MOUNTAIN SPRINGS WSC	2	3	5	7	26	52	$0	$0	$0	$0	$543	$429	$0	$0	$0	$0	$14,118	$22,309	$0
Conservation - MUENSTER	1	2	3	3	4	5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - MURPHY	43	62	77	92	106	121	$286	$199	$160	$134	$116	$102	$12,318	$12,318	$12,318	$12,318	$12,318	$12,318	$0
Conservation - MUSTANG SUD	21	77	153	255	382	536	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - NAVARRO MILLS WSC	1	2	4	5	7	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - NEVADA SUD	1	2	3	16	51	107	$0	$0	$0	$20	$45	$37	$0	$0	$0	$326	$2,281	$3,910	$0
Conservation - NEWARK	1	2	3	6	11	17	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table H.11B
Conservation Savings and Costs for Municipal Measures with no Capital Costs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation - NORTH COLLIN SUD	3	6	11	17	26	38	$0	$0	$0	$0	$25	$34	$0	$0	$0	$0	$652	$1,303	$0
Conservation - NORTH FARMERSVILLE WSC	1	3	4	5	7	8	$1,251	$486	$446	$448	$364	$353	$1,251	$1,458	$1,782	$2,241	$2,550	$2,826	$0
Conservation - NORTH HUNT SUD	0	0	0	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - NORTH KAUFMAN WSC	1	2	3	5	9	16	$0	$0	$0	$0	$0	$20	$0	$0	$0	$0	$0	$326	$0
Conservation - NORTH RICHLAND HILLS	185	326	364	406	447	490	$0	$98	$88	$78	$71	$65	$0	$31,870	$31,870	$31,870	$31,870	$31,870	$0
Conservation - NORTH RURAL WSC	0	1	1	1	1	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - NORTHLAKE	6	57	108	179	265	302	$0	$278	$211	$163	$132	$116	$0	$15,830	$22,767	$29,220	$35,048	$35,048	$0
Conservation - NORTHWEST GRAYSON COUNTY WCID 1	1	1	2	3	5	8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - OAK RIDGE SOUTH GALE WSC	1	1	2	3	6	9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - OVILLA	9	16	25	39	59	129	$347	$247	$197	$161	$144	$130	$3,122	$3,957	$4,915	$6,269	$8,505	$16,832	$0
Conservation - PALMER	1	2	4	7	11	26	$0	$0	$0	$0	$0	$25	$0	$0	$0	$0	$0	$652	$0
Conservation - PALOMA CREEK NORTH	6	53	75	83	90	98	$0	$589	$429	$388	$358	$329	$0	$31,217	$32,194	$32,194	$32,194	$32,194	$0
Conservation - PALOMA CREEK SOUTH	3	25	35	39	42	46	$0	$628	$449	$403	$374	$341	$0	$15,699	$15,699	$15,699	$15,699	$15,699	$0
Conservation - PANTEGO	2	4	7	9	11	13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - PARKER	26	36	50	70	97	133	$194	$140	$108	$90	$88	$88	$5,048	$5,048	$5,385	$6,274	$8,524	$11,640	$0
Conservation - PARKER COUNTY SUD	2	8	19	30	44	61	$0	$41	$69	$54	$44	$37	$0	$326	$1,303	$1,629	$1,955	$2,281	$0
Conservation - PELICAN BAY	0	1	1	2	2	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - PILOT POINT	3	7	16	31	51	80	$0	$0	$41	$53	$45	$37	$0	$0	$652	$1,629	$2,281	$2,933	$0
Conservation - PINK HILL WSC	1	2	2	4	6	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - PLANO	1,078	1,506	2,154	1,929	2,177	2,444	$251	$101	$43	$48	$43	$38	$270,542	$151,488	$92,430	$92,614	$92,708	$93,333	$0
Conservation - PLEASANT GROVE WSC	0	1	1	2	4	8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - POETRY WSC	0	1	1	3	4	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - POINT ENTERPRISE WSC	0	1	1	1	2	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - PONDER	1	3	7	12	18	29	$0	$0	$0	$0	$0	$22	$0	$0	$0	$0	$0	$652	$0
Conservation - POST OAK SUD	0	0	1	1	1	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - POTTSBORO	10	17	24	35	61	123	$860	$649	$560	$500	$462	$394	$8,597	$11,033	$13,437	$17,512	$28,152	$48,448	$0
Conservation - PRINCETON	5	36	100	147	178	209	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - PROSPER	49	100	156	228	313	356	$261	$166	$124	$98	$81	$71	$12,802	$16,603	$19,397	$22,386	$25,250	$25,250	$0
Conservation - PROVIDENCE VILLAGE WCID	3	6	9	12	15	19	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - R C H WSC	17	33	43	58	85	117	$699	$499	$448	$403	$362	$322	$11,891	$16,464	$19,249	$23,381	$30,797	$37,731	$0
Conservation - RED OAK	4	8	19	38	56	103	$0	$0	$34	$51	$41	$35	$0	$0	$652	$1,955	$2,281	$3,584	$0
Conservation - RED RIVER AUTHORITY OF TEXAS	1	3	4	6	8	9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - RENO (Parker)	1	1	2	2	3	4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - RHOME	7	15	21	38	55	80	$936	$609	$562	$492	$455	$399	$6,550	$9,139	$11,793	$18,694	$25,009	$31,881	$0
Conservation - RICE WATER SUPPLY AND SEWER SERVICE	4	11	20	31	45	63	$0	$59	$65	$53	$43	$36	$0	$652	$1,303	$1,629	$1,955	$2,281	$0
Conservation - RICHARDSON	364	497	599	706	810	930	$110	$82	$69	$60	$53	$47	$39,879	$40,635	$41,398	$42,229	$42,646	$43,517	$0
Conservation - RICHLAND HILLS	4	8	12	20	29	38	$0	$0	$0	$33	$45	$34	$0	$0	$0	$652	$1,303	$1,303	$0
Conservation - RIVER OAKS	3	5	8	10	13	16	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - ROANOKE	8	36	58	70	81	92	$0	$217	$183	$152	$131	$115	$0	$7,823	$10,626	$10,626	$10,626	$10,626	$0
Conservation - ROCKETT SUD	21	54	80	133	214	325	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - ROCKWALL	273	425	639	780	952	1,143	$94	$75	$64	$55	$47	$42	$25,685	$31,890	$41,202	$42,567	$45,067	$47,567	$0
Conservation - ROSE HILL SUD	1	3	6	10	18	35	$0	$0	$0	$0	$18	$37	$0	$0	$0	$0	$326	$1,303	$0
Conservation - ROWLETT	47	100	145	192	243	300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - ROYSE CITY	6	21	41	95	171	244	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - RUNAWAY BAY	10	16	20	26	33	42	$422	$295	$262	$241	$215	$201	$4,217	$4,718	$5,235	$6,267	$7,083	$8,444	$0
Conservation - SACHSE	207	226	243	261	278	292	$82	$75	$70	$66	$62	$59	$17,014	$17,014	$17,014	$17,139	$17,174	$17,174	$0
Conservation - SAGINAW	94	119	128	144	158	172	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SANGER	4	11	21	32	46	65	$0	$59	$62	$51	$43	$35	$0	$652	$1,303	$1,629	$1,955	$2,281	$0
Conservation - SANSOM PARK	2	4	6	8	11	14	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SARDIS LONE ELM WSC	271	409	509	565	618	647	$185	$158	$139	$128	$119	$114	$50,131	$64,650	$70,786	$72,286	$73,786	$73,786	$0
Conservation - SEAGOVILLE	62	82	104	129	158	170	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SEIS LAGOS UD	5	7	9	11	13	15	$292	$208	$162	$138	$118	$102	$1,458	$1,458	$1,458	$1,515	$1,531	$1,531	$0
Conservation - SHERMAN	98	151	195	251	621	1,141	$0	$0	$0	$0	$188	$134	$0	$0	$0	$0	$116,937	$152,574	$0
Conservation - SOUTH ELLIS COUNTY WSC	1	3	6	23	40	60	$0	$0	$0	$398	$305	$282	$0	$0	$0	$9,150	$12,204	$16,930	$0

Table H.11B
Conservation Savings and Costs for Municipal Measures with no Capital Costs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation - SOUTH FREESTONE COUNTY WSC	1	2	3	5	8	16	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SOUTH GRAYSON SUD	2	4	7	10	13	17	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SOUTHLAKE	108	264	359	468	591	733	$233	$175	$148	$128	$113	$101	$25,176	$46,288	$53,132	$60,033	$67,017	$73,729	$0
Conservation - SOUTHMAYD	0	1	2	2	4	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SOUTHWEST FANNIN COUNTY SUD	2	4	7	11	19	30	$0	$0	$0	$0	$17	$33	$0	$0	$0	$0	$326	$978	$0
Conservation - SPRINGTOWN	35	57	61	65	69	73	$324	$267	$249	$234	$220	$208	$11,352	$15,206	$15,206	$15,206	$15,206	$15,206	$0
Conservation - STARR WSC	1	2	2	4	6	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - SUNNYVALE	18	37	66	99	114	130	$255	$176	$149	$134	$116	$102	$4,586	$6,522	$9,861	$13,248	$13,248	$13,248	$0
Conservation - TALTY SUD	35	60	77	118	181	270	$851	$564	$498	$443	$376	$313	$29,798	$33,823	$38,331	$52,233	$68,065	$84,400	$0
Conservation - TEAGUE	12	19	27	40	53	70	$937	$630	$588	$522	$474	$427	$11,246	$11,978	$15,871	$20,899	$25,137	$29,888	$0
Conservation - TERRELL	37	102	171	237	306	406	$386	$223	$161	$127	$105	$87	$14,297	$22,740	$27,500	$30,000	$32,000	$35,217	$0
Conservation - THE COLONY	84	132	169	214	247	280	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - TIOGA	16	16	20	21	68	95	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - TOM BEAN	1	6	9	10	15	24	$0	$696	$513	$512	$417	$385	$0	$4,176	$4,614	$5,121	$6,256	$9,245	$0
Conservation - TRENTON	0	3	11	25	46	74	$0	$934	$545	$469	$435	$389	$0	$2,802	$6,000	$11,719	$20,008	$28,784	$0
Conservation - TRINIDAD	0	1	1	1	2	3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - TROPHY CLUB MUD 1	71	117	133	149	165	181	$0	$72	$64	$57	$51	$47	$0	$8,479	$8,479	$8,479	$8,479	$8,479	$0
Conservation - TWO WAY SUD	2	6	10	18	31	46	$0	$0	$0	$36	$42	$35	$0	$0	$0	$652	$1,303	$1,629	$0
Conservation - UNIVERSITY PARK	96	130	151	174	199	223	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - VAN ALSTYNE	5	8	16	23	58	90	$0	$0	$0	$0	$17	$29	$0	$0	$0	$0	$978	$2,607	$0
Conservation - VENUS	0	0	0	1	2	2	$0	$0	$0	$495	$303	$369	$243	$306	$384	$495	$606	$738	$0
Conservation - VERONA SUD	1	2	4	6	8	11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - VIRGINIA HILL WSC	1	2	3	4	6	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WALNUT CREEK SUD	7	17	25	44	78	120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WATAUGA	13	25	34	42	50	58	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WAXAHACHIE	32	70	253	405	538	710	$0	$0	$404	$282	$239	$205	$0	$0	$102,272	$114,400	$128,500	$145,500	$0
Conservation - WEATHERFORD	34	159	219	392	700	1,046	$0	$498	$380	$293	$224	$188	$0	$79,237	$83,287	$115,002	$156,502	$196,805	$0
Conservation - WEST CEDAR CREEK MUD	6	11	16	23	33	48	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WEST LEONARD WSC	1	1	2	3	5	8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WEST WISE SUD	2	3	5	7	8	10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WESTLAKE	6	57	120	164	194	224	$0	$52	$40	$33	$28	$24	$0	$2,951	$4,784	$5,344	$5,344	$5,344	$0
Conservation - WESTMINSTER WSC	1	2	4	6	8	11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WESTOVER HILLS	3	11	15	18	22	26	$0	$48	$36	$31	$26	$22	$0	$524	$536	$549	$562	$573	$0
Conservation - WESTWORTH VILLAGE	1	3	4	6	8	11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WHITE SETTLEMENT	10	19	26	39	60	85	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WHITE SHED WSC	1	2	4	7	12	21	$0	$0	$0	$0	$0	$16	$0	$0	$0	$0	$0	$326	$0
Conservation - WHITESBORO	2	3	5	6	9	15	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WHITEWRIGHT	1	2	3	3	4	6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WILLOW PARK	3	8	17	30	45	60	$0	$0	$38	$54	$43	$38	$0	$0	$652	$1,629	$1,955	$2,281	$0
Conservation - WILMER	1	3	7	19	39	83	$0	$0	$0	$34	$42	$35	$0	$0	$0	$652	$1,629	$2,933	$0
Conservation - WOLFE CITY	0	0	0	0	0	1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WOODBINE WSC	2	5	8	11	15	21	$0	$0	$0	$0	$0	$16	$0	$0	$0	$0	$0	$326	$0
Conservation - WORTHAM	1	1	2	2	5	7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WYLIE	128	173	208	249	286	337	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - WYLIE NORTHEAST SUD	2	5	9	22	43	74	$0	$0	$0	$30	$45	$35	$0	$0	$0	$652	$1,955	$2,607	$0
Conservation - COUNTY-OTHER, COLLIN	2	4	6	8	20	37	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, COOKE	2	5	8	16	25	71	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, DALLAS	7	14	22	29	38	47	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, DENTON	4	10	19	55	121	273	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, ELLIS	1	2	5	20	77	192	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, FANNIN	2	4	6	11	37	77	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, FREESTONE	1	3	4	6	18	54	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, GRAYSON	2	4	4	6	24	47	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, HENDERSON	1	1	2	2	1	2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, JACK	2	4	6	8	10	12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, KAUFMAN	1	2	3	5	23	64	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table H.11B
Conservation Savings and Costs for Municipal Measures with no Capital Costs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation - COUNTY-OTHER, NAVARRO	1	3	5	8	13	32	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, PARKER	22	42	50	104	203	355	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, ROCKWALL	1	4	6	7	10	18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, TARRANT	24	45	63	131	213	346	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - COUNTY-OTHER, WISE	13	27	40	56	72	134	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation - Grand Total	**28,118**	**45,432**	**67,962**	**82,893**	**97,609**	**113,350**	**$31,071**	**$34,503**	**$27,182**	**$26,408**	**$23,976**	**$21,797**							**$0**

Table H-11C
Conservation Savings and Costs for Municipal Waste Prohibition Strategies

Strategy Name	Savings Volumes in Acre-Feet						Unit Costs in Dollars per Acre-Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation – Waste Prohibition, ANNA	10	19	0	0	0	0	$731	$581	$0	$0	$0	$0	$7,306	$11,041	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, ARGYLE WSC	0	36	51	51	51	51	$0	$228	$185	$185	$185	$185	$0	$8,202	$9,436	$9,436	$9,436	$9,436	$0
Conservation – Waste Prohibition, ATHENS	0	10	12	15	31	50	$0	$768	$618	$547	$455	$419	$0	$7,678	$7,416	$8,201	$14,106	$20,944	$0
Conservation – Waste Prohibition, BENBROOK WATER AUTHORITY	22	28	32	38	44	44	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, BLUE RIDGE	1	2	23	52	75	104	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, CEDAR HILL	36	53	67	74	74	74	$686	$534	$500	$493	$493	$493	$24,696	$28,310	$33,488	$36,450	$36,450	$36,450	$0
Conservation – Waste Prohibition, COLLEYVILLE	0	90	108	113	113	113	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, CORINTH	0	39	43	43	43	43	$0	$347	$294	$294	$294	$294	$0	$13,516	$12,659	$12,659	$12,659	$12,659	$0
Conservation – Waste Prohibition, DALWORTHINGTON GARDENS	0	3	4	4	4	4	$0	$622	$257	$263	$268	$273	$0	$1,865	$1,030	$1,051	$1,072	$1,093	$0
Conservation – Waste Prohibition, DENISON	15	21	21	25	32	50	$839	$621	$628	$580	$527	$449	$12,582	$13,041	$13,194	$14,496	$16,872	$22,472	$0
Conservation – Waste Prohibition, DENTON COUNTY FWSD 10	0	28	37	37	37	37	$0	$287	$229	$229	$229	$229	$0	$8,040	$8,478	$8,478	$8,478	$8,478	$0
Conservation – Waste Prohibition, DENTON COUNTY FWSD 7	0	33	37	37	37	37	$0	$201	$156	$156	$156	$156	$0	$6,647	$5,789	$5,789	$5,789	$5,789	$0
Conservation – Waste Prohibition, DESOTO	32	40	46	52	59	61	$782	$632	$599	$578	$550	$549	$25,029	$25,275	$27,565	$30,051	$32,474	$33,462	$0
Conservation – Waste Prohibition, EAST GARRETT WSC	0	0	0	0	1	1	$0	$0	$0	$0	$1,605	$3,831	$0	$1,671	$1,015	$1,308	$1,605	$3,831	$0
Conservation – Waste Prohibition, EDGECLIFF	0	2	2	2	2	2	$0	$1,056	$627	$627	$627	$627	$0	$2,111	$1,254	$1,254	$1,254	$1,254	$0
Conservation – Waste Prohibition, ENNIS	0	9	13	22	41	74	$0	$1,292	$951	$801	$692	$638	$0	$11,626	$12,362	$17,619	$28,365	$47,202	$0
Conservation – Waste Prohibition, EULESS	0	25	28	0	0	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, FARMERS BRANCH	14	20	25	30	34	39	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, FATE	22	31	42	55	67	75	$351	$288	$286	$288	$288	$286	$7,716	$8,915	$12,007	$15,866	$19,297	$21,441	$0
Conservation – Waste Prohibition, FORNEY LAKE WSC	9	12	15	19	32	46	$466	$345	$333	$329	$324	$320	$4,192	$4,139	$5,002	$6,243	$10,362	$14,702	$0
Conservation – Waste Prohibition, HACKBERRY	3	5	7	8	10	13	$553	$207	$188	$203	$199	$185	$1,660	$1,036	$1,314	$1,626	$1,991	$2,407	$0
Conservation – Waste Prohibition, HASLET	0	20	33	59	59	59	$0	$158	$102	$102	$102	$102	$0	$3,165	$3,375	$6,004	$6,004	$6,004	$0
Conservation – Waste Prohibition, HUDSON OAKS	7	11	11	11	11	11	$368	$215	$221	$221	$221	$221	$2,573	$2,364	$2,435	$2,435	$2,435	$2,435	$0
Conservation – Waste Prohibition, HUTCHINS	6	10	13	16	19	22	$851	$597	$592	$588	$586	$585	$5,103	$5,969	$7,692	$9,415	$11,138	$12,862	$0
Conservation – Waste Prohibition, KENNEDALE	0	7	11	13	16	18	$0	$689	$424	$417	$385	$384	$0	$4,824	$4,667	$5,417	$6,167	$6,917	$0
Conservation – Waste Prohibition, LAKE WORTH	0	3	4	6	7	11	$0	$1,115	$689	$533	$536	$465	$0	$3,344	$2,758	$3,198	$3,752	$5,117	$0
Conservation – Waste Prohibition, LAKESIDE	2	2	2	3	3	3	$718	$300	$311	$214	$214	$214	$1,437	$600	$622	$643	$643	$643	$0
Conservation – Waste Prohibition, LANCASTER	17	27	33	38	43	48	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, LUCAS	18	23	32	38	43	43	$234	$166	$158	$155	$153	$153	$4,212	$3,820	$5,058	$5,883	$6,574	$6,574	$0
Conservation – Waste Prohibition, MABANK	10	12	13	18	26	38	$504	$386	$388	$374	$364	$347	$5,044	$4,637	$5,050	$6,733	$9,456	$13,176	$0
Conservation – Waste Prohibition, MIDLOTHIAN	21	37	39	41	45	50	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, MOUNT ZION WSC	0	1	1	1	1	1	$0	$1,360	$1,659	$1,998	$2,397	$2,805	$1,939	$1,360	$1,659	$1,998	$2,397	$2,805	$0
Conservation – Waste Prohibition, MURPHY	29	32	32	32	32	32	$315	$259	$259	$259	$259	$259	$9,147	$8,289	$8,289	$8,289	$8,289	$8,289	$0
Conservation – Waste Prohibition, OVILLA	5	8	11	16	20	41	$556	$306	$278	$244	$238	$213	$2,781	$2,450	$3,053	$3,907	$4,768	$8,734	$0
Conservation – Waste Prohibition, PALOMA CREEK NORTH	0	21	23	23	23	23	$0	$269	$208	$208	$208	$208	$0	$5,649	$4,792	$4,792	$4,792	$4,792	$0
Conservation – Waste Prohibition, PALOMA CREEK SOUTH	0	12	13	13	13	13	$0	$274	$187	$187	$187	$187	$0	$3,287	$2,429	$2,429	$2,429	$2,429	$0
Conservation – Waste Prohibition, PARKER	41	45	48	57	63	73	$97	$70	$70	$69	$68	$67	$3,995	$3,137	$3,350	$3,910	$4,303	$4,916	$0
Conservation – Waste Prohibition, R C H WSC	1	1	2	2	2	3	$2,687	$2,550	$1,494	$1,820	$2,357	$1,916	$2,687	$2,550	$2,988	$3,639	$4,714	$5,749	$0
Conservation – Waste Prohibition, ROANOKE	0	19	27	27	27	27	$0	$270	$190	$190	$190	$190	$0	$5,127	$5,129	$5,129	$5,129	$5,129	$0
Conservation – Waste Prohibition, WEATHERFORD	0	26	31	61	108	153	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation – Waste Prohibition, WESTLAKE	0	55	101	113	113	113	$0	$49	$29	$29	$29	$29	$0	$2,673	$2,970	$3,323	$3,323	$3,323	$0
Conservation – Waste Prohibition, WESTOVER HILLS	0	12	13	14	14	14	$0	$96	$24	$22	$23	$23	$0	$1,157	$307	$314	$321	$328	$0
Grand Total	**321**	**890**	**1,106**	**1,279**	**1,475**	**1,714**	**$10,738**	**$17,137**	**$13,137**	**$13,204**	**$15,413**	**$17,304**							**$0**

Table H-11D

Conservation Savings and Costs for Municipal Irrigation Restriction Strategies

Strategy Name	Savings Volumes in Acre-Feet						Unit Costs in Dollars per Acre-Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Irrigation Restrictions – ADDISON	166	195	206	217	230	242	$44	$35	$35	$35	$35	$35	$7,234	$6,816	$7,256	$7,696	$8,136	$8,576	$0
Conservation, Irrigation Restrictions – ALLEN	657	706	714	724	735	747	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – ANNA	65	121	0	0	0	0	$112	$91	$0	$0	$0	$0	$7,306	$11,041	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – ARGYLE WSC	0	101	144	144	144	143	$0	$90	$66	$66	$66	$66	$0	$9,059	$9,436	$9,436	$9,436	$9,436	$0
Conservation, Irrigation Restrictions – ARLINGTON	0	1,839	2,055	2,083	2,078	2,078	$0	$95	$86	$87	$87	$87	$0	$175,057	$177,385	$181,428	$181,428	$181,428	$0
Conservation, Irrigation Restrictions – ATHENS	0	89	105	116	201	299	$0	$96	$71	$71	$70	$70	$0	$8,536	$7,416	$8,201	$14,106	$20,944	$0
Conservation, Irrigation Restrictions – BEAR CREEK SUD	21	31	44	61	80	110	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – BEDFORD	0	261	306	324	323	323	$0	$92	$79	$80	$80	$80	$0	$24,070	$24,123	$25,801	$25,801	$25,801	$0
Conservation, Irrigation Restrictions – BENBROOK WATER AUTHORITY	145	176	191	215	238	238	$78	$60	$61	$61	$62	$62	$11,288	$10,636	$11,700	$13,186	$14,671	$14,671	$0
Conservation, Irrigation Restrictions – BETHESDA WSC	60	73	80	87	95	102	$90	$70	$71	$72	$71	$72	$5,409	$5,117	$5,677	$6,221	$6,766	$7,300	$0
Conservation, Irrigation Restrictions – BLACK ROCK WSC	0	0	0	14	18	20	$0	$0	$0	$145	$77	$78	$0	$0	$0	$2,035	$1,379	$1,560	$0
Conservation, Irrigation Restrictions – BLACKLAND WSC	23	29	30	31	35	37	$116	$71	$74	$73	$73	$75	$2,675	$2,060	$2,214	$2,278	$2,567	$2,765	$0
Conservation, Irrigation Restrictions – BLOOMING GROVE	0	0	0	6	7	7	$0	$0	$0	$235	$87	$95	$0	$0	$0	$1,412	$607	$663	$0
Conservation, Irrigation Restrictions – BLUE RIDGE	11	22	198	457	652	903	$172	$82	$86	$77	$77	$77	$1,897	$1,797	$16,942	$35,036	$49,994	$69,294	$0
Conservation, Irrigation Restrictions – BOYD	0	6	9	0	0	0	$0	$244	$95	$0	$0	$0	$0	$1,464	$858	$0	$0	$0	$0
Conservation, Irrigation Restrictions – BRIDGEPORT	0	41	54	74	98	122	$0	$115	$85	$86	$86	$86	$0	$4,717	$4,589	$6,330	$8,440	$10,550	$0
Conservation, Irrigation Restrictions – BUENA VISTA-BETHEL SUD	0	0	49	69	99	132	$0	$0	$75	$53	$53	$53	$0	$0	$3,690	$3,630	$5,218	$6,954	$0
Conservation, Irrigation Restrictions – BURLESON	38	39	43	59	72	80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – CARROLLTON	655	726	714	707	706	706	$88	$79	$80	$81	$81	$81	$57,669	$57,019	$57,020	$57,021	$57,022	$57,024	$0
Conservation, Irrigation Restrictions – CASH SUD	4	5	7	8	9	11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – CEDAR HILL	292	390	456	494	494	494	$85	$73	$73	$74	$74	$74	$24,696	$28,310	$33,488	$36,450	$36,450	$36,450	$0
Conservation, Irrigation Restrictions – CELINA	123	348	587	884	1,059	1,233	$84	$69	$70	$70	$70	$70	$10,292	$24,137	$40,834	$61,504	$73,635	$85,765	$0
Conservation, Irrigation Restrictions – CHICO	0	8	9	17	21	26	$0	$187	$75	$75	$77	$78	$0	$1,495	$671	$1,267	$1,613	$2,016	$0
Conservation, Irrigation Restrictions – COLLEYVILLE	0	262	309	320	319	319	$0	$45	$37	$38	$38	$38	$0	$11,664	$11,578	$12,007	$12,007	$12,007	$0
Conservation, Irrigation Restrictions – COPPELL	300	337	334	333	332	332	$64	$55	$55	$55	$55	$55	$19,327	$18,388	$18,415	$18,415	$18,415	$18,415	$0
Conservation, Irrigation Restrictions – CORINTH	0	146	161	160	160	160	$0	$98	$79	$79	$79	$79	$0	$14,374	$12,659	$12,659	$12,659	$12,659	$0
Conservation, Irrigation Restrictions – CORSICANA	0	0	0	209	254	278	$0	$0	$0	$77	$66	$66	$0	$0	$0	$16,101	$16,690	$18,236	$0
Conservation, Irrigation Restrictions – CRANDALL	21	28	33	41	41	41	$127	$80	$82	$82	$83	$83	$2,663	$2,238	$2,698	$3,362	$3,396	$3,396	$0
Conservation, Irrigation Restrictions – CROSS TIMBERS WSC	0	56	62	63	64	65	$0	$88	$67	$67	$67	$67	$0	$4,941	$4,137	$4,196	$4,266	$4,344	$0
Conservation, Irrigation Restrictions – CROWLEY	72	83	97	116	148	169	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – DALLAS	8,259	8,772	9,807	10,845	11,678	12,084	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – DALWORTHINGTON GARDENS	0	25	28	28	29	29	$0	$75	$37	$38	$37	$38	$0	$1,865	$1,030	$1,051	$1,072	$1,093	$0
Conservation, Irrigation Restrictions – DECATUR	63	94	122	157	185	215	$72	$54	$54	$54	$54	$54	$4,506	$5,034	$6,541	$8,470	$9,960	$11,579	$0
Conservation, Irrigation Restrictions – DENISON	199	243	242	265	309	413	$68	$54	$55	$55	$55	$54	$13,439	$13,041	$13,194	$14,496	$16,872	$22,472	$0
Conservation, Irrigation Restrictions – DENTON	707	990	1,227	1,687	2,417	2,974	$90	$81	$82	$82	$82	$82	$63,895	$80,093	$100,237	$138,508	$198,748	$244,727	$0
Conservation, Irrigation Restrictions – DENTON COUNTY FWSD 10	0	92	121	121	121	121	$0	$97	$70	$70	$70	$70	$0	$8,898	$8,478	$8,478	$8,478	$8,478	$0
Conservation, Irrigation Restrictions – DENTON COUNTY FWSD 1-A	110	195	233	233	233	233	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – DENTON COUNTY FWSD 7	0	101	112	112	112	112	$0	$74	$52	$52	$52	$52	$0	$7,504	$5,789	$5,789	$5,789	$5,789	$0
Conservation, Irrigation Restrictions – DESOTO	254	299	321	347	374	386	$99	$85	$86	$87	$87	$87	$25,029	$25,275	$27,565	$30,051	$32,474	$33,462	$0
Conservation, Irrigation Restrictions – EAST FORK SUD	57	61	67	71	78	85	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – EAST GARRETT WSC	0	8	11	14	18	42	$0	$209	$92	$93	$89	$91	$0	$1,671	$1,015	$1,308	$1,605	$3,831	$0
Conservation, Irrigation Restrictions – EDGECLIFF	0	13	14	14	14	14	$0	$162	$90	$90	$90	$90	$0	$2,111	$1,254	$1,254	$1,254	$1,254	$0
Conservation, Irrigation Restrictions – ENNIS	0	125	157	222	357	593	$0	$93	$79	$79	$79	$80	$0	$11,626	$12,362	$17,619	$28,365	$47,202	$0
Conservation, Irrigation Restrictions – EULESS	0	251	273	0	0	0	$0	$105	$91	$0	$0	$0	$0	$26,454	$24,738	$0	$0	$0	$0
Conservation, Irrigation Restrictions – EVERMAN	16	16	15	15	15	15	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – FAIRFIELD	0	0	0	47	62	84	$0	$0	$0	$98	$73	$72	$0	$0	$0	$4,609	$4,502	$6,053	$0
Conservation, Irrigation Restrictions – FAIRVIEW	121	155	206	214	217	217	$52	$40	$40	$40	$40	$40	$6,257	$6,230	$8,318	$8,659	$8,756	$8,756	$0
Conservation, Irrigation Restrictions – FARMERS BRANCH	248	289	304	321	341	359	$61	$48	$49	$49	$49	$49	$15,076	$13,927	$14,760	$15,665	$16,547	$17,431	$0
Conservation, Irrigation Restrictions – FATE	76	109	146	193	234	260	$102	$82	$82	$82	$82	$82	$7,716	$8,915	$12,007	$15,866	$19,297	$21,441	$0
Conservation, Irrigation Restrictions – FLOWER MOUND	514	631	641	653	668	688	$66	$57	$58	$58	$58	$58	$34,115	$36,223	$36,995	$37,852	$38,710	$39,881	$0
Conservation, Irrigation Restrictions – FORNEY LAKE WSC	36	49	60	74	124	175	$140	$84	$83	$84	$84	$84	$5,049	$4,139	$5,002	$6,243	$10,362	$14,702	$0
Conservation, Irrigation Restrictions – FORT WORTH	5,673	7,038	8,588	9,504	10,318	11,145	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table H-11D
Conservation Savings and Costs for Municipal Irrigation Restriction Strategies

Strategy Name	Savings Volumes in Acre-Feet						Unit Costs in Dollars per Acre-Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Irrigation Restrictions – FRISCO	1,372	1,534	1,859	2,315	2,574	2,699	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – GARLAND	1,233	1,316	1,360	1,363	1,369	1,369	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – GRAND PRAIRIE	1,056	1,224	1,325	1,317	1,315	1,315	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – GRAPEVINE	552	564	560	558	557	557	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – GUNTER	8	12	0	0	0	0	$206	$91	$0	$0	$0	$0	$1,647	$1,088	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – HACKBERRY	13	18	24	29	36	44	$194	$58	$55	$56	$55	$55	$2,517	$1,036	$1,314	$1,626	$1,991	$2,407	$0
Conservation, Irrigation Restrictions – HALTOM CITY	157	155	158	169	181	197	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – HASLET	0	52	84	150	150	150	$0	$77	$40	$40	$40	$40	$0	$4,022	$3,375	$6,004	$6,004	$6,004	$0
Conservation, Irrigation Restrictions – HEATH	116	182	230	232	243	254	$60	$41	$40	$41	$41	$41	$6,908	$7,395	$9,311	$9,434	$9,863	$10,292	$0
Conservation, Irrigation Restrictions – HIGHLAND PARK	122	124	123	123	123	123	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – HIGHLAND VILLAGE	0	107	118	117	117	117	$0	$80	$65	$66	$66	$66	$0	$8,585	$7,727	$7,727	$7,727	$7,727	$0
Conservation, Irrigation Restrictions – HUDSON OAKS	37	56	58	58	58	58	$70	$42	$42	$42	$42	$42	$2,573	$2,364	$2,435	$2,435	$2,435	$2,435	$0
Conservation, Irrigation Restrictions – HURST	201	201	197	194	194	194	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – HUTCHINS	61	94	121	147	173	200	$98	$63	$64	$64	$64	$64	$5,961	$5,969	$7,692	$9,415	$11,138	$12,862	$0
Conservation, Irrigation Restrictions – IRVING	1,717	1,930	1,954	1,942	1,939	1,939	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – JOSEPHINE	8	15	20	26	27	27	$184	$66	$69	$69	$69	$69	$1,473	$986	$1,383	$1,790	$1,866	$1,866	$0
Conservation, Irrigation Restrictions – KAUFMAN	35	46	0	0	0	0	$120	$89	$0	$0	$0	$0	$4,183	$4,114	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	24	34	41	54	76	101	$102	$60	$61	$62	$61	$62	$2,439	$2,046	$2,508	$3,339	$4,669	$6,230	$0
Conservation, Irrigation Restrictions – KAUFMAN COUNTY MUD 11	16	22	26	32	40	48	$153	$88	$92	$92	$90	$92	$2,445	$1,947	$2,388	$2,928	$3,591	$4,404	$0
Conservation, Irrigation Restrictions – KELLER	370	394	392	391	390	390	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – KEMP	8	11	13	16	25	35	$198	$82	$84	$85	$85	$85	$1,586	$904	$1,089	$1,367	$2,123	$2,972	$0
Conservation, Irrigation Restrictions – KENNEDALE	0	43	56	64	73	82	$0	$112	$83	$85	$84	$84	$0	$4,824	$4,667	$5,417	$6,167	$6,917	$0
Conservation, Irrigation Restrictions – KRUM	31	42	51	62	74	88	$98	$65	$66	$66	$66	$66	$3,049	$2,722	$3,356	$4,065	$4,894	$5,841	$0
Conservation, Irrigation Restrictions – LAKE WORTH	0	34	41	47	55	75	$0	$98	$67	$68	$68	$68	$0	$3,344	$2,758	$3,198	$3,752	$5,117	$0
Conservation, Irrigation Restrictions – LAKESIDE	10	11	12	12	12	12	$144	$55	$52	$54	$54	$54	$1,437	$600	$622	$643	$643	$643	$0
Conservation, Irrigation Restrictions – LANCASTER	207	293	342	379	417	456	$99	$86	$87	$88	$88	$88	$20,584	$25,207	$29,838	$33,233	$36,629	$40,023	$0
Conservation, Irrigation Restrictions – LEWISVILLE	564	700	794	902	1,007	1,007	$88	$75	$75	$76	$76	$76	$49,455	$52,283	$59,764	$68,121	$76,054	$76,054	$0
Conservation, Irrigation Restrictions – LITTLE ELM	122	137	137	136	136	136	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – LUCAS	68	84	112	131	146	146	$75	$45	$45	$45	$45	$45	$5,069	$3,820	$5,058	$5,883	$6,574	$6,574	$0
Conservation, Irrigation Restrictions – MABANK	55	66	72	95	133	187	$107	$70	$70	$71	$71	$70	$5,902	$4,637	$5,050	$6,733	$9,456	$13,176	$0
Conservation, Irrigation Restrictions – MANSFIELD	500	701	833	1,030	1,181	1,332	$61	$53	$53	$53	$53	$53	$30,708	$36,907	$44,100	$54,689	$62,755	$70,781	$0
Conservation, Irrigation Restrictions – MARKOUT WSC	11	16	19	25	35	47	$171	$83	$86	$87	$87	$86	$1,883	$1,327	$1,627	$2,166	$3,028	$4,040	$0
Conservation, Irrigation Restrictions – MCKINNEY	1,226	1,333	1,470	1,777	2,126	2,304	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – MELISSA	118	373	521	649	747	772	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – MESQUITE	670	715	790	853	920	988	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – MIDLOTHIAN	136	223	233	247	263	291	$78	$59	$60	$60	$60	$60	$10,575	$13,249	$13,937	$14,794	$15,796	$17,448	$0
Conservation, Irrigation Restrictions – MINERAL WELLS	9	10	0	0	0	0	$196	$89	$0	$0	$0	$0	$1,761	$891	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – MOUNT ZION WSC	14	18	22	27	32	37	$138	$76	$75	$74	$75	$76	$1,939	$1,360	$1,659	$1,998	$2,397	$2,805	$0
Conservation, Irrigation Restrictions – MOUNTAIN PEAK SUD	80	112	118	169	196	219	$61	$46	$47	$47	$47	$47	$4,917	$5,166	$5,489	$7,880	$9,121	$10,232	$0
Conservation, Irrigation Restrictions – MOUNTAIN SPRINGS WSC	0	0	0	0	22	39	$0	$0	$0	$0	$138	$89	$0	$0	$0	$0	$3,038	$3,470	$0
Conservation, Irrigation Restrictions – MURPHY	120	132	132	132	132	132	$76	$63	$63	$63	$63	$63	$9,147	$8,289	$8,289	$8,289	$8,289	$8,289	$0
Conservation, Irrigation Restrictions – NEVADA SUD	8	9	10	33	79	143	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – NORTH FARMERSVILLE WSC	2	3	4	5	5	6	$518	$69	$64	$64	$73	$67	$1,036	$208	$255	$320	$365	$404	$0
Conservation, Irrigation Restrictions – NORTH RICHLAND HILLS	384	404	398	394	393	393	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – NORTHLAKE	0	119	186	258	330	330	$0	$86	$71	$71	$71	$71	$0	$10,292	$13,298	$18,442	$23,585	$23,585	$0
Conservation, Irrigation Restrictions – OVILLA	30	42	53	67	83	152	$121	$58	$58	$58	$57	$57	$3,638	$2,450	$3,053	$3,907	$4,768	$8,734	$0
Conservation, Irrigation Restrictions – PALOMA CREEK NORTH	0	68	75	75	75	75	$0	$96	$64	$64	$64	$64	$0	$6,507	$4,792	$4,792	$4,792	$4,792	$0
Conservation, Irrigation Restrictions – PALOMA CREEK SOUTH	0	34	39	39	39	39	$0	$122	$62	$62	$62	$62	$0	$4,144	$2,429	$2,429	$2,429	$2,429	$0
Conservation, Irrigation Restrictions – PARKER	95	106	113	132	145	166	$51	$30	$30	$30	$30	$30	$4,852	$3,137	$3,350	$3,910	$4,303	$4,916	$0
Conservation, Irrigation Restrictions – PLANO	2,214	2,218	2,229	2,224	2,224	2,247	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – POTTSBORO	14	20	24	31	49	88	$155	$85	$86	$88	$88	$88	$2,168	$1,694	$2,073	$2,715	$4,288	$7,719	$0

Table H-11D

Conservation Savings and Costs for Municipal Irrigation Restriction Strategies

Strategy Name	Savings Volumes in Acre-Feet						Unit Costs in Dollars per Acre-Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Irrigation Restrictions – PROSPER	155	211	267	328	388	388	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – R C H WSC	24	37	43	52	67	82	$112	$69	$69	$70	$70	$70	$2,687	$2,550	$2,988	$3,639	$4,714	$5,749	$0
Conservation, Irrigation Restrictions – RHOME	11	17	21	34	46	58	$168	$82	$86	$85	$85	$86	$1,846	$1,396	$1,814	$2,901	$3,896	$4,973	$0
Conservation, Irrigation Restrictions – RICHARDSON	824	832	843	862	873	898	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – ROANOKE	0	81	107	107	107	107	$0	$74	$48	$48	$48	$48	$0	$5,985	$5,129	$5,129	$5,129	$5,129	$0
Conservation, Irrigation Restrictions – ROCKWALL	297	430	632	660	714	768	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – ROWLETT	310	328	348	365	380	400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – RUNAWAY BAY	15	19	22	26	29	35	$156	$37	$35	$36	$37	$37	$2,336	$699	$781	$943	$1,072	$1,286	$0
Conservation, Irrigation Restrictions – SACHSE	156	155	154	155	155	155	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – SAGINAW	95	106	117	123	122	122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – SANGER	34	41	50	60	72	86	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – SARDIS LONE ELM WSC	143	211	242	250	257	257	$65	$54	$54	$54	$54	$54	$9,305	$11,335	$13,089	$13,518	$13,947	$13,947	$0
Conservation, Irrigation Restrictions – SEIS LAGOS UD	16	17	17	18	18	18	$108	$51	$51	$51	$51	$51	$1,733	$875	$875	$911	$921	$921	$0
Conservation, Irrigation Restrictions – SHERMAN	0	0	0	0	427	727	$0	$0	$0	$0	$70	$61	$0	$0	$0	$0	$30,045	$43,986	$0
Conservation, Irrigation Restrictions – SOUTH ELLIS COUNTY WSC	0	0	0	22	33	46	$0	$0	$0	$103	$57	$57	$0	$0	$0	$2,255	$1,879	$2,623	$0
Conservation, Irrigation Restrictions – SOUTHLAKE	344	384	448	513	579	647	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – SPRINGTOWN	24	36	36	36	35	35	$108	$65	$65	$65	$67	$67	$2,602	$2,352	$2,352	$2,352	$2,352	$2,352	$0
Conservation, Irrigation Restrictions – SUNNYVALE	60	95	123	141	141	141	$62	$43	$43	$43	$43	$43	$3,704	$4,066	$5,286	$6,099	$6,099	$6,099	$0
Conservation, Irrigation Restrictions – TALTY SUD	49	62	71	99	138	191	$114	$88	$88	$89	$89	$89	$5,568	$5,450	$6,279	$8,834	$12,312	$16,981	$0
Conservation, Irrigation Restrictions – TEAGUE	18	21	28	36	43	51	$144	$88	$88	$90	$91	$90	$2,585	$1,843	$2,456	$3,248	$3,916	$4,607	$0
Conservation, Irrigation Restrictions – TERRELL	104	217	294	341	380	442	$102	$87	$88	$88	$88	$88	$10,602	$18,857	$25,729	$30,018	$33,448	$38,967	$0
Conservation, Irrigation Restrictions – TOM BEAN	0	7	9	10	12	18	$0	$210	$76	$76	$78	$78	$0	$1,472	$683	$763	$942	$1,413	$0
Conservation, Irrigation Restrictions – TRENTON	0	4	11	22	38	53	$0	$315	$82	$82	$82	$83	$0	$1,258	$901	$1,802	$3,108	$4,404	$0
Conservation, Irrigation Restrictions – TROPHY CLUB MUD 1	146	145	144	144	144	144	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – UNIVERSITY PARK	228	225	223	221	221	221	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – VAN ALSTYNE	16	21	29	38	73	91	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – VENUS	0	1	1	1	1	1	$0	$44	$55	$71	$87	$105	$892	$44	$55	$71	$87	$105	$0
Conservation, Irrigation Restrictions – WATAUGA	85	82	80	78	78	78	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – WAXAHACHIE	0	0	256	350	426	519	$0	$0	$91	$79	$79	$79	$0	$0	$23,413	$27,616	$33,663	$40,953	$0
Conservation, Irrigation Restrictions – WEATHERFORD	159	186	198	328	536	738	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – WESTLAKE	0	132	239	268	268	268	$0	$20	$12	$12	$12	$12	$0	$2,673	$2,970	$3,323	$3,323	$3,323	$0
Conservation, Irrigation Restrictions – WESTOVER HILLS	0	29	33	34	34	35	$0	$69	$9	$9	$9	$9	$0	$2,015	$307	$314	$321	$328	$0
Conservation, Irrigation Restrictions – WYLIE	213	225	235	250	260	285	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Conservation, Irrigation Restrictions – COUNTY-OTHER, DALLAS	60	65	65	66	68	70	$22	$5	$6	$6	$8	$10	$1,326	$342	$370	$393	$565	$693	$0
Conservation, Irrigation Restrictions – COUNTY-OTHER, ROCKWALL	11	17	17	16	18	28	$175	$89	$91	$90	$90	$89	$1,926	$1,508	$1,545	$1,444	$1,616	$2,506	$0
Conservation, Irrigation Restrictions – COUNTY-OTHER, TARRANT	195	203	189	295	383	519	$78	$62	$61	$73	$77	$81	$15,118	$12,589	$11,587	$21,419	$29,589	$41,956	$0
Grand Total	**36,572**	**46,473**	**52,833**	**58,747**	**64,896**	**70,189**	**$6,843**	**$7,326**	**$5,776**	**$6,256**	**$6,199**	**$6,176**							**$0**

Table H.11E
Conservation Savings and Costs for Municipal Water Loss Control Strategies

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Water Loss Control - ABLES SPRINGS WSC	2	2	0	0	0	0	$513	$513	$0	$0	$0	$0	$1,025	$1,025	$0	$0	$0	$0	$14,562
Conservation, Water Loss Control - ADDISON	31	32	0	0	0	0	$2,986	$2,892	$0	$0	$0	$0	$92,556	$92,556	$0	$0	$0	$0	$1,315,440
Conservation, Water Loss Control - ALEDO	4	7	0	0	0	0	$479	$274	$0	$0	$0	$0	$1,917	$1,917	$0	$0	$0	$0	$27,245
Conservation, Water Loss Control - ALLEN	109	118	0	0	0	0	$979	$904	$0	$0	$0	$0	$106,706	$106,706	$0	$0	$0	$0	$1,516,556
Conservation, Water Loss Control - ALVORD	1	1	0	0	0	0	$369	$369	$0	$0	$0	$0	$369	$369	$0	$0	$0	$0	$5,247
Conservation, Water Loss Control - ANNA	116	547	0	0	0	0	$756	$237	$0	$0	$0	$0	$87,663	$129,373	$0	$0	$0	$0	$164,611
Conservation, Water Loss Control - ANNETTA	2	2	0	0	0	0	$395	$395	$0	$0	$0	$0	$790	$790	$0	$0	$0	$0	$11,234
Conservation, Water Loss Control - ARGYLE WSC	13	43	101	101	101	101	$1,680	$2,468	$1,024	$1,024	$1,024	$1,024	$21,837	$106,114	$103,421	$103,421	$103,421	$103,421	$310,357
Conservation, Water Loss Control - ARLEDGE RIDGE WSC	1	1	0	0	0	0	$194	$194	$0	$0	$0	$0	$194	$194	$0	$0	$0	$0	$2,763
Conservation, Water Loss Control - ARLINGTON	1,231	1,273	936	937	940	940	$500	$483	$0	$0	$0	$0	$614,986	$614,986	$0	$0	$0	$0	$8,740,436
Conservation, Water Loss Control - ATHENS	15	16	0	0	0	0	$1,963	$1,841	$0	$0	$0	$0	$29,449	$29,449	$0	$0	$0	$0	$418,536
Conservation, Water Loss Control - AUBREY	3	4	0	0	0	0	$1,121	$841	$0	$0	$0	$0	$3,364	$3,364	$0	$0	$0	$0	$47,811
Conservation, Water Loss Control - AVALON WATER SUPPLY & SEWER SERVICE	1	1	0	0	0	0	$607	$607	$0	$0	$0	$0	$607	$607	$0	$0	$0	$0	$8,624
Conservation, Water Loss Control - AZLE	20	20	0	0	0	0	$947	$947	$0	$0	$0	$0	$18,949	$18,949	$0	$0	$0	$0	$269,308
Conservation, Water Loss Control - B AND B WSC	1	1	0	0	0	0	$389	$389	$0	$0	$0	$0	$389	$389	$0	$0	$0	$0	$5,528
Conservation, Water Loss Control - BALCH SPRINGS	14	14	0	0	0	0	$1,155	$1,155	$0	$0	$0	$0	$16,167	$16,167	$0	$0	$0	$0	$229,772
Conservation, Water Loss Control - BEAR CREEK SUD	3	5	0	0	0	0	$1,294	$777	$0	$0	$0	$0	$3,883	$3,883	$0	$0	$0	$0	$55,186
Conservation, Water Loss Control - BECKER JIBA WSC	2	2	0	0	0	0	$546	$546	$0	$0	$0	$0	$1,092	$1,092	$0	$0	$0	$0	$15,523
Conservation, Water Loss Control - BEDFORD	966	1,016	0	0	0	0	$128	$122	$0	$0	$0	$0	$124,034	$124,034	$0	$0	$0	$0	$1,762,821
Conservation, Water Loss Control - BELLS	1	1	0	0	0	0	$20,570	$20,570	$0	$0	$0	$0	$20,570	$20,570	$0	$0	$0	$0	$292,347
Conservation, Water Loss Control - BENBROOK WATER AUTHORITY	26	28	0	0	0	0	$740	$688	$0	$0	$0	$0	$19,252	$19,252	$0	$0	$0	$0	$273,621
Conservation, Water Loss Control - BETHEL ASH WSC	1	1	0	0	0	0	$358	$358	$0	$0	$0	$0	$358	$358	$0	$0	$0	$0	$5,087
Conservation, Water Loss Control - BETHESDA WSC	11	12	0	0	0	0	$1,261	$1,156	$0	$0	$0	$0	$13,872	$13,872	$0	$0	$0	$0	$197,156
Conservation, Water Loss Control - BLACK ROCK WSC	1	2	0	0	0	0	$1,238	$619	$0	$0	$0	$0	$1,238	$1,238	$0	$0	$0	$0	$17,593
Conservation, Water Loss Control - BLACKLAND WSC	4	5	0	0	0	0	$5,143	$4,114	$0	$0	$0	$0	$20,570	$20,570	$0	$0	$0	$0	$292,347
Conservation, Water Loss Control - BLOOMING GROVE	1	1	0	0	0	0	$906	$906	$0	$0	$0	$0	$906	$906	$0	$0	$0	$0	$12,881
Conservation, Water Loss Control - BLUE RIDGE	2	3	2	5	7	9	$1,967	$1,311	$83,014	$61,208	$59,296	$61,034	$3,933	$3,933	$166,027	$306,039	$415,072	$549,305	$55,892
Conservation, Water Loss Control - BOIS D ARC MUD	1	1	0	0	0	0	$612	$612	$0	$0	$0	$0	$612	$612	$0	$0	$0	$0	$8,698
Conservation, Water Loss Control - BOLIVAR WSC	5	6	0	0	0	0	$722	$602	$0	$0	$0	$0	$3,611	$3,611	$0	$0	$0	$0	$51,327
Conservation, Water Loss Control - BONHAM	10	13	0	0	0	0	$511	$393	$0	$0	$0	$0	$5,111	$5,111	$0	$0	$0	$0	$72,634
Conservation, Water Loss Control - BOYD	2	7	22	0	0	0	$170	$5,791	$1,877	$0	$0	$0	$340	$40,540	$41,301	$0	$0	$0	$4,837
Conservation, Water Loss Control - BRIDGEPORT	6	8	0	0	0	0	$464	$348	$0	$0	$0	$0	$2,786	$2,786	$0	$0	$0	$0	$39,597
Conservation, Water Loss Control - BUENA VISTA-BETHEL SUD	6	8	0	0	0	0	$340	$255	$0	$0	$0	$0	$2,042	$2,042	$0	$0	$0	$0	$29,027
Conservation, Water Loss Control - BURLESON	6	6	0	0	0	0	$1,556	$1,556	$0	$0	$0	$0	$9,336	$9,336	$0	$0	$0	$0	$132,685
Conservation, Water Loss Control - BUTLER WSC	1	1	0	0	0	0	$310	$310	$0	$0	$0	$0	$310	$310	$0	$0	$0	$0	$4,404
Conservation, Water Loss Control - CADDO BASIN SUD	1	2	0	0	0	0	$359	$180	$0	$0	$0	$0	$359	$359	$0	$0	$0	$0	$5,095
Conservation, Water Loss Control - CALLISBURG WSC	1	1	0	0	0	0	$209	$209	$0	$0	$0	$0	$209	$209	$0	$0	$0	$0	$2,975
Conservation, Water Loss Control - CARROLLTON	121	121	0	0	0	0	$1,219	$1,219	$0	$0	$0	$0	$147,537	$147,537	$0	$0	$0	$0	$2,096,860
Conservation, Water Loss Control - CASH SUD	1	1	0	0	0	0	$162	$162	$0	$0	$0	$0	$162	$162	$0	$0	$0	$0	$2,304
Conservation, Water Loss Control - CEDAR HILL	212	255	222	255	255	255	$223	$186	$0	$0	$0	$0	$47,357	$47,357	$0	$0	$0	$0	$673,056
Conservation, Water Loss Control - CELINA	23	58	0	0	0	0	$1,177	$467	$0	$0	$0	$0	$27,080	$27,080	$0	$0	$0	$0	$384,870
Conservation, Water Loss Control - CHATFIELD WSC	2	2	0	0	0	0	$432	$432	$0	$0	$0	$0	$864	$864	$0	$0	$0	$0	$12,274
Conservation, Water Loss Control - CHICO	1	1	0	0	0	0	$497	$497	$0	$0	$0	$0	$497	$497	$0	$0	$0	$0	$7,070
Conservation, Water Loss Control - COCKRELL HILL	2	2	0	0	0	0	$462	$462	$0	$0	$0	$0	$923	$923	$0	$0	$0	$0	$13,114
Conservation, Water Loss Control - COLLEGE MOUND WSC	4	5	0	0	0	0	$654	$523	$0	$0	$0	$0	$2,617	$2,617	$0	$0	$0	$0	$37,197
Conservation, Water Loss Control - COLLEYVILLE	46	48	0	0	0	0	$2,471	$2,368	$0	$0	$0	$0	$113,668	$113,668	$0	$0	$0	$0	$1,615,494
Conservation, Water Loss Control - COLLINSVILLE	1	2	0	0	0	0	$1,126	$563	$0	$0	$0	$0	$1,126	$1,126	$0	$0	$0	$0	$16,010
Conservation, Water Loss Control - COMBINE WSC	2	2	0	0	0	0	$1,060	$1,060	$0	$0	$0	$0	$2,120	$2,120	$0	$0	$0	$0	$30,127
Conservation, Water Loss Control - COMMUNITY WSC	2	2	0	0	0	0	$242	$242	$0	$0	$0	$0	$483	$483	$0	$0	$0	$0	$6,859
Conservation, Water Loss Control - COPEVILLE SUD	2	2	0	0	0	0	$684	$684	$0	$0	$0	$0	$1,368	$1,368	$0	$0	$0	$0	$19,436
Conservation, Water Loss Control - COPPELL	56	56	0	0	0	0	$1,718	$1,718	$0	$0	$0	$0	$96,206	$96,206	$0	$0	$0	$0	$1,367,318
Conservation, Water Loss Control - CORBET WSC	1	1	0	0	0	0	$320	$320	$0	$0	$0	$0	$320	$320	$0	$0	$0	$0	$4,543
Conservation, Water Loss Control - CORINTH	21	25	0	0	0	0	$1,123	$943	$0	$0	$0	$0	$23,578	$23,578	$0	$0	$0	$0	$335,099
Conservation, Water Loss Control - CORSICANA	31	33	0	0	0	0	$1,409	$1,323	$0	$0	$0	$0	$43,668	$43,668	$0	$0	$0	$0	$620,621
Conservation, Water Loss Control - CRANDALL	4	5	0	0	0	0	$585	$468	$0	$0	$0	$0	$2,340	$2,340	$0	$0	$0	$0	$33,260
Conservation, Water Loss Control - CRESCENT HEIGHTS WSC	1	1	0	0	0	0	$621	$621	$0	$0	$0	$0	$621	$621	$0	$0	$0	$0	$8,820
Conservation, Water Loss Control - CROSS TIMBERS WSC	8	10	0	0	0	0	$1,413	$1,130	$0	$0	$0	$0	$11,303	$11,303	$0	$0	$0	$0	$160,638
Conservation, Water Loss Control - CROWLEY	12	14	0	0	0	0	$692	$594	$0	$0	$0	$0	$8,309	$8,309	$0	$0	$0	$0	$118,084
Conservation, Water Loss Control - CULLEOKA WSC	3	3	0	0	0	0	$973	$973	$0	$0	$0	$0	$2,920	$2,920	$0	$0	$0	$0	$41,495
Conservation, Water Loss Control - DALLAS	2,752	2,924	0	0	0	0	$433	$407	$0	$0	$0	$0	$1,191,488	$1,191,488	$0	$0	$0	$0	$16,933,907
Conservation, Water Loss Control - DALWORTHINGTON GARDENS	5	5	0	0	0	0	$586	$586	$0	$0	$0	$0	$2,928	$2,928	$0	$0	$0	$0	$41,616
Conservation, Water Loss Control - DAWSON	1	1	0	0	0	0	$667	$667	$0	$0	$0	$0	$667	$667	$0	$0	$0	$0	$9,479
Conservation, Water Loss Control - DECATUR	12	16	0	0	0	0	$1,634	$1,225	$0	$0	$0	$0	$19,602	$19,602	$0	$0	$0	$0	$278,594
Conservation, Water Loss Control - DENISON	157	435	395	432	502	667	$1,099	$421	$343	$338	$330	$316	$172,540	$183,302	$135,392	$146,038	$165,463	$210,635	$698,755
Conservation, Water Loss Control - DENTON	131	165	0	0	0	0	$2,491	$1,977	$0	$0	$0	$0	$326,262	$326,262	$0	$0	$0	$0	$4,636,961

Table H.11E
Conservation Savings and Costs for Municipal Water Loss Control Strategies

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Water Loss Control - DENTON COUNTY FWSD 10	7	16	0	0	0	0	$9,729	$4,256	$0	$0	$0	$0	$68,102	$68,102	$0	$0	$0	$0	$967,900
Conservation, Water Loss Control - DENTON COUNTY FWSD 1-A	18	32	0	0	0	0	$2,212	$1,244	$0	$0	$0	$0	$39,814	$39,814	$0	$0	$0	$0	$565,854
Conservation, Water Loss Control - DENTON COUNTY FWSD 7	17	17	0	0	0	0	$739	$739	$0	$0	$0	$0	$12,571	$12,571	$0	$0	$0	$0	$178,667
Conservation, Water Loss Control - DESERT WSC	1	1	0	0	0	0	$843	$843	$0	$0	$0	$0	$843	$843	$0	$0	$0	$0	$11,979
Conservation, Water Loss Control - DESOTO	94	199	160	173	187	192	$2,511	$1,258	$1,558	$1,550	$1,533	$1,532	$235,987	$250,432	$249,311	$268,186	$286,580	$294,089	$263,044
Conservation, Water Loss Control - DOGWOOD ESTATES WATER	1	1	0	0	0	0	$335	$335	$0	$0	$0	$0	$335	$335	$0	$0	$0	$0	$4,765
Conservation, Water Loss Control - DORCHESTER	1	1	0	0	0	0	$364	$364	$0	$0	$0	$0	$364	$364	$0	$0	$0	$0	$5,172
Conservation, Water Loss Control - DUNCANVILLE	30	32	0	0	0	0	$1,444	$1,354	$0	$0	$0	$0	$43,318	$43,318	$0	$0	$0	$0	$615,654
Conservation, Water Loss Control - EAST CEDAR CREEK FWSD	7	8	0	0	0	0	$1,108	$969	$0	$0	$0	$0	$7,754	$7,754	$0	$0	$0	$0	$110,198
Conservation, Water Loss Control - EAST FORK SUD	10	10	0	0	0	0	$3,703	$3,703	$0	$0	$0	$0	$37,026	$37,026	$0	$0	$0	$0	$526,225
Conservation, Water Loss Control - EAST GARRETT WSC	1	2	0	0	0	0	$435	$218	$0	$0	$0	$0	$435	$435	$0	$0	$0	$0	$6,179
Conservation, Water Loss Control - EDGECLIFF	3	2	0	0	0	0	$1,786	$2,679	$0	$0	$0	$0	$5,358	$5,358	$0	$0	$0	$0	$76,154
Conservation, Water Loss Control - ELMO WSC	1	1	0	0	0	0	$268	$268	$0	$0	$0	$0	$268	$268	$0	$0	$0	$0	$3,802
Conservation, Water Loss Control - ENNIS	20	110	296	418	672	1,117	$2,154	$1,442	$434	$410	$380	$354	$43,070	$158,631	$128,591	$171,562	$255,380	$395,657	$612,128
Conservation, Water Loss Control - EULESS	224	229	135	133	133	133	$479	$468	$0	$0	$0	$0	$107,239	$107,239	$0	$0	$0	$0	$1,524,130
Conservation, Water Loss Control - EUSTACE	1	1	0	0	0	0	$540	$540	$0	$0	$0	$0	$540	$540	$0	$0	$0	$0	$7,675
Conservation, Water Loss Control - EVERMAN	3	3	0	0	0	0	$1,203	$1,203	$0	$0	$0	$0	$3,610	$3,610	$0	$0	$0	$0	$51,306
Conservation, Water Loss Control - FAIRFIELD	5	5	0	0	0	0	$1,190	$1,190	$0	$0	$0	$0	$5,951	$5,951	$0	$0	$0	$0	$84,573
Conservation, Water Loss Control - FAIRVIEW	22	26	0	0	0	0	$657	$556	$0	$0	$0	$0	$14,460	$14,460	$0	$0	$0	$0	$205,518
Conservation, Water Loss Control - FARMERS BRANCH	45	47	0	0	0	0	$1,164	$1,115	$0	$0	$0	$0	$52,395	$52,395	$0	$0	$0	$0	$744,659
Conservation, Water Loss Control - FARMERSVILLE	5	13	0	0	0	0	$1,478	$568	$0	$0	$0	$0	$7,388	$7,388	$0	$0	$0	$0	$105,003
Conservation, Water Loss Control - FATE	14	18	0	0	0	0	$2,031	$1,580	$0	$0	$0	$0	$28,432	$28,432	$0	$0	$0	$0	$404,091
Conservation, Water Loss Control - FERRIS	2	4	0	0	0	0	$1,103	$551	$0	$0	$0	$0	$2,205	$2,205	$0	$0	$0	$0	$31,341
Conservation, Water Loss Control - FILES VALLEY WSC	1	1	0	0	0	0	$161	$161	$0	$0	$0	$0	$161	$161	$0	$0	$0	$0	$2,291
Conservation, Water Loss Control - FLOWER MOUND	95	105	0	0	0	0	$2,535	$2,294	$0	$0	$0	$0	$240,844	$240,844	$0	$0	$0	$0	$3,422,971
Conservation, Water Loss Control - FOREST HILL	7	7	0	0	0	0	$1,928	$1,928	$0	$0	$0	$0	$13,499	$13,499	$0	$0	$0	$0	$191,853
Conservation, Water Loss Control - FORNEY	15	18	0	0	0	0	$1,029	$858	$0	$0	$0	$0	$15,441	$15,441	$0	$0	$0	$0	$219,451
Conservation, Water Loss Control - FORNEY LAKE WSC	6	8	0	0	0	0	$1,215	$911	$0	$0	$0	$0	$7,290	$7,290	$0	$0	$0	$0	$103,609
Conservation, Water Loss Control - FORT WORTH	17,960	20,007	8,588	6,336	3,439	0	$767	$689	$0	$0	$0	$0	#########	#########	$0	$0	$0	$0	$195,851,589
Conservation, Water Loss Control - FRISCO	229	256	0	0	0	0	$2,691	$2,408	$0	$0	$0	$0	$616,342	$616,342	$0	$0	$0	$0	$8,759,700
Conservation, Water Loss Control - FROGNOT WSC	1	1	0	0	0	0	$578	$578	$0	$0	$0	$0	$578	$578	$0	$0	$0	$0	$8,218
Conservation, Water Loss Control - GAINESVILLE	13	14	0	0	0	0	$1,835	$1,704	$0	$0	$0	$0	$23,858	$23,858	$0	$0	$0	$0	$339,073
Conservation, Water Loss Control - GARLAND	206	219	0	0	0	0	$2,316	$2,178	$0	$0	$0	$0	$477,019	$477,019	$0	$0	$0	$0	$6,779,585
Conservation, Water Loss Control - GASTONIA SCURRY SUD	4	4	0	0	0	0	$709	$709	$0	$0	$0	$0	$2,836	$2,836	$0	$0	$0	$0	$40,309
Conservation, Water Loss Control - GLENN HEIGHTS	10	13	0	0	0	0	$612	$471	$0	$0	$0	$0	$6,117	$6,117	$0	$0	$0	$0	$86,942
Conservation, Water Loss Control - GRAND PRAIRIE	352	408	0	0	0	0	$304	$262	$0	$0	$0	$0	$107,065	$107,065	$0	$0	$0	$0	$1,521,652
Conservation, Water Loss Control - GRAPEVINE	92	94	0	0	0	0	$2,886	$2,825	$0	$0	$0	$0	$265,523	$265,523	$0	$0	$0	$0	$3,773,715
Conservation, Water Loss Control - GUNTER	11	42	0	0	0	0	$3,874	$1,046	$0	$0	$0	$0	$42,612	$43,921	$0	$0	$0	$0	$22,898
Conservation, Water Loss Control - HACKBERRY	2	3	0	0	0	0	$534	$356	$0	$0	$0	$0	$1,067	$1,067	$0	$0	$0	$0	$15,159
Conservation, Water Loss Control - HALTOM CITY	26	26	0	0	0	0	$2,062	$2,062	$0	$0	$0	$0	$53,603	$53,603	$0	$0	$0	$0	$761,824
Conservation, Water Loss Control - HASLET	3	9	0	0	0	0	$1,690	$563	$0	$0	$0	$0	$5,070	$5,070	$0	$0	$0	$0	$72,056
Conservation, Water Loss Control - HEATH	20	28	0	0	0	0	$2,329	$1,664	$0	$0	$0	$0	$46,583	$46,583	$0	$0	$0	$0	$662,052
Conservation, Water Loss Control - HIGH POINT WSC	2	3	0	0	0	0	$358	$239	$0	$0	$0	$0	$716	$716	$0	$0	$0	$0	$10,172
Conservation, Water Loss Control - HIGHLAND PARK	20	21	0	0	0	0	$1,446	$1,377	$0	$0	$0	$0	$28,926	$28,926	$0	$0	$0	$0	$411,107
Conservation, Water Loss Control - HIGHLAND VILLAGE	19	20	0	0	0	0	$2,359	$2,241	$0	$0	$0	$0	$44,823	$44,823	$0	$0	$0	$0	$637,042
Conservation, Water Loss Control - HONEY GROVE	2	2	0	0	0	0	$903	$903	$0	$0	$0	$0	$1,806	$1,806	$0	$0	$0	$0	$25,668
Conservation, Water Loss Control - HORSESHOE BEND WATER	1	1	0	0	0	0	$852	$852	$0	$0	$0	$0	$852	$852	$0	$0	$0	$0	$12,104
Conservation, Water Loss Control - HOWE	1	2	0	0	0	0	$2,033	$1,017	$0	$0	$0	$0	$2,033	$2,033	$0	$0	$0	$0	$28,900
Conservation, Water Loss Control - HUDSON OAKS	7	9	0	0	0	0	$1,713	$1,332	$0	$0	$0	$0	$11,992	$11,992	$0	$0	$0	$0	$170,437
Conservation, Water Loss Control - HURST	33	33	0	0	0	0	$2,266	$2,266	$0	$0	$0	$0	$74,763	$74,763	$0	$0	$0	$0	$1,062,568
Conservation, Water Loss Control - HUTCHINS	11	15	0	0	0	0	$2,657	$1,948	$0	$0	$0	$0	$29,225	$29,225	$0	$0	$0	$0	$415,355
Conservation, Water Loss Control - IRVING	279	311	0	0	0	0	$536	$481	$0	$0	$0	$0	$149,608	$149,608	$0	$0	$0	$0	$2,126,293
Conservation, Water Loss Control - ITALY	2	2	0	0	0	0	$261	$261	$0	$0	$0	$0	$522	$522	$0	$0	$0	$0	$7,419
Conservation, Water Loss Control - JACKSBORO	3	4	0	0	0	0	$409	$307	$0	$0	$0	$0	$1,228	$1,228	$0	$0	$0	$0	$17,449
Conservation, Water Loss Control - JOHNSON COUNTY SUD	2	2	0	0	0	0	$218	$218	$0	$0	$0	$0	$436	$436	$0	$0	$0	$0	$6,197
Conservation, Water Loss Control - JOSEPHINE	2	2	0	0	0	0	$925	$925	$0	$0	$0	$0	$1,849	$1,849	$0	$0	$0	$0	$26,276
Conservation, Water Loss Control - JUSTIN	8	12	0	0	0	0	$606	$404	$0	$0	$0	$0	$4,846	$4,846	$0	$0	$0	$0	$68,869
Conservation, Water Loss Control - KAUFMAN	6	8	0	0	0	0	$832	$624	$0	$0	$0	$0	$4,993	$4,993	$0	$0	$0	$0	$70,962
Conservation, Water Loss Control - KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	4	6	0	0	0	0	$440	$293	$0	$0	$0	$0	$1,759	$1,759	$0	$0	$0	$0	$25,007
Conservation, Water Loss Control - KAUFMAN COUNTY MUD 11	3	4	0	0	0	0	$1,917	$1,438	$0	$0	$0	$0	$5,751	$5,751	$0	$0	$0	$0	$81,738
Conservation, Water Loss Control - KELLER	124	132	0	0	0	0	$754	$708	$0	$0	$0	$0	$93,444	$93,444	$0	$0	$0	$0	$1,328,066
Conservation, Water Loss Control - KEMP	7	21	23	29	45	63	$5,957	$2,022	$1,840	$1,501	$1,041	$802	$41,700	$42,466	$42,313	$43,528	$46,837	$50,554	$13,716
Conservation, Water Loss Control - KENNEDALE	7	8	0	0	0	0	$1,734	$1,517	$0	$0	$0	$0	$12,135	$12,135	$0	$0	$0	$0	$172,467
Conservation, Water Loss Control - KENTUCKYTOWN WSC	2	2	0	0	0	0	$635	$635	$0	$0	$0	$0	$1,270	$1,270	$0	$0	$0	$0	$18,044
Conservation, Water Loss Control - KERENS	1	1	0	0	0	0	$476	$476	$0	$0	$0	$0	$476	$476	$0	$0	$0	$0	$6,764

Table H.11E
Conservation Savings and Costs for Municipal Water Loss Control Strategies

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Water Loss Control - KRUM	6	7	0	0	0	0	$1,390	$1,191	$0	$0	$0	$0	$8,339	$8,339	$0	$0	$0	$0	$118,516
Conservation, Water Loss Control - LADONIA	2	4	0	0	0	0	$66	$33	$0	$0	$0	$0	$131	$131	$0	$0	$0	$0	$1,864
Conservation, Water Loss Control - LAKE CITIES MUNICIPAL UTILITY AUTHORITY	11	12	0	0	0	0	$2,023	$1,855	$0	$0	$0	$0	$22,255	$22,255	$0	$0	$0	$0	$316,302
Conservation, Water Loss Control - LAKE KIOWA SUD	4	5	0	0	0	0	$2,613	$2,090	$0	$0	$0	$0	$10,452	$10,452	$0	$0	$0	$0	$148,550
Conservation, Water Loss Control - LAKE WORTH	6	6	0	0	0	0	$27,965	$27,965	$0	$0	$0	$0	$167,788	$167,788	$0	$0	$0	$0	$2,384,665
Conservation, Water Loss Control - LAKESIDE	2	2	0	0	0	0	$347	$347	$0	$0	$0	$0	$693	$693	$0	$0	$0	$0	$9,846
Conservation, Water Loss Control - LANCASTER	38	49	0	0	0	0	$2,423	$1,879	$0	$0	$0	$0	$92,080	$92,080	$0	$0	$0	$0	$1,308,675
Conservation, Water Loss Control - LEONARD	2	2	0	0	0	0	$679	$679	$0	$0	$0	$0	$1,357	$1,357	$0	$0	$0	$0	$19,291
Conservation, Water Loss Control - LEWISVILLE	101	112	0	0	0	0	$1,002	$903	$0	$0	$0	$0	$101,175	$101,175	$0	$0	$0	$0	$1,437,939
Conservation, Water Loss Control - LINDSAY	1	1	0	0	0	0	$1,108	$1,108	$0	$0	$0	$0	$1,108	$1,108	$0	$0	$0	$0	$15,743
Conservation, Water Loss Control - LITTLE ELM	20	23	0	0	0	0	$1,270	$1,105	$0	$0	$0	$0	$25,406	$25,406	$0	$0	$0	$0	$361,083
Conservation, Water Loss Control - LUCAS	55	159	191	222	248	248	$1,094	$391	$332	$319	$311	$311	$60,173	$62,212	$63,357	$70,913	$77,230	$77,230	$112,910
Conservation, Water Loss Control - LUELLA SUD	2	2	0	0	0	0	$836	$836	$0	$0	$0	$0	$1,671	$1,671	$0	$0	$0	$0	$23,749
Conservation, Water Loss Control - M E N WSC	2	3	0	0	0	0	$871	$580	$0	$0	$0	$0	$1,741	$1,741	$0	$0	$0	$0	$24,737
Conservation, Water Loss Control - MABANK	10	11	0	0	0	0	$946	$860	$0	$0	$0	$0	$9,458	$9,458	$0	$0	$0	$0	$134,425
Conservation, Water Loss Control - MALAKOFF	1	1	0	0	0	0	$1,560	$1,560	$0	$0	$0	$0	$1,560	$1,560	$0	$0	$0	$0	$22,166
Conservation, Water Loss Control - MANSFIELD	93	117	0	0	0	0	$2,826	$2,246	$0	$0	$0	$0	$262,783	$262,783	$0	$0	$0	$0	$3,734,784
Conservation, Water Loss Control - MARILEE SUD	6	6	0	0	0	0	$13,713	$13,713	$0	$0	$0	$0	$82,279	$82,279	$0	$0	$0	$0	$1,169,389
Conservation, Water Loss Control - MARKOUT WSC	2	3	0	0	0	0	$1,236	$824	$0	$0	$0	$0	$2,472	$2,472	$0	$0	$0	$0	$35,133
Conservation, Water Loss Control - MCKINNEY	337	657	479	579	693	751	$2,013	$1,114	$1,540	$1,498	$1,463	$1,449	$678,340	$731,833	$737,754	$867,459	$1,013,784	$1,088,007	$775,316
Conservation, Water Loss Control - MELISSA	20	62	0	0	0	0	$623	$201	$0	$0	$0	$0	$12,460	$12,460	$0	$0	$0	$0	$177,086
Conservation, Water Loss Control - MESQUITE	112	119	0	0	0	0	$2,331	$2,194	$0	$0	$0	$0	$261,037	$261,037	$0	$0	$0	$0	$3,709,960
Conservation, Water Loss Control - MIDLOTHIAN	24	35	0	0	0	0	$2,109	$1,446	$0	$0	$0	$0	$50,625	$50,625	$0	$0	$0	$0	$719,507
Conservation, Water Loss Control - MILLIGAN WSC	2	3	0	0	0	0	$2,249	$1,499	$0	$0	$0	$0	$4,498	$4,498	$0	$0	$0	$0	$63,934
Conservation, Water Loss Control - MINERAL WELLS	2	2	0	0	0	0	$264	$264	$0	$0	$0	$0	$527	$527	$0	$0	$0	$0	$7,493
Conservation, Water Loss Control - MOUNT ZION WSC	3	3	0	0	0	0	$1,448	$1,448	$0	$0	$0	$0	$4,344	$4,344	$0	$0	$0	$0	$61,736
Conservation, Water Loss Control - MOUNTAIN PEAK SUD	121	419	422	603	698	782	$522	$172	$159	$148	$144	$142	$63,112	$72,144	$67,304	$89,186	$100,533	$110,703	$110,785
Conservation, Water Loss Control - MOUNTAIN SPRINGS WSC	2	2	0	0	0	0	$865	$865	$0	$0	$0	$0	$1,729	$1,729	$0	$0	$0	$0	$24,567
Conservation, Water Loss Control - MUENSTER	1	1	0	0	0	0	$1,760	$1,760	$0	$0	$0	$0	$1,760	$1,760	$0	$0	$0	$0	$25,014
Conservation, Water Loss Control - MURPHY	22	22	0	0	0	0	$219	$219	$0	$0	$0	$0	$4,823	$4,823	$0	$0	$0	$0	$68,544
Conservation, Water Loss Control - MUSTANG SUD	23	42	0	0	0	0	$2,062	$1,129	$0	$0	$0	$0	$47,426	$47,426	$0	$0	$0	$0	$674,034
Conservation, Water Loss Control - NAVARRO MILLS WSC	2	2	0	0	0	0	$374	$374	$0	$0	$0	$0	$747	$747	$0	$0	$0	$0	$10,610
Conservation, Water Loss Control - NEVADA SUD	1	1	0	0	0	0	$1,119	$1,119	$0	$0	$0	$0	$1,119	$1,119	$0	$0	$0	$0	$15,904
Conservation, Water Loss Control - NEWARK	1	1	0	0	0	0	$76	$76	$0	$0	$0	$0	$76	$76	$0	$0	$0	$0	$1,083
Conservation, Water Loss Control - NORTH COLLIN SUD	4	5	0	0	0	0	$372	$297	$0	$0	$0	$0	$1,487	$1,487	$0	$0	$0	$0	$21,134
Conservation, Water Loss Control - NORTH FARMERSVILLE WSC	0	1	0	0	0	0	$0	$441	$0	$0	$0	$0	$441	$441	$0	$0	$0	$0	$6,269
Conservation, Water Loss Control - NORTH KAUFMAN WSC	1	1	0	0	0	0	$829	$829	$0	$0	$0	$0	$829	$829	$0	$0	$0	$0	$11,783
Conservation, Water Loss Control - NORTH RICHLAND HILLS	64	67	0	0	0	0	$2,304	$2,201	$0	$0	$0	$0	$147,477	$147,477	$0	$0	$0	$0	$2,095,999
Conservation, Water Loss Control - NORTHLAKE	10	22	0	0	0	0	$1,035	$471	$0	$0	$0	$0	$10,351	$10,351	$0	$0	$0	$0	$147,109
Conservation, Water Loss Control - NORTHWEST GRAYSON COUNTY WCID 1	1	1	0	0	0	0	$285	$285	$0	$0	$0	$0	$285	$285	$0	$0	$0	$0	$4,053
Conservation, Water Loss Control - OAK RIDGE SOUTH GALE WSC	1	1	0	0	0	0	$478	$478	$0	$0	$0	$0	$478	$478	$0	$0	$0	$0	$6,787
Conservation, Water Loss Control - OVILLA	38	129	151	192	234	429	$1,266	$391	$337	$285	$259	$226	$48,109	$50,414	$50,911	$54,647	$60,704	$96,994	$30,476
Conservation, Water Loss Control - PALMER	1	2	0	0	0	0	$2,376	$1,188	$0	$0	$0	$0	$2,376	$2,376	$0	$0	$0	$0	$33,764
Conservation, Water Loss Control - PALOMA CREEK NORTH	9	12	0	0	0	0	$617	$463	$0	$0	$0	$0	$5,553	$5,553	$0	$0	$0	$0	$78,917
Conservation, Water Loss Control - PALOMA CREEK SOUTH	4	6	0	0	0	0	$666	$444	$0	$0	$0	$0	$2,665	$2,665	$0	$0	$0	$0	$37,878
Conservation, Water Loss Control - PANTEGO	3	3	0	0	0	0	$2,464	$2,464	$0	$0	$0	$0	$7,392	$7,392	$0	$0	$0	$0	$105,058
Conservation, Water Loss Control - PARKER	16	15	0	0	0	0	$783	$835	$0	$0	$0	$0	$12,529	$12,529	$0	$0	$0	$0	$178,062
Conservation, Water Loss Control - PARKER COUNTY SUD	4	6	0	0	0	0	$846	$564	$0	$0	$0	$0	$3,384	$3,384	$0	$0	$0	$0	$48,090
Conservation, Water Loss Control - PELICAN BAY	1	1	0	0	0	0	$283	$283	$0	$0	$0	$0	$283	$283	$0	$0	$0	$0	$4,028
Conservation, Water Loss Control - PILOT POINT	4	5	0	0	0	0	$1,839	$1,471	$0	$0	$0	$0	$7,355	$7,355	$0	$0	$0	$0	$104,529
Conservation, Water Loss Control - PINK HILL WSC	1	1	0	0	0	0	$771	$771	$0	$0	$0	$0	$771	$771	$0	$0	$0	$0	$10,957
Conservation, Water Loss Control - PLANO	369	370	0	0	0	0	$298	$297	$0	$0	$0	$0	$109,984	$109,984	$0	$0	$0	$0	$1,563,143
Conservation, Water Loss Control - PLEASANT GROVE WSC	1	1	0	0	0	0	$272	$272	$0	$0	$0	$0	$272	$272	$0	$0	$0	$0	$3,871
Conservation, Water Loss Control - POETRY WSC	1	1	0	0	0	0	$224	$224	$0	$0	$0	$0	$224	$224	$0	$0	$0	$0	$3,186
Conservation, Water Loss Control - PONDER	2	3	0	0	0	0	$413	$275	$0	$0	$0	$0	$825	$825	$0	$0	$0	$0	$11,730
Conservation, Water Loss Control - POTTSBORO	3	3	0	0	0	0	$629	$629	$0	$0	$0	$0	$1,887	$1,887	$0	$0	$0	$0	$26,823
Conservation, Water Loss Control - PRINCETON	6	20	0	0	0	0	$1,390	$417	$0	$0	$0	$0	$8,337	$8,337	$0	$0	$0	$0	$118,491
Conservation, Water Loss Control - PROSPER	26	35	0	0	0	0	$2,325	$1,727	$0	$0	$0	$0	$60,454	$60,454	$0	$0	$0	$0	$859,194
Conservation, Water Loss Control - PROVIDENCE VILLAGE WCID	5	5	0	0	0	0	$1,878	$1,878	$0	$0	$0	$0	$9,391	$9,391	$0	$0	$0	$0	$133,467
Conservation, Water Loss Control - R C H WSC	5	6	0	0	0	0	$1,057	$881	$0	$0	$0	$0	$5,285	$5,285	$0	$0	$0	$0	$75,116
Conservation, Water Loss Control - RED OAK	6	6	0	0	0	0	$1,036	$1,036	$0	$0	$0	$0	$6,213	$6,213	$0	$0	$0	$0	$88,296
Conservation, Water Loss Control - RED RIVER AUTHORITY OF TEXAS	2	2	0	0	0	0	$1,063	$1,063	$0	$0	$0	$0	$2,126	$2,126	$0	$0	$0	$0	$30,217
Conservation, Water Loss Control - RENO (Parker)	1	1	0	0	0	0	$578	$578	$0	$0	$0	$0	$578	$578	$0	$0	$0	$0	$8,218
Conservation, Water Loss Control - RHOME	2	3	0	0	0	0	$360	$240	$0	$0	$0	$0	$719	$719	$0	$0	$0	$0	$10,212

Table H.11E
Conservation Savings and Costs for Municipal Water Loss Control Strategies

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Water Loss Control - RICE WATER SUPPLY AND SEWER SERVICE	6	7	0	0	0	0	$707	$606	$0	$0	$0	$0	$4,239	$4,239	$0	$0	$0	$0	$60,243
Conservation, Water Loss Control - RICHARDSON	137	139	0	0	0	0	$562	$554	$0	$0	$0	$0	$76,938	$76,938	$0	$0	$0	$0	$1,093,469
Conservation, Water Loss Control - RICHLAND HILLS	6	6	0	0	0	0	$728	$728	$0	$0	$0	$0	$4,368	$4,368	$0	$0	$0	$0	$62,079
Conservation, Water Loss Control - RIVER OAKS	8	8	0	0	0	0	$1,039	$1,039	$0	$0	$0	$0	$8,314	$8,314	$0	$0	$0	$0	$118,161
Conservation, Water Loss Control - ROANOKE	11	14	0	0	0	0	$695	$546	$0	$0	$0	$0	$7,642	$7,642	$0	$0	$0	$0	$108,611
Conservation, Water Loss Control - ROCKETT SUD	23	29	0	0	0	0	$1,789	$1,419	$0	$0	$0	$0	$41,140	$41,140	$0	$0	$0	$0	$584,694
Conservation, Water Loss Control - ROCKWALL	50	72	0	0	0	0	$2,253	$1,565	$0	$0	$0	$0	$112,647	$112,647	$0	$0	$0	$0	$1,600,987
Conservation, Water Loss Control - ROSE HILL SUD	2	3	0	0	0	0	$865	$576	$0	$0	$0	$0	$1,729	$1,729	$0	$0	$0	$0	$24,571
Conservation, Water Loss Control - ROWLETT	52	55	0	0	0	0	$1,073	$1,014	$0	$0	$0	$0	$55,793	$55,793	$0	$0	$0	$0	$792,959
Conservation, Water Loss Control - ROYSE CITY	7	11	0	0	0	0	$1,398	$889	$0	$0	$0	$0	$9,784	$9,784	$0	$0	$0	$0	$139,057
Conservation, Water Loss Control - RUNAWAY BAY	3	3	0	0	0	0	$354	$354	$0	$0	$0	$0	$1,063	$1,063	$0	$0	$0	$0	$15,113
Conservation, Water Loss Control - SACHSE	26	26	0	0	0	0	$942	$942	$0	$0	$0	$0	$24,488	$24,488	$0	$0	$0	$0	$348,028
Conservation, Water Loss Control - SAGINAW	16	18	0	0	0	0	$5,142	$4,571	$0	$0	$0	$0	$82,279	$82,279	$0	$0	$0	$0	$1,169,389
Conservation, Water Loss Control - SANGER	6	7	0	0	0	0	$759	$651	$0	$0	$0	$0	$4,554	$4,554	$0	$0	$0	$0	$64,721
Conservation, Water Loss Control - SANSOM PARK	3	3	0	0	0	0	$141	$141	$0	$0	$0	$0	$422	$422	$0	$0	$0	$0	$5,993
Conservation, Water Loss Control - SARDIS LONE ELM WSC	27	35	0	0	0	0	$621	$479	$0	$0	$0	$0	$16,775	$16,775	$0	$0	$0	$0	$238,415
Conservation, Water Loss Control - SEAGOVILLE	10	12	0	0	0	0	$2,194	$1,828	$0	$0	$0	$0	$21,940	$21,940	$0	$0	$0	$0	$311,822
Conservation, Water Loss Control - SEIS LAGOS UD	3	3	0	0	0	0	$3,817	$3,817	$0	$0	$0	$0	$11,452	$11,452	$0	$0	$0	$0	$162,761
Conservation, Water Loss Control - SHERMAN	54	55	0	0	0	0	$819	$804	$0	$0	$0	$0	$44,234	$44,234	$0	$0	$0	$0	$628,668
Conservation, Water Loss Control - SOUTH ELLIS COUNTY WSC	2	2	0	107	429	599	$521	$521	$0	$408	$107	$82	$1,041	$1,041	$0	$43,663	$45,769	$49,028	$14,796
Conservation, Water Loss Control - SOUTH FREESTONE COUNTY WSC	1	1	0	0	0	0	$671	$671	$0	$0	$0	$0	$671	$671	$0	$0	$0	$0	$9,541
Conservation, Water Loss Control - SOUTH GRAYSON SUD	3	3	0	0	0	0	$184	$184	$0	$0	$0	$0	$552	$552	$0	$0	$0	$0	$7,852
Conservation, Water Loss Control - SOUTHLAKE	57	64	0	0	0	0	$2,441	$2,174	$0	$0	$0	$0	$139,154	$139,154	$0	$0	$0	$0	$1,977,712
Conservation, Water Loss Control - SOUTHMAYD	1	1	0	0	0	0	$763	$763	$0	$0	$0	$0	$763	$763	$0	$0	$0	$0	$10,849
Conservation, Water Loss Control - SOUTHWEST FANNIN COUNTY	3	3	0	0	0	0	$345	$345	$0	$0	$0	$0	$1,035	$1,035	$0	$0	$0	$0	$14,710
Conservation, Water Loss Control - SPRINGTOWN	56	208	201	200	200	200	$852	$242	$238	$239	$239	$239	$47,707	$50,365	$47,840	$47,840	$47,840	$47,840	$35,894
Conservation, Water Loss Control - STARR WSC	1	1	0	0	0	0	$1,012	$1,012	$0	$0	$0	$0	$1,012	$1,012	$0	$0	$0	$0	$14,384
Conservation, Water Loss Control - SUNNYVALE	11	16	0	0	0	0	$575	$396	$0	$0	$0	$0	$6,330	$6,330	$0	$0	$0	$0	$89,962
Conservation, Water Loss Control - TALTY SUD	9	10	0	0	0	0	$1,440	$1,296	$0	$0	$0	$0	$12,959	$12,959	$0	$0	$0	$0	$184,178
Conservation, Water Loss Control - TEAGUE	21	61	74	97	117	137	$2,198	$765	$653	$534	$467	$432	$46,163	$46,668	$48,298	$51,765	$54,688	$59,237	$14,991
Conservation, Water Loss Control - TERRELL	19	36	0	0	0	0	$1,898	$1,002	$0	$0	$0	$0	$36,061	$36,061	$0	$0	$0	$0	$512,507
Conservation, Water Loss Control - THE COLONY	40	43	0	0	0	0	$1,085	$1,009	$0	$0	$0	$0	$43,386	$43,386	$0	$0	$0	$0	$616,616
Conservation, Water Loss Control - TIOGA	1	1	0	0	0	0	$1,044	$1,044	$0	$0	$0	$0	$1,044	$1,044	$0	$0	$0	$0	$14,836
Conservation, Water Loss Control - TOM BEAN	1	20	62	69	84	126	$685	$2,046	$654	$593	$496	$347	$685	$40,919	$40,536	$40,885	$41,668	$43,729	$9,742
Conservation, Water Loss Control - TRENTON	1	1	0	0	0	0	$134	$134	$0	$0	$0	$0	$134	$134	$0	$0	$0	$0	$1,908
Conservation, Water Loss Control - TRINIDAD	1	0	0	0	0	0	$419	$0	$0	$0	$0	$0	$419	$419	$0	$0	$0	$0	$5,961
Conservation, Water Loss Control - TROPHY CLUB MUD 1	24	24	0	0	0	0	$3,058	$3,058	$0	$0	$0	$0	$73,387	$73,387	$0	$0	$0	$0	$1,042,999
Conservation, Water Loss Control - TWO WAY SUD	3	4	0	0	0	0	$923	$692	$0	$0	$0	$0	$2,768	$2,768	$0	$0	$0	$0	$39,344
Conservation, Water Loss Control - UNIVERSITY PARK	38	38	0	0	0	0	$8,661	$8,661	$0	$0	$0	$0	$329,118	$329,118	$0	$0	$0	$0	$4,677,554
Conservation, Water Loss Control - VAN ALSTYNE	3	4	0	0	0	0	$973	$730	$0	$0	$0	$0	$2,919	$2,919	$0	$0	$0	$0	$41,490
Conservation, Water Loss Control - VERONA SUD	1	2	0	0	0	0	$1,063	$532	$0	$0	$0	$0	$1,063	$1,063	$0	$0	$0	$0	$15,102
Conservation, Water Loss Control - VIRGINIA HILL WSC	1	1	0	0	0	0	$464	$464	$0	$0	$0	$0	$464	$464	$0	$0	$0	$0	$6,596
Conservation, Water Loss Control - WALNUT CREEK SUD	8	9	0	0	0	0	$675	$600	$0	$0	$0	$0	$5,397	$5,397	$0	$0	$0	$0	$76,702
Conservation, Water Loss Control - WATAUGA	14	14	0	0	0	0	$2,268	$2,268	$0	$0	$0	$0	$31,754	$31,754	$0	$0	$0	$0	$451,306
Conservation, Water Loss Control - WAXAHACHIE	34	39	0	0	0	0	$3,630	$3,165	$0	$0	$0	$0	$123,419	$123,419	$0	$0	$0	$0	$1,754,083
Conservation, Water Loss Control - WEATHERFORD	27	61	95	158	258	355	$10,041	$6,974	$1,724	$1,593	$1,492	$1,423	$271,111	$425,398	$163,752	$251,659	$385,007	$505,207	$3,853,135
Conservation, Water Loss Control - WEST CEDAR CREEK MUD	6	6	0	0	0	0	$684	$684	$0	$0	$0	$0	$4,105	$4,105	$0	$0	$0	$0	$58,343
Conservation, Water Loss Control - WEST LEONARD WSC	1	1	0	0	0	0	$827	$827	$0	$0	$0	$0	$827	$827	$0	$0	$0	$0	$11,752
Conservation, Water Loss Control - WEST WISE SUD	2	2	0	0	0	0	$1,154	$1,154	$0	$0	$0	$0	$2,307	$2,307	$0	$0	$0	$0	$32,789
Conservation, Water Loss Control - WESTLAKE	9	24	0	0	0	0	$334	$125	$0	$0	$0	$0	$3,010	$3,010	$0	$0	$0	$0	$42,776
Conservation, Water Loss Control - WESTMINSTER WSC	1	1	0	0	0	0	$1,159	$1,159	$0	$0	$0	$0	$1,159	$1,159	$0	$0	$0	$0	$16,477
Conservation, Water Loss Control - WESTOVER HILLS	5	19	44	45	46	47	$4,164	$3,141	$884	$865	$847	$829	$20,821	$59,679	$38,887	$38,919	$38,951	$38,979	$295,923
Conservation, Water Loss Control - WESTWORTH VILLAGE	2	2	0	0	0	0	$2,198	$2,198	$0	$0	$0	$0	$4,395	$4,395	$0	$0	$0	$0	$62,467
Conservation, Water Loss Control - WHITE SETTLEMENT	10	11	0	0	0	0	$376	$342	$0	$0	$0	$0	$3,761	$3,761	$0	$0	$0	$0	$53,447
Conservation, Water Loss Control - WHITE SHED WSC	2	2	0	0	0	0	$509	$509	$0	$0	$0	$0	$1,018	$1,018	$0	$0	$0	$0	$14,466
Conservation, Water Loss Control - WHITESBORO	2	2	0	0	0	0	$1,571	$1,571	$0	$0	$0	$0	$3,142	$3,142	$0	$0	$0	$0	$44,649
Conservation, Water Loss Control - WHITEWRIGHT	1	1	0	0	0	0	$1,539	$1,539	$0	$0	$0	$0	$1,539	$1,539	$0	$0	$0	$0	$21,871
Conservation, Water Loss Control - WILLOW PARK	8	12	0	0	0	0	$562	$375	$0	$0	$0	$0	$4,494	$4,494	$0	$0	$0	$0	$63,875
Conservation, Water Loss Control - WILMER	2	2	0	0	0	0	$462	$462	$0	$0	$0	$0	$924	$924	$0	$0	$0	$0	$13,132
Conservation, Water Loss Control - WOODBINE WSC	3	4	0	0	0	0	$650	$488	$0	$0	$0	$0	$1,950	$1,950	$0	$0	$0	$0	$27,709
Conservation, Water Loss Control - WORTHAM	1	1	0	0	0	0	$629	$629	$0	$0	$0	$0	$629	$629	$0	$0	$0	$0	$8,939
Conservation, Water Loss Control - WYLIE	36	37	0	0	0	0	$904	$880	$0	$0	$0	$0	$32,547	$32,547	$0	$0	$0	$0	$462,569
Conservation, Water Loss Control - WYLIE NORTHEAST SUD	3	4	0	0	0	0	$4,114	$3,086	$0	$0	$0	$0	$12,342	$12,342	$0	$0	$0	$0	$175,408
Conservation, Water Loss Control - COUNTY-OTHER, COLLIN	3	3	0	0	0	0	$450	$450	$0	$0	$0	$0	$1,349	$1,349	$0	$0	$0	$0	$19,179
Conservation, Water Loss Control - COUNTY-OTHER, COOKE	4	4	0	0	0	0	$312	$312	$0	$0	$0	$0	$1,247	$1,247	$0	$0	$0	$0	$17,725

Table H.11E
Conservation Savings and Costs for Municipal Water Loss Control Strategies

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Water Loss Control - COUNTY-OTHER, DALLAS	11	11	0	0	0	0	$367	$367	$0	$0	$0	$0	$4,034	$4,034	$0	$0	$0	$0	$57,338
Conservation, Water Loss Control - COUNTY-OTHER, DENTON	6	8	0	0	0	0	$562	$422	$0	$0	$0	$0	$3,374	$3,374	$0	$0	$0	$0	$47,949
Conservation, Water Loss Control - COUNTY-OTHER, ELLIS	2	2	0	0	0	0	$250	$250	$0	$0	$0	$0	$499	$499	$0	$0	$0	$0	$7,089
Conservation, Water Loss Control - COUNTY-OTHER, FANNIN	3	3	0	0	0	0	$325	$325	$0	$0	$0	$0	$975	$975	$0	$0	$0	$0	$13,853
Conservation, Water Loss Control - COUNTY-OTHER, FREESTONE	2	2	0	0	0	0	$322	$322	$0	$0	$0	$0	$644	$644	$0	$0	$0	$0	$9,159
Conservation, Water Loss Control - COUNTY-OTHER, GRAYSON	4	3	0	0	0	0	$314	$418	$0	$0	$0	$0	$1,254	$1,254	$0	$0	$0	$0	$17,821
Conservation, Water Loss Control - COUNTY-OTHER, HENDERSON	2	1	0	0	0	0	$169	$337	$0	$0	$0	$0	$337	$337	$0	$0	$0	$0	$4,793
Conservation, Water Loss Control - COUNTY-OTHER, JACK	3	3	0	0	0	0	$294	$294	$0	$0	$0	$0	$882	$882	$0	$0	$0	$0	$12,542
Conservation, Water Loss Control - COUNTY-OTHER, KAUFMAN	1	2	0	0	0	0	$191	$96	$0	$0	$0	$0	$191	$191	$0	$0	$0	$0	$2,712
Conservation, Water Loss Control - COUNTY-OTHER, NAVARRO	1	2	0	0	0	0	$373	$187	$0	$0	$0	$0	$373	$373	$0	$0	$0	$0	$5,296
Conservation, Water Loss Control - COUNTY-OTHER, PARKER	33	31	0	0	0	0	$1,787	$1,902	$0	$0	$0	$0	$58,969	$58,969	$0	$0	$0	$0	$838,090
Conservation, Water Loss Control - COUNTY-OTHER, ROCKWALL	2	3	0	0	0	0	$368	$245	$0	$0	$0	$0	$735	$735	$0	$0	$0	$0	$10,452
Conservation, Water Loss Control - COUNTY-OTHER, TARRANT	36	34	0	0	0	0	$324	$343	$0	$0	$0	$0	$11,678	$11,678	$0	$0	$0	$0	$165,969
Conservation, Water Loss Control - COUNTY-OTHER, WISE	20	20	0	0	0	0	$432	$432	$0	$0	$0	$0	$8,630	$8,630	$0	$0	$0	$0	$122,652
Grand Total	**29,052**	**34,134**	**12,599**	**11,091**	**9,288**	**7,151**	**$391,751**	**$338,334**	**$96,610**	**$72,513**	**$69,429**	**$70,543**							**$332,573,107**

Table H.11 F
Conservation Savings and Costs for Non-Municipal WUGs

Strategy Name	Savings Volumes in Acre Feet						Unit Costs in Dollars per Acre Foot						Annual Costs in Dollars						Captial Cost
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Conservation, Irrigation, Cooke	0	0	0	1	24	47	$0	$0	$0	$306	$306	$306	$0	$0	$0	$306	$7,339	$14,373	$0
Conservation, Irrigation, Ellis	1	19	37	47	56	64	$306	$306	$306	$306	$306	$306	$306	$5,810	$11,315	$14,373	$17,125	$19,571	$0
Conservation, Irrigation, Fannin	1	18	34	42	50	58	$306	$306	$306	$306	$306	$306	$306	$5,504	$10,397	$12,844	$15,290	$17,736	$0
Conservation, Irrigation, Wise	0	1	3	4	4	5	$0	$306	$306	$306	$306	$306	$0	$306	$917	$1,223	$1,223	$1,529	$0
Conservation, Mining, Wise	0	0	87	1,234	2,401	4,022	$0	$0	$370	$370	$370	$370	$0	$0	$32,149	$456,000	$887,242	$1,486,250	$0

Table H.12
New Water Treatment Plants

Entity	Water Management Strategy	County	Plant Size (MGD)	Capital Cost 2020	2030	2040	2050	2060	2070	Annual Cost	Unit Cost with Debt Service ($/1000 gal)	Unit Cost without Debt Service ($/1000 gal)
Denison	New 4 MGD Desalination WTP	Grayson	4.0		$36,137,000					$5,354,000	$7.33	$3.85
Walnut Creek SUD	New 7 MGD WTP-Eagle Mountain	Parker	7.0					$42,167,000		$5,154,450	$4.03	$1.71

Table H.13
Water Treatment Plant Exxpansions

Entity	Water Management Strategy	County	Plant Size (MGD)	Capital Cost 2020	2030	2040	2050	2060	2070	Annual Cost	Unit Cost with Debt Service ($/1000 gal)	Unit Cost without Debt Service ($/1000 gal)
Azle	4 MGD WTP Expansion	Tarrant	4.0		$25,410,000					$3,193,000	$4.37	$1.92
Benbrook	3 MGD WTP Expansion	Tarrant	3.0		$14,102,000					$1,848,000	$3.37	$1.56
Bridgeport	2 MGD WTP Expansion	Wise	2.0					$11,377,000		$1,540,000	$4.22	$2.02
Bridgeport	1 MGD WTP Expansion	Wise	1.0						$8,651,000	$1,232,000	$6.74	$3.41
Corsicana	New 8 MGD WTP, Halbert-Richland Chambers	Navarro	8.0		$47,722,000					$5,806,000	$7.95	$3.35
Corsicana	8 MGD WTP Expansion, Halbert-Richland Chambers-1	Navarro	8.0				$27,697,000			$3,387,000	$2.32	$0.98
Corsicana	8 MGD WTP Expansion, Halbert-Richland Chambers-2	Navarro	8.0						$27,697,000	$3,387,000	$2.32	$0.98
Denison	10 MGD Desalination WTP Expansion	Grayson	10.0				$82,213,000			$11,806,000	$6.46	$3.30
Denton	30 MGD WTP Plant Expansion- Ray Roberts	Denton	30.0		$150,569,000					$18,184,000	$3.32	$1.39
Denton	20 MGD WTP Plant Expansion- Ray Roberts	Denton	20.0				$104,736,000			$12,649,000	$3.46	$1.45
Denton	30 MGD WTP Plant Expansion- Ray Roberts	Denton	30.0					$150,569,000		$18,184,000	$3.32	$1.39
Denton	25 MGD WTP Plant Expansion-1	Denton	25.0					$127,652,000		$15,417,000	$3.38	$1.41
Denton	20 MGD WTP Plant Expansion-2	Denton	20.0						$104,736,000	$12,649,000	$3.46	$1.45
Ennis	6 MGD WTP Expansion	Ellis	6.0				$22,264,000			$2,771,000	$2.53	$1.10
Ennis	8 MGD WTP Expansion	Ellis	8.0					$47,735,000		$5,807,000	$3.97	$1.68
Ennis	16 MGD WTP Expansion	Ellis	16.0						$86,402,000	$10,435,000	$3.57	$1.49
Fort Worth	35 MGD WTP Expansion-Eagle Mountain	Tarrant	35.0		$173,564,000					$20,957,000	$3.28	$1.37
Fort Worth	23 MGD WTP Expansion-West Plant	Tarrant	23.0		$118,537,000					$14,313,000	$3.41	$1.42
Fort Worth	50 MGD WTP Expansion-Rolling Hills	Tarrant	50.0		$242,347,000					$29,263,000	$3.20	$1.34
Fort Worth	35 MGD WTP Expansion-West Plant	Tarrant	35.0			$173,564,000				$20,957,000	$3.28	$1.37
Fort Worth	30 MGD WTP Expansion-Eagle Mountain	Tarrant	30.0			$150,636,000				$18,189,000	$3.32	$1.39
Fort Worth	50 MGD WTP Expansion-General 1	Tarrant	50.0			$242,347,000				$29,263,000	$3.20	$1.34
Fort Worth	50 MGD WTP Expansion-General 2	Tarrant	50.0				$242,347,000			$29,263,000	$3.20	$1.34
Fort Worth	50 MGD WTP Expansion-General 3	Tarrant	50.0					$242,347,000		$29,263,000	$3.20	$1.34
Fort Worth	50 MGD WTP Expansion-General 4	Tarrant	50.0					$242,347,000		$29,263,000	$3.20	$1.34
Fort Worth	50 MGD WTP Expansion-General 5	Tarrant	50.0						$242,347,000	$29,263,000	$3.20	$1.34
Fort Worth	50 MGD WTP Expansion-General 6	Tarrant	50.0						$242,347,000	$29,263,000	$3.20	$1.34
Gainesville	5 MGD WTP Expansion-1	Cooke	5.0				$30,985,000			$3,846,000	$4.21	$1.82
Gainesville	5 MGD WTP Expansion-2	Cooke	5.0						$30,985,000	$3,846,000	$4.21	$1.82
Lewisville	6 MGD WTP Expansion-1	Denton	6.0		$36,568,000					$4,500,000	$4.11	$1.76
Lewisville	6 MGD WTP Expansion-2	Denton	6.0			$22,264,000				$2,771,000	$2.53	$1.10
Lewisville	6.5 MGD WTP Expansion	Denton	6.5				$23,626,000			$2,926,000	$2.46	$1.06
Mabank	3 MGD WTP Expansion	Kaufman	3.0	$19,817,000						$2,539,000	$4.63	$2.09
Mabank	5 MGD WTP Expansion	Kaufman	5.0					$30,984,000		$3,846,000	$4.21	$1.82
Mansfield	15 MGD WTP Expansion	Tarrant	15.0		$44,021,000					$5,313,000	$1.94	$0.81
Mansfield	35 MGD WTP Expansion	Tarrant	35.0					$87,389,000		$10,545,000	$1.65	$0.69
Mansfield	20 MGD WTP Expansion	Tarrant	20.0					$54,863,000		$6,621,000	$1.81	$0.76
Midlothian*	Expand Tayman WTP to 20 MGD	Ellis	8.0	$46,259,000						$677,000	$0.93	$0.20
Midlothian*	Expand Auger WTP to 16 MGD	Ellis	4.0	$7,498,000						$677,000	$0.93	$0.20
Midlothian*	Expand Auger WTP to 24 MGD	Ellis	8.0	$24,798,000						$2,021,000	$1.38	$0.19
Midlothian*	Expand Auger WTP to 32 MGD	Ellis	8.0			$24,798,000				$2,021,000	$1.38	$0.19
Parker County SUD	3.5 MGD WTP Desal Expansion-BRA supply	Parker	3.5			$32,308,000				$4,817,000	$7.53	$3.98
Rockett Special Utility District	10 MGD WTP Expansion at Sokoll-1	Ellis	10.0		$58,903,000					$7,114,000	$3.89	$1.63
Rockett Special Utility District	10 MGD WTP Expansion at Sokoll-2	Ellis	10.0					$58,903,000		$7,114,000	$3.89	$1.63
Rockett Special Utility District	3 MGD WTP Expansion at Sokoll	Ellis	3.0						$14,095,000	$1,848,000	$3.37	$1.56
Runaway Bay	3 MGD WTP Expansion-1	Wise	3.0	$19,823,000						$2,539,000	$4.63	$2.09
Runaway Bay	3 MGD WTP Expansion-2	Wise	3.0						$19,823,000	$2,539,000	$4.63	$2.09
Sherman	10 MGD WTP Expansion (desal)-1	Grayson	10.0	$82,213,000						$11,806,000	$6.46	$3.30

Entity	Water Management Strategy	County	Plant Size (MGD)	Capital Cost 2020	2030	2040	2050	2060	2070	Annual Cost	Unit Cost with Debt Service ($/1000 gal)	Unit Cost without Debt Service ($/1000 gal)
Sherman	10 MGD WTP Expansion (desal)-2	Grayson	10.0				$82,213,000			$11,806,000	$6.46	$3.30
Sherman	10 MGD WTP Expansion (desal)-3	Grayson	10.0					$82,213,000		$11,806,000	$6.46	$3.30
Sherman	20 MGD WTP Expansion (desal)	Grayson	20.0						$149,002,000	$21,559,000	$5.90	$3.03
Walnut Creek SUD	6 MGD WTP Expansion	Parker	6.0	$36,582,000						$4,501,000	$4.11	$1.76
Waxahachie	8 MGD Expansion WTP-Howard Rd	Ellis	8.0				$47,735,000			$5,807,000	$3.97	$1.68
Waxahachie	12 MGD Expansion WTP-Howard Rd	Ellis	12.0						$68,069,000	$8,221,000	$3.75	$1.57
Weatherford	8 MGD WTP Expansion	Parker	8.0	$47,753,000						$5,808,000	$3.97	$1.68
Weatherford	14 MGD WTP Expansion	Parker	14.0				$77,267,000			$9,330,000	$3.65	$1.52
Weatherford	18 MGD WTP Expansion	Parker	18.0					$95,609,000		$11,545,000	$3.51	$1.47
West Wise SUD	1.5 MGD WTP Expansion	Wise	1.5				$10,015,000			$1,386,000	$5.06	$2.49
Wise County WSD	9 MGD WTP Expansion	Wise	9.0	$53,339,000						$6,462,000	$3.93	$1.65

Note: If an expansion capacity was over 50% of the existing plant capacity, that expansion was costed using the "New Treatment Plant" unit costs.
*Midlothian provided detailed cost estimates.

Table H.14 New Wells

Entity	Project Name	Project Yield (Ac Ft/Yr)	Year	Capital Cost	Annual Cost	Unit Cost with Debt Service ($/1000 gal)	Unit Cost without Debt Service ($/1000 gal)	Well Dept (ft) (Drilled)	Peak Capacity (gpm)	Quantity (number of wells)
Municipal Wells										
Argyle WSC	New Well(s) in Trinity Aquifer	250	2020	$2,955,000	$329,000	$4.03	$1.48	959	130	3
Arledge Ridge WSC	New Well(s) in Woodbine Aquifer	350	2040	$4,537,000	$542,000	$4.75	$1.95	1,644	196	3
Anna	New Well(s) in Woodbine Aquifer	200	2020	$2,846,000	$333,000	$5.11	$2.04	1,644	196	2
Athens	Expanded Groundwater Supply	200	2020	$2,573,000	$218,000	$3.34	$0.57	800	250	1
Athens	New Well(s) in Carrizo-Wilcox Aquifer	2,000	2020	$15,151,000	$1,885,000	$2.89	$1.26	800	250	10
Bells	New Well(s) in Woodbine Aquifer	55	2030	$822,000	$106,000	$5.91	$2.68	745	115	1
Black Rock WSC	New Well(s) in Trinity Aquifer	154	2050	$2,259,000	$261,000	$5.20	$2.03	1,467	125	2
Bolivar WSC	New Well(s) in Trinity Aquifer	250	2020	$2,955,000	$329,000	$4.03	$1.48	959	130	3
County-Other, Denton	New Well(s) in Trinity Aquifer	504	2020	$5,387,000	$623,000	$3.80	$1.49	959	130	5
County-Other, Denton	New Well(s) in Woodbine Aquifer	817	2020	$8,554,000	$984,000	$3.69	$1.43	959	130	8
Cross Timbers WSC	New Well(s) in Trinity Aquifer	250	2020	$2,955,000	$329,000	$4.03	$1.48	959	130	3
Desert WSC	New Well(s) in Woodbine Aquifer	112	2070	$1,469,000	$182,000	$4.98	$2.14	1,665	190	1
Dogwood Estates	New Well(s) in Carrizo-Wilcox Aquifer	144	2040	$1,296,000	$166,000	$3.55	$1.60	514	107	2
Dorchester	New Well(s) in Trinity Aquifer	90	2020	$1,845,000	$186,000	$6.33	$1.90	2,195	225	1
Eustace	New Well(s) in Carrizo-Wilcox	150	2050	$1,469,000	$176,000	$3.60	$1.48	274	81	3
Gunter	New Well(s) in Trinity Aquifer	50	2020	$1,835,000	$170,000	$10.41	$2.48	2,195	225	1
Justin	New Well(s) in Trinity Aquifer	244	2020	$2,377,000	$282,000	$3.54	$1.44	1,006	204	2
Krum	New Well(s) in Trinity Aquifer	202	2020	$1,805,000	$222,000	$3.38	$1.45	959	130	2
Lakeside	New Well(s) in Trinity Aquifer	80	2020	$1,413,000	$148,000	$5.69	$1.87	341	43	3
Navarro Mills WSC	New Well(s) in Woodbine Aquifer	8	2050	$1,247,000	$102,000	$38.94	$5.29	1,603	140	1
Northwest Grayson County WCID 1	New Well(s) in Trinity Aquifer	247	2020	$2,730,000	$337,000	$4.18	$1.80	1,214	235	2
County-Other, Parker	New Well(s) in Trinity Aquifer	235	2020	$2,157,000	$259,000	$3.39	$1.40	335	88	4
Pelican Bay	New Well(s) inTrinity Aquifer	24	2020	$529,000	$44,000	$5.57	$0.81	600	30	1
Pilot Point	New Well(s) in Trinity Aquifer	313	2020	$4,127,000	$450,000	$4.41	$1.56	1,543	164	3
Pink Hill WSC	New Well(s) in Woodbine Aquifer	124	2030	$1,088,000	$150,000	$3.72	$1.83	1,083	161	1
Pink Hill WSC	New Well(s) in Trinity Aquifer	124	2030	$1,088,000	$150,000	$3.72	$1.83	1,083	161	1
Pleasant Grove WSC	New Well(s) in Carrizo-Wilcox Aquifer	26	2070	$600,000	$61,000	$7.23	$2.25	423	85	1
South Freestone County WSC	New Well(s) in Carrizo-Wilcox Aquifer	571	2020	$6,485,000	$740,000	$3.98	$1.52	578	91	8
Southwest Fannin County SUD	New Well(s) in Woodbine Aquifer	100	2030	$1,148,000	$137,000	$4.19	$1.71	1,156	171	1
Teague	New Well(s) in Carrizo-Wilcox Aquifer	822	2020	$3,978,000	$604,000	$2.26	$1.21	675	345	3
Trenton	New Well(s) in Woodbine Aquifer	25	2030	$1,341,000	$119,000	$14.55	$2.97	1,593	166	1
Verona SUD	New Well(s) in Woodbine Aquifer	286	2030	$2,163,000	$334,000	$3.58	$1.95	1,936	382	1
White Shed WSC	New Well(s) in Woodbine Aquifer	676	2030	$6,299,000	$803,000	$3.64	$1.63	1,087	177	5
Non-Municipal Wells										
Manufacturing, Collin	New Well(s) in Woodbine Aquifer	78	2030	$437,000	$36,000	$1.43	$0.22	550	100	1
Irrigation, Fannin	New Well(s) in Trinity Aquifer	1,592	2020	$234,000	$49,000	$0.09	$0.06	55	382	6
Mining, Grayson	New Well(s) in Trinity Aquifer	100	2020	$806,000	$66,000	$2.04	$0.29	526	105	2
Livestock, Henderson	New Well(s) in Carrizo-Wilcox Aquifer	403	2020	$3,469,000	$298,000	$2.27	$0.41	523	36	14
Mining, Kaufman	New Well(s) in Nacatoch Aquifer	49	2040	$419,000	$37,000	$2.29	$0.45	500	100	1
Mining, Parker	New Well(s) in Trinity Aquifer	624	2030	$2,454,000	$211,000	$1.04	$0.19	335	88	9
Livestock, Tarrant	New Well(s) inTrinity Aquifer	75	2020	$584,000	$51,000	$2.09	$0.41	496	49	2
Manufacturing, Wise	New Well(s) in Trinity Aquifer	201	2020	$502,000	$44,000	$0.67	$0.13	119	69	4
Alternative WMSs										
Athens	Alternative - New Well(s) in Carrizo-Wilcox Aquifer	1,262	2020	$9,207,000	$1,171,000	$2.85	$1.27	800	250	7
MEN WSC	Alternative - RO of Brackish Groundwater	250	2020	$7,370,000	$1,084,000	$13.30	$6.94	1,603	140	3

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Gulf of Mexico Desalination***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Intake Pump Station (401.7 MGD)	$49,054,000
Intake Pipeline (144 in dia., 0.2 miles)	$1,658,000
Discharge Pipeline (96 in dia., 0.2 miles)	$857,000
Transmission Pipeline (132 in dia., 290 miles)	$2,788,314,000
Transmission Pump Station(s) & Storage Tank(s)	$208,251,000
Storage Tanks (Other Than at Booster Pump Stations)	$45,806,000
Conventional Water Treatment Plant at Gulf (400 MGD)	$1,273,758,000
Desalination Plant at Gulf (250 MGD)	$1,822,177,000
TOTAL COST OF FACILITIES	**$6,189,875,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,026,915,000
Environmental & Archaeology Studies and Mitigation	$12,589,000
Land Acquisition and Surveying (4573 acres)	$14,110,000
Interest During Construction (3% for 3 years with a 0.5% ROI)	$680,088,000
TOTAL COST OF PROJECT	**$8,923,577,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$485,187,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$28,678,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$5,655,000
Water Treatment Plant Costs	$362,490,000
Pumping Energy Costs (278707800 kW-hr @ 0.08 $/kW-hr)	$22,297,000
TOTAL ANNUAL COST	**$904,307,000**
Available Project Yield (acft/yr)	200,000
Annual Cost of Water ($ per acft), based on PF=1.5	$4,522
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$2,096
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$13.87
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$6.43
Note: One or more cost element has been calculated externally	
David Rivera/JSA	*2/21/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Dredging - Generic Strategy A

Cost based on ENR CCI 11170.28 for September 2018
and
a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Lake Bridgeport example	$1,652,833,550
AVERAGE COST OF DREDGING	**$1,652,834,000**
Interest During Construction (12 months)	$57,849,000
TOTAL COST OF PROJECT	**$1,710,683,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$93,012,000
Operation and Maintenance	
TOTAL ANNUAL COST	**$93,012,000**
Available Project Yield (acft/yr)	2,500
Annual Cost of Water ($ per acft)	$37,205
Annual Cost of Water After Debt Service ($ per acft)	$37,205
Annual Cost of Water ($ per 1,000 gallons)	$114.16
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$114.16
ADK	1/15/2020

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Dredging - Generic Strategy B

Cost based on ENR CCI 11170.28 for September 2018
and
a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Eagle Mountain Lake example	$1,047,958,000
AVERAGE COST OF DREDGING	**$1,047,958,000**
Interest During Construction (12 months)	$36,679,000
TOTAL COST OF PROJECT	**$1,084,637,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$58,973,000
Operation and Maintenance	
TOTAL ANNUAL COST	**$58,973,000**
Available Project Yield (acft/yr)	1,700
Annual Cost of Water ($ per acft)	$34,690
Annual Cost of Water After Debt Service ($ per acft)	$34,690
Annual Cost of Water ($ per 1,000 gallons)	$106.44
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$106.44
ADK	1/15/2020

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Dredging - Generic Strategy C

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Lake Hubbard example	$2,185,998,650
AVERAGE COST OF DREDGING	**$2,185,999,000**
Interest During Construction (12 months)	$76,510,000
TOTAL COST OF PROJECT	**$2,262,509,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$123,016,000
Operation and Maintenance	
TOTAL ANNUAL COST	**$123,016,000**
Available Project Yield (acft/yr)	3,360
Annual Cost of Water ($ per acft)	$36,612
Annual Cost of Water After Debt Service ($ per acft)	$36,612
Annual Cost of Water ($ per 1,000 gallons)	$112.34
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$112.34

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Aquifer Storage Recovery (ASR) - Generic Strategy

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Intake Pump Stations (178.5 MGD)	$107,007,000
Transmission Pipeline (102 in dia., 100 miles)	$748,661,000
Transmission Pump Station(s) & Storage Tank(s)	$42,139,000
Well Fields (Wells, Pumps, and Piping)	$113,547,000
Water Treatment Plant (178.5 MGD)	$584,157,000
TOTAL COST OF FACILITIES	**$1,595,511,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$520,996,000
Environmental & Archaeology Studies and Mitigation	$3,441,000
Land Acquisition and Surveying (987 acres)	$7,157,000
Interest During Construction (3% for 4 years with a 0.5% ROI)	$233,982,000
TOTAL COST OF PROJECT	**$2,361,087,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$128,375,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$8,639,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$3,687,000
Water Treatment Plant	$40,891,000
Pumping Energy Costs (353794110 kW-hr @ 0.08 $/kW-hr)	$28,304,000
TOTAL ANNUAL COST	**$209,896,000**
Available Project Yield (acft/yr)	50,000
Annual Cost of Water ($ per acft), based on PF=2	$4,198
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,630
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$12.88
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$5.00

David Rivera *Feb/08/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Wholesale Providers - Small Generic ASR*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (14 in dia., 1 miles)	$560,000
Primary Pump Stations (2.5 MGD)	$978,000
Well Fields (Wells, Pumps, and Piping)	$2,735,000
TOTAL COST OF FACILITIES	**$4,273,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,468,000
Environmental & Archaeology Studies and Mitigation	$80,000
Land Acquisition and Surveying (1.5 acres)	$58,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$162,000
TOTAL COST OF PROJECT	**$6,041,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$425,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$33,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$24,000
Pumping Energy Costs (4144114 kW-hr @ 0.08 $/kW-hr)	$332,000
TOTAL ANNUAL COST	**$814,000**
Available Project Yield (acft/yr)	2,500
Annual Cost of Water ($ per acft)	$326
Annual Cost of Water After Debt Service ($ per acft)	$156
Annual Cost of Water ($ per 1,000 gallons)	$1.00
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.48
SFK	*8/27/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU, TRWD, NTMWD and UTRWD - Joint Toledo Bend					
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018					
Item	*Estimated Costs for Facilities*	*DWU Share*	*TRWD Share*	*NTMWD Share*	*UTRWD Share*
CAPITAL COST					
Intake and Pump Stations	$544,467,000	$115,974,000	$141,002,000	$169,744,000	$117,747,000
Transmission Pipelines	$3,985,794,000	$1,167,347,000	$1,304,908,000	$937,529,000	$576,010,000
Transmission Pump Station(s) & Storage Tank(s)	$420,739,000	$148,625,000	$151,851,000	$78,829,000	$41,434,000
Pipeline Crossings	$44,470,000	$9,959,000	$11,753,000	$9,895,000	$12,863,000
TOTAL COST OF FACILITIES	**$4,995,470,000**	**$1,441,905,000**	**$1,609,514,000**	**$1,195,997,000**	**$748,054,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,546,902,000	$445,801,000	$497,497,000	$371,228,000	$232,376,000
Environmental & Archaeology Studies and Mitigation	$19,358,000	$4,994,000	$5,618,000	$4,715,000	$4,031,000
Land Acquisition and Surveying	$61,985,000	$12,885,000	$16,334,000	$11,008,000	$21,758,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$355,327,000	$104,808,000	$117,094,000	$80,994,000	$52,431,000
TOTAL COST OF PROJECT	**$6,979,042,000**	**$2,010,393,000**	**$2,246,057,000**	**$1,663,942,000**	**$1,058,650,000**
ANNUAL COST					
Debt Service (3.5 percent, 30 years)	$384,826,000	$109,308,000	$122,121,000	$94,097,000	$59,300,000
Operation and Maintenance					
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$41,479,000	$12,102,000	$13,528,000	$9,778,000	$6,071,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$21,198,000	$5,795,000	$6,421,000	$5,457,000	$3,525,000
Pumping Energy Costs (0.08 $/kW-hr)	$51,784,000	$14,619,000	$16,235,000	$13,035,000	$7,895,000
Purchase of Water ($128.06 $/acft)	$44,565,000	$12,806,000	$12,806,000	$12,806,000	$6,147,000
TOTAL ANNUAL COST	**$543,852,000**	**$154,630,000**	**$171,111,000**	**$135,173,000**	**$82,938,000**
Available Project Yield (acft/yr), based on a Peaking Factor of 1.5	348,000	100,000	100,000	100,000	50,000
Annual Cost of Water until Amortized ($ per acft)	$1,563	$1,546	$1,711	$1,352	$1,659
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$4.80	$4.74	$5.25	$4.15	$5.09
Annual Cost of Water after Amortization ($ per acft)	$457	$453	$490	$411	$473
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$1.40	$1.39	$1.50	$1.26	$1.45
Note: One or more cost element has been calculated externally					
JSA					*1/24/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
NTMWD, TRWD, and UTRWD - Marvin Nichols (328)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*	*TRWD Share*	*NTMWD Share*	*UTRWD Share*
CAPITAL COST				
Dam and Reservoir	$356,418,000	$165,306,000	$165,306,000	$25,806,000
Transmission Pipeline	$1,814,399,000	$1,002,875,000	$633,142,000	$178,382,000
Intake Pump Station(s)	$104,460,000	$44,594,000	$49,945,000	$9,921,000
Transmission Pump Station(s) & Storage Tank(s)	$232,690,000	$156,997,000	$52,557,000	$23,136,000
Discharge Structure	$4,783,000	$1,116,000	$1,456,000	$2,211,000
Conflicts	$167,047,000	$77,476,000	$77,476,000	$12,095,000
TOTAL COST OF FACILITIES	**$2,679,797,000**	**$1,448,364,000**	**$979,882,000**	**$251,551,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$904,377,000	$483,298,000	$337,816,000	$83,263,000
Environmental & Archaeology Studies and Mitigation	$445,929,000	$208,937,000	$204,082,000	$32,910,000
Land Acquisition and Surveying	$195,958,000	$93,023,000	$88,428,000	$14,507,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$241,417,000	$127,016,000	$92,728,000	$21,673,000
TOTAL COST OF PROJECT	**$4,467,478,000**	**$2,360,638,000**	**$1,702,936,000**	**$403,904,000**
ANNUAL COST				
Debt Service (3.5 percent, 30 years)	$223,524,000	$119,363,000	$83,603,000	$20,558,000
Reservoir Debt Service (3.5 percent, 40 years)	$24,338,000	$11,288,000	$11,288,000	$1,762,000
Operation and Maintenance				
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$18,144,000	$10,029,000	$6,331,000	$1,784,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$8,429,000	$5,040,000	$2,563,000	$826,000
Dam and Reservoir (1.5% of Cost of Facilities)	$7,796,000	$3,616,000	$3,616,000	$564,000
Pumping Energy Costs (0.08 $/kW-hr)	$32,596,000	$18,675,000	$11,059,000	$2,862,000
TOTAL ANNUAL COST	**$314,827,000**	**$168,011,000**	**$118,460,000**	**$28,356,000**
Available Project Yield (acft/yr)	361,200	167,524	167,524	26,152
Annual Cost of Water until Amortized ($ per acft)	$872	$1,003	$707	$1,084
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$2.67	$3.08	$2.17	$3.33
Annual Cost of Water after Amortization ($ per acft)	$185	$223	$141	$231
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.57	$0.68	$0.43	$0.71

Note: One or more cost element has been calculated externally

AGG

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *NTMWD, TRWD, UTRWD, DWU and Irving - Marvin Nichols (328)* *Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018*						
Item	***Estimated Costs for Facilities***	***TRWD Share***	***DWU Share***	***NTMWD Share***	***UTRWD Share***	***Irving Share***
CAPITAL COST						
Dam and Reservoir	$356,419,000	$113,937,000	$84,306,000	$113,937,000	$25,806,000	$18,433,000
Transmission Pipeline	$1,816,924,000	$742,834,000	$448,823,000	$473,531,000	$114,403,000	$37,333,000
Intake Pump Station(s)	$104,460,000	$30,958,000	$27,020,000	$34,675,000	$6,887,000	$4,920,000
Transmission Pump Station(s) & Storage Tank(s)	$265,181,000	$120,484,000	$58,901,000	$38,291,000	$15,014,000	$32,491,000
Discharge Structure	$4,912,000	$1,003,000	$1,852,000	$1,456,000	$472,000	$129,000
Conflicts	$167,049,000	$53,401,000	$39,513,000	$53,401,000	$12,095,000	$8,639,000
TOTAL COST OF FACILITIES	**$2,714,945,000**	**$1,062,617,000**	**$660,415,000**	**$715,291,000**	**$174,677,000**	**$101,945,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$916,552,000	$353,049,000	$222,226,000	$244,950,000	$59,556,000	$36,771,000
Environmental & Archaeology Studies and Mitigation	$446,349,000	$144,700,000	$105,749,000	$141,134,000	$32,073,000	$22,693,000
Land Acquisition and Surveying	$196,057,000	$65,518,000	$45,387,000	$62,376,000	$13,593,000	$9,183,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$244,048,000	$92,295,000	$58,983,000	$66,878,000	$16,045,000	$9,847,000
TOTAL COST OF PROJECT	**$4,517,951,000**	**$1,718,179,000**	**$1,092,760,000**	**$1,230,629,000**	**$295,944,000**	**$180,439,000**
ANNUAL COST						
Debt Service (3.5 percent, 30 years)	$226,268,000	$87,225,000	$54,831,000	$60,716,000	$14,688,000	$8,808,000
Reservoir Debt Service (3.5 percent, 40 years)	$24,338,000	$7,780,000	$5,757,000	$7,780,000	$1,762,000	$1,259,000
Operation and Maintenance						
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$18,168,000	$7,428,000	$4,488,000	$4,735,000	$1,144,000	$373,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$9,241,000	$3,786,000	$2,148,000	$1,824,000	$548,000	$935,000
Dam and Reservoir (1.5% of Cost of Facilities)	$7,795,000	$2,492,000	$1,844,000	$2,492,000	$564,000	$403,000
Pumping Energy Costs (0.08 $/kW-hr)	$50,350,000	$18,675,000	$11,226,000	$11,059,000	$2,862,000	$6,528,000
TOTAL ANNUAL COST	**$336,160,000**	**$127,386,000**	**$80,294,000**	**$88,606,000**	**$21,568,000**	**$18,306,000**
Available Project Yield (acft/yr)	361,200	115,465	85,437	115,465	26,152	18,680
Annual Cost of Water until Amortized ($ per acft)	$931	$1,103	$940	$767	$825	$980
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$2.86	$3.39	$2.88	$2.35	$2.53	$3.01
Annual Cost of Water after Amortization ($ per acft)	$237	$280	$231	$174	$196	$441
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.73	$0.86	$0.71	$0.53	$0.60	$1.35

Note: One or more cost element has been calculated externally

AGG *1/24/2020*

Item	Estimated Costs for Facilities	TRWD Share	DWU Share	NTMWD Share	UTRWD Share	Irving Share
Cost Estimate Summary						
Water Supply Project Option						
September 2018 Prices						
NTMWD, TRWD, UTRWD, DWU and Irving - Marvin Nichols (313.5)						
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018						
CAPITAL COST						
Dam and Reservoir	$276,004,000	$88,800,000	$64,537,000	$88,800,000	$19,756,000	$14,111,000
Transmission Pipeline	$1,261,940,000	$523,500,000	$306,683,000	$332,102,000	$78,172,000	$21,483,000
Intake Pump Station(s)	$85,736,000	$25,409,000	$22,177,000	$28,459,000	$5,653,000	$4,038,000
Transmission Pump Station(s) & Storage Tank(s)	$210,807,000	$94,500,000	$44,130,000	$28,437,000	$11,249,000	$32,491,000
Discharge Structure	$2,532,000	$484,000	$891,000	$822,000	$227,000	$108,000
Conflicts	$71,340,000	$22,953,000	$16,681,000	$22,953,000	$5,106,000	$3,647,000
TOTAL COST OF FACILITIES	**$1,908,359,000**	**$755,646,000**	**$455,099,000**	**$501,573,000**	**$120,163,000**	**$75,878,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$604,827,000	$238,301,000	$143,950,000	$158,945,000	$38,148,000	$25,483,000
Environmental & Archaeology Studies and Mitigation	$361,837,000	$118,381,000	$84,843,000	$114,816,000	$25,675,000	$18,122,000
Land Acquisition and Surveying	$114,330,000	$39,568,000	$25,824,000	$36,427,000	$7,605,000	$4,906,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$164,414,000	$63,354,000	$39,034,000	$44,647,000	$10,538,000	$6,841,000
TOTAL COST OF PROJECT	**$3,153,767,000**	**$1,215,250,000**	**$748,750,000**	**$856,408,000**	**$202,129,000**	**$131,230,000**
ANNUAL COST						
Debt Service (3.5 percent, 30 years)	$156,469,000	$61,247,000	$37,202,000	$41,736,000	$9,916,000	$6,368,000
Reservoir Debt Service (3.5 percent, 40 years)	$12,924,000	$4,158,000	$3,022,000	$4,158,000	$925,000	$661,000
Operation and Maintenance						
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$12,620,000	$5,235,000	$3,067,000	$3,321,000	$782,000	$215,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$7,414,000	$2,998,000	$1,658,000	$1,422,000	$423,000	$913,000
Dam and Reservoir (1.5% of Cost of Facilities)	$4,140,000	$1,332,000	$968,000	$1,332,000	$296,000	$212,000
Pumping Energy Costs (0.08 $/kW-hr)	$50,350,000	$18,675,000	$11,226,000	$11,059,000	$2,862,000	$6,528,000
TOTAL ANNUAL COST	**$243,917,000**	**$93,645,000**	**$57,143,000**	**$63,028,000**	**$15,204,000**	**$14,897,000**
Available Project Yield (acft/yr)	235,200	75,672	54,996	75,672	16,835	12,025
Annual Cost of Water until Amortized ($ per acft)	$1,037	$1,238	$1,039	$833	$903	$1,239
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$3.18	$3.80	$3.19	$2.56	$2.77	$3.80
Annual Cost of Water after Amortization ($ per acft)	$317	$373	$308	$226	$259	$654
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.97	$1.15	$0.94	$0.69	$0.80	$2.01

Note: One or more cost element has been calculated externally

AGG *1/24/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
NTMWD, TRWD, and UTRWD - Wright Patman Reallocation

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities	TRWD Share	NTMWD Share	UTRWD Share
CAPITAL COST				
Dam and Reservoir	$163,336,000	$75,755,000	$75,755,000	$11,826,000
Transmission Pipeline	$820,001,000	$381,436,000	$364,535,000	$74,030,000
Intake Pump Station(s)	$53,194,000	$22,709,000	$25,434,000	$5,051,000
Transmission Pump Station(s) & Storage Tank(s)	$179,906,000	$86,351,000	$75,893,000	$17,662,000
Discharge Structure	$3,199,000	$712,000	$994,000	$1,493,000
TOTAL COST OF FACILITIES	**$1,219,636,000**	**$566,963,000**	**$542,611,000**	**$110,062,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$328,705,000	$152,851,000	$145,173,000	$30,681,000
Environmental & Archaeology Studies and Mitigation	$11,924,000	$5,724,000	$5,088,000	$1,112,000
Land Acquisition and Surveying	$8,166,000	$3,568,000	$3,804,000	$794,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$77,280,000	$35,934,000	$34,151,000	$7,195,000
TOTAL COST OF PROJECT	**$1,645,711,000**	**$765,040,000**	**$730,827,000**	**$149,844,000**
ANNUAL COST				
Debt Service (3.5 percent, 30 years)	$80,598,000	$37,477,000	$35,617,000	$7,504,000
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$8,200,000	$3,814,000	$3,646,000	$740,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$5,827,000	$2,726,000	$2,533,000	$568,000
Pumping Energy Costs (0.08 $/kW-hr)	$14,178,000	$7,382,000	$5,492,000	$1,304,000
TOTAL ANNUAL COST	**$108,803,000**	**$51,399,000**	**$47,288,000**	**$10,116,000**
Available Project Yield (acft/yr)	122,200	56,676	56,676	8,848
Annual Cost of Water until Amortized ($ per acft)	$890	$907	$834	$1,143
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$2.73	$2.78	$2.56	$3.51
Annual Cost of Water after Amortization ($ per acft)	$231	$246	$206	$295
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.71	$0.75	$0.63	$0.91

Note: One or more cost element has been calculated externally

AGG

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *NTMWD, TRWD, UTRWD, DWU and Irving - Wright Patman Reallocation*						
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018						
Item	***Estimated Costs for Facilities***	***TRWD Share***	***DWU Share***	***NTMWD Share***	***UTRWD Share***	***Irving Share***
CAPITAL COST						
Dam and Reservoir	$163,335,000	$52,214,000	$38,634,000	$52,214,000	$11,826,000	$8,447,000
Transmission Pipeline	$819,092,000	$284,609,000	$193,461,000	$272,131,000	$49,312,000	$19,579,000
Intake Pump Station(s)	$53,195,000	$15,753,000	$13,764,000	$17,663,000	$3,509,000	$2,506,000
Transmission Pump Station(s) & Storage Tank(s)	$179,906,000	$60,762,000	$46,955,000	$52,966,000	$11,968,000	$7,255,000
Discharge Structure	$3,208,000	$675,000	$1,211,000	$994,000	$309,000	$19,000
TOTAL COST OF FACILITIES	**$1,218,736,000**	**$414,013,000**	**$294,025,000**	**$395,968,000**	**$76,924,000**	**$37,806,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$328,435,000	$112,399,000	$79,714,000	$106,707,000	$20,319,000	$9,296,000
Environmental & Archaeology Studies and Mitigation	$11,915,000	$4,231,000	$2,863,000	$3,760,000	$730,000	$331,000
Land Acquisition and Surveying	$8,153,000	$2,533,000	$2,161,000	$2,665,000	$551,000	$243,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$77,215,000	$26,453,000	$18,707,000	$25,129,000	$4,768,000	$2,158,000
TOTAL COST OF PROJECT	**$1,644,454,000**	**$559,629,000**	**$397,470,000**	**$534,229,000**	**$103,292,000**	**$49,834,000**
ANNUAL COST						
Debt Service (3.5 percent, 30 years)	$80,531,000	$27,589,000	$19,510,000	$26,208,000	$4,973,000	$2,251,000
Operation and Maintenance						
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$8,192,000	$2,846,000	$1,935,000	$2,722,000	$493,000	$196,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$5,827,000	$1,913,000	$1,518,000	$1,766,000	$386,000	$244,000
Pumping Energy Costs (0.08 $/kW-hr)	$25,402,000	$7,382,000	$5,120,000	$5,492,000	$1,304,000	$6,104,000
TOTAL ANNUAL COST	**$119,952,000**	**$39,730,000**	**$28,083,000**	**$36,188,000**	**$7,156,000**	**$8,795,000**
Available Project Yield (acft/yr)	122,200	39,064	28,905	39,064	8,848	6,320
Annual Cost of Water until Amortized ($ per acft)	$982	$1,017	$972	$926	$809	$1,392
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$3.01	$3.12	$2.98	$2.84	$2.48	$4.27
Annual Cost of Water after Amortization ($ per acft)	$323	$311	$297	$255	$247	$1,035
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.99	$0.95	$0.91	$0.78	$0.76	$3.18
Note: One or more cost element has been calculated externally						
AGG						*1/24/2020*

Water Supply Project Option TRWD and DWU - IPL			
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018			
Item	**Estimated Costs for Facilities**	**TRWD Portion**	**DWU Portion**
CAPITAL COST			
LP1 Lake Palestine Pump Station (150 MGD)	$58,061,000	$0	$58,061,000
JRC1 Richland-Chambers Reservoir Pump Station (250 MGD)	$57,455,000	$57,455,000	$0
JB2 Booster Pump Station (347 MGD)	$66,244,000	$37,854,000	$28,390,000
JB2R Booster Reservoir (80 MG)	$12,550,000	$7,171,000	$5,379,000
JB3 Booster Pump Station Expansion (347 MGD)	$17,400,000	$9,943,000	$7,457,000
JB4 Booster Pump Station (197 MGD)	$51,377,000	$51,377,000	$0
Power Connection	$20,550,000	$12,729,000	$7,821,000
Transmission Pipeline Segment 19 (84 in dia., 42.3 miles)	$201,493,000	$0	$201,493,000
Transmission Pipeline Segment 16 (96 in dia., 12.3 miles)	$74,966,000	$74,966,000	$0
Transmission Pipeline Segment Section 9 (84 in dia., 10.6 miles)	$50,492,000	$50,492,000	$0
Transmission Pipeline Tunnel Segment Section 9 (120 in dia., 5 miles)	$70,180,000	$70,180,000	$0
TOTAL COST OF FACILITIES	**$680,768,000**	**$372,167,000**	**$308,601,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$218,413,000	$120,477,000	$97,936,000
Environmental & Archaeology Studies and Mitigation	$1,743,000	$646,000	$1,097,000
Land Acquisition and Surveying	$1,819,000	$854,000	$965,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$24,825,000	$13,589,000	$11,236,000
TOTAL COST OF PROJECT	**$927,568,000**	**$507,733,000**	**$419,835,000**
ANNUAL COST			
Debt Service (3.5 percent, 30 years)	$50,433,000	$27,606,000	$22,827,000
Operation and Maintenance			
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,097,000	$2,028,000	$2,069,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$6,777,000	$4,234,000	$2,543,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$35,149,000	$21,872,000	$13,277,000
TOTAL ANNUAL COST	**$96,456,000**	**$55,740,000**	**$40,716,000**
Available Project Average Capacity (acft/yr)	313,880	179,360	134,520
Annual Cost of Water ($ per acft)	$613.45	$311	$303
Annual Cost of Water After Debt Service ($ per acft)	$289.84	$156.86	$132.98
Annual Cost of Water ($ per 1,000 gallons)	$1.88	$0.95	$0.93
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.89	$0.48	$0.41
AG, JSA			*9/25/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD and Irving - Chapman Booster PS	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Piping, Valves, and Miscellaneous Equipment	$10,448,000
6 @ 4,000 HP Vertical Centrifugal Pump and associated Electrical and Instrumentation	$17,233,000
Storage Tanks (Other Than at Booster Pump Stations)	$1,595,000
Integration, Relocations, & Other	$2,339,000
TOTAL COST OF FACILITIES	**$31,615,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$10,543,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$1,160,000
TOTAL COST OF PROJECT	**$43,318,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$3,048,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$144,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$431,000
TOTAL ANNUAL COST	**$3,623,000**
Available Project Yield (acft/yr)	0
Annual Cost of Water ($ per acft)	$0
Annual Cost of Water After Debt Service ($ per acft)	$0
Annual Cost of Water ($ per 1,000 gallons)	$0.00
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.00
Note: No unit costs per yield because strategy has no yield.	
AGG	*8/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU and UTRWD - Joint Red River OCR			
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018			
Item	*Estimated Costs for Facilities*	*DWU Share*	*UTRWD Share*
CAPITAL COST			
Off-Channel Storage Reservoir	$149,628,000	$129,940,000	$19,688,000
Transmission Pipeline from Red River to Off-Channel Reservoir	$9,369,000	$8,136,000	$1,233,000
Red River Intake, Pump Station, and Channel Dam	$26,156,000	$22,714,000	$3,442,000
Transmision Pipeline from Off-Channel Reservoir to Lake Ray Roberts	$428,490,000	$372,110,000	$56,380,000
Off-Channel Reservoir Intake and Pump Station	$32,207,000	$27,969,000	$4,238,000
Transmission Pump Station and Storage Tank	$23,419,000	$20,338,000	$3,081,000
TOTAL COST OF FACILITIES	**$669,269,000**	**$581,207,000**	**$88,062,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$221,506,000	$192,360,000	$29,146,000
Environmental & Archaeology Studies and Mitigation	$6,179,000	$5,366,000	$813,000
Land Acquisition and Surveying	$14,912,000	$12,950,000	$1,962,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$51,592,000	$44,804,000	$6,788,000
TOTAL COST OF PROJECT	**$963,458,000**	**$836,687,000**	**$126,771,000**
ANNUAL COST			
Debt Service (3.5 percent, 30 years)	$42,220,000	$36,665,000	$5,555,000
Reservoir Debt Service (3.5 percent, 40 years)	$9,979,000	$8,666,000	$1,313,000
Operation and Maintenance			
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,379,000	$3,803,000	$576,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,698,000	$2,343,000	$355,000
Dam and Reservoir (1.5% of Cost of Facilities)	$2,244,000	$1,949,000	$295,000
Pumping Energy Costs (0.08 $/kW-hr)	$13,470,000	$11,698,000	$1,772,000
Sediment Dredging and Zebra Mussel Treatment	$5,398,000	$4,688,000	$710,000
TOTAL ANNUAL COST	**$80,388,000**	**$69,812,000**	**$10,576,000**
Available Project Yield (acft/yr)	114,000	99,000	15,000
Annual Cost of Water until Amortized ($ per acft)	$705	$705	$705
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$2.16	$2.16	$2.16
Annual Cost of Water after Amortization ($ per acft)	$247	$247	$247
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.76	$0.76	$0.76
Costs are indexed from Dallas Long Range Water Supply Plan, 2015			
AGG			*1/24/2020*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***TRWD - Aquifer Storage and Recovery Pilot***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
ASR Wells (Wells, Pumps, and Piping)	$3,515,000
Monitoring Wells	$1,625,000
TOTAL COST OF FACILITIES	**$5,140,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,799,000
Environmental & Archaeology Studies and Mitigation	$2,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$191,000
TOTAL COST OF PROJECT	**$7,132,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$502,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$51,000
Pumping Energy Costs (2446438 kW-hr @ 0.08 $/kW-hr)	$196,000
TOTAL ANNUAL COST	**$749,000**
Available Project Yield (acft/yr)	2,500
Annual Cost of Water ($ per acft)	$300
Annual Cost of Water After Debt Service ($ per acft)	$99
Annual Cost of Water ($ per 1,000 gallons)	$0.92
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.30
Note: One or more cost element has been calculated externally	
SFK	*8/23/2019*
This project will be conducted in two identical phases, each costing the same capital cost shown above.	

Water Supply Project Option *TRWD - Cedar Creek Wetlands*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Pump Stations, Bal Res & Outlet Facilities	$36,432,000
Raw Water Pipeline	$13,044,000
Cedar Creek Wetlands Sedimentation Basins and Wetland Cells	$48,371,000
Finished Water Pipeline	$39,400,000
TOTAL COST OF FACILITIES	**$137,247,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$45,414,000
Environmental & Archaeology Studies and Mitigation	$21,000,000
Land Acquisition and Surveying	$16,600,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$6,057,000
TOTAL COST OF PROJECT	**$226,318,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$12,305,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,008,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$911,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$12,718,000
TOTAL ANNUAL COST	**$26,942,000**
Available Project Yield (acft/yr)	88,059
Annual Cost of Water ($ per acft)	$305.95
Annual Cost of Water After Debt Service ($ per acft)	$166.22
Annual Cost of Water ($ per 1,000 gallons)	$0.94
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.51
JSA	*8/21/2019*

Water Supply Project Option TRWD - Cedar Creek Wetlands Expansion (Reuse from TRA Central WWTP)	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	*Estimated Costs for Facilities*
CAPITAL COST	
Pump Stations, Bal Res & Outlet Facilities	$24,823,357
Raw Water Pipeline	$8,887,678
Cedar Creek Wetlands Sedimentation Basins and Wetland Cells	$32,958,130
Finished Water Pipeline	$26,845,638
TOTAL COST OF FACILITIES	**$93,514,803**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$30,944,000
Environmental & Archaeology Studies and Mitigation	$14,308,589
Land Acquisition and Surveying	$11,310,599
Interest During Construction (3% for 1 years with a 0.5% ROI)	$4,127,000
TOTAL COST OF PROJECT	**$154,204,990**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$8,384,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$687,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$621,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$4,480,000
Purchase of Water	$24,830,000
TOTAL ANNUAL COST	**$39,002,000**
Available Project Yield (acft/yr)	60,000
Annual Cost of Water ($ per acft)	$650.03
Annual Cost of Water After Debt Service ($ per acft)	$510.30
Annual Cost of Water ($ per 1,000 gallons)	$1.99
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$1.57
JSA	*8/21/2019*

Table H.31

Cost Estimate Summary Water Supply Project Option September 2018 Prices TRWD - Tehuacana Reservoir	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Dam and Reservoir	$66,561,000
Pump Station at Tehuacana/R-C Channel	$1,407,000
Conflicts	$60,205,000
TOTAL COST OF FACILITIES	**$128,173,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$44,860,000
Environmental & Archaeology Studies and Mitigation	$76,134,000
Land Acquisition and Surveying	$51,495,000
Interest During Construction (3% for 3 years with a 0.5% ROI)	$24,806,000
TOTAL COST OF PROJECT	**$325,468,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$4,896,000
Reservoir Debt Service (3.5 percent, 40 years)	$11,024,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$602,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$35,000
Dam and Reservoir (1.5% of Cost of Facilities)	$998,000
Pumping Energy Costs (62144444 kW-hr @ 0.08 $/kW-hr)	$4,972,000
TOTAL ANNUAL COST	**$22,527,000**
Available Project Yield (acft/yr)	21,070
Annual Cost of Water ($ per acft)	$1,069
Annual Cost of Water After Debt Service ($ per acft)	$314
Annual Cost of Water ($ per 1,000 gallons)	$3.28
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.96
Base costs from the TRWD Integrated Water Supply Plan were used and indexed	*9/30/2019*

Cost Estimate Summary TRWD - Groundwater Fields E1B, 4, & 1A - Section 16 (Average Scenario) Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline Rural Segment E1B - E4 (36 in dia., 4.2 miles)	$6,989,000
Transmission Pipeline Rural Segment E4 - E1A (42 in dia., 8.3 miles)	$16,387,000
Transmission Pipeline Rural Segment E1A - Section 16 (54 in dia., 18.8 miles)	$47,730,000
E1A Pump Station (2854 HP)	$16,650,000
Well Field E1B	$16,366,000
Well Field E4	$10,742,000
Well Field E1A	$18,525,000
Ground Storage Tank (3MG)	$2,175,000
TOTAL COST OF FACILITIES	**$135,564,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel and Contingencies (30% for pipes & 35% for all other facilities)	$43,785,000
Environmental & Archaeology Studies and Mitigation	$1,493,000
Land Acquisition and Surveying	$645,000
Interest During Construction (2 years)	$9,982,000
TOTAL COST OF PROJECT	**$191,469,000**
ANNUAL COST	
Debt Service (3.5% for 20 years)	$13,472,000
Electricity ($0.08 per kWh)	$3,624,000
Pump Station & Pipeline Operation & Maintenance	$2,290,000
Raw Water Purchase ($0.75/1,000 gal)	$6,110,000
TOTAL ANNUAL COST	**$25,496,000**
Available Project Yield (acft/yr)	32,000
Annual Cost of Water ($ per acft)	$797
Annual Cost of Water After Debt Service ($ per acft)	$376
Annual Cost of Water ($ per 1,000 gallons)	$2.45
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$1.15
KW	

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***TRWD - Infrastructure to Deliver to Customers***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Balancing Reservoir	$17,541,000
Transmission Pipeline	$853,970,000
Intake Pump Station	$229,784,000
Transmission Pump Stations and Storage Tanks	$133,181,000
Integration, Relocations, & Other	$35,083,000
TOTAL COST OF FACILITIES	**$1,269,559,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$401,647,000
Environmental & Archaeology Studies and Mitigation	$2,257,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$92,042,000
TOTAL COST OF PROJECT	**$1,765,505,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$94,634,000
Reservoir Debt Service (3.5 percent, 40 years)	$1,170,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$9,168,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$8,381,000
Dam and Reservoir (1.5% of Cost of Facilities)	$263,000
Pumping Energy Costs (240476943 kW-hr @ 0.08 $/kW-hr)	$19,238,000
TOTAL ANNUAL COST	**$132,854,000**
Available Project Yield (acft/yr)	179,000
Annual Cost of Water ($ per acft), based on PF=1.5	$742
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$207
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$2.28
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.64
Note: One or more cost element has been calculated externally	
AGG	*9/25/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
DWU - Main Stem Balancing Reservoir

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Off-Channel Storage (Conservation Pool 300000 acft, 4337 acres)	$233,689,000
Transmission Pipeline (120 and 90 in dia., 40 miles)	$190,971,000
102 MGD Intake, Pump Station and Channel Dam	$24,606,000
Transmission Pump Station(s)	$51,481,000
Relocations	$6,737,000
TOTAL COST OF FACILITIES	**$507,484,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$168,071,000
Environmental & Archaeology Studies and Mitigation	$19,018,000
Land Acquisition and Surveying (4584 acres)	$19,425,000
Interest During Construction (3% for 3 years with a 0.5% ROI)	$58,906,000
TOTAL COST OF PROJECT	**$772,904,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$21,193,000
Reservoir Debt Service (3.5 percent, 40 years)	$17,941,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,977,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,902,000
Dam and Reservoir (1.5% of Cost of Facilities)	$3,505,000
Pumping Energy Costs (154800000 kW-hr @ 0.08 $/kW-hr)	$12,384,000
TOTAL ANNUAL COST	**$58,902,000**
Available Project Yield (acft/yr)	95,829
Annual Cost of Water ($ per acft)	$615
Annual Cost of Water After Debt Service ($ per acft)	$206
Annual Cost of Water ($ per 1,000 gallons)	$1.89
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.63

Note: One or more cost element has been calculated externally

Base costs were indexed from the DWU Long Range Water Supply Plan *7/30/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***DWU - Connect from IPL to Bachman***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (84 in dia., 30.5 miles)	$161,923,000
TOTAL COST OF FACILITIES	**$161,923,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$48,577,000
Environmental & Archaeology Studies and Mitigation	$36,507,000
Land Acquisition and Surveying (552 acres)	$42,575,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$7,964,000
TOTAL COST OF PROJECT	**$297,546,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$16,178,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,619,000
TOTAL ANNUAL COST	**$17,797,000**
Available Project Yield (acft/yr)	105,370
Annual Cost of Water ($ per acft), based on PF=1	$169
Annual Cost of Water After Debt Service ($ per acft), based on PF=1	$15
Annual Cost of Water ($ per 1,000 gallons), based on PF=1	$0.52
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1	$0.05
Note: One or more cost element has been calculated externally	
Base costs were indexed from the DWU Long Range Water Supply Plan	*7/30/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU - Neches Run-of-River	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Supply Pipeline (72 and 66 in dia., 42 miles)	$138,000,000
Intake Pump Station and Channel Dam	$31,282,000
Transmission Pump Station(s) & Storage Tank(s)	$17,782,000
TOTAL COST OF FACILITIES	**$187,064,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$58,572,000
Environmental & Archaeology Studies and Mitigation	$1,270,000
Land Acquisition and Surveying (266 acres)	$1,071,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$13,639,000
TOTAL COST OF PROJECT	**$261,616,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$14,224,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,380,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,227,000
Pumping Energy Costs (55487500 kW-hr @ 0.08 $/kW-hr)	$4,439,000
Delivery through IPL	$7,894,000
TOTAL ANNUAL COST	**$29,164,000**
Available Project Yield (acft/yr)	47,250
Annual Cost of Water ($ per acft)	$617
Annual Cost of Water After Debt Service ($ per acft)	$316
Annual Cost of Water ($ per 1,000 gallons)	$1.89
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.97
Note: One or more cost element has been calculated externally	
Costs are indexed from the Dallas Long Range Water Supply Plan, 2015	*6/5/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU - Lake Columbia	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Dallas Portion of Dam and Reservoir (70%)	$39,422,000
Lake Columbia to Lake Palestine (54 in dia., 20 miles)	$49,737,000
Intake and Pump Stations	$18,091,000
Dallas Portion of Relocations (70%)	$79,904,000
TOTAL COST OF FACILITIES	**$187,154,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$63,017,000
Environmental & Archaeology Studies and Mitigation	$26,836,000
Land Acquisition and Surveying	$28,458,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$16,802,000
TOTAL COST OF PROJECT	**$322,267,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$11,297,000
Reservoir Debt Service (3.5 percent, 40 years)	$5,361,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,296,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$452,000
Dam and Reservoir (1.5% of Cost of Facilities)	$591,000
Pumping Energy Costs	$13,297,000
TOTAL ANNUAL COST	**$32,294,000**
Available Project Yield (acft/yr)	56,050
Annual Cost of Water ($ per acft)	$576
Annual Cost of Water After Debt Service ($ per acft)	$279
Annual Cost of Water ($ per 1,000 gallons)	$1.77
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.86
Note: One or more cost element has been calculated externally	
Costs were indexed from the Dalas Long Range Water Supply Plan, 2015	*6/5/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *DWU - Infrastructure to Treat and Deliver to Customers*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Terminal Storage Improvements	$77,182,000
Transmission Pipeline	$557,812,000
Pump Stations	$417,482,000
Water Treatment Plant Improvements	$590,556,000
TOTAL COST OF FACILITIES	**$1,643,032,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$547,171,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$60,232,000
TOTAL COST OF PROJECT	**$2,250,435,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$116,538,000
Reservoir Debt Service (3.5 percent, 40 years)	$5,013,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$5,578,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$10,437,000
Dam and Reservoir (1.5% of Cost of Facilities)	$1,158,000
TOTAL ANNUAL COST	**$138,724,000**
Available Project Yield (acft/yr)	346,292
Annual Cost of Water ($ per acft), based on PF=1	$401
Annual Cost of Water After Debt Service ($ per acft), based on PF=1	$50
Annual Cost of Water ($ per 1,000 gallons), based on PF=1	$1.23
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1	$0.15
Note: One or more cost element has been calculated externally	
Costs are indexed from the DWU Long Range Water Supply Plan, 2015	*10/1/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***DWU - Direct Reuse***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$22,447,000
Transmission Pump Station	$4,030,000
Storage Tanks (Other Than at Booster Pump Stations)	$1,862,000
Mobilization	$1,396,000
TOTAL COST OF FACILITIES	**$29,735,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$9,285,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$1,074,000
TOTAL COST OF PROJECT	**$40,094,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$2,180,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$257,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$101,000
Pumping Energy Costs (662500 kW-hr @ 0.08 $/kW-hr)	$53,000
TOTAL ANNUAL COST	**$2,591,000**
Available Project Yield (acft/yr)	2,501
Annual Cost of Water ($ per acft)	$1,036
Annual Cost of Water After Debt Service ($ per acft)	$164
Annual Cost of Water ($ per 1,000 gallons)	$3.18
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.50
Note: One or more cost element has been calculated externally	
Costs are from the Dallas Long Range Water Supply Plan, 2015	*7/30/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *DWU - Carrizo-Wilcox Groundwater Project*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$66,748,000
Transmission Pump Station(s) & Storage Tank(s)	$18,249,000
Well Fields (Wells, Pumps, and Piping)	$43,516,000
TOTAL COST OF FACILITIES	**$128,513,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$41,642,000
Environmental & Archaeology Studies and Mitigation	$4,512,000
Land Acquisition and Surveying (435 acres)	$1,361,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$9,682,000
TOTAL COST OF PROJECT	**$185,710,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$10,097,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,103,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$456,000
Pumping Energy Costs (26625000 kW-hr @ 0.08 $/kW-hr)	$2,130,000
Groundwater Leases and Delivery through Eastside Water Supply Pipeline	$3,633,000
TOTAL ANNUAL COST	**$17,419,000**
Available Project Yield (acft/yr)	30,000
Annual Cost of Water ($ per acft)	$581
Annual Cost of Water After Debt Service ($ per acft)	$244
Annual Cost of Water ($ per 1,000 gallons)	$1.78
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.75
Note: One or more cost element has been calculated externally	
Costs are indexed from the Dallas Long Range Water Supply Plan, 2015	*6/7/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
DWU - Sabine Conjunctive Use

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Off-Channel Reservoir	$332,665,000
Transmission Pipelines	$164,879,000
Intake, Pump Station and Channel Dam	$57,109,000
Transmission Pump Stations and Storage Tanks	$22,977,000
Well Fields (Wells, Pumps, and Piping)	$43,516,000
TOTAL COST OF FACILITIES	**$621,146,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$209,157,000
Environmental & Archaeology Studies and Mitigation	$7,561,000
Land Acquisition and Surveying (1,239 acres)	$4,343,000
Interest During Construction (3% for 3 years with a 0.5% ROI)	$69,483,000
TOTAL COST OF PROJECT	**$911,690,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$22,437,000
Reservoir Debt Service (3.5 percent, 40 years)	$23,369,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$2,084,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,002,000
Dam and Reservoir (1.5% of Cost of Facilities)	$4,990,000
Pumping Energy Costs (103850000 kW-hr @ 0.08 $/kW-hr)	$8,308,000
Purchase of Water (Groundwater Leasing and Delivery through Eastside Pipeline)	$7,441,000
TOTAL ANNUAL COST	**$70,631,000**
Available Project Yield (acft/yr)	104,200
Annual Cost of Water ($ per acft)	$678
Annual Cost of Water After Debt Service ($ per acft)	$238
Annual Cost of Water ($ per 1,000 gallons)	$2.08
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.73
Note: One or more cost element has been calculated externally	

Costs are indexed from the Dallas Long Range Water Supply Plan, 2015 *7/30/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU - Red River Off Channel Reservoir	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
CAPITAL COST	
Off-Channel Storage Reservoir	$149,628,000
Transmission Pipeline from Red River to Off-Channel Reservoir	$9,369,000
Red River Intake, Pump Station, and Channel Dam	$26,156,000
Transmision Pipeline from Off-Channel Reservoir to Lake Ray Roberts	$428,490,000
Off-Channel Reservoir Intake and Pump Station	$32,207,000
Transmission Pump Station and Storage Tank	$23,419,000
TOTAL COST OF FACILITIES	**$669,269,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$221,506,000
Environmental & Archaeology Studies and Mitigation	$6,179,000
Land Acquisition and Surveying (3,286 acres)	$14,912,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$51,592,000
TOTAL COST OF PROJECT	**$963,458,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$42,220,000
Reservoir Debt Service (3.5 percent, 40 years)	$9,979,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,379,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,698,000
Dam and Reservoir (1.5% of Cost of Facilities)	$2,244,000
Pumping Energy Costs (168375000 kW-hr @ 0.08 $/kW-hr)	$13,470,000
Sediment Dredging and Zebra Mussel Treatment	$5,398,000
TOTAL ANNUAL COST	**$80,388,000**
Available Project Yield (acft/yr)	114,000
Annual Cost of Water ($ per acft)	$705
Annual Cost of Water After Debt Service ($ per acft)	$247
Annual Cost of Water ($ per 1,000 gallons)	$2.16
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.76
Note: One or more cost element has been calculated externally	
Costs from Dallas Long Range Water Supply Plan	*6/7/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU - Lake Texoma Desalination	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipelines (90 in dia., 25 miles, 30 in dia., 27 miles, 84 in dia., 55 miles)	$371,901,000
Intake Pump Station (181.1 MGD)	$64,502,000
Transmission Pump Station(s) & Storage Tank(s)	$5,542,000
Water Treatment Plant (Level 3 & Level 4: RO treatment @ 90.6 MGD, peak + a new conventional plant @ 181.1 MGD, peak)	$492,919,000
TOTAL COST OF FACILITIES	**$934,864,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$308,607,000
Environmental & Archaeology Studies and Mitigation	$3,461,000
Land Acquisition and Surveying (1,914 acres)	$9,743,000
Interest During Construction (3% for 5 years with a 0.5% ROI)	$172,793,000
TOTAL COST OF PROJECT	**$1,429,468,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$77,508,000
Reservoir Debt Service (3.5 percent, 40 years)	$184,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,719,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,751,000
Water Treatment Plant	$66,324,000
Pumping Energy Costs (112537500 kW-hr @ 0.08 $/kW-hr)	$9,003,000
Purchase of Water (146000 acft/yr @ 25.7271943048576 $/acft)	$3,756,000
TOTAL ANNUAL COST	**$162,245,000**
Available Project Yield (acft/yr)	146,000
Annual Cost of Water ($ per acft)	$1,111
Annual Cost of Water After Debt Service ($ per acft)	$579
Annual Cost of Water ($ per 1,000 gallons)	$3.41
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$1.78
Note: One or more cost element has been calculated externally	
Costs indexed are from the Dallas Long Range Water Supply Plan, 2015	*7/30/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices DWU - Parallel IPL - Additional Capacity from Lake Palestine	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (78 in dia., 110.1 miles)	$487,254,000
Intake Pump Stations (93.7 MGD)	$43,960,000
Transmission Pump Station(s) & Storage Tank(s)	$39,648,000
Pipeline Crossings	$1,500,000
TOTAL COST OF FACILITIES	**$572,362,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$175,889,000
Environmental & Archaeology Studies and Mitigation	$2,769,000
Land Acquisition and Surveying (677 acres)	$2,758,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$41,458,000
TOTAL COST OF PROJECT	**$795,236,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$43,238,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,938,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,964,000
Pumping Energy Costs (41676863 kW-hr @ 0.08 $/kW-hr)	$3,334,000
TOTAL ANNUAL COST	**$53,474,000**
Available Project Yield (acft/yr)	70,000
Annual Cost of Water ($ per acft), based on PF=1.5	$764
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$146
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$2.34
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.45
Note: One or more cost element has been calculated externally	
Kristal Williams	*7/31/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD - Additional Measures to Access Full Lavon Yield	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Construction Costs (Horizontal floating pumps)	$23,932,000
TOTAL COST OF FACILITIES	**$23,932,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$8,376,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$445,000
TOTAL COST OF PROJECT	**$32,753,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$2,305,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$239,000
Pumping Energy Costs (0 kW-hr @ 0.08 $/kW-hr)	$764,000
TOTAL ANNUAL COST	**$3,308,000**
Available Project Yield (acft/yr)	13,361
Annual Cost of Water ($ per acft)	$248
Annual Cost of Water After Debt Service ($ per acft)	$75
Annual Cost of Water ($ per 1,000 gallons)	$0.76
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.23
Note: One or more cost element has been calculated externally	
AGG	*8/26/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***NTMWD - Bois d'Arc Lake***	
Cost based on ENR CCI 11170.28 for September 2018 and ***a PPI of 201.9 for September 2018***	
Item	***Estimated Costs for Facilities***
CAPITAL COST*	
Dam and Reservoir	$253,372,000
Transmission Pipeline	$195,373,000
Raw Water Intake and Pump Station	$101,915,000
Conflicts	$125,130,000
TOTAL COST OF FACILITIES	**$675,790,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$70,227,000
Environmental & Archaeology Studies and Mitigation	$193,621,000
TOTAL COST OF PROJECT	**$939,638,000**
ANNUAL COST	
Debt Service (3.1 percent, 30 years)	$48,561,000
Operation and Maintenance	$6,581,000
Pumping Energy Costs (0.08 $/kW-hr)	$3,449,000
TOTAL ANNUAL COST	**$58,591,000**
Available Project Yield (acft/yr)	120,200
Annual Cost of Water ($ per acft)	$487
Annual Cost of Water After Debt Service ($ per acft)	$83
Annual Cost of Water ($ per 1,000 gallons)	$1.49
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.25
**Costs are from the NTMWD Contract Summary Master (2019)*	*6/6/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***NTMWD - Texoma Blend Phase I***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (72 in dia., 25 miles & 84 in dia., 8 miles)	$133,822,000
Texoma Pump Station Improvements	$28,537,000
Power Improvements	$5,847,000
TOTAL COST OF FACILITIES	**$168,206,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$52,181,000
Environmental & Archaeology Studies and Mitigation	$850,000
Land Acquisition and Surveying (157 acres)	$861,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$6,108,000
TOTAL COST OF PROJECT	**$228,206,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$12,408,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,397,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$713,000
Pumping Energy Costs (18498146 kW-hr @ 0.08 $/kW-hr)	$1,480,000
TOTAL ANNUAL COST	**$15,998,000**
Available Project Yield (acft/yr)	40,000
Annual Cost of Water ($ per acft), based on PF=1.5	$400
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$90
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$1.23
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.28
AGG	*8/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
NTMWD - Texoma Blend Phase II

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Pipeline from Texoma to Leonard WTP (78 in dia., 40 miles)	$177,022,000
Texoma Pump Station Improvements	$77,429,000
TOTAL COST OF FACILITIES	**$254,451,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$80,207,000
Environmental & Archaeology Studies and Mitigation	$1,050,000
Land Acquisition and Surveying (252 acres)	$1,388,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$9,271,000
TOTAL COST OF PROJECT	**$346,367,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$18,832,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,829,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,788,000
Pumping Energy Costs (59643320 kW-hr @ 0.08 $/kW-hr)	$4,771,000
TOTAL ANNUAL COST	**$27,220,000**
Available Project Yield (acft/yr)	80,000
Annual Cost of Water ($ per acft), based on PF=1.5	$340
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$105
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$1.04
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.32

AGG *8/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD - Oklahoma Water	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (66 in dia., 42.9 miles)	$145,248,000
Intake Pump Stations (67 MGD)	$43,965,000
Pipeline Crossings	$1,720,000
TOTAL COST OF FACILITIES	**$190,933,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$59,478,000
Environmental & Archaeology Studies and Mitigation	$1,098,000
Land Acquisition and Surveying (265 acres)	$1,458,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$6,957,000
TOTAL COST OF PROJECT	**$259,924,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$14,132,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,470,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,099,000
Pumping Energy Costs (24644955 kW-hr @ 0.08 $/kW-hr)	$1,972,000
Purchase of Water (50000 acft/yr @ 50 $/acft)	$2,500,000
TOTAL ANNUAL COST	**$21,173,000**
Available Project Yield (acft/yr)	50,000
Annual Cost of Water ($ per acft), based on PF=1.5	$423
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$141
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$1.30
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.43
AGG	*8/22/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *NTMWD - Additional Lavon Watershed Reuse*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
Permitting	$300,000
TOTAL COST OF PROJECT	**$300,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$22,000
Nutrient Removal	$32,398,000
TOTAL ANNUAL COST	**$32,420,000**
Available Project Yield (acft/yr)	38,780
Annual Cost of Water ($ per acft)	$836
Annual Cost of Water After Debt Service ($ per acft)	$835
Annual Cost of Water ($ per 1,000 gallons)	$2.57
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$2.56
Note: One or more cost element has been calculated externally	
AGG	*8/25/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
NTMWD - Expanded Main Stem Pump Station and Wetland Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Sedimentation Basins and Wetland Cells	$42,972,000
Pump Station to Wetlands (54 in dia., 17 miles)	$38,087,000
Intake Pump Stations (51.2 MGD)	$37,753,000
Wetlands to Delivery Point (54 in dia., 18 miles)	$43,554,000
Primary Pump Stations (43.5 MGD)	$28,417,000
Reject Return (12 in dia., 18.7 miles)	$9,305,000
Primary Pump Stations (2.3 MGD)	$1,324,000
Two Water Treatment Plants (45.8 MGD and 22.9 MGD)	$221,264,000
TOTAL COST OF FACILITIES	**$424,959,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$144,188,000
Environmental & Archaeology Studies and Mitigation	$15,087,000
Land Acquisition and Surveying (1945 acres)	$9,027,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$32,630,000
TOTAL COST OF PROJECT	**$625,891,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$29,537,000
Reservoir Debt Service (3.5 percent, 40 years)	$3,870,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$919,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,720,000
Dam and Reservoir (1.5% of Cost of Facilities)	$645,000
Water Treatment Plant	$22,274,000
Pumping Energy Costs (31961746 kW-hr @ 0.08 $/kW-hr)	$2,557,000
TOTAL ANNUAL COST	**$61,522,000**
Available Project Yield (acft/yr)	37,510
Annual Cost of Water ($ per acft), based on PF=1.3	$1,640
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.3	$750
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.3	$5.03
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.3	$2.30
Note: One or more cost element has been calculated externally	
JSA	*9/16/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***NTMWD - Treatment and Distribution (CIP)***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$1,580,404,000
Primary Pump Stations	$425,621,000
Water Treatment Plant	$1,667,920,000
TOTAL COST OF FACILITIES	**$3,673,945,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,206,861,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$134,223,000
TOTAL COST OF PROJECT	**$5,015,029,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$272,674,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$15,804,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$10,641,000
Water Treatment Plant	$73,581,000
TOTAL ANNUAL COST	**$372,700,000**
Available Project Yield (acft/yr)	737,986
Annual Cost of Water ($ per acft)	$505
Annual Cost of Water After Debt Service ($ per acft)	$136
Annual Cost of Water ($ per 1,000 gallons)	$1.55
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.42
Note: One or more cost element has been calculated externally	
AGG	*1/0/1900*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD - Fannin County Water Supply Project	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline	$67,425,000
Primary Pump Stations	$19,938,000
Storage Tanks (Other Than at Booster Pump Stations)	$8,862,000
TOTAL COST OF FACILITIES	**$96,225,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$30,308,000
Environmental & Archaeology Studies and Mitigation	$1,828,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,530,000
TOTAL COST OF PROJECT	**$131,891,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$9,280,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$763,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$498,000
Pumping Energy Costs (3219817 kW-hr @ 0.08 $/kW-hr)	$258,000
Purchase of Water (9941 acft/yr @ 905.87 $/acft)	$9,005,000
TOTAL ANNUAL COST	**$19,804,000**
Available Project Yield (acft/yr)	9,941
Annual Cost of Water ($ per acft), based on PF=2	$1,992
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,059
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$6.11
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$3.25
AGG	*1/21/2020*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD - Lake O' the Pines	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$296,700,000
Intake Pump Station	$41,422,000
Transmission Pump Stations	$72,232,000
Storage Tanks	$6,986,000
TOTAL COST OF FACILITIES	**$417,340,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$131,234,000
Environmental & Archaeology Studies and Mitigation	$2,276,000
Land Acquisition and Surveying (336 acres)	$1,846,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$15,200,000
TOTAL COST OF PROJECT	**$567,896,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$30,877,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,113,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,651,000
Pumping Energy Costs (58127342 kW-hr @ 0.08 $/kW-hr)	$4,650,000
Purchase of Water (50000 acft/yr @ 97.7553 $/acft)	$4,888,000
TOTAL ANNUAL COST	**$46,179,000**
Available Project Yield (acft/yr)	50,000
Annual Cost of Water ($ per acft), based on PF=1.5	$924
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$306
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$2.83
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.94
AGG	*8/20/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *NTMWD - Texoma Desalination at Leonard (Alternate)*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Raw Pipeline	$290,119,000
Miscellaneous Pump Station(s) & Storage Tank(s)	$31,110,000
Intake Pump Stations (60 MGD)	$36,810,000
Transmission Pump Station(s) & Storage Tank(s)	$18,607,000
Desalination Facility at Leonard	$234,319,000
TOTAL COST OF FACILITIES	**$610,965,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$199,332,000
Environmental & Archaeology Studies and Mitigation	$379,000
Land Acquisition and Surveying (85 acres)	$23,980,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$45,907,000
TOTAL COST OF PROJECT	**$880,563,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$47,877,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$2,936,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,076,000
Water Treatment Plant	$28,423,000
Pumping Energy Costs (81537256 kW-hr @ 0.08 $/kW-hr)	$6,523,000
TOTAL ANNUAL COST	**$87,835,000**
Available Project Yield (acft/yr) based on Treatment Losses	33,630
Annual Cost of Water ($ per acft)	$2,612
Annual Cost of Water After Debt Service ($ per acft)	$1,188
Annual Cost of Water ($ per 1,000 gallons)	$8.01
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$3.65
Note: One or more cost element has been calculated externally	
AG	*10/1/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
NTMWD - Groundwater	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline to Tawakoni WTP (60 in dia., 97.7 miles)	$279,353,000
Transmission Pump Station(s) & Storage Tank(s)	$23,681,000
Transmission Pipeline (60 in dia., 17.3 miles)	$43,445,000
Transmission Pump Station(s) & Storage Tank(s)	$8,567,000
Well Fields (Wells, Pumps, and Piping)	$79,698,000
Storage Tanks (Other Than at Booster Pump Stations)	$8,743,000
TOTAL COST OF FACILITIES	**$443,487,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$139,081,000
Environmental & Archaeology Studies and Mitigation	$2,944,000
Land Acquisition and Surveying (1416 acres)	$5,264,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$16,247,000
TOTAL COST OF PROJECT	**$607,023,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$33,005,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,112,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$806,000
Pumping Energy Costs (116343798 kW-hr @ 0.08 $/kW-hr)	$9,308,000
Purchase of Water (42000 acft/yr @ 48.87765 $/acft)	$2,053,000
TOTAL ANNUAL COST	**$49,284,000**
Available Project Yield (acft/yr)	42,000
Annual Cost of Water ($ per acft), based on PF=1.25	$1,173
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.25	$388
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.25	$3.60
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.25	$1.19
Note: One or more cost element has been calculated externally	
AGG	*6/7/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *NTMWD - George Parkhouse II (North)*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Dam and Reservoir	$246,348,000
Transmission Pipeline (84 in dia., 50 miles)	$203,583,000
Intake Pump Stations (114.1 MGD)	$47,298,000
Transmission Pump Station(s) & Storage Tank(s)	$37,869,000
Conflicts	$52,529,000
TOTAL COST OF FACILITIES	**$587,627,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$195,490,000
Environmental & Archaeology Studies and Mitigation	$69,618,000
Land Acquisition and Surveying	$28,964,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$48,494,000
TOTAL COST OF PROJECT	**$930,193,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$26,168,000
Reservoir Debt Service (3.5 percent, 40 years)	$21,021,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$2,561,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,129,000
Dam and Reservoir (1.5% of Cost of Facilities)	$3,695,000
Pumping Energy Costs (69634143 kW-hr @ 0.08 $/kW-hr)	$5,571,000
TOTAL ANNUAL COST	**$61,145,000**
Available Project Yield (acft/yr)	85,200
Annual Cost of Water ($ per acft), based on PF=1.5	$718
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$164
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$2.20
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.50
Note: One or more cost element has been calculated externally	
AGG	*6/12/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD - George Parkhouse I (South)	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Dam and Reservoir	$220,548,000
Transmission Pipeline (84 in dia., 50 miles)	$233,744,000
Intake Pump Stations (124.3 MGD)	$63,964,000
Conflicts	$51,007,000
TOTAL COST OF FACILITIES	**$569,263,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$187,555,000
Environmental & Archaeology Studies and Mitigation	$147,540,000
Land Acquisition and Surveying (32656 acres)	$211,161,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$61,355,000
TOTAL COST OF PROJECT	**$1,176,874,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$26,692,000
Reservoir Debt Service (3.5 percent, 40 years)	$32,121,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$2,848,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,599,000
Dam and Reservoir (1.5% of Cost of Facilities)	$3,308,000
Pumping Energy Costs (77993268 kW-hr @ 0.08 $/kW-hr)	$6,239,000
TOTAL ANNUAL COST	**$72,807,000**
Available Project Yield (acft/yr)	92,800
Annual Cost of Water ($ per acft), based on PF=1.5	$785
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.5	$151
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.5	$2.41
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.5	$0.46
Note: One or more cost element has been calculated externally	
AGG	*6/12/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Fort Worth - Village Creek Future Direct Reuse

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$40,106,000
Primary Pump Stations	$12,298,000
Water Treatment Plant	$15,136,000
TOTAL COST OF FACILITIES	**$67,540,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$21,634,000
Environmental & Archaeology Studies and Mitigation	$798,000
Land Acquisition and Surveying	$3,579,000
Interest During Construction (3% for 1.5 years with a 0.5% ROI)	$3,859,000
TOTAL COST OF PROJECT	**$97,410,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$6,854,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$447,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$332,000
Water Treatment Plant	$236,000
Pumping Energy Costs (3766800 kW-hr @ 0.08 $/kW-hr)	$301,000
TOTAL ANNUAL COST	**$8,170,000**
Available Project Yield (acft/yr)	3,920
Annual Cost of Water ($ per acft)	$2,084
Annual Cost of Water After Debt Service ($ per acft)	$336
Annual Cost of Water ($ per 1,000 gallons)	$6.40
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$1.03

Note: One or more cost element has been calculated externally

KW *9/25/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Fort Worth - Mary's Creek WRF Future Direct Reuse*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$14,769,000
Primary Pump Stations	$17,568,000
TOTAL COST OF FACILITIES	**$32,337,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$10,579,000
Environmental & Archaeology Studies and Mitigation	$294,000
Land Acquisition and Surveying	$1,520,000
Interest During Construction (3% for 1.5 years with a 0.5% ROI)	$1,846,000
TOTAL COST OF PROJECT	**$46,576,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$3,277,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$163,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$370,000
Pumping Energy Costs (3600360 kW-hr @ 0.08 $/kW-hr)	$288,000
TOTAL ANNUAL COST	**$4,098,000**
Available Project Yield (acft/yr)	4,245
Annual Cost of Water ($ per acft)	$965
Annual Cost of Water After Debt Service ($ per acft)	$193
Annual Cost of Water ($ per 1,000 gallons)	$2.96
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.59
Note: One or more cost element has been calculated externally	
KAW	*9/25/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Fort Worth, Flower Mound, Haslet, Roanoke, and Westlake - Alliance Corridor

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities	Fort Worth Share	Westlake Share	Roanoke Share	Haslet Share	Flower Mound Share
CAPITAL COST						
Transmission Pipeline	$14,008,000	$6,166,456	$5,045,283	$747,449	$1,121,174	$927,638
Primary Pump Stations	$1,275,000	$561,267	$459,219	$68,032	$102,049	$84,433
Water Treatment Plant	$446,000	$196,333	$160,636	$23,798	$35,697	$29,535
TOTAL COST OF FACILITIES	**$15,729,000**	**$6,924,057**	**$5,665,138**	**$839,280**	**$1,258,919**	**$1,041,606**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$4,805,000	$2,115,207	$1,730,624	$256,389	$384,583	$318,197
Environmental & Archaeology Studies and Mitigation	$188,000	$82,759	$67,712	$10,031	$15,047	$12,450
Land Acquisition and Surveying (0 acres)	$3,355,000	$1,476,903	$1,208,375	$179,019	$268,528	$222,175
Interest During Construction (3% for 1 years with a 0.5% ROI)	$663,000	$291,859	$238,794	$35,377	$53,065	$43,905
TOTAL COST OF PROJECT	**$24,740,000**	**$10,890,786**	**$8,910,643**	**$1,320,095**	**$1,980,143**	**$1,638,333**
ANNUAL COST						
Debt Service (3.5 percent, 20 years)	$1,741,000	$766,405	$627,059	$92,898	$139,346	$115,293
Operation and Maintenance						
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$140,000	$61,629	$50,424	$7,470	$11,205	$9,271
Intakes and Pump Stations (2.5% of Cost of Facilities)	$32,000	$14,087	$11,525	$1,707	$2,561	$2,119
Dam and Reservoir (1.5% of Cost of Facilities)	$0	$0	$0	$0	$0	$0
Water Treatment Plant	$60,000	$26,413	$21,610	$3,202	$4,802	$3,973
TOTAL ANNUAL COST	**$1,973,000**	**$868,534**	**$710,618**	**$105,277**	**$157,915**	**$130,656**
Available Project Yield (acft/yr)	8,396	3,696	3,024	448	672	556
Annual Cost of Water ($ per acft), based on PF=1	$235	$235	$235	$235	$235	$235
Annual Cost of Water After Debt Service ($ per acft), based on PF=1	$28	$28	$28	$28	$28	$28
Annual Cost of Water ($ per 1,000 gallons), based on PF=1	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1	$0.08	$0.08	$0.08	$0.08	$0.08	$0.08

Note: One or more cost element has been calculated externally

AGG *7/8/2019*

UTRWD - Lake Ralph Hall and Reuse

Probable Owner:	UTRWD				
Quantity:	39,220 Ac-Ft/Yr from Ralph Hall				
	60,399 Total, including Reuse				
Peak:	43.7 MGD		1.25 peaking factor		
CONSTRUCTION COSTS					
Dam, Reservoir and Conflicts	**Size**	**Quantity**	**Unit**	**Unit Price**	**Cost**
Mobilization and Demobilization		1	LS	$6,488,600	$6,489,000
Stormwater Prevention		1	LS	$1,260,200	$1,260,000
Care of Water		1	LS	$2,500,000	$2,500,000
Clearing & Grubbing		275	AC	$5,000	$1,375,000
Topsoil Stripping		250,000	CY	$7.00	$1,750,000
Excavation		3,870,000	CY	$3.75	$14,513,000
Roadways		17,160	LF	$325	$5,577,000
Bridges		15,800	LF	$2,173	$34,333,000
Utility Relocations		53,500	LF	$121	$6,474,000
Miscellaneous conflicts		1	LS	$3,000,000	$3,000,000
Embankment Random Fill		1,638,000	CY	$3.25	$5,324,000
Embankment Core		2,011,000	CY	$3.50	$7,039,000
Soil Bentonite Slurry Trench		355,000	SF	$10	$3,550,000
Soil Cement		125,000	CY	$105	$13,125,000
Filter Drains		244,000	CY	$76	$18,544,000
Miscellaneous drainage		1	LS	$2,300,000	$2,300,000
Principal Spillway Reinf. Conc.		4,590	CY	$750	$3,443,000
Roller Compacted Concrete		128,780	CY	$200	$25,756,000
Embankment Instrumentation		1	LS	$500,000	$500,000
Embankment seeding		1	LS	$600,000	$600,000
Engineering and Contingencies (35%)					$55,108,000
Subtotal for Dam, Reservoir and Conflicts					**$212,560,000**
TRANSMISSION FACILITIES					
Pipeline	**Size**	**Quantity**	**Unit**	**Unit Price**	**Cost**
Pipeline to Balancing Reservoir	54	168,960	LF	$367	$62,008,000
Right of Way Easements		168,960	LF	$16	$2,720,000
Engineering and Contingencies (30%)					$18,602,000
Subtotal of Pipeline					**$83,330,000**
Intake Pump Station					
Intake only		1	LS	$18,493,800	$18,494,000
Pump Station	4000 HP	1	LS		$23,780,000
Engineering and Contingencies (35%)					$14,796,000
Subtotal of Pump Station					**$57,070,000**
Balancing Reservoir					
Reservoir	20 MG	1	LS	$3,500,000.00	$3,500,000
Engineering and Contingencies (35%)					$1,225,000
Subtotal of Balancing Reservoir					**$4,725,000**
CONSTRUCTION TOTAL					**$357,685,000**
Land Acquisition					**$48,000,000**
Mitigation and permitting					**$38,881,730**
Interest During Construction (30 months)			30	months	**$24,591,000**

Continued	
TOTAL COST	**$469,158,000**
ANNUAL COSTS	**Cost**
Debt Service on reservoir and intake (3.5% for 40 years)	$17,846,000
Debt Service on Transmission system (3.5% for 30 years)	$4,788,000
Electricity ($0.08 per kWh)	$1,667,000
Operation & Maintenance	$3,223,000
Total Annual Costs	**$27,524,000**
UNIT COSTS (During Amortization)	
Per Acre-Foot (Ralph Hall and Reuse)	$456
Per 1,000 Gallons	$1.40
UNIT COSTS (After Amortization)	
Per Acre-Foot (Ralph Hall and Reuse)	$81
Per 1,000 Gallons	$0.25
UNIT COSTS (During Amortization)	
Per Acre-Foot (Ralph Hall only)	$702
Per 1,000 Gallons	$2.15
UNIT COSTS (After Amortization)	
Per Acre-Foot (Ralph Hall only)	$125
Per 1,000 Gallons	$0.38

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
UTRWD - Additional Direct Reuse

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (18 in dia., 10 miles)	$8,185,000
Primary Pump Stations (4 MGD)	$1,763,000
Transmission Pump Station(s) & Storage Tank(s)	$2,796,000
TOTAL COST OF FACILITIES	**$12,744,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$4,051,000
Environmental & Archaeology Studies and Mitigation	$299,000
Land Acquisition and Surveying (71 acres)	$384,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$481,000
TOTAL COST OF PROJECT	**$17,959,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,264,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$92,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$88,000
Pumping Energy Costs (1426446 kW-hr @ 0.08 $/kW-hr)	$114,000
Purchase of Water (2240 acft/yr @ 81.4626786883857 $/acft)	$182,000
TOTAL ANNUAL COST	**$1,740,000**
Available Project Yield (acft/yr)	2,240
Annual Cost of Water ($ per acft), based on PF=2	$777
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$213
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$2.38
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.65

AGG *8/12/2019*

UTRWD - Treatment and Distribution System Improvements

Amount	132,841	AF/Y
OWNER:	UTRWD	

Project	**Capital Budget**
2020 Projects	
Pipelines	
Parallel Pipeline from Taylor RTWP to Stone Hill Pump Station	$41,508,000
Pipeline from Harpool RWTP Raw Water North Storage to Harpool RWTP	$11,859,000
Upsizing/Realocation FM2181 24" Pipeline	$3,558,000
Customer Pipeline Extentions	$247,000
Aubrey Pipeline and Point of Delivery #1	$396,000
Pilot Point Pipeline	$124,000
All Other Facilities	
Southwest Pump Station - Phase I	$27,000,000
Harpool RWTP Phased Treatment Expansion, Phase 1	$44,473,000
Harpool RWTP Raw Water North Storage	$2,125,000
Harpool RWTP North Transmission Main, Phase 1	$6,819,000
Contingency Improvements	$494,000
Mustang Point of Delivery #3	$484,000
RTWS General Treatment and Pumping Improvements	$15,000,000
Replacement/Upsizing of Section of Phase 1A Water Pipeline	$7,700,000
Elevated Storage Tank	$7,000,000
Harpool In-Line Booster Pump Station @ NE Pipeline	$544,000
Pipeline Total	**$57,692,000**
All Other Facilities Total	**$111,639,000**

Continued	
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	**$56,381,250**
Interest During Construction (3% for 1 years with a 0.5% ROI)	**$6,207,087**
Total, 2020 Projects	**$231,919,000**
Annual Costs for 2020 Projects	
Debt Service (3.5% interest, 30 year bonds)	$12,610,000
Power (Estimated)	$2,666,667
Water Treatment Plant Operation (10 MGD Expansion)	$1,670,000
Operation and Maintenance	$1,287,000
Total Pre-Amortization	**$18,233,667**
Total After Amortization	**$5,623,667**
2030 Projects	
Pipelines	
Customer Pipeline Extensions	$445,000
Elevated Storage Tank and Pipeline	$10,000,000
RTWS Northeast Transmission Pipelines (Ph 1-6) and Loop	$96,700,000
RTWS Southwest Transmission Pipelines (Ph 1-4)	$46,000,000
All Other Facilities	
Harpool RWTP Expansion, Phase 2	$41,850,000
Harpool Membrane Replacement Project	$10,000,000
RTWS Ground Storage Tank and Pump Station	$20,000,000
Harpool Finished Water Pump Station No. 2	$17,000,000
Contingency Improvements	$8,005,000
StoneHill Improvments and GST	$14,824,000
Pipeline Total	**$153,145,000**
All Other Facilities Total	**$111,679,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	**$85,031,150**
Interest During Construction (3% for 1 years with a 0.5% ROI)	**$9,621,017**

Continued	
Total, 2030 Projects	**$359,476,000**
Annual Costs for 2030 Projects	
Debt Service (3.5% interest, 30 year bonds)	$19,545,000
Power (Estimated)	$3,101,333
Water Treatment Plant Operation	$1,670,000
Operation and Maintenance	$1,902,000
Total Pre-Amortization	**$26,218,333**
Total After Amortization	**$6,673,333**
2040 Projects	
Harpool Water Treatment Plant Water Quality Improvements	$59,400,000
Harpool Water Treatment Plant Expansion	$70,597,664
Taylor RWTP Expansion	$40,500,000
Other Pipeline Projects (estimated)	$20,000,000
Other Pump Station Projects (estimated)	$5,000,000
Engineering and Contingencies (30% for Pipelines, 35% for others)	$46,634,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$5,025,121
Total, 2040 Projects	**$247,157,000**
Annual Costs for 2040 Projects	
Debt Service (3.5% interest, 30 year bonds)	$13,438,000
Power (Estimated)	$3,101,333
Water Treatment Plant Operation	$6,032,321
Operation and Maintenance	$325,000
Total Pre-Amortization	**$22,896,654**
Total After Amortization	**$9,458,654**
2050 Projects	
Water Treatment Plant Expansion	$70,597,664
Other Pipeline Projects (estimated)	$20,000,000
Other Pump Station Projects (estimated)	$5,000,000
Engineering and Contingencies (30% for Pipelines, 35% for others)	$32,459,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,521,558
Total, 2050 Projects	**$131,578,000**
Annual Costs for 2050 Projects	
Debt Service (3.5% interest, 30 year bonds)	$7,154,000
Power (Estimated)	$2,053,333

Continued	
Water Treatment Plant Operation	$4,941,837
Operation and Maintenance	$325,000
Total During Amortization	**$14,474,170**
Total After Amortization	**$7,320,170**
2060 Projects	
Water Treatment Plant Expansion (40 MGD)	$70,597,664
Other Pipeline Projects (estimated)	$20,000,000
Other Pump Station Projects (estimated)	$5,000,000
Engineering and Contingencies (30% for Pipelines, 35% for others)	$32,459,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,521,558
Total, 2060 Projects	**$131,578,000**
Annual Costs for 2060 Projects	
Debt Service (3.5% interest, 30 year bonds)	$7,154,000
Power (Estimated)	$2,053,333
Water Treatment Plant Operation	$4,941,837
Operation and Maintenance	$325,000
Total During Amortization	**$14,474,170**
Total After Amortization	**$7,320,170**
TOTAL CAPITAL COST	**$1,101,708,000**
UNIT COSTS (During Amortization)**	
Per Acre-Foot	**$236**
Per 1,000 Gallons	**$0.72**
UNIT COSTS (After Amortization)**	
Per Acre-Foot	**$82**
Per 1,000 Gallons	**$0.25**

** These unit costs are the average of each decade's unit costs.

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
UTRWD - Oklahoma Water From Hugo to Lake Lewisville via Lake Chapman

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities
CAPITAL COST	
Chapman PS Expansion (UTRWD Share)	$6,247,000
Chapman Phase 1 Booster Pump Station (UTRWD Share)	$12,060,000
Chapman Phase 2 Booster Pump Station (UTRWD Share)	$4,132,000
Transmission Pipeline (30 in dia., 56 miles)	$58,062,000
Intake Pump Stations (11.2 MGD)	$18,067,000
Transmission Pump Stations (2)	$7,162,000
Red River Pipeline Crossings	$899,000
TOTAL COST OF FACILITIES	**$106,629,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$34,372,000
Environmental & Archaeology Studies and Mitigation	$1,507,000
Land Acquisition and Surveying (364 acres)	$1,725,000
Interest During Construction (3% for 1.5 years with a 0.5% ROI)	$5,950,000
TOTAL COST OF PROJECT	**$150,183,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$8,166,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$603,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,158,000
Pumping Energy Costs (15012314 kW-hr @ 0.08 $/kW-hr)	$1,201,000
Purchase of Water (10000 acft/yr @ 50 $/acft)	$500,000
TOTAL ANNUAL COST	**$11,628,000**
Available Project Yield (acft/yr)	10,000
Annual Cost of Water ($ per acft), based on PF=1.25	$1,163
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.25	$346
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.25	$3.57
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.25	$1.06

Jeremy Rice *6/5/2019*

Item	Estimated Costs for Facilities
Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
UTRWD - Additional Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
CAPITAL COST	
Additional Reuse	$1,169,000
TOTAL COST OF FACILITIES	**$1,169,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$409,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$47,000
TOTAL COST OF PROJECT	**$1,750,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$123,000
Operation and Maintenance	$12,000
Pumping Energy Costs (3961879 kW-hr @ 0.08 $/kW-hr)	$317,000
TOTAL ANNUAL COST	**$452,000**
Available Project Yield (acft/yr)	15,000
Annual Cost of Water ($ per acft)	$30
Annual Cost of Water After Debt Service ($ per acft)	$22
Annual Cost of Water ($ per 1,000 gallons)	$0.09
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.07
Note: One or more cost element has been calculated externally	
AGG	*8/12/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices UTRWD - Lake Texoma Blend with Sulphur Basin Water	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Terminal Storage (Conservation Pool 357 acft, 12 acres)	$10,066,000
Transmission Pipeline (54 in dia., 63.1 miles)	$145,718,000
Intake Pump Stations (44.6 MGD)	$40,277,000
TOTAL COST OF FACILITIES	**$196,061,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$61,336,000
Environmental & Archaeology Studies and Mitigation	$1,722,000
Land Acquisition and Surveying (782 acres)	$4,251,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$7,244,000
TOTAL COST OF PROJECT	**$270,614,000**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$13,944,000
Reservoir Debt Service (3.5 percent, 40 years)	$662,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,457,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,007,000
Dam and Reservoir (1.5% of Cost of Facilities)	$151,000
Pumping Energy Costs (5929862 kW-hr @ 0.08 $/kW-hr)	$474,000
Purchase of Water (25000 acft/yr @ 25 $/acft)	$625,000
TOTAL ANNUAL COST	**$18,320,000**
Available Project Yield (acft/yr)	25,000
Annual Cost of Water ($ per acft), based on PF=2	$733
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$149
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$2.25
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.46
AGG	*8/12/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices NTMWD and UTRWD - Joint George Parkhouse II (North)			
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018			
Item	Estimated Costs for Facilities	NTMWD Share	UTRWD Share
CAPITAL COST			
Dam and Reservoir	$246,348,000	$166,866,000	$79,482,000
Transmission Pipelines	$296,159,000	$137,899,000	$158,260,000
Intake Pump Station(s) & Storage Tank(s)	$47,298,000	$32,038,000	$15,260,000
Transmission Pump Station(s) & Storage Tank(s)	$57,945,000	$25,651,000	$32,294,000
Conflicts	$52,529,000	$35,581,000	$16,948,000
TOTAL COST OF FACILITIES	**$700,279,000**	**$398,035,000**	**$302,244,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$236,400,000	$132,417,000	$103,983,000
Environmental & Archaeology Studies and Mitigation	$70,917,000	$47,156,000	$23,761,000
Land Acquisition and Surveying	$33,965,000	$19,619,000	$14,346,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$58,247,000	$32,848,000	$25,399,000
TOTAL COST OF PROJECT	**$1,099,808,000**	**$630,075,000**	**$469,733,000**
ANNUAL COST			
Debt Service (3.5 percent, 30 years)	$36,340,000	$17,725,000	$18,615,000
Reservoir Debt Service (3.5 percent, 40 years)	$21,021,000	$14,239,000	$6,782,000
Operation and Maintenance			
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,513,000	$1,735,000	$1,778,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$3,002,000	$1,442,000	$1,560,000
Dam and Reservoir (1.5% of Cost of Facilities)	$3,695,000	$2,503,000	$1,192,000
Pumping Energy Costs (0.08 $/kW-hr)	$6,675,000	$3,774,000	$2,901,000
TOTAL ANNUAL COST	**$74,246,000**	**$41,418,000**	**$32,828,000**
Available Project Yield (acft/yr), based on a Peaking Factor of 1.5	85,200	57,700	27,500
Annual Cost of Water until Amortized ($ per acft)	$871	$718	$1,194
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$2.67	$2.20	$3.66
Annual Cost of Water after Amortization ($ per acft)	$198	$164	$270
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.61	$0.50	$0.83
Note: One or more cost element has been calculated externally			
AGG			*1/24/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
NTMWD and UTRWD - Joint George Parkhouse I (South)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities	NTMWD Share	UTRWD Share
CAPITAL COST			
Dam and Reservoir (Conservation Pool acft, acres)	$220,548,000	$149,390,000	$71,158,000
Transmission Pipelines	$326,320,000	$158,329,000	$167,991,000
Intake Pump Station(s) & Storage Tank(s)	$63,964,000	$43,327,000	$20,637,000
Transmission Pump Station(s) & Storage Tank(s)	$20,076,000	$0	$20,076,000
Conflicts	$51,007,000	$34,550,000	$16,457,000
TOTAL COST OF FACILITIES	**$681,915,000**	**$385,596,000**	**$296,319,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$228,465,000	$127,042,000	$101,423,000
Environmental & Archaeology Studies and Mitigation	$148,839,000	$99,938,000	$48,901,000
Land Acquisition and Surveying	$216,162,000	$143,032,000	$73,130,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$71,108,000	$41,559,000	$29,549,000
TOTAL COST OF PROJECT	**$1,346,489,000**	**$797,167,000**	**$549,322,000**
ANNUAL COST			
Debt Service (3.5 percent, 30 years)	$36,864,000	$18,080,000	$18,784,000
Reservoir Debt Service (3.5 percent, 40 years)	$32,121,000	$21,757,000	$10,364,000
Operation and Maintenance			
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,800,000	$1,929,000	$1,871,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,472,000	$1,083,000	$1,389,000
Dam and Reservoir (1.5% of Cost of Facilities)	$3,308,000	$2,241,000	$1,067,000
Pumping Energy Costs (0.08 $/kW-hr)	$7,541,000	$4,226,000	$3,315,000
TOTAL ANNUAL COST	**$86,106,000**	**$49,316,000**	**$36,790,000**
Available Project Yield (acft/yr), based on a Peaking Factor of 1.5	92,800	62,900	29,900
Annual Cost of Water until Amortized ($ per acft)	$928	$784	$1,230
Annual Cost of Water until Amortized ($ per 1,000 gallons)	$2.85	$2.41	$3.78
Annual Cost of Water after Amortization ($ per acft)	$184	$151	$256
Annual Cost of Water after Amortization ($ per 1,000 gallons)	$0.57	$0.46	$0.78

Note: One or more cost element has been calculated externally

AGG *1/24/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
GTUA - Collin-Grayson Municipal Alliance Parallel Water Transmission System

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Melissa to Anna (36 in dia., 4.4 miles)	$5,501,000
Transmission Pump Station(s) & Storage Tank(s)	$8,141,000
Anna to Weston (48 in dia., 7 miles)	$12,014,000
Transmission Pump Station(s) & Storage Tank(s)	$11,641,000
McKinney to Melissa (54 in dia., 12.5 miles)	$10,864,000
Primary Pump Stations (41.6 MGD)	$14,089,000
Transmission Pump Station(s) & Storage Tank(s)	$2,687,000
TOTAL COST OF FACILITIES	**$64,937,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$21,309,000
Environmental & Archaeology Studies and Mitigation	$671,000
Land Acquisition and Surveying (122 acres)	$663,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$2,409,000
TOTAL COST OF PROJECT	**$89,989,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$6,332,000
Reservoir Debt Service (3.5 percent, 40 years)	$0
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$352,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$744,000
Dam and Reservoir (1.5% of Cost of Facilities)	$0
Water Treatment Plant	$0
Advanced Water Treamtent Facility	$0
Pumping Energy Costs (6973379 kW-hr @ 0.08 $/kW-hr)	$558,000
Purchase of Water (23324 acft/yr @ 814.6275 $/acft)	$19,000,000
TOTAL ANNUAL COST	**$26,986,000**
Available Project Yield (acft/yr)	23,324
Annual Cost of Water ($ per acft), based on PF=2	$1,157
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$886
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$3.55
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$2.72

JSA_KW *8/1/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *GTUA - Connection from Sherman to CGMA*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (18 in dia., 28.6 miles)	$16,743,000
Primary Pump Stations (5 MGD)	$1,874,000
Transmission Pump Station(s) & Storage Tank(s)	$2,952,000
Pipeline Crossings	$175,000
TOTAL COST OF FACILITIES	**$21,744,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$6,765,000
Environmental & Archaeology Studies and Mitigation	$765,000
Land Acquisition and Surveying (183 acres)	$1,008,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$833,000
TOTAL COST OF PROJECT	**$31,115,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$2,189,000
Reservoir Debt Service (3.5 percent, 40 years)	$0
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$180,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$94,000
Dam and Reservoir (1.5% of Cost of Facilities)	$0
Water Treatment Plant	$0
Advanced Water Treamtent Facility	$0
Pumping Energy Costs (1639187 kW-hr @ 0.08 $/kW-hr)	$131,000
Purchase of Water (4484 acft/yr @ $/acft)	$0
TOTAL ANNUAL COST	**$2,594,000**
Available Project Yield (acft/yr)	4,484
Annual Cost of Water ($ per acft), based on PF=1.25	$579
Annual Cost of Water After Debt Service ($ per acft), based on PF=1.25	$90
Annual Cost of Water ($ per 1,000 gallons), based on PF=1.25	$1.78
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1.25	$0.28
Kristal Williams	*9/19/2019*

GTUA Regional Water System Phase 1 Summary	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Raw Water Transmission System	
Intake Pump Station Expansion	*$5,923,000*
Raw Water Pipelines	*$31,859,000*
Water Treatment Plant Expansions	$68,894,000
Treated Transmission System	
Treated Water Pipelines	*$57,057,000*
Booster Pump Stations	*$3,891,000*
Ground Storage Tanks	*$8,823,000*
TOTAL COST OF FACILITIES	**$176,447,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$57,311,000
Environmental & Archaeology Studies and Mitigation	$1,593,000
Land Acquisition and Surveying	$2,104,500
Interest During Construction (3% for 1 years with a 0.5% ROI)	$6,530,000
TOTAL COST OF PROJECT	**$243,985,500**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$13,265,000
Reservoir Debt Service (3.5 percent, 40 years)	$0
Operation and Maintenance	$9,908,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$5,383,000
TOTAL ANNUAL COST	**$28,556,000**
Available Project Yield (acft/yr)	15,332
Annual Cost of Water ($ per acft)	$1,863
Annual Cost of Water After Debt Service ($ per acft)	$997
Annual Cost of Water ($ per 1,000 gallons)	$5.72
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$3.06
AG	*5/16/2019*

GTUA Regional Water System *Phase 2 Summary*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Raw Water Transmission System	
Intake Pump Station Expansion	*$8,473,000*
Raw Water Pipelines	*$0*
Water Treatment Plant Expansions	$92,316,000
Treated Transmission System	
Treated Water Pipelines	*$51,019,000*
Booster Pump Stations	*$3,673,000*
Ground Storage Tanks	*$5,710,000*
TOTAL COST OF FACILITIES	**$161,191,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$53,866,000
Environmental & Archaeology Studies and Mitigation	$1,308,000
Land Acquisition and Surveying	$1,719,500
Interest During Construction (3% for 1 years with a 0.5% ROI)	$5,998,000
TOTAL COST OF PROJECT	**$224,082,500**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$12,184,000
Operation and Maintenance	$12,384,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$7,195,000
TOTAL ANNUAL COST	**$31,763,000**
Available Project Yield (acft/yr)	20,540
Annual Cost of Water ($ per acft)	$1,546
Annual Cost of Water After Debt Service ($ per acft)	$953
Annual Cost of Water ($ per 1,000 gallons)	$4.75
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$2.93
AG	*5/16/2019*

GTUA Grayson County Water Supply	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
New Water Treatment Plant	$273,486,000
Water Lines	$157,407,000
Ground Storage Tanks	$16,085,000
Intake	$14,843,000
Booster Pump Stations	$10,696,000
TOTAL COST OF FACILITIES	**$472,517,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$157,511,000
Environmental & Archaeology Studies and Mitigation	$6,099,000
Land Acquisition and Surveying	$4,228,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$17,610,000
TOTAL COST OF PROJECT	**$657,965,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$35,774,000
Operation and Maintenance	
Treatment Plant	$39,888,000
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,735,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$638,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$1,015,000
Purchase of Water (acft/yr @ $/acft)	$1,512,000
TOTAL ANNUAL COST	**$79,050,000**
Available Project Yield (acft/yr)	37,610
Annual Cost of Water ($ per acft), based on PF=2	$2,101.86
Annual Cost of Water After Debt Service ($ per acft), based on PF=1	$1,150.67
Annual Cost of Water ($ per 1,000 gallons), based on PF=1	$6.45
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=1	$3.53
AG	*5/16/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *BHP WSC - Additional Supplies from NTMWD*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (10 in dia., 4.5 miles)	$1,188,000
Primary Pump Stations (0.9 MGD)	$930,000
TOTAL COST OF FACILITIES	**$2,118,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$682,000
Environmental & Archaeology Studies and Mitigation	$138,000
Land Acquisition and Surveying (16 acres)	$87,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$84,000
TOTAL COST OF PROJECT	**$3,109,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$219,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$12,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$23,000
Pumping Energy Costs (44382 kW-hr @ 0.08 $/kW-hr)	$4,000
TOTAL ANNUAL COST	**$258,000**
Available Project Yield (acft/yr)	502
Annual Cost of Water ($ per acft), based on PF=2	$514
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$78
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.58
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.24
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Blue Ridge - Connect to and Purchase Water from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (16 in dia., 2.5 miles)	$1,164,000
Primary Pump Stations (4 MGD)	$1,007,000
Pipeline Crossings	$110,000
Storage Tanks (Other Than at Booster Pump Stations)	$1,297,000
Integration, Relocations, & Other	$522,000
TOTAL COST OF FACILITIES	**$4,100,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,371,000
Environmental & Archaeology Studies and Mitigation	$97,000
Land Acquisition and Surveying (13 acres)	$71,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$156,000
TOTAL COST OF PROJECT	**$5,795,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$408,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$31,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$25,000
Pumping Energy Costs (131791 kW-hr @ 0.08 $/kW-hr)	$11,000
Purchase of Water (2242 acft/yr @ 0 $/acft)	$0
TOTAL ANNUAL COST	**$475,000**
Available Project Yield (acft/yr)	2,242
Annual Cost of Water ($ per acft), based on PF=2	$212
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$30
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.65
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.09

Note: One or more cost element has been calculated externally

KAS (CP&Y); ADK (FNI) QC *9/9/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Blue Ridge - Increase Delivery Infrastructure from NTWMD-Phase 1

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (36 in dia., 2.5 miles)	$3,132,000
Primary Pump Stations (22 MGD)	$1,842,000
TOTAL COST OF FACILITIES	**$4,974,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,584,000
Environmental & Archaeology Studies and Mitigation	$87,000
Land Acquisition and Surveying (11 acres)	$60,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$185,000
TOTAL COST OF PROJECT	**$6,890,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$485,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$31,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$46,000
Pumping Energy Costs (552669 kW-hr @ 0.08 $/kW-hr)	$44,000
TOTAL ANNUAL COST	**$606,000**
Available Project Yield (acft/yr)	12,331
Annual Cost of Water ($ per acft), based on PF=2	$49
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$10
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.15
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.03
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Blue Ridge - Increase Delivery Infrastructure from NTWMD-Phase 2*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (36 in dia., 2.5 miles)	$3,132,000
Primary Pump Stations (21.9 MGD)	$1,829,000
TOTAL COST OF FACILITIES	**$4,961,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,580,000
Environmental & Archaeology Studies and Mitigation	$87,000
Land Acquisition and Surveying (11 acres)	$60,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$184,000
TOTAL COST OF PROJECT	**$6,872,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$483,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$31,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$46,000
Pumping Energy Costs (549561 kW-hr @ 0.08 $/kW-hr)	$44,000
TOTAL ANNUAL COST	**$604,000**
Available Project Yield (acft/yr)	12,284
Annual Cost of Water ($ per acft), based on PF=2	$49
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$10
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.15
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.03
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Celina - Connect to and Purchase Water from NTMWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (24 in dia., 9.4 miles)	$9,916,000
Primary Pump Stations (8.9 MGD)	$2,756,000
TOTAL COST OF FACILITIES	**$12,672,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$3,939,000
Environmental & Archaeology Studies and Mitigation	$260,000
Land Acquisition and Surveying (28 acres)	$151,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$469,000
TOTAL COST OF PROJECT	**$17,491,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,231,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$99,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$69,000
Pumping Energy Costs (630963 kW-hr @ 0.08 $/kW-hr)	$50,000
TOTAL ANNUAL COST	**$1,449,000**
Available Project Yield (acft/yr)	5,000
Annual Cost of Water ($ per acft), based on PF=2	$290
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$44
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.89
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.13
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices East Fork SUD - Increase Delivery Infrastructure from NTMWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$1,696,000
Storage Tanks (Other Than at Booster Pump Stations)	$2,193,000
TOTAL COST OF FACILITIES	**$3,889,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,276,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$143,000
TOTAL COST OF PROJECT	**$5,308,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$373,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$39,000
Purchase of Water (993 acft/yr @ 0 $/acft)	$0
TOTAL ANNUAL COST	**$412,000**
Available Project Yield (acft/yr)	993
Annual Cost of Water ($ per acft), based on PF=2	$415
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$39
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.27
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.12
Note: One or more cost element has been provided by East Fork SUD	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Frisco - Additional Reuse***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST*	
Transmission Pipeline	$39,823,000
Primary Pump Stations	$4,309,000
Other	$13,027,000
TOTAL COST OF FACILITIES	**$57,159,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$18,014,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$2,068,000
TOTAL COST OF PROJECT	**$77,241,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$5,435,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$528,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$108,000
TOTAL ANNUAL COST	**$6,071,000**
Available Project Yield (acft/yr)	1,379
Annual Cost of Water ($ per acft)	$4,402
Annual Cost of Water After Debt Service ($ per acft)	$461
Annual Cost of Water ($ per 1,000 gallons)	$13.51
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$1.42
**Costs are based on the City of Frisco's Reuse CIP (2017)*	
AGG	*1/8/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Melissa - Increase Delivery Infrastructure from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Construction Costs	$1,927,000
Easement, Surverying, and Legal	$6,840
Program Management	$47,060
TOTAL COST OF FACILITIES	**$1,980,900**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$674,000
Environmental & Archaeology Studies and Mitigation	$25,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$74,000
TOTAL COST OF PROJECT	**$2,753,900**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$192,000
Operation and Maintenance	$35,000
TOTAL ANNUAL COST	**$227,000**
Available Project Yield (acft/yr)	2,020
Annual Cost of Water ($ per acft), based on PF=2	$112
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$17
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.34
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.05

Note: One or more cost element has been provided by City of Melissa's Engineer

KAS (CP&Y); ADK (FNI) QC *12/23/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Parker - Increase Delivery Infrastructure from NTMWD***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pump Station(s) Upgrades	$2,394,000
TOTAL COST OF FACILITIES	**$2,394,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,649,000
Environmental & Archaeology Studies and Mitigation	$104,000
Land Acquisition and Surveying (13 acres)	$69,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$93,000
TOTAL COST OF PROJECT	**$4,309,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$480,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$63,000
TOTAL ANNUAL COST	**$590,000**
Available Project Yield (acft/yr)	1,669
Annual Cost of Water ($ per acft)	$354
Annual Cost of Water After Debt Service ($ per acft)	$66
Annual Cost of Water ($ per 1,000 gallons)	$1.08
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.20
Note: One or more cost element has been calculated externally	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Prosper - Increase Delivery Infrastructure from NTMWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline (30 in dia., 0.3 miles)	$289,000
Primary Pump Stations (11.8 MGD)	$1,245,000
Storage Tanks (Other Than at Booster Pump Stations)	$1,736,000
TOTAL COST OF FACILITIES	**$3,270,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,130,000
Environmental & Archaeology Studies and Mitigation	$42,000
Land Acquisition and Surveying (8 acres)	$42,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$124,000
TOTAL COST OF PROJECT	**$4,608,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$324,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$20,000
TOTAL ANNUAL COST	**$423,000**
Available Project Yield (acft/yr)	6,636
Annual Cost of Water ($ per acft), based on PF=2	$64
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$15
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.20
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.05
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Wylie Northeast SUD - Increase Delivery Infrastructure from NTMWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Storage Tanks (Other Than at Booster Pump Stations)	$2,222,000
Integration, Relocations, & Other (New NTMWD take point)	$1,909,000
TOTAL COST OF FACILITIES	**$4,131,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,446,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$154,000
TOTAL COST OF PROJECT	**$5,731,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$403,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$19,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$56,000
TOTAL ANNUAL COST	**$478,000**
Available Project Yield (acft/yr)	1,294
Annual Cost of Water ($ per acft), based on PF=2	$369
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$58
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.13
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.18
Note: One or more cost element has been provided by Wylie NE SUD's Engineer	
KAS (CP&Y); ADK (FNI) QC	*10/28/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Gainesville - Direct Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 3 miles)	$530,000
Primary Pump Stations (0.1 MGD)	$781,000
TOTAL COST OF FACILITIES	**$1,311,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$432,000
Environmental & Archaeology Studies and Mitigation	$100,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$55,000
TOTAL COST OF PROJECT	**$2,026,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$143,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$5,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$20,000
Pumping Energy Costs (16561 kW-hr @ 0.08 $/kW-hr)	$1,000
TOTAL ANNUAL COST	**$169,000**
Available Project Yield (acft/yr)	70
Annual Cost of Water ($ per acft), based on PF=2	$2,414
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$371
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$7.41
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$1.14
AGG	*12/10/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Gainesville - Increase Delivery Infrastructure	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$17,079,000
Transmission Pump Station(s) & Storage Tank(s)	$5,063,000
TOTAL COST OF FACILITIES	**$22,142,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$6,896,000
Environmental & Archaeology Studies and Mitigation	$1,342,000
Land Acquisition and Surveying (323 acres)	$1,778,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$885,000
TOTAL COST OF PROJECT	**$33,043,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$2,325,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$180,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$103,000
Pumping Energy Costs (1037804 kW-hr @ 0.08 $/kW-hr)	$83,000
Purchase of Water (1175 acft/yr @ $/acft)	$0
TOTAL ANNUAL COST	**$2,691,000**
Available Project Yield (acft/yr)	1,175
Annual Cost of Water ($ per acft)	$2,290
Annual Cost of Water After Debt Service ($ per acft)	$311
Annual Cost of Water ($ per 1,000 gallons)	$7.03
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.96
AGG	*12/10/2019*

Item	Estimated Costs for Facilities
Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Gainesville - Lake Texoma	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
CAPITAL COST	
Transmission Pipeline (24 in dia., 28.7 miles)	$23,307,000
Intake Pump Stations (10 MGD)	$12,525,000
Transmission Pump Station(s) & Storage Tank(s)	$10,145,000
Water Treatment Plant (10 MGD)	$42,425,000
TOTAL COST OF FACILITIES	**$88,402,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$29,776,000
Environmental & Archaeology Studies and Mitigation	$818,000
Land Acquisition and Surveying (194 acres)	$1,068,000
Interest During Construction (3% for 1.5 years with a 0.5% ROI)	$4,953,000
TOTAL COST OF PROJECT	**$125,017,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$8,796,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$259,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$502,000
Water Treatment Plant	$2,970,000
Pumping Energy Costs (2548182 kW-hr @ 0.08 $/kW-hr)	$204,000
TOTAL ANNUAL COST	**$12,731,000**
Available Project Yield (acft/yr)	5,605
Annual Cost of Water ($ per acft)	$2,271
Annual Cost of Water After Debt Service ($ per acft)	$702
Annual Cost of Water ($ per 1,000 gallons)	$6.97
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$2.15
AGG	*12/10/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Muenster - Connect to and Purchase Water from Gainesville*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (8 in dia., 7.8 miles)	$1,491,000
Transmission Pipeline (12 in dia., 3.8 miles)	$1,349,000
TOTAL COST OF FACILITIES	**$2,840,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$852,000
Environmental & Archaeology Studies and Mitigation	$338,000
Land Acquisition and Surveying (38 acres)	$208,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$117,000
TOTAL COST OF PROJECT	**$4,355,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$306,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$28,000
Pumping Energy Costs (149624 kW-hr @ 0.08 $/kW-hr)	$12,000
Purchase of Water (280 acft/yr @ 1473 $/acft)	$412,000
TOTAL ANNUAL COST	**$758,000**
Available Project Yield (acft/yr)	280
Annual Cost of Water ($ per acft), based on PF=2	$2,707
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,614
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$8.31
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$4.95
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Muenster - Develop Muenster Lake Supply*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (8 in dia., 2 miles)	$418,000
Intake Pump Stations (0.5 MGD)	$2,956,000
Water Treatment Plant (0.5 MGD)	$3,751,000
TOTAL COST OF FACILITIES	**$7,125,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,473,000
Environmental & Archaeology Studies and Mitigation	$76,000
Land Acquisition and Surveying (10 acres)	$56,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$268,000
TOTAL COST OF PROJECT	**$9,998,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$703,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$74,000
Water Treatment Plant	$375,000
Pumping Energy Costs (37450 kW-hr @ 0.08 $/kW-hr)	$3,000
TOTAL ANNUAL COST	**$1,159,000**
Available Project Yield (acft/yr)	280
Annual Cost of Water ($ per acft), based on PF=2	$4,139
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,629
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$12.70
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$5.00
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Glenn Heights - Increase Delivery Infrastructure from DWU	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (14 in dia., 0.7 miles)	$349,000
Primary Pump Stations (3.1 MGD)	$995,000
TOTAL COST OF FACILITIES	**$1,344,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$453,000
Environmental & Archaeology Studies and Mitigation	$42,000
Land Acquisition and Surveying (7 acres)	$36,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$52,000
TOTAL COST OF PROJECT	**$1,927,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$136,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$25,000
Pumping Energy Costs (200707 kW-hr @ 0.08 $/kW-hr)	$16,000
TOTAL ANNUAL COST	**$180,000**
Available Project Yield (acft/yr)	1,729
Annual Cost of Water ($ per acft), based on PF=2	$104
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$25
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.32
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.08
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Grand Prairie - Connect to Arlington	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (20 in dia., 2.5 miles)	$1,971,000
Primary Pump Stations (4 MGD)	$2,008,000
TOTAL COST OF FACILITIES	**$3,979,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,294,000
Environmental & Archaeology Studies and Mitigation	$98,000
Land Acquisition and Surveying (20 acres)	$156,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$152,000
TOTAL COST OF PROJECT	**$5,679,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$400,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$20,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$50,000
Pumping Energy Costs (536516 kW-hr @ 0.08 $/kW-hr)	$43,000
Purchase of Water (acft/yr @ $/acft)	$0
TOTAL ANNUAL COST	**$513,000**
Available Project Yield (acft/yr)	2,242
Annual Cost of Water ($ per acft)	$229
Annual Cost of Water After Debt Service ($ per acft)	$50
Annual Cost of Water ($ per 1,000 gallons)	$0.70
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.15
Note: One or more cost element has been calculated externally	
AGG	*12/10/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Grand Prairie - Increase Infrastructure from DWU	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline (36 in dia., 15 miles)	$24,739,000
Intake Pump Stations (20 MGD)	$27,794,000
TOTAL COST OF FACILITIES	**$52,533,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$17,150,000
Environmental & Archaeology Studies and Mitigation	$410,000
Land Acquisition and Surveying (96 acres)	$741,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$1,948,000
TOTAL COST OF PROJECT	**$72,782,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$5,121,000
Reservoir Debt Service (3.5 percent, 40 years)	$0
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$247,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$695,000
Dam and Reservoir (1.5% of Cost of Facilities)	$0
Water Treatment Plant	$0
Advanced Water Treamtent Facility	$0
Pumping Energy Costs (3239074 kW-hr @ 0.08 $/kW-hr)	$259,000
TOTAL ANNUAL COST	**$6,322,000**
Available Project Yield (acft/yr)	11,202
Annual Cost of Water ($ per acft), based on PF=2	$564
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$107
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.73
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.33
AGG	*12/10/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Irving - Main Stem Balancing Reservoir	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline	$83,602,000
Pump Stations and Storage Tanks	$11,663,000
TOTAL COST OF FACILITIES	**$95,265,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$29,162,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,422,000
TOTAL COST OF PROJECT	**$127,849,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$8,996,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$836,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$148,000
Dam and Reservoir (1.5% of Cost of Facilities)	$86,000
Pumping Energy Costs (18144444 kW-hr @ 0.08 $/kW-hr)	$1,452,000
Purchase of Water (25000 acft/yr @ 162.93 $/acft)	$4,073,000
TOTAL ANNUAL COST	**$15,591,000**
Available Project Yield (acft/yr)	25,000
Annual Cost of Water ($ per acft)	$624
Annual Cost of Water After Debt Service ($ per acft)	$264
Annual Cost of Water ($ per 1,000 gallons)	$1.91
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.81
Note: One or more cost element has been calculated externally	
AGG	*1/7/2020*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Irving - TRA Central Reuse	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
UV pre-treatment facilities and transmission infrastructure	
TOTAL COST OF PROJECT*	**$46,730,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$3,288,000
Operation and Maintenance	$4,058,000
Treatment Costs	$6,188,000
Pumping Energy Costs (1725600 kW-hr @ 0.08 $/kW-hr)	$138,000
Purchase of Water (acft/yr @ $/acft)	$1,921,000
TOTAL ANNUAL COST	**$15,593,000**
Available Project Yield (acft/yr)	28,000
Annual Cost of Water ($ per acft)	$557
Annual Cost of Water After Debt Service ($ per acft)	$295
Annual Cost of Water ($ per 1,000 gallons)	$1.71
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.90
**Costs provided by Irving and indexed*	
AGG	*12/13/2019*

Irving - Oklahoma Lake Hugo*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Lake Hugo Pump Station	
26.8 MGD Lake Hugo Pump Station and Intake (3,050 HP)	$16,738,000
Mobilization (5%)	$837,000
Lake Hugo Pump Station Site	$58,000
Pipeline	
Hugo to Paris 42-inch Pipeline and Appurtenances	$27,000,000
Trench Safety	$121,000
ROW Clearing	$1,384,000
Paris to Lake Chapman 42-inch Pipeline and Appurtenances	$45,922,000
Trench Safety	$206,000
ROW Clearing	$2,354,000
26.8 MGD Discharge Structure	$97,000
Mobilization (5%)	$3,854,000
Lake Chapman Phase I Facilities	
Existing Lake Chapman Pump Station Expansion (Addition of 55MGD Pump)	$2,311,500
Mobilization (5%)	$116,000
Transmission Infrastructure	
55 MG Chapman BPS Reservoir (6 hours of storage)	$12,968,000
220 MGD Chapman Booster Pump Station (21,500 HP)	$46,865,000
24 MG Merit Balancing Reservoir to Supplement Ex. 12 MG Reservoir (2.6 hours of storag	$6,786,000
Mobilization (5%)	$3,331,000
Lake Chapman Phase II Facilities	
Upgrade of Existing Princeton Booster Pump Station	$22,706,000
Mobilization (5%)	$1,135,000
TOTAL COST OF FACILITIES	**$194,789,500**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$64,129,000
Environmental & Archaeology Studies and Mitigation	$2,337,000
Land Acquisition and Surveying	$3,706,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$7,286,000
TOTAL COST OF PROJECT	**$272,247,500**
ANNUAL COST	
Debt Service (3.5 percent, 30 years)	$14,802,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$1,007,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$1,098,000
Pumping Energy Costs (kW-hr @ 0.08 $/kW-hr)	$379,000
TOTAL ANNUAL COST	**$17,286,000**
Available Project Yield (acft/yr)	25,000
Annual Cost of Water ($ per acft)	$691.44
Annual Cost of Water After Debt Service ($ per acft)	$99.36
Annual Cost of Water ($ per 1,000 gallons)	$2.12
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.30

**Some of the capital costs could possibly be split with other potential participants*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Rowlett - Increase Delivery Infrastructure from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pump Station(s) & Storage Tank(s)	$2,374,000
Integration, Relocations, & Other	$585,000
TOTAL COST OF FACILITIES	**$2,959,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,036,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$110,000
TOTAL COST OF PROJECT	**$4,105,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$289,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$6,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$59,000
Pumping Energy Costs (0 kW-hr @ 0.08 $/kW-hr)	$80,000
Purchase of Water (4833 acft/yr @ 0 $/acft)	$0
TOTAL ANNUAL COST	**$434,000**
Available Project Yield (acft/yr)	4,833
Annual Cost of Water ($ per acft), based on PF=2	$90
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$30
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.28
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.09

Note: One or more cost element has been calculated externally

KAS (CP&Y); ADK (FNI) QC *12/23/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Sunnyvale - Increase Delivery Infrastructure from NTWMD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (14 in dia., 1.8 miles)	$796,000
Primary Pump Stations (3 MGD)	$1,000,000
TOTAL COST OF FACILITIES	**$1,796,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$589,000
Environmental & Archaeology Studies and Mitigation	$70,000
Land Acquisition and Surveying (9 acres)	$51,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$69,000
TOTAL COST OF PROJECT	**$2,575,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$181,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$8,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$25,000
Pumping Energy Costs (163038 kW-hr @ 0.08 $/kW-hr)	$13,000
TOTAL ANNUAL COST	**$227,000**
Available Project Yield (acft/yr)	1,683
Annual Cost of Water ($ per acft), based on PF=2	$135
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$27
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.41
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.08
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Wilmer - Connect to and Purchase Water from DWU

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities
CAPITAL COST	
Transmission Pipeline (36 in dia., 0 miles)	$12,251,000
Storage Tanks (Other Than at Booster Pump Stations)	$1,572,000
TOTAL COST OF FACILITIES	**$13,823,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$4,226,000
Environmental & Archaeology Studies and Mitigation	$35,000
Land Acquisition and Surveying (7 acres)	$38,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$499,000
TOTAL COST OF PROJECT	**$18,621,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,310,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$138,000
TOTAL ANNUAL COST	**$1,449,000**
Available Project Yield (acft/yr)	210
Annual Cost of Water ($ per acft), based on PF=2	$6,900
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$662
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$21.17
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$2.03

Note: One or more cost element has been provided by Freese and Nichols, Inc.

KAS (CP&Y); ADK (FNI) QC *12/23/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Wilmer - Connect to and Purchase Water from Lancaster*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (36 in dia.,	03)$12)111
5Sorat e Tangs (k SDer TCan aShoosSer PBmp 5SaSons,	06)6u7)111
TOTAL COST OF FACILITIES	**$3,863,000**
Ent ineerint and FeasibiliSy 5SBdies) Let al AssisSance) Financint) hond CoBnsel) and ConSnt encies (%1f &or pipes 4 %uf &or all oSDer &aciliSes,	03)6v6)111
EnMronmenSal 4 ArcOaeolot y 5SBdies and q iSt aSon	0%u)111
Land Ac8BisiSon and 5BrMeyint (v acres,	0%l)111
DnSeresSwBrint ConsSBcSon (%f &or 1.u years RiSDa 1.uf 9k D,	0v6)111
TOTAL COST OF PROJECT	**$5,280,000**
ANNUAL COST	
webS5erMce (%u percenS, 61 years,	0%v3)111
k peraSon and q ainSenance	
Pipeline) Wells) and 5Sorat e Tangs (3f o&CosSo&FaciliSes,	0%7)111
TOTAL ANNUAL COST	**$416,000**
Available Project Yield (acft/yr)	l 7v
Annual Cost of Water ($ per acft), based on PF=2	02$2
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	0u1
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	03.26
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	01.3u
Note: One or more cost element has been provided by Freese and Nichols, Inc.	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Item	Estimated Costs for Facilities
Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Cross Timbers WSC - Infrastructure Improvements	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
CAPITAL COST*	
Transmission Pipeline	$4,093,000
Storage Tank	$2,000,000
TOTAL COST OF FACILITIES	**$6,093,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,928,000
Environmental & Archaeology Studies and Mitigation	$10,000
Land Acquisition and Surveying (2 acres)	$11,000
Interest During Construction (3% for 1.5 years with a 0.5% ROI)	$332,000
TOTAL COST OF PROJECT	**$8,374,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$589,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$61,000
TOTAL ANNUAL COST	**$650,000**
Available Project Yield (acft/yr)	925
Annual Cost of Water ($ per acft)	$703
Annual Cost of Water After Debt Service ($ per acft)	$66
Annual Cost of Water ($ per 1,000 gallons)	$2.16
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.20

**Cost Estimate Summary / Water Supply Project Option / September 2018 Prices / Cross Timbers WSC - Infrastructure Improvements* heading rows are as printed above.

**Costs have been indexed from capital costs provided by Cross Timbers WSC*

AGG *12/13/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Hackberry - Additional Water from NTMWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline (8 in dia., 2.3 miles)	$554,000
Primary Pump Stations (0.8 MGD)	$936,000
TOTAL COST OF FACILITIES	**$1,490,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$494,000
Environmental & Archaeology Studies and Mitigation	$82,000
Land Acquisition and Surveying (11 acres)	$57,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$59,000
TOTAL COST OF PROJECT	**$2,182,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$154,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$6,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$23,000
Pumping Energy Costs (54322 kW-hr @ 0.08 $/kW-hr)	$4,000
TOTAL ANNUAL COST	**$187,000**
Available Project Yield (acft/yr)	442
Annual Cost of Water ($ per acft), based on PF=2	$423
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$75
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.30
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.23
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Ennis - Indirect Reuse

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities
CAPITAL COST	
Transmission Pipeline (36 in dia., 1.5 miles)	$1,324,666
Primar7 P9mp 0lalions (4.4 t k u)	$5,3S3,666
Transmission P9mp 0lalion(s) M 0loraGe TanD(s)	$x,E54,666
g aler Trealmenl Planl (4 t k u)	$54,6x1,666
Fdbanyed g asleL aler Trealmenl	$5x,A54,666
TOTAL COST OF FACILITIES	**$39,738,000**
BnGineerinG and Ceasi%ilil7 0l9dies, f eGal Fssislanye, CinanyinG, &ond h o9nsel, and h onlinGenyies (36v opr pipes M 3Av opr all olwer qayililies)	$53,A3S,666
Bnbironmenlal M FrywaeoloG7 0l9dies and t iliGalion	$xEx,666
f and FyR9isilion and 0 9rbe7inG (36 ayres)	$54A,666
Onleresl u 9rinG h onslr9ylion (3v opr 5.A 7ears L ilw a 6.Av 8 WO)	$x,x5A,666
TOTAL COST OF PROJECT	**$55,899,000**
ANNUAL COST	
u e%l 0erbiye (3.A peryenl, x6 7ears)	$3,S33,666
Wperalion and t ainlenanye	
Pipeline, g ells, and 0loraGe TanDs (5v oqh osl oqCayililies)	$2A,666
OnlaDes and P9mp 0lalions (x.Av oqh osl oqCayililies)	$41,666
g aler Trealmenl Planl	$5,x6A,666
P9mpinG BnerG7 h osls (22EE63 Dg -wr @ 6.62 $/Dg -wr)	$15,666
TOTAL ANNUAL COST	**$5,361,000**
Available Project Yield (acft/yr)	3,4S4
Annual Cost of Water ($ per acft), based on PF=2	$5,EA6
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$324
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$E.EA
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$5.5S

AGG *12/13/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Ferris - Increase Delivery Infrastructure from Rockett SUD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 2 miles)	$247,000
Primary Pump Stations (0.2 MGD)	$654,000
TOTAL COST OF FACILITIES	**$901,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$303,000
Environmental & Archaeology Studies and Mitigation	$75,000
Land Acquisition and Surveying (10 acres)	$54,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$37,000
TOTAL COST OF PROJECT	**$1,370,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$96,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$2,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$16,000
Pumping Energy Costs (10899 kW-hr @ 0.08 $/kW-hr)	$1,000
TOTAL ANNUAL COST	**$115,000**
Available Project Yield (acft/yr)	111
Annual Cost of Water ($ per acft), based on PF=2	$1,036
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$171
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$3.18
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.53
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Midlothian - Direct Reuse Expansion	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Water Treatment Plant (5 MGD)	$31,274,000
TOTAL COST OF FACILITIES	**$31,274,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$10,946,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$1,162,000
TOTAL COST OF PROJECT	**$43,395,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$3,053,000
Operation and Maintenance	
Water Treatment Plant	$6,255,000
Pumping Energy Costs (1125208 kW-hr @ 0.08 $/kW-hr)	$90,000
Purchase of Water (5605 acft/yr @ 94.4933202997719 $/acft)	$530,000
TOTAL ANNUAL COST	**$9,928,000**
Available Project Yield (acft/yr)	5,605
Annual Cost of Water ($ per acft), based on PF=2	$1,771
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,227
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$5.44
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$3.76
Note: One or more cost element has been calculated externally	
KW	*12/4/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Midlothian - Purchase Duncanville's Joe Pool Yield	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Upsize Joe Pool Intake Structure	$2,115,000
TOTAL COST OF FACILITIES	**$29, , 79833**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$740,000
Environmental & Archaeology Studies and Mitigation	$25,000
Land Acquisition and Surveying (5 acres)	$27,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$40,000
TOTAL COST OF P5O0ECT	**$29RJ49833**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$207,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$53,000
Pumping Energy Costs (52951 kW-hr @ 0.08 $/kW-hr)	$4,000
Purchase of Water (1121 acft/yr @ 415.335788860671 $/acft)	$466,000
TOTAL ANNUAL COST	**$4139833**
Available Project Yield (acft/yr)	1,121
Annual Cost of Water ($ per acft)	$651
Annual Cost of Water After Debt Service ($ per acft)	$467
Annual Cost of Water ($ per , 9833 gallons)	$2.00
Annual Cost of Water After Debt Service ($ per , 9833 gallons)	$1.43
KEK	*12/30/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Ovilla - Increase Delivery Infrastructure from DWU

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (10 in dia., 1 miles)	$284,000
Primary Pump Stations (1.2 MGD)	$964,000
TOTAL COST OF FACILITIES	**$1,248,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$423,000
Environmental & Archaeology Studies and Mitigation	$50,000
Land Acquisition and Surveying (7 acres)	$40,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$49,000
TOTAL COST OF PROJECT	**$1,810,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$127,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$24,000
Pumping Energy Costs (127966 kW-hr @ 0.08 $/kW-hr)	$10,000
TOTAL ANNUAL COST	**$164,000**
Available Project Yield (acft/yr)	663
Annual Cost of Water ($ per acft), based on PF=2	$247
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$56
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.76
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.17
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Palmer - Increase Delivery Infrastructure from Rockett SUD***	
Cost based on ENR CCI 11170.28 for September 2018 and ***a PPI of 201.9 for September 2018***	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (10 in dia., 12.5 miles)	$3,270,000
Primary Pump Stations (1.1 MGD)	$969,000
Transmission Pump Station(s) & Storage Tank(s)	$1,875,000
TOTAL COST OF FACILITIES	**$6,114,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,976,000
Environmental & Archaeology Studies and Mitigation	$362,000
Land Acquisition and Surveying (40 acres)	$219,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$239,000
TOTAL COST OF PROJECT	**$8,910,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$627,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$42,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$48,000
Pumping Energy Costs (125316 kW-hr @ 0.08 $/kW-hr)	$10,000
TOTAL ANNUAL COST	**$727,000**
Available Project Yield (acft/yr)	614
Annual Cost of Water ($ per acft), based on PF=2	$1,184
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$163
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$3.63
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.50
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Rice Water Supply and Sewer Service - Increase Delivery Infrastructure from Corsicana

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (14 in dia., 12.2 miles)	$5,313,000
Primary Pump Stations (2.8 MGD)	$1,144,000
Transmission Pump Station(s) & Storage Tank(s)	$2,123,000
TOTAL COST OF FACILITIES	**$8,580,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,737,000
Environmental & Archaeology Studies and Mitigation	$355,000
Land Acquisition and Surveying (40 acres)	$216,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$327,000
TOTAL COST OF PROJECT	**$12,215,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$859,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$63,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$57,000
Pumping Energy Costs (420046 kW-hr @ 0.08 $/kW-hr)	$34,000
TOTAL ANNUAL COST	**$1,013,000**
Available Project Yield (acft/yr)	1,552
Annual Cost of Water ($ per acft), based on PF=2	$653
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$99
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$2.00
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.30
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Rockett SUD - Connect to and Purchase from DWU

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (24 in dia., 31.1 miles)	$25,228,000
Primary Pump Stations (10 MGD)	$3,112,000
Transmission Pump Station(s) & Storage Tank(s)	$4,409,000
TOTAL COST OF FACILITIES	**$32,749,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$10,200,000
Environmental & Archaeology Studies and Mitigation	$827,000
Land Acquisition and Surveying (85 acres)	$465,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$1,217,000
TOTAL COST OF PROJECT	**$45,458,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$3,198,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$265,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$156,000
TOTAL ANNUAL COST	**$3,619,000**
Available Project Yield (acft/yr)	5,605
Annual Cost of Water ($ per acft), based on PF=2	$646
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$75
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.98
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.23
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Sardis-Lone Elm WSC - Direct Connection to TRWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Raw Water System Buy-In Cost	$1,135,513
Transmission Pipeline	$2,347,000
Intake Pump Stations (3.6 MGD)	$5,169,000
TOTAL COST OF FACILITIES	**$8,651,513**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,513,000
Environmental & Archaeology Studies and Mitigation	$284,000
Land Acquisition and Surveying (19 acres)	$103,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$144,000
TOTAL COST OF PROJECT	**$11,695,513**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$743,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$23,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$129,000
Water Treatment Costs (third party)	$1,962,000
Pumping Energy Costs (258916 kW-hr @ 0.08 $/kW-hr)	$21,000
Purchase of Water (2033 acft/yr @ 410.57 $/acft)	$835,000
TOTAL ANNUAL COST	**$3,713,000**
Available Project Yield (acft/yr)	2,033
Annual Cost of Water ($ per acft), based on PF=2	$1,826
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,461
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$5.60
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$4.48
ADK	*1/25/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Waxahachie - 30" Raw Water Line from IPL to Howard Road Water Treatment Plant

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities
CAPITAL COST	
Transmission Pipeline (30 in dia., 3.3 miles)	$3,115,000
TOTAL COST OF FACILITIES	**$3,115,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$935,000
Environmental & Archaeology Studies and Mitigation	$106,000
Land Acquisition and Surveying (13 acres)	$70,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$117,000
TOTAL COST OF PROJECT	**$4,343,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$306,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$31,000
TOTAL ANNUAL COST	**$337,000**
Available Project Yield (acft/yr)	5,255
Annual Cost of Water ($ per acft)	$64
Annual Cost of Water After Debt Service ($ per acft)	$6
Annual Cost of Water ($ per 1,000 gallons)	$0.20
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.02

KEK *12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Waxahachie - 36" Raw Water Line from IPL to Lake Waxahachie

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (36 in dia., 0.7 miles)	$819,000
Discharge Structure	$91,000
TOTAL COST OF FACILITIES	**$910,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$278,000
Environmental & Archaeology Studies and Mitigation	$42,000
Land Acquisition and Surveying (7 acres)	$37,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$35,000
TOTAL COST OF PROJECT	**$1,302,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$92,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$9,000
Purchase of Water (acft/yr @ $/acft)	$0
TOTAL ANNUAL COST	**$101,000**
Available Project Yield (acft/yr)	10,930
Annual Cost of Water ($ per acft), based on PF=2	$9
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.03
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.00

KEK *12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Waxahachie - 36" Raw Water Line from Lake Waxahachie to Howard Rd WTP

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (8d in . ia,7) ,$ miles1	487890722
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TOTAL COST OF FACILITIES	**$4,700,000**
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DnEeresEw3riny %onsE3BEon (8f &or b Lears RiEh a 2,t f O6 D1	4b087222
TOTAL COST OF PROJECT	**$6,461,000**
ANNUAL COST	
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6 peraEon an. q ainEenanBe	
Pipeline7Wells7an. x Eoraye Tanks (bf o&%osEo&SaBiliEes1	4887222
DnEakes an. P3mp x EaEons () ,t f o&%osEo&SaBiliEes1	4897222
P3mpiny g neryL %osEs (t) 2200 kW-hr @ 2,2v 4/kW-hr1	49) 7222
TOTAL ANNUAL COST	**$564,000**
Available Project Yield (acft/yr)	b27$82
Annual Cost of Water ($ per acft), based on PF=2	4t)
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	4b2
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	42,bd
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	42,28
Note: One or more cost element has been calculated externally	
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Waxahachie - 48" TRWD Parallel Supply Line to Sokoll WTP

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (36 in dia., 0.6 miles7	) $,801,999
TOTAL COST OF FACILITIES	**$2,915,000**
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c n2ironmental f b ry&aeolohu x tEdies and v itihation	) 3M999
Fand b y4Eisition and x Er2euinh ($ ayres7	) 0$,999
qnterest I Erinh AonstrEytion (BC %or 0 uears wit& a 9.1C ROq7	) 09M999
TOTAL COST OF PROJECT	**$3,954,000**
ANNUAL COST	
I eSt x er2iye (B.1 peryent, $9 uears7	) $56,999
Operation and v aintenanye	
Pipeline, Wells, and x torahe Tanks (0C o%Aost o%gayilities7	) $8,999
PEry&ase o%Water (ay%/ur @) /ay%7	) 9
TOTAL ANNUAL COST	**$307,000**
Available Project Yield (acft/yr)	$$,599
Annual Cost of Water ($ per acft), based on PF=2	) 03
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	) 0
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	) 9.93
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	) 9.99

KEK *12/31/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Waxahachie - Dredge Lake Waxahachie	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Dredging and Disposal	$26,760,000
TOTAL COST OF FACILITIES	**$26,760,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$9,366,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$994,000
TOTAL COST OF PROJECT	**$37,120,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$2,612,000
TOTAL ANNUAL COST	**$2,612,000**
Available Project Yield (acft/yr)	705
Annual Cost of Water ($ per acft)	$3,705
Annual Cost of Water After Debt Service ($ per acft)	$0
Annual Cost of Water ($ per 1,000 gallons)	$11.37
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.00
Note: One or more cost element has been calculated externally	
KEK	*12/31/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Waxahachie - Increase Delivery Infrastructure to Rockett SUD*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (30 in dia., 10.8 miles)	$10,290,000
TOTAL COST OF FACILITIES	**$10,290,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$3,087,000
Environmental & Archaeology Studies and Mitigation	$270,000
Land Acquisition and Surveying (13 acres)	$71,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$378,000
TOTAL COST OF PROJECT	**$14,096,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$992,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$103,000
TOTAL ANNUAL COST	**$1,095,000**
Available Project Yield (acft/yr)	6,726
Annual Cost of Water ($ per acft)	$163
Annual Cost of Water After Debt Service ($ per acft)	$15
Annual Cost of Water ($ per 1,000 gallons)	$0.50
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.05
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Waxahachie - Phase I Delivery Infrastructure to Customers in South Ellis County

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities
CAPITAL COST	
Transmission Pipeline (16 in dia., 0.6 miles)	$678,000
Transmission Pump Station(s) & Storage Tank(s)	$6,666,000
Transmission Pipeline (12 in dia., 3.1 miles)	$702,000
Transmission Pipeline (8 in dia., 9.5 miles)	$3,181,000
TOTAL COST OF FACILITIES	**$33,227,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$3,701,000
Environmental & Archaeology Studies and Mitigation	$356,000
Land Acquisition and Surveying (37 acres)	$202,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$852,000
TOTAL COST OF PROJECT	**$34,668,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,150,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$65,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$117,000
Pumping Energy Costs (1939978 kW-hr @ 0.08 $/kW-hr)	$155,000
TOTAL ANNUAL COST	**$3,x87,000**
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Auusi bCj WYj / p i YroA/Yro1 reYSr calt r f$ =roi t /Yn, ei W(j u PFD2	$120
Auusi bCj WYj / p i Yrof$ =ro3,000 gi bj uWn, ei W(j u PFD2	$1.63
Auusi bCj WYj / p i YroA/Yro1 reYSr calt r f$ =ro3,000 gi bj uWn, ei W(j u PFD2	$0.37
Note: One or more cost element has been provided by Waxahachie's Engineer	
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Waxahachie - Phase II Delivery Infrastructure to Customers in South Ellis County

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipelines (27", 20", 18", 16")	$15,957,000
Transmission Pump Station(s) & Storage Tank(s)	$3,333,000
TOTAL COST OF FACILITIES	**$19,290,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$5,954,000
Environmental & Archaeology Studies and Mitigation	$331,000
Interest During Construction (3% for 2 years with a 0.5% ROI)	$1,407,000
TOTAL COST OF PROJECT	**$26,982,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,898,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$170,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$58,000
Pumping Energy Costs (341353 kW-hr @ 0.08 $/kW-hr)	$27,000
TOTAL ANNUAL COST	**$2,153,000**
Available Project Yield (acft/yr)	3,924
Annual Cost of Water ($ per acft)	$549
Annual Cost of Water After Debt Service ($ per acft)	$65
Annual Cost of Water ($ per 1,000 gallons)	$1.68
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.20

Note: One or more cost element has been provided by Waxahachie's Engineer

KEK *12/31/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Waxahachie - Raw Water Intake Improvements at Lake Bardwell	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Pump Station Upgrades	$4,400,000
TOTAL COST OF FACILITIES	**$4,400,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,540,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$82,000
TOTAL COST OF PROJECT	**$6,022,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$424,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$110,000
Pumping Energy Costs (3771137 kW-hr @ 0.08 $/kW-hr)	$302,000
TOTAL ANNUAL COST	**$836,000**
Available Project Yield (acft/yr)	16,815
Annual Cost of Water ($ per acft)	$50
Annual Cost of Water After Debt Service ($ per acft)	$25
Annual Cost of Water ($ per 1,000 gallons)	$0.15
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.08
Note: One or more cost element has been calculated externally	
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Bois D Arc MUD - Connect to and Purchase Water from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (10 in dia., 7 miles)	$1,842,000
Primary Pump Stations (1.1 MGD)	$949,000
TOTAL COST OF FACILITIES	**$2,791,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$885,000
Environmental & Archaeology Studies and Mitigation	$201,000
Land Acquisition and Surveying (22 acres)	$121,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$110,000
TOTAL COST OF PROJECT	**$4,108,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$289,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$18,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$24,000
Pumping Energy Costs (10360 kW-hr @ 0.08 $/kW-hr)	$1,000
TOTAL ANNUAL COST	**$332,000**
Available Project Yield (acft/yr)	623
Annual Cost of Water ($ per acft), based on PF=2	$533
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$69
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.64
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.21
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Ladonia - Connect to and Purchase Water from UTRWD (Lake Ralph Hall)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	Estimated Costs for Facilities
CAPITAL COST	
Transmission Pipeline (3 in 6iad , miles1	5,) $.222
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TOTAL COST OF FACILITIES	**$10,429,000**
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TOTAL COST OF PROJECT	**$14,774,000**
ANNUAL COST	
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P0mpinML nerMB &os7s (bF2b3 9g -Dr @ 2d23 5/9g -Dr1	5b.222
P0rf Dase ovg a7er ($) t af v7Br @ b$t d3t 5/af v71	<u>5) F.222</u>
TOTAL ANNUAL COST	**$1,848,000**
Available Project Yield (acft/yr)	$) t
Annual Cost of Water ($ per acft), based on PF=2	5F.$Fw
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	5$.Eb)
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	5,) d$$
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	53dw2

KAS (CP&Y); ADK (FNI) QC *12/23/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Leonard - Water System Improvements	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Connsection to Transmission System	$185,000
Elevated Storage Tank	$818,000
Well Fields (Wells, Pumps, and Piping)	$1,234,000
Water Treatment	$52,000
TOTAL COST OF FACILITIES	**$2,289,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$792,000
Environmental & Archaeology Studies and Mitigation	$70,000
Land Acquisition and Surveying (8 acres)	$42,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$88,000
TOTAL COST OF PROJECT	**$3,281,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$231,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$22,000
Water Treatment Plant	$31,000
Pumping Energy Costs (22823 kW-hr @ 0.08 $/kW-hr)	$2,000
TOTAL ANNUAL COST	**$286,000**
Available Project Yield (acft/yr)	212
Annual Cost of Water ($ per acft), based on PF=2	$1,349
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$259
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$4.14
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.80
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Fairfield - Purchase Water from TRWD with New 3 MGD WTP

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (14 in dia., 16.7 miles)	$7,265,000
Intake Pump Stations (2.6 MGD)	$1,327,000
Transmission Pump Station(s) & Storage Tank(s)	$2,301,000
Water Treatment Plant (3 MGD)	$14,274,000
TOTAL COST OF FACILITIES	**$25,167,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$8,445,000
Environmental & Archaeology Studies and Mitigation	$457,000
Land Acquisition and Surveying (52 acres)	$193,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$943,000
TOTAL COST OF PROJECT	**$35,205,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$2,477,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$82,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$66,000
Water Treatment Plant	$1,145,000
Pumping Energy Costs (705828 kW-hr @ 0.08 $/kW-hr)	$56,000
TOTAL ANNUAL COST	**$3,826,000**
Available Project Yield (acft/yr)	1,483
Annual Cost of Water ($ per acft), based on PF=2	$2,580
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$910
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$7.92
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$2.79

Note: One or more cost element has been calculated externally

KAS (CP&Y) *12/20/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Freestone County Other - Increase Delivery Infrastructure from Corsciana*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 10 miles)	$1,231,000
Primary Pump Stations (0.1 MGD)	$604,000
TOTAL COST OF FACILITIES	**$1,835,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$581,000
Environmental & Archaeology Studies and Mitigation	$267,000
Land Acquisition and Surveying (29 acres)	$109,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$77,000
TOTAL COST OF PROJECT	**$2,869,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$202,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$12,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$15,000
Pumping Energy Costs (8535 kW-hr @ 0.08 $/kW-hr)	$1,000
TOTAL ANNUAL COST	**$230,000**
Available Project Yield (acft/yr)	72
Annual Cost of Water ($ per acft), based on PF=2	$3,194
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$389
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$9.80
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$1.19
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Freestone County Other - New Delivery and Treatment Facilities from TRWD

Cost based on ENR CCI 11170.28 for September 2018 and
a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
New WatWWtr mtnPlt P$27 t 3tw,428 a tlPW6T	0L428i 4888T
s 1w5P mGa n o 1w1tr W$u,i d S g 6T	074ki 74888T
New WatWWtr mGa n o 1w1tr $W6 l o 1r ewBP Nw 5$W6T	0i 47ui 4888T
Npr 9 w1PeNePw1a P 1mlw 1W$x Pp i d S g w 3 i d S g EFnw Wtr 6T	02b48u24888T
TOTAL COST OF FACILITIES	**$33,511,000**
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s 1PePW1g Gat B &r WaG%tr $h) vr e2 cPweWp t1Mw 8,L) . Rs6T	024 ub4888T
TOTAL COST OF PROJECT	**$46,660,000**
ANNUAL COST	
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s 1w5PWw 3 mGa n o 1w1tr W$l ,L) r v&r W1r vyw%tt1tPW6T	0i 8O4888T
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mGa nt B E PeBc &r WtW$b88727 59 -Me@ 8,8O0/59 -Me6T	0ki 4888T
TOTAL ANNUAL COST	**$5,285,000**
Available Project Yield (acft/yr)	i 4hLuT
Annual Cost of Water ($ per acft), based on PF=2	0i 4 uLT
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	0CL8T
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	07,CbT
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	0i ,72T

KAS (CP&Y); ADK (FNI) QC *10/28/2019*

Cost Estimate Summary **Water Supply Project Option** **September 2018 Prices** **Denison - Phase I - Expand Raw Water Delivery from Lake Texoma**	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Pipeline from Texoma to Lake Randell	$522,000
New Intake and Pump Station at Lake Randell	$4,569,000
Randell WTP Improvements	$1,338,000
New 2 MG Clearwell and Lake Randell Spillway and Dam Improvements	$6,331,000
TOTAL COST OF FACILITIES	**$12,760,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$4,440,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$474,000
TOTAL COST OF PROJECT	**$17,674,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,244,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$69,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$114,000
TOTAL ANNUAL COST	**$1,427,000**
Available Project Yield (acft/yr)	2,242
Annual Cost of Water ($ per acft)	$636
Annual Cost of Water After Debt Service ($ per acft)	$82
Annual Cost of Water ($ per 1,000 gallons)	$1.95
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.25
Note: One or more cost element has been provided by Denison	
KEK	*12/31/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Denison - Phase II - Expand Raw Water Delivery from Lake Texoma***	
Cost based on ENR CCI 11170.28 for September 2018 and ***a PPI of 201.9 for September 2018***	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Pipeline from Texoma to Lake Randell	$653,000
Pump Station Expansion at Lake Randell	$2,856,000
New 2 MG Clearwell	$3,019,000
TOTAL COST OF FACILITIES	**$176, 47000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,252,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$242,000
TOTAL COST OF PROJECT	**$270, , 7000**
A3 3 9 AL COST	
Debt Service (3.5 percent, 20 years)	$635,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$37,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$71,000
TOTAL A3 3 9 AL COST	**$85N7000**
Axvávl ib Per dbj ct abiY dvj (df/ ey	5,605
A)) nvi Cr ucr (s vdbe d$ Wbe vj (cy	$133
A)) nvi Cr ucr (s vdbe A(dbe p bl cSbexaj b d$ Wbe vj (cy	$19
A)) nvi Cr ucr (s vdbe d$ Wbe D7000 gviir) uy	$0.41
A)) nvi Cr ucr (s vdbe A(dbe p bl cSbexaj b d$ Wbe D7000 gviir) uy	$0.06
Note: One or more cost element has been provided by Denison	
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Van Alstyne - Water System Improvements

Cost based on ENR CCI 11170.28 for September 2018 and
a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
r ars mai Tr os TPpmpel (T36d T, 1 5)T	$. . 24777T
Ppeam90TT ml t (T3k pu0aT uml TmpTSee(p0aTr os TPpmpel ( )T	$. . M4777T
TOTAL COST OF FACILITIES	**$1,995,000**
Dl 9ml 00aml 9Tml xTE0m(rgmpi TPpoxm0(4Tb09mFy ((m(pml L04TEml ml Lml 94TSel xTAeol (0F4Tml xT Ael pml 90l Lm0(T3c7B TGeaT n 0(T%Tcf B TGeaTmFFepu0aTOmLmpo0( )T	$&. M4777T
Dl hmael s 0l pmFP%Ty aLum0eFe9i TPpoxm0(Tml xT, mp9mpel T	$cf 4777T
bml xTy Lvom(mpel Tml xTPoah0i ml 9T32TmLa0( )T	$c. 4777T
q p0a0(pT5 oaml 9TAel (paoLpel T3cB TGeaT6T 0ma(Twmpu Tm7cf B TRk o)T	$224777T
TOTAL COST OF PROJECT	**$2,844,000**
ANNUAL COST	
5 0gpTP0ahmL0T3cd T 0aL0l p4TO7T 0ma( )T	$O774777T
k 0ampel Tml xT, mml p0l ml L0T	
r n 0Fm 04T8 0FF(4Tml xTPpeam90TT ml t (T36B TeOAe(pTeOEmLmpo0( )T	$674777T
q pml 0(Tml xTr os TPpmpel (T3Ocf B TeOAe(pTeOEmLmpo0( )T	$Of 4777T
r os ml 9TDl 0a9i TAe(p(T3O7MMOf T8 WaF T7d7MT$@8 Wa)T	$624777T
TOTAL ANNUAL COST	**$252,000**
Available Project Yield (acft/yr)	647&2T
Annual Cost of Water ($ per acft), based on PF=2	$Oc&T
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$/ . T
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$7d2OT
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$7d6f T
KAS (CP&Y): ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Grayson County Manufacturing - Direct Reuse from Sherman

Cost based on ENR CCI 11170.28 for September 2018 and
a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (36 in dia., 36 miles1	5) ,$22,666
Primar4 P7mp 90a0ons (3 I t k 1	5u$S,666
Transmission P7mp 90a0on(s1 M 90oraGe TanD(s1	53,$$$,666
TOTAL COST OF FACILITIES	**$5,719,000**
EnGneerinGand geasiFili04 907dies, beGal y ssis0anLe, ginanLinG Aond c o7nsel, and c on0nGenLies (B6C %or pipes M Bf C %or all o0&er %aLili0es1	53,$h6,666
Environmen0al M y rL&aeoloG4 907dies and I i0Ga0on	5B66,666
band y Lq7isi0on and 97rve4inG(B2 aLres1	53$$,666
wn0eres0k 7rinGc ons07L0on (BC %or 3 4ears Ri0& a 6.f C O8 wt	5))) ,666
TOTAL COST OF PROJECT	**$8,289,000**
ANNUAL COST	
k eF09erviLe (B.f perLen0,) 6 4ears1	5f $B,666
8 pera0on and I ain0enanLe	
Pipeline, Wells, and 90oraGe TanDs (3C o%c os0o%gaLili0es1	5BS,666
wn0aDes and P7mp 90a0ons () .f C o%c os0o%gaLili0es1	52u,666
P7mpinGEnerG4 c os0s (B6Su) f DW-&r @ 6.6$ 5/DW-&r1	5) f ,666
TOTAL ANNUAL COST	**$694,000**
Available Project Yield (acft/yr)	f h3
Annual Cost of Water ($ per acft), based on PF=2	53,) BS
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	53u$
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	5B.$6
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	56.h3

AGG *1/8/2020*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Athens MWA - Infrastructure Improvements at WTP	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Pump Replacement at WTP	$30,000
TOTAL COST OF FACILITIES	**$30,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$22,000
Environmental & Archaeology Studies and Mitigation	$12,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$1,000
TOTAL COST OF PROJECT	**$65,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$5,000
Operation and Maintenance*	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$52,000
TOTAL ANNUAL COST	**$57,000**
Available Project Yield (acft/yr)	450
Annual Cost of Water ($ per acft)	$127
Annual Cost of Water After Debt Service ($ per acft)	$116
Annual Cost of Water ($ per 1,000 gallons)	$0.39
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.35

** Includes, as appropriate, operation and maintenance, power, water purchase (raw or treated), water treatment chemicals, well pumping (for groundwater), ongoing regulatory support (as needed) and other anticipated annual operating costs.*

JS *1/8/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Jack County Other - Connect to Jacksboro (Lost Creek-Jacksboro system)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 10 miles)	$1,231,000
Primary Pump Stations (0 MGD)	$90,000
TOTAL COST OF FACILITIES	**$1,321,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$401,000
Environmental & Archaeology Studies and Mitigation	$266,000
Land Acquisition and Surveying (29 acres)	$105,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$58,000
TOTAL COST OF PROJECT	**$2,151,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$151,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$12,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,000
TOTAL ANNUAL COST	**$165,000**
Available Project Yield (acft/yr)	7
Annual Cost of Water ($ per acft), based on PF=2	$23,571
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$2,000
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$72.33
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$6.14

KAS (CP&Y) *12/20/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Jack County Other - Connect to Walnut Creek SUD*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 10 miles)	$1,231,000
Primary Pump Stations (0.1 MGD)	$670,000
Transmission Pump Station(s) & Storage Tank(s)	$1,450,000
TOTAL COST OF FACILITIES	**$3,351,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,111,000
Environmental & Archaeology Studies and Mitigation	$283,000
Land Acquisition and Surveying (34 acres)	$123,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$134,000
TOTAL COST OF PROJECT	**$5,002,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$352,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$20,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$33,000
Pumping Energy Costs (25807 kW-hr @ 0.08 $/kW-hr)	$2,000
TOTAL ANNUAL COST	**$407,000**
Available Project Yield (acft/yr)	58
Annual Cost of Water ($ per acft), based on PF=2	$7,017
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$948
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$21.53
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$2.91
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices College Mound WSC - Increase Delivery Infrastructure from Terrell	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline (6 in dia., 8.3 miles)	$1,022,000
Primary Pump Stations (0.2 MGD)	$787,000
Transmission Pump Station(s) & Storage Tank(s)	$1,579,000
TOTAL COST OF FACILITIES	**$3,388,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,134,000
Environmental & Archaeology Studies and Mitigation	$257,000
Land Acquisition and Surveying (30 acres)	$164,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$136,000
TOTAL COST OF PROJECT	**$5,079,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$357,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$18,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$39,000
Pumping Energy Costs (27151 kW-hr @ 0.08 $/kW-hr)	$2,000
TOTAL ANNUAL COST	**$416,000**
Available Project Yield (acft/yr)	109
Annual Cost of Water ($ per acft), based on PF=2	$3,817
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$541
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$11.71
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$1.66
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Forney - Increase Delivery Infrastructure from NTMWD (Pump Station)***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Pump Station Expansions (2 @ 15 MGD each)	$13,054,000
TOTAL COST OF FACILITIES	**$13,054,000**
TOTAL COST OF PROJECT	**$13,054,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$918,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$326,000
Pumping Energy Costs (3620292 kW-hr @ 0.08 $/kW-hr)	$290,000
TOTAL ANNUAL COST	**$1,534,000**
Available Project Yield (acft/yr)	16,815
Annual Cost of Water ($ per acft)	$91
Annual Cost of Water After Debt Service ($ per acft)	$37
Annual Cost of Water ($ per 1,000 gallons)	$0.28
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.11
Note: One or more cost element has been provided by the City of Forney's Engineer	
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Mabank - Increase Delivery Infrastructure from TRWD (Cedar Creek Lake)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (24 in dia., 0 miles)	$14,000
Intake Pump Stations (7.7 MGD)	$1,116,000
TOTAL COST OF FACILITIES	**$1,130,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$395,000
Environmental & Archaeology Studies and Mitigation	$25,000
Land Acquisition and Surveying (5 acres)	$27,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$44,000
TOTAL COST OF PROJECT	**$1,621,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$114,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$28,000
Pumping Energy Costs (427187 kW-hr @ 0.08 $/kW-hr)	$34,000
TOTAL ANNUAL COST	**$176,000**
Available Project Yield (acft/yr)	4,309
Annual Cost of Water ($ per acft), based on PF=2	$41
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$14
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.13
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.04

Note: One or more cost element has been calculated externally

KAS (CP&Y) *12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Terrell - Ground Storage Tank	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
3.0 MG Ground Storage Tank	$2,542,000
TOTAL COST OF FACILITIES	**$2,542,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$890,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$95,000
TOTAL COST OF PROJECT	**$3,527,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$248,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$25,000
TOTAL ANNUAL COST	**$273,000**
Available Project Yield (acft/yr)	11,210
Annual Cost of Water ($ per acft)	$24
Annual Cost of Water After Debt Service ($ per acft)	$2
Annual Cost of Water ($ per 1,000 gallons)	$0.07
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.01
Note: One or more cost element has been obtained from City of Terrell's CIP	
KEK	*1/8/2020*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Terrell - Infrastructure Improvements	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (16 in dia)	$2,488,000
Transmission Pipeline (16 in dia)	$526,000
Transmission Pipeline (12 in dia)	$407,000
Transmission Pipeline (16 in dia)	$415,000
30" Boring and Casing	$1,077,000
Water Pavement Repair	$909,000
TOTAL COST OF FACILITIES	**$95, 225666**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,792,000
Environmental & Archaeology Studies and Mitigation	$118,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$213,000
TOTAL COST OF P0 ORECT	**$J51795666**
A8 8 4 AL COST	
Debt Service (3.5 percent, 20 years)	$559,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$58,000
TOTAL A8 8 4 AL COST	**$NUJ5666**
Available Project Yield (acft/yr)	4,484
Annual Cost of Water ($ per acft)	$138
Annual Cost of Water After Debt Service ($ per acft)	$13
Annual Cost of Water ($ per U5666 gallons)	$0.42
Annual Cost of Water After Debt Service ($ per U5666 gallons)	$0.04
Note: One or more cost element has been obtained from Terrell's CIP	
KEK	*1/8/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Kaufman County Other - Water from TRWD with new delivery and treatment facilities (0.5 MGD)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (6 in dia., 10 miles)	$1,339,000
Intake Pump Stations (0.3 MGD)	$867,000
Transmission Pump Station(s) & Storage Tank(s)	$1,673,000
Water Treatment Plant (0.5 MGD)	$3,751,000
TOTAL COST OF FACILITIES	**$7,630,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,603,000
Environmental & Archaeology Studies and Mitigation	$301,000
Land Acquisition and Surveying (34 acres)	$188,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$295,000
TOTAL COST OF PROJECT	**$11,017,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$775,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$21,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$43,000
Water Treatment Plant	$375,000
Pumping Energy Costs (58463 kW-hr @ 0.08 $/kW-hr)	$5,000
TOTAL ANNUAL COST	**$1,219,000**
Available Project Yield (acft/yr)	161
Annual Cost of Water ($ per acft), based on PF=2	$7,571
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$2,758
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$23.23
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$8.46

Note: One or more cost element has been calculated externally

KAS (CP&Y) *12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Kaufman County Mining - Connect to and Purchase Supplies from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (8 in dia., 10 miles)	$1,924,000
Primary Pump Stations (0.5 MGD)	$875,000
Transmission Pump Station(s) & Storage Tank(s)	$1,707,000
TOTAL COST OF FACILITIES	**$4,506,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,481,000
Environmental & Archaeology Studies and Mitigation	$299,000
Land Acquisition and Surveying (34 acres)	$186,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$178,000
TOTAL COST OF PROJECT	**$6,650,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$468,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$28,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$44,000
Pumping Energy Costs (65130 kW-hr @ 0.08 $/kW-hr)	$5,000
TOTAL ANNUAL COST	**$545,000**
Available Project Yield (acft/yr)	275
Annual Cost of Water ($ per acft), based on PF=2	$1,982
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$280
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$6.08
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.86
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
MEN WSC - Increase Delivery Infrastructure from Corsicana	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (3 in 0iad , miles)	$283.999
Primary Pump Stations (9d1 MGD)	$45g.999
Storake TanOs (h tBer TBan at 7ooster Pump Stations)	$8.126.999
xntekration. EeloFations. b h tBer	$1, 6.999
TOTAL COST OF FACILITIES	**$2,885,000**
Ankineerink an0 ceasiOlity Stu0ies. %ekal f ssistanFe. cinanFink. 7on0 &ounsel. an0 &ontinkenFies (19v opr pipes b 1gv opr all otBer qaFilities)	$535.999
AnI ironmental b f rFBaeoloky Stu0ies an0 Mitikation	$64.999
%an0 f Fwuisition an0 SurI eyink (8, aFres)	$14.999
xnterest Durink &onstruFtion (1v opr 8 years RitB a 9dgv Eh x)	<u>$889.999</u>
TOTAL COST OF PROJECT	**$4,088,000**
ANNUAL COST	
DeCt SerI iFe (1dg perFent. , 9 years)	$, 33.999
h peration an0 MaintenanFe	
Pipeline. Wells. an0 Storake TanOs (8v oq&ost oqcaFilities)	$4.999
xntaOes an0 Pump Stations (, dgv oq&ost oqcaFilities)	$12.999
TOTAL ANNUAL COST	**$330,000**
Available Project Yield (acft/yr)	851
Annual Cost of Water ($ per acft), based on PF=2	$8.489
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$, 83
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$gd g
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$9d64
Note: One or more cost element has been provided by Wylie NE SUD's Engineer	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *MEN WSC - Alternative Raw Surface Water from Additional Source*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Raw Water System Buy-In Cost	$1,135,513
Transmission Pipeline (8 in dia., 3.4 miles)	$711,000
Intake Pump Stations (0.4 MGD)	$891,000
Storage Tanks (Other Than at Booster Pump Stations)	$1,346,000
Water Treatment Plant (0.4 MGD)	$3,483,000
Integration, Relocations, & Other (New NTMWD take point)	$326,000
TOTAL COST OF FACILITIES	**$8,651,3RJ**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,330,000
Environmental & Archaeology Studies and Mitigation	$103,000
Land Acquisition and Surveying (15 acres)	$50,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$255,000
TOTAL COST OF P9ONECT	**$RU,7JU,3RJ**
A00xAL COST	
Debt Service (3.5 percent, 20 years)	$668,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$10,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$34,000
Water Treatment Plant	$348,000
Pumping Energy Costs (55112 kW-hr @ 0.08 $/kW-hr)	$4,000
Purchase of Water (250 acft/yr @ 410.57 $/acft)	$103,000
TOTAL A00xAL COST	**$R,R78,UUU**
Aai lbi ebr Pqj cr t Ydlr b(fi t /Yy) cn	250
Auusi bCj WYj / p i Yr of$ =r oi t /Yh, ei W (j u PF21	$4,668
Auusi bCj WYj / p i Yr oA/Yr oDr eYSr calt r f$ =r oi t /Yh, ei W (j u PF21	$1,996
Auusi bCj WYj / p i Yr of$ =r oR,UUU gi lbj uWh, ei W (j u PF21	$14.32
Auusi bCj WYj / p i Yr oA/Yr oDr eYSr calt r f$ =r oR,UUU gi lbj uWh, ei W (j u PF21	$6.12
Note: One or more cost element has been provided by Wylie NE SUD's Engineer	
ADK	*1/24/2020*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Annetta - Connect to and Purchase Water from Weatherford (TRWD)	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Primary Pump Stations (0.3 MGD)	$871,000
Transmission Pump Station(s) & Storage Tank(s)	$1,684,000
TOTAL COST OF FACILITIES	**$2,555,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$894,000
Environmental & Archaeology Studies and Mitigation	$231,000
Land Acquisition and Surveying (26 acres)	$198,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$107,000
TOTAL COST OF PROJECT	**$3,985,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$280,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$8,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$44,000
Pumping Energy Costs (60211 kW-hr @ 0.08 $/kW-hr)	$5,000
TOTAL ANNUAL COST	**$337,000**
Available Project Yield (acft/yr)	195
Annual Cost of Water ($ per acft), based on PF=2	$1,728
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$292
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$5.30
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.90
KEK	*1/8/2020*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Aledo - Parallel Pipe & Pump Station Expansions from TRWD (Fort Worth)	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline fro Ft Worth West Delivery Point (12 in dia., 1.8 miles)	$829,311
Transmission Pipeline Westside IV (16 in dia., 4.5 miles)	$2,318,928
Transmission Pipeline Westside IV (20 in dia., 2.7 miles)	$1,751,829
Transmission Pump Station(s) & Storage Tank(s)	$1,566,000
Pipeline Crossings	$207,000
TOTAL COST OF FACILITIES	**$8,865,183**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,080,000
Environmental & Archaeology Studies and Mitigation	$305,000
Land Acquisition and Surveying (9 acres)	$72,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$252,000
TOTAL COST OF PROJECT	**$9,53N,183**
AUU7AL COST	
Debt Service (3.5 percent, 20 years)	$660,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$51,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$39,000
Pumping Energy Costs (23984 kW-hr @ 0.08 $/kW-hr)	$2,000
TOTAL AUU7AL COST	**$60N,111**
Available Project Yield (acft/yr)	299
Annual Cost of Water ($ per acft), based on PF=N	$2,515
Annual Cost of Water After 2ebt Service ($ per acft), based on PF=N	$308
Annual Cost of Water ($ per D,111 gallons), based on PF=N	$7.72
Annual Cost of Water After 2ebt Service ($ per D,111 gallons), based on PF=N	$0.94
Note: One or more cost element has been calculated externally	
KAS (CP&Y); ADK (FNI) QC	*9/20/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Hudson Oaks - Connect and Purchase Water from Fort Worth	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (10 in dia., 6.9 miles)	$1,816,000
Primary Pump Stations (0.9 MGD)	$1,018,000
Pipeline Crossings	$953,000
TOTAL COST OF FACILITIES	**$3,787,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,187,000
Environmental & Archaeology Studies and Mitigation	$209,000
Land Acquisition and Surveying (22 acres)	$169,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$148,000
TOTAL COST OF PROJECT	**$5,500,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$387,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$28,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$25,000
Pumping Energy Costs (125801 kW-hr @ 0.08 $/kW-hr)	$10,000
TOTAL ANNUAL COST	**$450,000**
Available Project Yield (acft/yr)	465
Annual Cost of Water ($ per acft), based on PF=2	$968
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$135
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$2.97
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.42
KAS (CP&Y); ADK (FNI) QC	*10/14/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Springtown - Increase Delivery Infrastructure, Surface Water Treatment Plant & Supply Project*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Raw Water Pump Station	$535,000
Surface Water Treatment Plant and Upgrade (1 MGD)	$2,461,000
TOTAL COST OF FACILITIES	**$2,996,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,049,000
Environmental & Archaeology Studies and Mitigation	$6,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$112,000
TOTAL COST OF PROJECT	**$4,163,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$293,000
Operation and Maintenance	$96,000
Water Treatment Plant	$52,000
TOTAL ANNUAL COST	**$441,000**
Available Project Yield (acft/yr)	555
Annual Cost of Water ($ per acft)	$795
Annual Cost of Water After Debt Service ($ per acft)	$267
Annual Cost of Water ($ per 1,000 gallons)	$2.44
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.82
Note: One or more cost element has been provided by Springtown's Engineer	
KEK	*1/8/2020*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Weatherford - Indirect Reuse - Phase I*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (16 in dia., 5.9 miles)	$4,389,000
Primary Pump Stations	$3,460,000
Water Treatment Plant Upgrades	$1,707,000
Outfall Structure	$12,000
TOTAL COST OF FACILITIES	**$9,568,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$3,129,000
Environmental & Archaeology Studies and Mitigation	$148,000
Land Acquisition and Surveying	$1,407,000
Interest During Construction (3% for 1.5 years with a 0.5% ROI)	$588,000
TOTAL COST OF PROJECT	**$14,840,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$1,044,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$44,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$87,000
Pumping Energy Costs (742539 kW-hr @ 0.08 $/kW-hr)	$59,000
TOTAL ANNUAL COST	**$1,234,000**
Available Project Yield (acft/yr)	2,240
Annual Cost of Water ($ per acft)	$551
Annual Cost of Water After Debt Service ($ per acft)	$85
Annual Cost of Water ($ per 1,000 gallons)	$1.69
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.26
Note: One or more cost element has been provided by Freese and Nichols, Inc.	
KEK	*1/8/2020*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Weatherford - Indirect Reuse - Phase II	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Additional Facilities to Utilize Max Reuse Available	$350,000
TOTAL COST OF FACILITIES	**$350,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$123,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$13,000
TOTAL COST OF PROJECT	**$486,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$34,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$4,000
Pumping Energy Costs (371270 kW-hr @ 0.08 $/kW-hr)	$30,000
TOTAL ANNUAL COST	**$68,000**
Available Project Yield (acft/yr)	1,121
Annual Cost of Water ($ per acft)	$61
Annual Cost of Water After Debt Service ($ per acft)	$30
Annual Cost of Water ($ per 1,000 gallons)	$0.19
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.09
Note: One or more cost element has been provided by Freese and Nichols, Inc.	
KEK	*1/8/2020*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Weatherford - Increase Capacity of Lake Benbrook Pump Station***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Expansion of Existing Benbrook Pump Station	$1,679,000
TOTAL COST OF FACILITIES	**$1,679,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$588,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$32,000
TOTAL COST OF PROJECT	**$2,299,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$162,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$42,000
Pumping Energy Costs (52828 kW-hr @ 0.08 $/kW-hr)	$4,000
Purchase of Water (448.4 acft/yr @ 218.312153796025 $/acft)	$98,000
TOTAL ANNUAL COST	**$306,000**
Available Project Yield (acft/yr)	448
Annual Cost of Water ($ per acft)	$682
Annual Cost of Water After Debt Service ($ per acft)	$321
Annual Cost of Water ($ per 1,000 gallons)	$2.09
Annual Cost of Water After Debt Service ($ per 1,000 gallons)	$0.99
Note: One or more cost element has been provided by Freese and Nichols, Inc.	
KEK	*12/31/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Willow Park - Connect to and Purchase Water from Fort Worth (TRWD)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (14 in dia., 3.9 miles)	$1,709,000
Primary Pump Stations (3.4 MGD)	$1,068,000
TOTAL COST OF FACILITIES	**$2,777,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$887,000
Environmental & Archaeology Studies and Mitigation	$133,000
Land Acquisition and Surveying (15 acres)	$112,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$108,000
TOTAL COST OF PROJECT	**$4,017,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$283,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$17,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$27,000
Pumping Energy Costs (89917 kW-hr @ 0.08 $/kW-hr)	$7,000
TOTAL ANNUAL COST	**$334,000**
Available Project Yield (acft/yr)	1,911
Annual Cost of Water ($ per acft), based on PF=2	$175
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$27
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.54
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.08
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Parker County Other - Connect to and Purchase from TRWD with 12.5 MGD WTP***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (30 in dia., 21 miles)	$21,777,000
Primary Pump Stations (12.2 MGD)	$6,017,000
Transmission Pump Station(s) & Storage Tank(s)	$7,413,000
Water Treatment Plant (12.5 MGD)	$50,676,000
TOTAL COST OF FACILITIES	**$85,883,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$28,970,000
Environmental & Archaeology Studies and Mitigation	$639,000
Land Acquisition and Surveying (67 acres)	$519,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,191,000
TOTAL COST OF PROJECT	**$119,202,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$8,387,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$232,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$301,000
Water Treatment Plant	$3,547,000
Pumping Energy Costs (4849752 kW-hr @ 0.08 $/kW-hr)	$388,000
TOTAL ANNUAL COST	**$12,855,000**
Available Project Yield (acft/yr)	6,860
Annual Cost of Water ($ per acft), based on PF=2	$1,874
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$651
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$5.75
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$2.00
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Blackland WSC - Connect to and Purchase Water from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and
a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (1 in 0iad, d6 miles9	) $.8$1.yyy
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t Mora5e Tan3s (x Mer TEan aMFoosMr PSmp t MaMons9	) b6, .yyy
LnMe5raMon. AelocaMons. B x Mer	) g61.yyy
TOTAL COST OF FACILITIES	**$4,613,000**
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LnMeresMCSrin5 2onsMScMon (6q Ior $dg uears WiME a ydgq Ax L9	) 84y.yyy
TOTAL COST OF PROJECT	**$6,804,000**
ANNUAL COST	
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x peraMon an0 G ainMenance	
Pipeline. k ells. an0 t Mora5e Tan3s ($q oI 2osMoI &aciliMes9	) 6, .yyy
LnMa3es an0 PSmp t MaMons (8dgq oI 2osMoI &aciliMes9	) 8, .yyy
PSmpin5 f ner5u 2osM ($$4184 3k -Er @ yd1) /3k -Er9	) b.yyy
TOTAL ANNUAL COST	**$550,000**
Available Project Yield (acft/yr)	w6g
Annual Cost of Water ($ per acft), based on PF=2	) $.8, w
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	) $, 6
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	) 6d1
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	) ydgy
Note: One or more cost element has been provided by Blackland WSC's Engineer	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Cash SUD - Increase Delivery Infrastructure from NTMWD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	**Estimated Costs for Facilities**
CAPITAL COST	
Transmission Pipeline (16 in dia., 10.2 miles)	$5,262,000
Primary Pump Stations (1.8 MGD)	$292,000
TOTAL COST OF FACILITIES	**$5,554,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,681,000
Environmental & Archaeology Studies and Mitigation	$279,000
Land Acquisition and Surveying (30 acres)	$162,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$212,000
TOTAL COST OF PROJECT	**$7,888,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$555,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$53,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$7,000
TOTAL ANNUAL COST	**$615,000**
Available Project Yield (acft/yr)	1,006
Annual Cost of Water ($ per acft), based on PF=2	$611
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$60
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.88
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.18
Note: One or more cost element has been provided by Cash WSC's Engineer	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Fate - Increase Delivery Infrastructure from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and
a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (18 in dia., 0.5 miles)	$316,000
Primary Pump Stations (5.4 MGD)	$1,084,000
TOTAL COST OF FACILITIES	**$1,400,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$474,000
Environmental & Archaeology Studies and Mitigation	$38,000
Land Acquisition and Surveying (6 acres)	$34,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$54,000
TOTAL COST OF PROJECT	**$2,000,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$141,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$27,000
Pumping Energy Costs (351369 kW-hr @ 0.08 $/kW-hr)	$28,000
TOTAL ANNUAL COST	**$199,000**
Available Project Yield (acft/yr)	3,024
Annual Cost of Water ($ per acft), based on PF=2	$66
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$19
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.20
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.06

KAS (CP&Y) *12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Rockwall - Increase Delivery Infrastructure to Purchase Additional Water from NTMWD

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (42 in dia., 10.5 miles)	$15,692,000
Primary Pump Stations (24.4 MGD)	$5,278,000
TOTAL COST OF FACILITIES	**$20,970,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$6,555,000
Environmental & Archaeology Studies and Mitigation	$288,000
Land Acquisition and Surveying (31 acres)	$166,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$770,000
TOTAL COST OF PROJECT	**$28,749,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$2,023,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$157,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$132,000
Pumping Energy Costs (1739895 kW-hr @ 0.08 $/kW-hr)	$139,000
TOTAL ANNUAL COST	**$2,451,000**
Available Project Yield (acft/yr)	13,682
Annual Cost of Water ($ per acft), based on PF=2	$179
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$31
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.55
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.10

AGG *1/9/2020*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Burleson - Increase Delivery Infrastructure from Ft Worth

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (18 in dia., 2.7 miles)	$1,883,000
Primary Pump Stations (4.7 MGD)	$1,424,000
TOTAL COST OF FACILITIES	**$3,307,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,063,000
Environmental & Archaeology Studies and Mitigation	$103,000
Land Acquisition and Surveying (12 acres)	$89,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$126,000
TOTAL COST OF PROJECT	**$4,688,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$330,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$19,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$36,000
Pumping Energy Costs (556975 kW-hr @ 0.08 $/kW-hr)	$45,000
TOTAL ANNUAL COST	**$430,000**
Available Project Yield (acft/yr)	2,641
Annual Cost of Water ($ per acft), based on PF=2	$163
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$38
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.50
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.12
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Crowley - Increase Delivery Infrastructure from Ft Worth

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (18 in dia., 1.4 miles)	$1,084,000
Primary Pump Stations (5.3 MGD)	$1,215,000
TOTAL COST OF FACILITIES	**$2,299,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$750,000
Environmental & Archaeology Studies and Mitigation	$71,000
Land Acquisition and Surveying (8 acres)	$65,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$88,000
TOTAL COST OF PROJECT	**$3,273,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$230,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$11,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$30,000
Pumping Energy Costs (423312 kW-hr @ 0.08 $/kW-hr)	$34,000
TOTAL ANNUAL COST	**$305,000**
Available Project Yield (acft/yr)	2,975
Annual Cost of Water ($ per acft), based on PF=2	$103
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$25
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.31
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.08

KAS (CP&Y) *12/20/2019*

This project was removed between the IPP and Final Region C Water Plan. See Appendix Q for details.

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Keller - Increase Delivery Infrastructure from Fort Worth*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
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Transmrioansf 2e Fsdanail ps	WhD, 8D11s
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TOTAL COST OF FACILITIES	**$14,207,000**
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gnp7sT3A2ioiail psnp7sd2Rct &ip$s	W 4, D11s
)pat Rt oaB2Rp$sCl poaP23ail psxyE sd R(%s&t nRosMia6snsl%E s9V)Ls	W48qD11s
TOTAL COST OF PROJECT	**$20,140,000**
ANNUAL COST	
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TOTAL ANNUAL COST	**$1,864,000**
Available Project Yield (acft/yr)	, Dyvs
Annual Cost of Water ($ per acft), based on PF=2	W y1s
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	W(1ys
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	W(%yvs
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	W1%yvs
Note: One or more cost element has been provided by Freese and Nichols, Inc.	
KAS (CP&Y); ADK (FNI) QC	*9/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Kennedale - Connect to and Purchase Water from Arlington (TRWD)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (8 in dia., 2 miles)	$485,000
Primary Pump Stations (0.5 MGD)	$858,000
TOTAL COST OF FACILITIES	**$1,343,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$446,000
Environmental & Archaeology Studies and Mitigation	$85,000
Land Acquisition and Surveying (10 acres)	$76,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$54,000
TOTAL COST OF PROJECT	**$2,004,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$141,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$5,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$21,000
Pumping Energy Costs (31323 kW-hr @ 0.08 $/kW-hr)	$3,000
TOTAL ANNUAL COST	**$170,000**
Available Project Yield (acft/yr)	280
Annual Cost of Water ($ per acft), based on PF=2	$607
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$104
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.86
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.32
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Kennedale - Increase Delivery Infrastructure from Ft Worth

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (12 in dia., 5 miles)	$2,119,000
Primary Pump Stations (1.6 MGD)	$983,000
TOTAL COST OF FACILITIES	**$3,102,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$980,000
Environmental & Archaeology Studies and Mitigation	$160,000
Land Acquisition and Surveying (17 acres)	$132,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$121,000
TOTAL COST OF PROJECT	**$4,495,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$316,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$21,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$25,000
Pumping Energy Costs (109306 kW-hr @ 0.08 $/kW-hr)	$9,000
TOTAL ANNUAL COST	**$371,000**
Available Project Yield (acft/yr)	893
Annual Cost of Water ($ per acft), based on PF=2	$415
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$62
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$1.27
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.19
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Pantego - Connect to and Purchase Water from Arlington (TRWD)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 2.2 miles)	$334,000
Primary Pump Stations (0.1 MGD)	$196,000
TOTAL COST OF FACILITIES	**$530,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$169,000
Environmental & Archaeology Studies and Mitigation	$91,000
Land Acquisition and Surveying (10 acres)	$80,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$24,000
TOTAL COST OF PROJECT	**$894,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$63,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$3,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$5,000
TOTAL ANNUAL COST	**$71,000**
Available Project Yield (acft/yr)	30
Annual Cost of Water ($ per acft), based on PF=2	$2,367
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$267
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$7.26
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.82
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Pantego - Connect to and Purchase Water from Fort Worth (TRWD)	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (6 in dia., 3.7 miles)	$563,000
Primary Pump Stations (0.1 MGD)	$333,000
TOTAL COST OF FACILITIES	**$896,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$286,000
Environmental & Archaeology Studies and Mitigation	$129,000
Land Acquisition and Surveying (14 acres)	$109,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$40,000
TOTAL COST OF PROJECT	**$1,460,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$103,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$6,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$8,000
Pumping Energy Costs (6263 kW-hr @ 0.08 $/kW-hr)	$1,000
TOTAL ANNUAL COST	**$118,000**
Available Project Yield (acft/yr)	30
Annual Cost of Water ($ per acft), based on PF=2	$3,933
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$500
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$12.07
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$1.53
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Pelican Bay - Connect to and Purchase Water from Azle (TRWD)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (6 in dia., 5.6 miles)	$846,000
Primary Pump Stations (0 MGD)	$94,000
TOTAL COST OF FACILITIES	**$940,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$287,000
Environmental & Archaeology Studies and Mitigation	$176,000
Land Acquisition and Surveying (19 acres)	$144,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$43,000
TOTAL COST OF PROJECT	**$1,590,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$112,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$8,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$2,000
TOTAL ANNUAL COST	**$122,000**
Available Project Yield (acft/yr)	10
Annual Cost of Water ($ per acft), based on PF=2	$12,200
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$1,000
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$37.43
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$3.07
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Southlake - Increase Delivery Infrastructure from Ft Worth*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (30 in dia., 4.5 miles)	$6,125,000
Primary Pump Stations (14 MGD)	$3,108,000
TOTAL COST OF FACILITIES	**$9,233,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,925,000
Environmental & Archaeology Studies and Mitigation	$148,000
Land Acquisition and Surveying (16 acres)	$123,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$342,000
TOTAL COST OF PROJECT	**$12,771,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$899,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$61,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$78,000
Pumping Energy Costs (1134740 kW-hr @ 0.08 $/kW-hr)	$91,000
TOTAL ANNUAL COST	**$1,129,000**
Available Project Yield (acft/yr)	7,845
Annual Cost of Water ($ per acft), based on PF=2	$144
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$29
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.44
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.09
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary Water Supply Project Option September 2018 Prices Watauga and North Richland Hills - Increase Delivery Infrastructure from Fort Worth	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	Estimated Costs for Facilities
CAPITAL COST	
Transmission Pipeline (30 in dia.,1.1 miles)	$1,807,000
Pump Station Expansion	$2,530,000
Pavement Repair (40" Boring and Casing)	$293,000
Storage Tanks (Other Than at Booster Pump Stations)	$3,409,000
New Wholesale Meter	$310,000
TOTAL COST OF FACILITIES	**$8,349,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,817,000
Environmental & Archaeology Studies and Mitigation	$30,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$308,000
TOTAL COST OF PROJECT	**$11,504,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$809,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$58,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$63,000
Pumping Energy Costs (2388889 kW-hr @ 0.08 $/kW-hr)	$191,000
TOTAL ANNUAL COST	**$1,121,000**
Available Project Yield (acft/yr)	5,416
Annual Cost of Water ($ per acft), based on PF=2	$207
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$58
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.64
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.18
Note: One or more cost element has been calculated externally	
KAS (CP&Y); ADK (FNI) QC	*12/23/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
County-Other, Tarrant - Connect to Euless for DFW Airport (Alternative)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (10 in dia., 6 miles9	) $,168,yyy
Primaru PSmp t MaMons (6.0 G DC9	) 1,6$y,yyy
t Morage Tan5s (3Mer Txan aMEoosMr PSmp t MaMons9	) 1,yFF,yyy
TOTAL COST OF FACILITIES	**$4,532,000**
Lngineering and AeasiciliM t Mdies, Begal %ssisMnfe, Ainanfing, Eond &oSnsel, and &onMngenfies (6yh 7or pipes v 68h 7or all oMer 7afiliMes9	) 1,2Fq,yyy
LnI ironmenMl v %rfxaeologu t Mdies and G iMgaMon	) 1$2,yyy
Band %fwSisiMon and t SrI euing (12 afres9	) 11y,yyy
RnMresMCSring &onsMSfMon (6h 7or 1 uears OiM a y.8h 43R9	) 1F$,yyy
TOTAL COST OF PROJECT	**$6,417,000**
ANNUAL COST	
CecM erIife (6.8 perfenM$y uears9	) 28$,yyy
3peraMon and G ainMnanfe	
Pipeline, Wells, and t Morage Tan5s (1h o7&osMo7Aafiliaes9	) 6$,yyy
RnM5es and PSmp t MaMons ($.8h o7&osMo7Aafiliaes9	) 66,yyy
PSmping Lnergu &osM (811$$6 5Wkxr - y.y@) /5Wkxr9	) 21,yyy
PSrfxase o7WaMr ($yyy af7Mur - qFF.88) /af7M9	) 1,q88,yyy
TOTAL ANNUAL COST	**$2,513,000**
Available Project Yield (acft/yr)	$,yyy
Annual Cost of Water ($ per acft), based on PF=2	) 1,$8F
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	) 1,y61
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	) 6.@0
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	) 6.10

ADK *1/12/5050*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices
Steam Electric, Tarrant - Direct Reuse

Cost based on ENR CCI 11170.28 for September 2018 and
a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (10 in dia., 6 miles9	) $,08y,uuu
PrimarS Pt mp MGaGons (D.y C g 59	) y,$60,uuu
MGora3e Tanxs (E GFer TFan aGboosGer Pt mp MGaGons9	) 1,uLL,uuu
TOTAL COST OF FACILITIES	**$9,355,000**
cn3ineerin3 and Beasi%iliGS MGt dies, f e3al &ssisGanhe, Binanhin3, bond 7ot nsel, and 7onGn3enhies (vu2 cpr pipes I v$2 cpr all oGFer cahiliGes9	) y,88u,uuu
cnwironmenGal I &rhFaeolo3S MGt dies and C iG3aGon	) yD8,uuu
f and &hRt isiGon and Mt rweSin3 (y0 ahres9	) yuD,uuu
GnGeresG5t rin3 7onsGt hGon (v2 cpr 1 Sears 4 iGF a u.$2 WE G9	) v$y,uuu
TOTAL COST OF PROJECT	**$13,150,000**
ANNUAL COST	
5e%GMerwihe (v.$ perhenG,yu Sears9	) 8y$,uuu
E peraGon and C ainGenanhe	
Pipeline, k ells, and MGora3e Tanxs (12 oq7osGoqBahiliGes9	) 06,uuu
GnGaxes and Pt mp MGaGons (y.$2 oq7osGoqBahiliGes9	) 0$,uuu
Pt mpin3 cner3S 7osGs (L$L8Du xk -Fr @ u.u6) /xk -Fr9	) 01,uuu
Pt rhFase oqk aGer (yv0u ahqGSr @ 10y.8v) /ahqG9	) v6$,uuu
TOTAL ANNUAL COST	**$1,504,000**
Available Project Yield (acft/yr)	y,v0u
Annual Cost of Water ($ per acft), based on PF=2	) 0vL
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	) yD$
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	) 1.80
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	) u.L$

ADK *1/15/2020*

Cost Estimate Summary *Water Supply Project Option* *September 2018 Prices* *Alvord - Connect to and Purchase Water from West Wise SUD (TRWD)*	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (8 in dia., 10.1 miles)	$1,943,000
Primary Pump Stations (0.5 MGD)	$878,000
Transmission Pump Station(s) & Storage Tank(s)	$1,709,000
TOTAL COST OF FACILITIES	**$4,530,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$1,489,000
Environmental & Archaeology Studies and Mitigation	$323,000
Land Acquisition and Surveying (34 acres)	$266,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$182,000
TOTAL COST OF PROJECT	**$6,790,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$478,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$28,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$44,000
Pumping Energy Costs (75004 kW-hr @ 0.08 $/kW-hr)	$6,000
TOTAL ANNUAL COST	**$556,000**
Available Project Yield (acft/yr)	266
Annual Cost of Water ($ per acft), based on PF=2	$2,090
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$293
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$6.41
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.90
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Bridgeport - Expand Capacity of Lake intake and Pump Station	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (14 in dia., 0 miles)	$8,000
Intake Pump Stations (2.5 MGD)	$961,000
TOTAL COST OF FACILITIES	**$969,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$339,000
Environmental & Archaeology Studies and Mitigation	$36,000
Land Acquisition and Surveying (5 acres)	$39,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$39,000
TOTAL COST OF PROJECT	**$1,422,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$100,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$24,000
Pumping Energy Costs (140278 kW-hr @ 0.08 $/kW-hr)	$11,000
TOTAL ANNUAL COST	**$135,000**
Available Project Yield (acft/yr)	1,414
Annual Cost of Water ($ per acft), based on PF=2	$95
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$25
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.29
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.08
Note: One or more cost element has been calculated externally	
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary	
Water Supply Project Option	
September 2018 Prices	
Chico - Increase Delivery Infrastructure from West Wise SUD	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Transmission Pipeline (10 in dia., 7 miles)	$1,993,000
Primary Pump Stations (0.9 MGD)	$987,000
TOTAL COST OF FACILITIES	**$2,980,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$943,000
Environmental & Archaeology Studies and Mitigation	$210,000
Land Acquisition and Surveying (22 acres)	$170,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$119,000
TOTAL COST OF PROJECT	**$4,422,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$311,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$20,000
Intakes and Pump Stations (2.5% of Cost of Facilities)	$25,000
Pumping Energy Costs (149925 kW-hr @ 0.08 $/kW-hr)	$12,000
TOTAL ANNUAL COST	**$368,000**
Available Project Yield (acft/yr)	508
Annual Cost of Water ($ per acft), based on PF=2	$724
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$112
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$2.22
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.34
KAS (CP&Y)	*12/20/2019*

Cost Estimate Summary
Water Supply Project Option
September 2018 Prices

Newark - Connect to and Purchase Water from Rhome (from Walnut Creek SUD from TRWD)

Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018

Item	*Estimated Costs for Facilities*
CAPITAL COST	
Transmission Pipeline (10 in dia., 4 miles)	$1,050,000
TOTAL COST OF FACILITIES	**$1,050,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$315,000
Environmental & Archaeology Studies and Mitigation	$100,000
Land Acquisition and Surveying (10 acres)	$75,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$43,000
TOTAL COST OF PROJECT	**$1,583,000**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$111,000
Operation and Maintenance	
Pipeline, Wells, and Storage Tanks (1% of Cost of Facilities)	$11,000
TOTAL ANNUAL COST	**$122,000**
Available Project Yield (acft/yr)	715
Annual Cost of Water ($ per acft), based on PF=2	$171
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$15
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.52
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.05

KAS (CP&Y) *12/20/2019*

Cost Estimate Summary ***Water Supply Project Option*** ***September 2018 Prices*** ***Runaway Bay - Increase Capacity of Lake Intake***	
Cost based on ENR CCI 11170.28 for September 2018 and a PPI of 201.9 for September 2018	
Item	***Estimated Costs for Facilities***
CAPITAL COST	
Increase Capacity of Lake Bridgeport Intake (5.7 MGD)	$6,322,650
TOTAL COST OF FACILITIES	**$6,322,650**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	$2,212,928
Environmental & Archaeology Studies and Mitigation	$3,000
Interest During Construction (3% for 0.5 years with a 0.5% ROI)	$118,000
TOTAL COST OF PROJECT	**$8,656,578**
ANNUAL COST	
Debt Service (3.5 percent, 20 years)	$609,000
Operation and Maintenance	
Intakes and Pump Stations (2.5% of Cost of Facilities)	$158,000
TOTAL ANNUAL COST	**$767,000**
Available Project Yield (acft/yr)	3,219
Annual Cost of Water ($ per acft), based on PF=2	$238
Annual Cost of Water After Debt Service ($ per acft), based on PF=2	$49
Annual Cost of Water ($ per 1,000 gallons), based on PF=2	$0.73
Annual Cost of Water After Debt Service ($ per 1,000 gallons), based on PF=2	$0.15
Note: One or more cost element has been calculated externally	
KAS (CP&Y)	*10/28/2019*

Appendix I

Water Conservation Savings

Appendix I Conservation Measures and GPCD Goals

This appendix presents information on water conservation strategies (costs and savings) and per capita water use goals. The *2021 Region C Water Plan* recommends Water Conservation measures for municipal, irrigation, and mining water user groups (WUGs). The purpose of this appendix is to document the criteria for recommending strategies in the Water Conservation Package for a WUG, and to document assumptions made in projecting water savings and opinions of probable costs for these strategies. **Sections I.2** to **I.4** describe conservation measures mandated by state or federal law and already included within demand projections. **Sections I.4** to **I.16** describe conservation measures chosen for Region C WUGs and recommended as strategies. The last section of this appendix contains the goals for per capita water use by water user group as required by TWDB.

Section Outline

Related Chapters:

Chapter 2 Population and Water Demand Projections

Chapter 5B Conservation and Reuse

I.1 Relationship of Water Conservation and Water Demand Projections

Water demand projections for regional water planning are based on per capita water usage during the base year, which is the most recent very dry year with high water usage. For most Region C WUGs, the base year is 2011. To obtain the initial water demand projection for a given decade, the base year per capita water use is multiplied by the projected population for that decade.

I.1.1 Passive Water Conservation

Passive water conservation measures do not require actions from a WUG to realize the savings. The Texas Water Development Board (TWDB) has projected water savings that are expected to result from passive water conservation measures, including low-flow plumbing fixture rules, efficient new residential clothes washer standards, and efficient new residential dishwasher standards. The final water demand projections presented in **Chapter 2** are the initial water demand projections minus the projected water savings from passive measures. Therefore, the projected water savings from passive measures are built into the Region C water demand projections.

The projected passive water savings are presented in **Table I.1** as "Water Savings Implicit in Water Demand Projections."

I.1.2 Active Water Conservation Through the Base Year

Active water conservation measures require actions from a WUG to realize the savings. Although significant water conservation occurred from active measures in Region C prior to and during the base year, the associated water savings have not been enumerated. Instead, all water conservation savings that occurred through the base year are assumed to be implicit in the base year per capita water use and are therefore built into the water demand projections.

I.1.3 Active Water Conservation Since the Base Year

Region C WUGs have continued to implement active water conservation measures since the base year. The associated water savings has reduced water demand in Region C, but this demand reduction is not reflected in the Region C water demand projections. For measures with sufficient available data, this demand reduction is quantified in **Table I.1** as "Demand Reduction Since Base Year (Already Implemented)." No future costs are shown in **Table I.2** for this demand reduction, because the costs have already been incurred. This is analogous to how existing water supplies are handled in the Region C Water Plan.

The Statewide Water Conservation Quantification Project (SWCQP) interviewed representative of 63 Region C WUGs and estimated water savings from recently implemented water conservation measures. [1]

I.1.4 Active Water Conservation During the Planning Period

Recommended water management strategies include active water conservation measures that are projected to save water during the planning period. The projected water savings from active water conservation measures are presented in **Table I.1** as "Water Savings from Recommended Water Management Strategies," and projected costs are projected in **Table I.2**.

Table I.1 Summary of Projected Municipal Water Savings by Conservation Measure

WUG Name	2020	2030	2040	2050	2060	2070
Water Savings Implicit in Water Demand Projections						
Low Flow Plumbing Fixture Rules [a] Efficient New Residential Clothes Washer Standards [a] Efficient New Residential Dishwasher Standards [a]	75,085	119,881	160,677	193,278	221,329	249,646
Water Savings Implicit in Water Demand Projections	***75,085***	***119,881***	***160,677***	***193,278***	***221,329***	***249,646***
Demand Reduction Since Base Year (Already Implemented, but not reflected in demand projections)						
Enhanced Public and School Education [b]	0	0	0	0	0	0
Price Elasticity/Rate Structure Impacts	8,958	9,755	10,567	11,202	11,702	12,165
Enhanced Water Loss Control Program	4,751	4,969	1,293	1,325	1,328	1,328
Water Waste Prohibition	75	255	319	373	462	551
Time-of-Day Irrigation Restriction	43	62	76	89	98	110
Twice Weekly Irrigation Restriction	29,448	32,887	36,803	40,136	43,165	45,403
Water Conservation Coordinator	947	2,145	2,393	2,678	2,994	3,289
Other [c]	6,617	5,067	1,539	1,101	1,107	1,112
Water Savings from Demand Reduction Since Base Year	***50,839***	***55,140***	***52,990***	***56,904***	***60,856***	***63,958***
Water Savings from Recommended Water Management Strategies						
Enhanced Public and School Education	6,358	9,467	10,721	12,624	14,830	16,951
Price Elasticity/Rate Structure Impacts	5,043	11,443	19,384	28,979	40,354	53,476
Enhanced Water Loss Control Program	24,302	29,165	11,418	10,196	8,577	6,645
Water Waste Prohibition	246	635	787	906	1,013	1,163
Time-of-Day Irrigation Restriction	75	167	208	237	267	300
Twice Weekly Irrigation Restriction	7,006	13,357	15,746	18,285	21,366	24,376
Water Conservation Coordinator	0	36	127	246	373	545
Other [d]	195	7,519	23,231	26,063	26,249	25,813
Water Savings from Recommended Water Management Strategies	***43,225***	***71,789***	***81,622***	***97,536***	***113,029***	***129,269***
Total Projected Water Savings	**169,149**	**246,810**	**295,289**	**347,718**	**395,214**	**442,873**

a. Water savings estimated by Texas Water Development Board.

b. Little information is available regarding WUGs that implemented enhanced public and school education programs during this time. In addition, it is very difficult to accurately measure water savings from these programs. For these reasons, no estimate of water savings since the base year was made.

c. For demand reduction since the base year, "other" water conservation includes water savings from two sources:

i. Rebates, direct installation, and other methods of implementing low flow plumbing fixtures and efficient appliances before they would otherwise be naturally replaced. This accelerates the savings from low flow plumbing fixture and efficient appliance rules.

ii. Miscellaneous water conservation measures that have been implemented since the base year.

d. For recommended water management strategies, "other" water conservation includes water savings from two sources:

i. According to their water conservation plans, 15 WUGs have implemented significant measures in addition to the Water Conservation Package. These conservation measures have been implemented recently and were not reflected in the historical water data that were used to project water demands. These measures were evaluated on a WUG-specific basis.

ii. *Conservation water savings estimates over and above the Water Conservation Package that were submitted by WUGs or their consultants.*

Table I.2 Summary of Projected Unit Cost by Municipal Conservation Measure

WUG Name	2020	2030	2040	2050	2060	2070
Future Costs Implicit in Water Demand Projections						
Low Flow Plumbing Fixture Rules Efficient New Residential Clothes Washer Standards Efficient New Residential Dishwasher Standards	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Future Savings Implicit in Water Demand Projections	***$0.00***	***$0.00***	***$0.00***	***$0.00***	***$0.00***	***$0.00***
Future Cost for Demand Reduction Since Base Year (Already Implemented, but not reflected in demand projections) [a]						
Enhanced Public and School Education	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Price Elasticity/Rate Structure Impacts	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Enhanced Water Loss Control Program	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Water Waste Prohibition	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Time-of-Day Irrigation Restriction	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Twice Weekly Irrigation Restriction	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Water Conservation Coordinator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Future Cost for Demand Reduction Since Base Year	***$0.00***	***$0.00***	***$0.00***	***$0.00***	***$0.00***	***$0.00***
Future Cost for Recommended Water Management Strategies						
Enhanced Public and School Education	$1.14	$1.19	$1.15	$1.13	$1.12	$1.10
Price Elasticity/Rate Structure Impacts	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Enhanced Water Loss Control Program	$4.20	$3.56	$0.58	$0.80	$1.15	$1.76
Water Waste Prohibition	$1.46	$1.09	$0.89	$0.84	$0.87	$0.90
Time-of-Day Irrigation Restriction	$5.12	$3.78	$3.24	$3.08	$3.09	$3.06
Twice Weekly Irrigation Restriction	$0.24	$0.23	$0.22	$0.21	$0.22	$0.22
Water Conservation Coordinator	$0.00	$1.00	$1.00	$1.00	$1.00	$1.00
Other [b]	$12.31	$1.27	$0.79	$0.82	$0.87	$0.92
Future Cost for Recommended Water Management Strategies	**$2.64**	**$1.80**	**$0.52**	**$0.51**	**$0.50**	**$0.48**
Total Projected Future Water Costs	***$0.67***	***$0.52***	***$0.14***	***$0.14***	***$0.14***	***$0.14***

a. No costs are included in the Region C Water Plan for demand reduction due to measures that have already been implemented. This is analogous to how existing supplies are handled in the Region C Water Plan.

b. These measures are typically pay-as-you-go measures (e.g., rebates), and the costs are not financed. For these measures, the costs are incurred when the measure is implemented, but savings continue for the life of the measure. The unit costs shown in this table are the cost incurred in a given year divided by the projected savings for that year only. This makes measures with front-loaded costs appear to be expensive in the first year of implementation. However, they are cost-effective when the ongoing savings are considered.

I.2 Low Flow Plumbing Fixture Rules

I.2.1 Applicability

Potential savings from state low flow plumbing fixture rules were evaluated for all municipal WUGs. The Water Saving Performance Standards for Plumbing Act, implemented by Texas in 1992, restricted flowrates of plumbing fixtures manufactured after January 1, 1994 to 1.6 gallons per flush (gpf) for toilets and 2.5 gallons per minute for showerheads. House Bill 2667, implemented September 1, 2009, further restricted toilet flowrates to 1.28 gpf by January 1, 2014.

I.2.2 Projected Water Savings

The TWDB projected water savings from the gradual conversion to 1.6 gpf toilets and 2.5 gpm showerheads at 10.5 gallons per capita per day (gpcd) for toilets and 5.5 gpcd for showerheads[(2)]. The TWDB projected the additional water savings from conversion to 1.28 gpf toilets at 1.63 gpcd.

For a given WUG, the initial number of inefficient toilets is based on the 1995 population. The TWDB assumes that 2 percent of this initial number will be replaced each year. Some of the projected water savings has already occurred as residents and businesses replace toilets and showerheads. For a given WUG, the percentage of the population that has installed low-flow plumbing fixtures depends on the 1995 population, the natural fixture replacement rate, and population growth since 1995 [(2)]. Based on these factors the TWDB estimated future water savings for each municipal WUG from the low flow plumbing fixture rules.

To project future water demands, the TWDB started with a dry-year per capita water use estimate (typically based on 2011 usage) and subtracted projected water savings from three state/federal regulatory measures:

- Low-flow plumbing fixture rules (this section),
- Efficient new residential clothes washer rules (**Section I.3**), and
- Efficient new residential dishwasher rules (**Section I.4**).

Although the savings from each measure are not broken out separately, the savings from all three measures in a given decade is presented in **Table I.2**. The projected 2020 regional municipal water demand is reduced by 4.7 percent from what it would be without these three regulatory measures, and the projected 2070 regional municipal water demand is reduced by 8.5 percent.

I.2.3 Additional Data Requirements

No additional data are needed to project water savings from low flow plumbing fixture rules.

I.2.4 Reliability

The projected water savings will be realized without action by the WUG. Therefore, the reliability of the potential water savings is relatively high.

I.2.5 Opinion of Probably Cost

The projected water savings will be realized at no cost to the WUGs.

I.3 Efficient New Residential Clothes Water Standards

I.3.1 Applicability

Potential savings from federal residential clothes washer standards were evaluated for all municipal WUGs. The federal Department of Energy has set water usage requirements for residential clothes washers by manufacture date (**Table I.3**).

I.3.2 Projected Water Savings

The TWDB projected water savings from the gradual conversion to more efficient residential clothes washers using the per capita savings projections (**Table I.3**), the useful life of clothes washers, the regulatory deadlines, and projected populations for each WUG.

Table I.3 Federal New Residential Clothes Washer Standards

Type of Clothes Washer	Manufacture Date (on or after)	Water Use Standard [a] (gal/ft^3)	TWDB Projected Water Savings [b] (gpcd)
Front-Loading	January 1, 2011	WF = 9.5	5.23
	March 7, 2015	MIWF = 4.5	6.67
Top-Loading	January 1, 2011	WF = 9.5	5.23
	March 7, 2015	MIWF = 8.4	5.56
	January 1, 2018	MIWF = 6.5	6.13
Front-Loading	January 1, 2011	WF = 9.5	5.23

a. *For 2011, the water use standard is expressed in terms of water factor (WF). The WF is the total weighted per-cycle water consumption for the cold wash/cold rinse cycle divided by the clothes container capacity. Other water use standards are expressed in terms of maximum integrated water factor (MIWF). The MIWF is the total weighted per-cycle water consumption for all wash cycles divided by the clothes container capacity. The listed standards apply to "standard" sized clothes washers of 1.6 cubic feet and larger.*

b. *Water savings projections depend on the number of people per household (2.75), the number of loads washed per household per year (300), the proportion of households with clothes washers (75 percent), the percentage of new construction installing a clothes washer (91 percent), the proportion of top-loading machines to front-loading machines (40 percent/60 percent), and the useful life of clothes washers (11 years for a front-loading machine and 14 years for a top-loading machine) [(2)].*

As described in **Section I.1.1**, the projected water savings from efficient new residential clothes washer standards are implicit in the TWDB's future water demand projections and comprise a portion of the water savings shown in **Table I.1.**

I.3.3 Additional Data Requirements

No additional data are needed to project water savings from federal residential clothes washer standards.

I.3.4 Reliability

The projected water savings will be realized without action by the WUG, as residents gradually replace inefficient clothes washers. Therefore, the reliability of the potential water savings is relatively high.

I.3.5 Opinion of Probably Cost

The projected water savings will be realized at no cost to the WUGs.

I.4 Efficient New Residential Dishwasher Standards

I.4.1 Applicability

Potential savings from federal residential dishwasher standards were evaluated for all municipal WUGs. The federal Department of Energy has set a requirement that "standard" sized residential dishwashers (capacity for 8 place settings) manufactured on or after January 1, 2010, must achieve a water consumption of 6.5 gallons per cycle. This requirement decreases to 5.0 gallons per cycle for dishwashers manufactured on or after May 30, 2013.

I.4.2 Projected Water Savings

The TWDB projected water savings of 1.83 gpcd from dishwashers that use 6.5 gallons per cycle and 1.93 gpcd from dishwashers that use 5.0 gallons per cycle [(2)]. As described in **Section I.1.1**, the projected water savings from efficient new residential dishwasher standards are implicit in the TWDB's future water demand projections and comprise a portion of the water savings shown in **Table I.1**.

I.4.3 Additional Data Requirements

No additional data are needed to project water savings from federal residential dishwasher standards.

I.4.4 Reliability

The projected water savings will be realized without action by the WUG, as residents gradually replace inefficient dishwashers. Therefore, the reliability of the potential water savings is relatively high.

I.4.5 Opinion of Probably Cost

The projected water savings will be realized at no cost to the WUGs.

I.5 Enhanced Public and School Education

Most utilities in Region C have some kind of public and school education program. However, the levels of effort put into these programs, the budgets for these programs, and the water savings from these programs are highly variable. Although this measure does not define how a utility should conduct its public and school education program, it assumes that participating utilities will operate their programs at a high (or "enhanced") level, committing resources as necessary to achieve significant water savings.

This measure incorporates elements of Best Management Practices (BMPs) 6.1 Public Information, 6.2 School Education, and 6.3 Public Outreach & Education [(3)].

I.5.1 Applicability

The enhanced public and school education program measure was evaluated for municipal WUGs with the following characteristics:

- Existing or projected total water usage of more than 140 gpcd,
- A projected water need,
- An identified sponsor for the public and school education program.

I.5.2 Projected Water Savings

Water savings from public and school education are difficult to measure. Public and school education results in indirect savings through enhancement of other water conservation measures and direct savings from changes in customer behavior. In this memorandum, the indirect savings from public education will be attributed to the other water conservation measures with which they are associated. Therefore, the potential water savings from public and school education will be the direct savings from changes in customer behavior.

Water Savings Through the Base Year

Tarrant Regional Water District (TRWD), North Texas Municipal Water District (NTMWD), and Dallas Water Utilities (DWU) began operating enhanced public education programs before the base year. Water savings from enhanced public and school education through the base year are built into the water demand projections.

Water Savings Since the Base Year

Little information is available regarding WUGs that implemented enhanced public and school education programs during this time. In addition, it is very difficult to accurately measure water savings from these programs. For these reasons, no estimate of water savings since the base year was made.

Projected Water Savings During the Planning Period

It has been assumed that the direct customers of TRWD, NTMWD, and DWU will achieve an additional savings of 0.5 percent of municipal water demand during the planning period (**Table I.4**). For other WUGs, the projected water savings in a given decade is estimated to be from 1 to 2 percent of municipal water demand, with savings increasing according to **Table I.4.** WUGs that implement this program by 2020 are projected to achieve 2 percent water savings by 2030.

Table I.4 Projected Percentage Savings by Decade for Enhanced Public and School Education

WUGs	2020	2030	2040	2050	2060	2070
Customers of TRWD, NTWMD, and/or DWU	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Other WUGs	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%

It is assumed that the savings from public and school education last one year [4] and that the program must be renewed each year to maintain and increase the estimated savings.

I.5.3 Additional Data Requirements

WUGs that have implemented enhanced public and school education programs since the base year need to be identified. No additional data are needed to project water savings from enhanced public and school education during the planning period.

I.5.4 Reliability

Water savings from enhanced public and school education are difficult to measure and depend on customer behavior. For these reasons, the reliability of the estimated water savings is low. Enhanced public and school education reinforces and builds on previously delivered conservation messages; therefore, it is important that the enhanced public and school education program be continued from year to year in order to increase the reliability of the savings.

I.5.5 Opinion of Probably Cost

Actual spending per resident can be difficult to track, because media markets overlap many cities. For example, Dallas Water Utilities planned to budget about $1.38 million in fiscal year 2018-2019 for its public awareness program and its environmental education initiative [5]. Based on the retail customer population, this corresponds to $1.07 per resident. However, the associated media buys also reached wholesale customers. When the wholesale customer population is taken into account, the per capita spending was $0.58.

Based on this information, the cost of enhanced public and school education is expected to be about $1.00 per resident for the largest WUGs. It is anticipated that smaller cities would have to spend up to $3.00 per resident per year to deliver effective water conservation messages [3].

The opinion of probable annual cost for each WUG to which this measure applies was derived using population projections. For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

These costs have been associated with the WUGs that benefit from the programs, regardless of whether the funding comes from the WUG itself or from a wholesale supplier.

I.6 Price Elasticity/Rate Structure Impact

Price increases or changes in rate structure impact water consumption. This measure incorporates elements of BMP 3.1 Water Conservation Pricing [3].

I.6.1 Applicability

The impact of real increases in water prices was evaluated for all municipal WUGs. Although many WUGs in Region C already have conservation-oriented rate structures, this measure is also assumed to account for rate structure changes.

I.6.2 Projected Water Savings

The change in water demand due to a real increase in the water price is called the price elasticity of water demand. A price elasticity of -0.20 indicates that a 1.0 percent increase in water rates will cause a -0.2 percent change in water usage.

Water Savings Through the Base Year

Water savings from price elasticity/rate structure impacts through the base year are built into the water demand projections.

Water Savings Since the Base Year

The SWCQP identified recent price increases and estimated water savings using projected municipal water demands and a price elasticity of -0.20. However, water demand is also sensitive to changes in income, and the change in water demand due to an increase in income is called the income elasticity of water demand. Income elasticity may range from 0.20 to 0.60 [(6)]. Recent historical Texas income data were obtained from the Federal Reserve [(7)]. Assuming an income elasticity of 0.20, it is estimated that rising incomes offset from 38 percent to 107 percent of the SWCQP-estimated water savings for the six largest Region C WUGs.

Based on this information, the SWCQP-estimated water savings were updated based on the current projected water demands and multiplied by 50 percent to represent the impact of rising incomes.

Projected Water Savings During the Planning Period

Unfortunately, historical price elasticities depend upon economic and other conditions that may not persist in the future, and no projections of future price elasticities were identified. Therefore, a long-term price elasticity of -0.20 is recommended for projecting the impact of increasing water prices in Region C [(3)]. It has also been assumed that real water prices will increase by 20 percent over the planning period and that half of the potential impact of increasing water prices will be offset by increasing income.

The projected water savings for each WUG is one half of the long-term price elasticity multiplied by the change in real water price multiplied by the municipal water demand. It was assumed that real water prices will increase linearly during planning period, for a total 20 percent increase by 2070 (**Table I.5**). By the end of the planning period, increasing water prices are projected to cause a 2 percent reduction in total water demand.

Table I.5 Projected Real Water Price Increases During Planning Period

2020	2030	2040	2050	2060	2070
3.3%	6.7%	10.0%	13.3%	16.6%	20%

I.6.3 Additional Data Requirements and Reliability

Customer participation is highly reliable for this measure, since changes in water prices automatically affect all water customers. However, the projected water savings are based on broad, general assumptions, and the reliability of the above projections is medium.

The reliability of the above projections could be increased if detailed projections of real treated water prices and real income were available. This would require projections of raw water costs, treatment costs, distribution costs, and administrative costs for each WUG.

I.6.4 Opinion of Probable Cost

The projected water savings due to real increases in water price will be realized at no cost to the WUGs.

I.7 Enhanced Water Loss Control Program

Most utilities in Region C have some kind of water loss control program. However, the levels of effort put into these programs, the budgets for these programs, and the water savings from these programs are highly variable. Although this measure does not define how a utility should conduct its water loss control program, it assumes that participating utilities will operate their programs at a high (or "enhanced") level, committing resources as necessary to achieve significant water savings.

The enhanced water loss control program consists of:

- Water audits, pressure control, and leak detection and repair (including Automated Metering Infrastructure), and
- Water main replacement

This measure incorporates elements of BMP 4.2 System Water Audit and Water Loss Control (3).

I.7.1 Applicability

Retail public utilities that supply potable water to more than 3,300 connections or receive financial assistance from the TWDB must file a system water loss audit with the TWDB by May 1 each year. Other retail public utilities that supply potable water must file a system water loss audit with the TWDB every five years (the next due date is May 1, 2021) (8). In addition, the feasibility of water audits, pressure control, and leak detection and repair was evaluated for publicly-owned municipal WUGs with the following characteristics:

- Existing or projected total water usage of more than 140 gpcd,
- Total water loss in excess of the target level.
- A projected water need, and
- An identified sponsor for this measure.

Water main replacement was evaluated for every WUG.

I.7.2 Projected Water Savings

Water Savings Through the Base Year

Water savings from enhanced water loss control through the base year are built into the water demand projections.

Water Savings Since the Base Year

The SWCQP identified three WUGs that have implemented advanced metering infrastructure (AMI) with a customer portal and estimated water savings from these improvements.

In addition, several WUGs have obtained TWDB funding for water loss improvements, including main replacement, AMI, and automated meter reading (AMR). Associated water savings were assumed to be 0.5 percent of municipal water demand for each WUG or were estimated based on information provided by the TWDB or the WUG.

Projected Water Savings During the Planning Period

For a given WUG, the projected water savings associated with water audits, pressure control, and leak detection and repair is the difference between the WUG's actual water loss percentage and the target water loss percentage multiplied by the municipal water demand multiplied by an implementation schedule percentage. The target water loss is 12 percent for urban/suburban WUGs and 18 percent for WUGs with widespread, rural systems. It has been assumed this measure will be 33 percent complete in the first decade of implementation and 100 percent complete by the second decade of implementation. The program should be continued indefinitely to maintain the target water loss. No water savings were projected from these measures for WUGs that have not reported their water loss.

Water savings from main replacement was estimated to be 0.5 percent of total water demand for each WUG. For each WUG, main replacement was assumed to take place in 2020, and the main replacements are projected to save water for 20 years.

In recent years, Fort Worth and Bedford have both applied for and received TWDB funding for enhanced water loss control projections. Based on funding disbursements to date, it is estimated that Fort Worth has completed approximately 15 percent of its AMI project and that Bedford has completed approximately 50 percent of its main replacement/AMI project. The remainder of the projected savings for each of these projects is included in the recommended water conservation strategy for these WUGs.

I.7.3 Additional Data Requirements

Some WUGs did not report their water loss to the TWDB. In addition, some water loss accounting quantities are difficult to estimate (e.g., fire fighting, main flushing, etc.). As more utilities report and refine their system water audit data, the overall estimate of potential water savings from this measure should be refined.

I.7.4 Reliability

The projected water savings are based on reported water loss data, which increases the reliability of the estimates. However, water loss as a percentage of total produced and/or purchased water can vary widely from year to year, even if the total system water loss does not change. Therefore, the reliability of the potential water savings is medium.

I.7.5 Opinion of Probable Cost

The cost for a system water audit is highly variable and depends on the size of the water system and the degree of uncertainty present in the estimated losses. The opinion of probable cost for a “desktop” audit, conducted by assembling readily available data and estimating losses for which data are not available, may range from $5,000 to $50,000. The opinion of probable cost for an “intensive” audit, where field investigations are conducted to generate additional data with which to refine the desktop audit, may range from $50,000 to $500,000 or more. It has been assumed that WUGs will implement the desktop audit.

In addition, a cost for leak detection and repair of $686 per mile of main per year has been assumed. This unit cost was derived from the typical leak detection and repair cost of $400 per mile of main per year used in the 2006 Region C Water Plan, with adjustment for inflation. Using estimates of the number of miles per main for different populations, an opinion of the probable annual cost for leak detection and repair was generated.

Since small diameter pipes are prevalent in a water distribution system, the large majority of the main replacements will be small diameter pipes. Costs were calculated assuming an 8-inch diameter for each main replacement, using pipe installation costs from the TWDB’s Unified Costing Model, assuming a multiplier of 1.5 to account for other costs involved in pipe replacement, and assuming a multiplier of 1.21 to inflate the cost from the Unified Costing Model basis (March 2012) to the 2021 Region C Water Plan basis (September 2018).

In some instances, water user groups provided their own estimate of cost to replace mains that are a significant source of measurable water loss.

For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

For Fort Worth and Bedford, the remainder of the projected costs for the projects described in **Section I.7.2** is included in the recommended water conservation strategy for these WUGs.

I.8 Water Waste Prohibition

Many Region C WUGs have prohibited water waste. This measure incorporates elements of BMP 9.1 Prohibition on Wasting Water [3].

I.8.1 Applicability

Water waste prohibition was evaluated for municipal WUGs with the following characteristics:

- Existing or projected total water usage of more than 140 gpcd,
- A projected water need, and
- No current water waste prohibition/ordinance.

It has been assumed that WUGs that lack ordinance-making authority will be able to implement a water waste prohibition through other means, such as including it in the terms of service.

I.8.2 Projected Water Savings

The projected water savings for each WUG is the product of the following parameters:

- Potential water savings (as a percentage of irrigation water demand)
- Municipal water demand
- Percent seasonal water demand
- Percent automatic irrigation
- Compliance rate
- Implementation schedule percentage

The projected savings are based on use of rain sensors that shut off automatic irrigation systems when it is raining or when it has rained recently (depending on the type of sensor). It is estimated that the percentage of watering cycles missed during a drought year is approximately equal to the minimum annual percentage of days with ½-inch rainfall events. The projected water savings from an irrigation water waste prohibition is 3.3 percent of irrigation water use for accounts that have automatic irrigation systems.

The percentage of customers that have automatic irrigation systems varies considerably across the region and is unknown in most cases. In the July 2004 RCWPG survey, 52 out of 129 total responses provided an estimate of the percentage of customers that have automatic irrigation systems.

In cases where no information was available, assumptions were made based on the whether the WUG is located in a rural, suburban, or urban area, the pace of recent development and the degree of projected growth. Based on these factors, the current percentages of customers with automatic irrigation systems were assumed to be 5, 20, or 50 percent, and the percentages of future connections with automatic irrigation systems were assumed to be 5, 50, or 80 percent.

It is anticipated that it will take ten years of implementation to realize full compliance with the water waste prohibition. However, anecdotal evidence indicates that there is some fraction of rain sensors that will be out of order. Therefore, "full compliance" is projected to be 90 percent participation.

The estimated potential water savings has been based on a requirement for rain sensors for automatic irrigation systems. As discussed previously, a water waste prohibition may address numerous other sources of waste, but it is not possible to predict what the ordinance for an individual WUG might prohibit. The potential water savings from other sources of water waste have not been estimated.

It is anticipated that the customer will replace the rain sensor at the end of its useful life at his or her own expense to maintain compliance with the water waste prohibition and that the projected water savings will be permanent.

Water Savings Through the Base Year

Water savings from water waste prohibition through the base year are built into the water demand projections.

Water Savings Since the Base Year

WUGs that have implemented a water waste prohibition since the base year were identified through previous surveys and comparison of historical and current water conservation plans. For these WUGs, water savings since the base year were estimated as described above.

Projected Water Savings During the Planning Period

For WUGs that have not implemented a water waste prohibition, projected water savings were estimated as described above. Where no implementation information was available, it was assumed that the WUG will implement a water waste prohibition in the future.

I.8.3 Additional Data Requirements

The status of whether a WUG has implemented a water waste prohibition is known for WUGs that comprise 85 percent of 2070 municipal water demand. Additional information is necessary to refine the projected water savings for the remainder of the WUGs.

In addition, the percentage of customer accounts that have automatic irrigation systems is unknown for most WUGs. Additional data would improve the reliability of the assumptions stated in **Section I.8.2**.

I.8.4 Reliability

For an individual automatic irrigation system with a rain sensor in working order, the reliability of the potential water savings should be high. However, for an entire WUG to realize its projected savings, there must be enforcement of the water waste prohibition to ensure that the projected number of rain sensors are installed, and automatic irrigation system owners must keep the rain sensor in working order. In addition, there are uncertainties associated with the estimates of the market penetration of automatic irrigation systems. Due to uncertainties described above, the reliability of the projected savings is medium.

I.8.5 Opinion of Probable Cost

The primary costs for this measure include adoption of an ordinance and enforcement of the prohibition. For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

It has been assumed that the probable cost to pass an ordinance in a city of up to 25,000 people is $8,576 and that the cost to pass an ordinance in a city of more than 50,000 people is $17,153. To obtain an opinion of probable annual costs, the ordinance cost was assumed to be paid in equal sums within the first decade and enforcement costs were assumed to be $0.43 per resident per year. For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

I.9 Time-Of-Day Irrigation Restriction

Time-of-day irrigation restriction ordinances have been passed for a number of WUGs in Region C, although in varying forms. Some ordinances specify time-of-day restrictions (no automatic irrigation watering from 10am through 6pm) throughout the year, while some choose only the warmer months (e.g., April through October). The exact times allowed throughout a day also vary across the Region. Almost all WUGs allow hand irrigation regardless of time of day or year.

I.9.1 Applicability

The time-of-day irrigation restriction was evaluated for municipal WUGs with the following characteristics:

- Existing or projected total water usage of more than 140 gpcd,
- A projected water need, and
- No existing time-of-day irrigation restriction.

It has been assumed that WUGs that lack ordinance-making authority will be able to implement a time-of-day irrigation restriction through other means, such as including it in the terms of service.

I.9.2 Projected Water Savings

Sprinkler evaporation losses depend on relative humidity, air temperature, wind speed, nozzle diameter, and nozzle pressure [(9)]. Using long-term, monthly average weather data from the Dallas-Fort Worth International Airport weather station and assuming 5/16-inch nozzle diameter and 50 psi nozzle pressure, annual sprinkler evaporation losses were estimated to be 6.9 percent of irrigation water applied for irrigation between 10am and 6 pm and 4.0 percent if irrigation is restricted to 6pm to 10am. For each WUG, it was assumed that one-third of customers that have automatic irrigation systems would have to change their irrigation time in response to this restriction. For these customers, the estimated water savings is 2.9 percent of seasonal water demands. Seasonal water demands are calculated as the difference between monthly water usage and winter usage. Seasonal water demands are attributable largely to landscape irrigation, although cooling water usage and other factors may also contribute.

It is anticipated that it will take ten years of implementation to realize full compliance with the time-of-day irrigation restriction. However, some customers will continue to irrigate from 10am to 6pm. Therefore, "full compliance" is projected to be 90 percent participation.

Water Savings Through the Base Year

Water savings from a time-of-day irrigation restriction through the base year are built into the water demand projections.

Water Savings Since the Base Year

WUGs that have implemented a time-of-day irrigation restriction since the base year were identified through previous surveys and comparison of historical and current water conservation plans. For these WUGs, water savings since the base year were estimated as described above.

Projected Water Savings During the Planning Period

For WUGs that have not implemented a time-of-day irrigation restriction, projected water savings were estimated as described above. Where no implementation information was available, it was assumed that the WUG will implement a time-of-day irrigation restriction in the future.

I.9.3 Additional Data Requirements

Additional WUG surveys would help refine the number and type of ordinances currently enforced and the percentages of customers that have automatic irrigation systems.

I.9.4 Reliability

Customer participation is related to knowledge of the restriction and enforcement, which varies by WUG. It is also not possible to predict the exact irrigation restrictions that each WUG would adopt. In addition, amounts of water used in irrigation are dependent on weather patterns which cannot be predicted throughout the planning periods. Due to these unknowns the reliability of the savings estimate is medium.

I.9.5 Opinion of Probable Cost

The primary costs for this measure include adoption of an ordinance and enforcement of the ordinance similar to **Section I.8.5**. For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

I.10 Twice Weekly Irrigation Restriction

Historically, twice weekly irrigation restrictions have been used as drought response measures in Region C. In recent years, however, a number of WUGs in Region C have implemented permanent twice weekly irrigation restrictions, although in varying forms. Some ordinances limit irrigation to two times per week year-round, while others also restrict irrigation to once per week during the winter months.

I.10.1 Applicability

The twice weekly irrigation restriction was evaluated as a water management strategy for municipal WUGs with the following characteristics:

- Existing or projected total water usage of more than 140 gpcd,
- A projected water need, and
- No existing twice weekly irrigation restriction.

It has been assumed that WUGs that lack ordinance-making authority will be able to implement a twice weekly irrigation restriction through other means, such as including it in the terms of service.

I.10.2 Projected Water Savings

Water savings from a twice weekly irrigation restriction are difficult to measure and typically require statistical analysis to account for changes in weather and other factors that influence water use. Although this restriction has been used as a drought response measure in Region C for many years, the corresponding water savings have not been widely studied. In addition, a permanent restriction of this type is relatively new in Texas and the U.S., so there are limited data available regarding permanent water savings.

Tarrant Regional Water District implemented Stage 1 drought response measures, primarily consisting of twice-weekly irrigation limits, from August 29, 2011 through May 3, 2012. An analysis of water use in the service area of their four major customers indicated that the water savings during this period were about 8.5 percent of the water that would have been delivered without the Stage 1 drought response measures [(10)].

For a permanent twice weekly irrigation restriction, reported savings for Texas cities as a percentage of municipal water demand are [(11)]:

- 1 to 9 percent (Fort Worth, 2013-2016)
- 7 percent (Dallas, 2012)
- 7 percent (Austin, 2009)

More recent unpublished data for major water providers in Region C indicate water savings of 1 to 4 percent of municipal water demand for permanent twice weekly irrigation restriction. Two major water providers submitted water conservation plans that project water savings from twice weekly watering restrictions at 1.5 to 2 percent of municipal water demand.

The effectiveness of a twice weekly irrigation restriction depends on public education and customer behavior. Customers have apparently been willing to comply with a twice weekly irrigation restriction as a drought measure, although the water savings data are limited. As a permanent measure, water savings may have eroded somewhat in recent years. Also, it is not clear what impact implementing a twice weekly irrigation restriction as a permanent measure will have on water savings during drought conditions.

Due to the limited data, it has been assumed that a permanent twice weekly irrigation restriction will result in savings of 3 percent of municipal water demand. It is anticipated that it will take ten years of implementation to realize the full water savings.

Water Savings Through the Base Year

No water savings from this measure are built into the water demand projections, because no Region C WUGs had implemented this measure by the base year.

Water Savings Since the Base Year

WUGs that have implemented a time-of-day irrigation restriction since the base year were identified from current water conservation plans and from the SWCQP. For these WUGs, water savings since the base year were estimated as described above.

Projected Water Savings During the Planning Period

For WUGs that have not implemented a twice weekly irrigation restriction, projected water savings were estimated as described above. Where no implementation information was available, it was assumed that the WUG will implement a time-of-day irrigation restriction in the future.

I.10.3 Additional Data Requirements

Additional data should be collected on water savings realized from implementation of a permanent twice weekly irrigation restriction, particularly during drought periods. This will help refine the water savings estimate.

I.10.4 Reliability

Customer participation is related to knowledge of the restriction and enforcement, which varies by WUG. It is also not possible to predict the exact irrigation restrictions that each WUG would adopt. In addition, amounts of water used in irrigation are dependent on weather patterns which cannot be predicted throughout the planning periods. Due to these unknowns the reliability of the savings estimate is medium.

I.10.5 Opinion of Probable Cost

The primary costs for this measure include adoption of an ordinance and enforcement of the ordinance similar to **Section I.8.5**. For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

I.11 Water Conservation Coordinator

A water conservation coordinator "coordinates water utility staff, data from various departments, and other resources as necessary for the purpose of developing, implementing, and evaluating the effectiveness of the utility's water conservation plan [(3)]." Coordination will make other water conservation measures more effective.

I.11.1 Applicability

Beginning September 1, 2017, House Bill 1648 required all retail public utilities with 3,300 service connection or more to designate a water conservation coordinator that is responsible for implementing the water conservation plan.

The water conservation coordinator measure was evaluated for municipal WUGs based on the projected number of connections during the planning period.

I.11.2 Projected Water Savings

Water Savings Through the Base Year

Water savings for WUGs that had a water conservation coordinator prior to or during the base year are built into the water demand projections.

Water Savings Since the Base Year

It was assumed that other WUGs that currently have 3,300 connections or more have already appointed a water conservation coordinator, as required by HB 1648. Savings from coordination of the water conservation program are projected to be 0.25 percent of municipal water demand.

Projected Water Savings During the Planning Period

It was assumed that WUGs that currently have fewer than 3,300 connections will appoint a water conservation coordinator as they meet this threshold. Savings from coordination of the water conservation program are projected to be 0.25 percent of municipal water demand.

No savings were projected for the County Other WUGs, since these are comprised of multiple utilities for which the number of connections is unknown and likely to be small.

I.11.3 Additional Data Requirements

Additional WUG surveys would help identify WUGs that have and have not appointed water conservation coordinators.

I.11.4 Reliability

The savings from this measure are uncertain and difficult to measure, since they result from improved effectiveness of the overall water conservation program. In addition, the savings depend on the level of effort by the water conservation coordinator. Due to these unknowns the reliability of the savings estimate is low.

I.11.5 Opinion of Probable Cost

Since the level of effort required of a water conservation coordinator is undefined and will likely vary among the various WUGs, a unit cost of $1.00 per thousand gallons of water savings was assigned to this measure. This cost was judged to be reasonably reflective of general water conservation savings, but it should be refined as more information becomes available.

I.12 Reuse of Treated Wastewater Effluent

Reuse is a significant water conservation measure in Region C. Reuse strategies were evaluated on a case-by-case basis, and reuse water supplies are described in **Chapter 5B.**

I.13 Accelerated Low-Flow Plumbing Fixtures

The SWCQP identified Region C WUGs that have implemented measures to accelerate the water savings from the low-flow plumbing fixture rules. These measures encourage the retrofitting of efficient toilets, showerheads, and clothes washers, whether by rebates, direct installation, or other implementation methods.

All of the water savings associated with these measures would have been realized eventually by natural replacement due to the low-flow plumbing fixture rules. For each low-flow plumbing fixture installed as a result of these measures, accelerated water savings will be realized for a few years until the water savings would have been realized anyway by natural replacement. The natural replacement savings are already built into the water demand projections. Therefore, to avoid double-counting of the water savings, only the accelerated water savings are attributed to these measures.

I.13.1 Applicability

Water savings were included for all WUGs identified by the SWCQP as having implemented accelerated low-flow plumbing fixture measures.

I.13.2 Projected Water Savings

Water Savings Through the Base Year

Water savings for accelerated low-flow plumbing fixture measures implemented prior to or during the base year are built into the water demand projections

Water Savings Since the Base Year

The SWCQP findings were used to estimate water savings for measures implemented since the base year. However, the SWCQP water savings estimates were adjusted to exclude savings beyond the natural life of the fixtures installed as part of these measures, since these future savings are already accounted for and built into the water demand projections.

Projected Water Savings During the Planning Period

The SWCQP focused on measures that have already been implemented and did not report planned future implementation. Therefore, with exceptions described in **Section I.13**, no water savings from accelerated low-flow plumbing fixtures were estimated.

I.13.3 Additional Data Requirements

To estimate future water savings, information about planned future implementation is required.

I.13.4 Reliability

The savings from these measures are relatively well-defined, so the reliability of the savings estimate is high.

I.13.5 Opinion of Probable Cost

No costs have been estimated for these measures, because planned future implementation information was not available from the SWCQP.

I.14 Other

I.14.1 Applicability

The SWCQP identified a few Region C WUGs, most notably Allen and Dallas, that have implemented miscellaneous water conservation measures that are not described in other sections of this technical memorandum. These measures include irrigation system surveys, other irrigation measures, and measures directed toward industrial, commercial, and institutional customers.

In addition, some Region C WUGs provided sufficient information about their planned implementation of miscellaneous water conservation measures to allow projection of water savings and costs.

I.14.2 Projected Water Savings

Water Savings Through the Base Year

Water savings for miscellaneous water conservation measures implemented prior to or during the base year are built into the water demand projections

Water Savings Since the Base Year

The SWCQP findings were used to estimate water savings for measures implemented since the base year.

Projected Water Savings During the Planning Period

Some WUGs provided planned future implementation information in their water conservation plans, and water savings from these measures were estimated using generally accepted methods.

Projected water savings for Dallas were taken from their most recent Long Range Water Supply Plan (12).

I.14.3 Additional Data Requirements

Additional data on planned future implementation is needed for many WUGs.

I.14.4 Reliability

The savings from this measure are somewhat uncertain, and they depend upon ongoing maintenance by the customer. The reliability of the savings estimate is medium.

I.14.5 Opinion of Probable Cost

Some WUGs provided planned future implementation information in their water conservation plans, and costs for these measures were estimated using generally accepted methods.

Projected costs for Dallas were taken from their most recent Long Range Water Supply Plan (12).

I.15 Golf Course Conservation Program

I.15.1 Applicability

The golf course conservation measure was evaluated for irrigation WUGs that have a projected water need.

I.15.2 Potential Water Savings

It has been assumed that where the measure is implemented, the potential water savings for the golf course conservation program is 15 percent of golf course water demand and that the potential water savings will last indefinitely (the golf course will continue to maintain and implement the conservation program at its own expense). Assumed participation rates for implementation by 2020 are shown in **Table I.6.**

Table I.6 Participation Rates in Golf Course Conservation Program

2020	2030	2040	2050	2060	2070
20%	40%	50%	60%	70%	80%

I.15.3 Additional Data Requirements

No additional data are required to estimate potential water savings from a golf course conservation program.

I.15.4 Reliability

The effectiveness of this measure depends on the degree of participation of golf courses. In addition, the estimate of potential water savings is not based on course-specific data. Therefore, the reliability of the potential water savings for the golf course conservation program is low.

I.15.5 Opinion of Probable Cost

Implementation alternatives include voluntary implementation for self-supplied golf courses, rebates for courses supplied by a municipal WUG, and ordinances if supplied by a city. The opinion of probable cost assumes that a municipal WUG offers a rebate to a golf course to implement a conservation program.

The opinion of probable cost for rebates is $306 per acre-foot of savings, including the rebate, marketing, and overhead. The cost for a single rebate is amortized at 3.5 percent interest over 15 years, the expected life of the associated measure. The opinion of probable annual cost is the sum of amortized costs for all rebates given in the previous 15 years. For a given WUG and given year, the probable unit cost was calculated as the probable annual cost divided by projected water savings.

I.16 Mining Conservation

I.16.1 Applicability

Mining water conservation was evaluated for the Wise County Mining WUG.

I.16.2 Potential Water Savings

Water savings for Wise County Mining was assumed to be 90 percent of the water demand for sand and gravel mining in the county. Savings would be achieved through on-site recycling of process water. The water demand for sand and gravel mining was estimated as the difference between the overall mining water demand for Wise County and water demand for oil and gas well drilling (from the Bureau of Economic Geology [13].

I.16.3 Additional Data Requirements

To better estimate the potential water savings and costs for mining conservation methods, data are needed on the types of mining activities in each county, their relative water uses, and their water quality needs.

I.16.4 Reliability

Since few data are available on types of mining activities in each county, their relative water uses, and their water quality needs, the reliability of the potential water savings for mining conservation is low.

I.16.5 Opinion of Probable Cost

The opinion of probable cost for Wise County Mining is based on the cost from the 2016 Region C Water Plan adjusted to September 2018 dollars.

I.17 GPCD Goals by WUG

As required by TWDB, gpcd goals for each WUG in included below in **Table I.7**. These calculations are based on the formula:

GPCD Goals = (Water Demand Projections - Recommended Conservation Water Management Strategies - Demand Reduction Since Base Year)/WUG Population

Table I.7 GPCD Goals for Municipal Water User Groups

WUG Name	2020	2030	2040	2050	2060	2070
ABLES SPRINGS WSC	59	59	59	59	59	59
ADDISON	349	342	340	337	335	333
ALEDO	137	134	133	132	131	131
ALLEN	174	172	172	171	170	169
ALVORD	124	124	124	123	123	123
ANNA	128	112	138	137	136	136
ANNETTA	103	99	97	96	96	95
ARGYLE WSC	175	162	158	157	156	156
ARLEDGE RIDGE WSC	104	100	97	96	96	95
ARLINGTON	148	139	137	135	134	134
ATHENS	180	167	164	162	160	160
AUBREY	105	103	102	101	100	100
AVALON WATER SUPPLY & SEWER SERVICE	112	108	106	105	104	104
AZLE	138	133	131	130	129	128
B AND B WSC	122	118	115	114	113	113
B B S WSC	92	89	89	89	89	89
B H P WSC	67	62	60	59	59	58
BALCH SPRINGS	90	86	83	82	81	81
BEAR CREEK SUD	101	98	96	95	95	94
BECKER JIBA WSC	81	77	75	74	74	73
BEDFORD	151	141	154	152	152	151
BELLS	94	90	88	87	86	86
BENBROOK WATER AUTHORITY	195	188	185	183	182	181
BETHEL ASH WSC	90	86	85	84	83	83
BETHESDA WSC	179	174	172	170	169	169
BLACK ROCK WSC	167	164	163	155	153	153
BLACKLAND WSC	171	166	164	162	161	161
BLOOMING GROVE	148	144	141	133	131	130
BLUE RIDGE	144	137	135	150	149	149
BOIS D ARC MUD	104	100	97	96	96	95
BOLIVAR WSC	79	75	73	72	71	71
BONHAM	142	138	136	135	134	133
BOYD	147	133	123	138	137	136
BRANDON IRENE WSC	115	112	111	107	107	106
BRIDGEPORT	154	143	140	139	138	137
BUENA VISTA-BETHEL SUD	246	242	231	227	226	224
BURLESON	130	126	125	124	123	122
BUTLER WSC	136	132	128	126	126	126
CADDO BASIN SUD	99	94	92	91	90	90
CALLISBURG WSC	80	76	74	72	72	72
CARROLLTON	158	153	151	149	148	148
CASH SUD	99	95	93	93	92	92

WUG Name	2020	2030	2040	2050	2060	2070
CEDAR HILL	166	162	160	159	158	157
CELINA	176	172	172	171	171	170
CHATFIELD WSC	96	93	91	89	89	88
CHICO	175	163	159	156	155	154
COCKRELL HILL	72	68	69	68	67	66
COLLEGE MOUND WSC	59	59	59	59	59	59
COLLEYVILLE	340	321	318	315	314	313
COLLINSVILLE	97	94	92	91	90	90
COMBINE WSC	84	80	78	77	76	76
COMMUNITY WSC	87	83	80	79	79	78
COPEVILLE SUD	72	68	65	64	64	63
COPPELL	220	216	214	212	211	210
CORBET WSC	79	76	73	72	72	71
CORINTH	151	141	139	138	137	137
CORSICANA	202	196	194	183	181	180
CRANDALL	154	149	147	146	145	145
CRESCENT HEIGHTS WSC	76	73	71	70	69	69
CROSS TIMBERS WSC	194	183	180	179	178	177
CROWLEY	127	124	122	121	120	120
CULLEOKA WSC	96	91	91	91	90	90
DALLAS	185	177	169	166	166	166
DALWORTHINGTON GARDENS	350	332	328	325	324	323
DAWSON	148	142	140	138	137	137
DECATUR	231	224	223	221	220	219
DELTA COUNTY MUD	60	60	58	58	57	55
DENISON	219	204	202	200	199	198
DENTON	152	147	145	144	144	143
DENTON COUNTY FWSD 10	167	156	154	153	153	152
DENTON COUNTY FWSD 1-A	221	217	217	216	215	214
DENTON COUNTY FWSD 7	224	210	208	207	206	205
DESERT WSC	112	109	107	106	105	105
DESOTO	146	140	138	136	135	135
DOGWOOD ESTATES WATER	134	131	129	127	126	126
DORCHESTER	67	63	61	60	59	59
DUNCANVILLE	121	117	115	114	113	113
EAST CEDAR CREEK FWSD	59	59	59	59	59	59
EAST FORK SUD	104	99	97	96	95	94
EAST GARRETT WSC	146	136	133	133	131	131
EDGECLIFF	152	143	140	137	136	136
ELMO WSC	74	71	70	68	68	68
ENNIS	167	152	142	141	140	139
EULESS	141	131	129	133	132	131
EUSTACE	95	91	90	87	87	86
EVERMAN	74	69	67	65	64	64
FAIRFIELD	184	179	176	167	164	163
FAIRVIEW	306	301	301	300	298	297
FARMERS BRANCH	244	238	237	235	234	233
FARMERSVILLE	106	102	101	101	100	100
FATE	150	147	147	146	145	144
FERRIS	138	134	131	130	129	128
FILES VALLEY WSC	136	131	129	127	126	126
FLO COMMUNITY WSC	114	110	106	104	105	105

WUG Name	2020	2030	2040	2050	2060	2070
FLOWER MOUND	216	211	210	209	208	207
FOREST HILL	93	88	85	83	82	82
FORNEY	125	123	122	121	120	120
FORNEY LAKE WSC	138	135	134	133	132	131
FORT WORTH	151	149	157	158	159	160
FRISCO	205	202	202	201	200	200
FROGNOT WSC	93	90	88	87	86	86
GAINESVILLE	127	122	120	118	117	116
GARLAND	134	130	129	127	126	126
GASTONIA SCURRY SUD	59	59	59	59	59	59
GLENN HEIGHTS	97	94	93	92	91	91
GRAND PRAIRIE	136	132	132	131	130	130
GRAPEVINE	297	291	290	288	286	285
GUNTER	132	118	138	137	136	135
HACKBERRY	203	198	197	197	196	194
HALTOM CITY	101	97	95	93	92	92
HASLET	288	270	267	265	263	262
HEATH	275	269	269	267	266	265
HICKORY CREEK SUD	89	84	83	81	81	81
HIGH POINT WSC	80	76	74	73	72	72
HIGHLAND PARK	381	376	373	371	369	368
HIGHLAND VILLAGE	186	174	171	169	169	168
HILCO UNITED SERVICES	126	123	118	117	116	110
HONEY GROVE	142	137	134	132	131	131
HORSESHOE BEND WATER SYSTEM	84	80	78	77	76	76
HOWE	85	80	78	76	76	76
HUDSON OAKS	290	283	282	281	280	279
HURST	145	140	138	137	136	135
HUTCHINS	188	184	183	182	182	181
IRVING	180	177	175	173	173	172
ITALY	116	111	109	108	107	107
JACKSBORO	124	120	118	116	115	115
JOHNSON COUNTY SUD	114	110	108	107	106	106
JOSEPHINE	183	180	179	178	177	176
JUSTIN	131	128	127	127	126	126
KAUFMAN	141	136	138	136	136	135
KAUFMAN COUNTY DEVELOPMENT DISTRICT 1	202	197	195	194	193	192
KAUFMAN COUNTY MUD 11	139	135	133	132	131	131
KELLER	214	210	210	208	207	207
KEMP	147	137	135	134	133	132
KENNEDALE	156	147	144	142	141	141
KENTUCKYTOWN WSC	110	106	103	102	101	101
KERENS	105	99	97	95	95	95
KRUM	188	184	183	181	180	179
LADONIA	137	133	134	132	132	132
LAKE CITIES MUNICIPAL UTILITY AUTHORITY	124	121	120	119	119	118
LAKE KIOWA SUD	359	353	353	351	350	348
LAKE WORTH	194	182	179	177	176	175
LAKESIDE	231	224	223	221	219	218

WUG Name	2020	2030	2040	2050	2060	2070
LANCASTER	144	139	138	137	136	135
LEONARD	132	128	125	123	122	122
LEWISVILLE	160	156	154	153	152	151
LINDSAY	115	112	109	107	107	106
LITTLE ELM	117	115	115	114	114	113
LUCAS	246	232	231	229	228	227
LUELLA SUD	93	89	87	86	85	85
M E N WSC	125	121	119	118	117	117
MABANK	167	162	160	158	157	157
MACBEE SUD	60	59	60	61	58	59
MALAKOFF	100	96	92	90	90	89
MANSFIELD	234	230	230	228	227	226
MARILEE SUD	130	128	127	126	125	125
MARKOUT WSC	147	142	141	140	139	138
MCKINNEY	183	179	177	176	176	176
MELISSA	188	185	185	183	183	182
MESQUITE	125	121	119	117	116	116
MIDLOTHIAN	194	189	187	186	185	184
MILLIGAN WSC	107	104	102	101	100	100
MINERAL WELLS	138	133	138	135	135	134
MOUNT ZION WSC	170	165	163	161	161	160
MOUNTAIN PEAK SUD	253	226	224	223	222	221
MOUNTAIN SPRINGS WSC	148	145	143	142	135	133
MUENSTER	152	147	144	142	141	140
MURPHY	195	192	192	191	190	189
MUSTANG SUD	133	130	129	129	128	128
NAVARRO MILLS WSC	94	90	88	86	86	85
NEVADA SUD	86	83	82	80	80	79
NEWARK	97	94	92	91	91	90
NORTH COLLIN SUD	130	126	124	123	122	121
NORTH FARMERSVILLE WSC	188	178	177	177	176	175
NORTH HUNT SUD	60	60	59	59	59	59
NORTH KAUFMAN WSC	60	59	59	59	59	59
NORTH RICHLAND HILLS	151	146	144	142	141	141
NORTH RURAL WSC	87	82	80	77	78	76
NORTHLAKE	179	171	170	169	169	168
NORTHWEST GRAYSON COUNTY WCID 1	90	86	84	82	82	82
OAK RIDGE SOUTH GALE WSC	77	73	71	69	69	69
OVILLA	197	179	177	175	174	173
PALMER	100	95	93	92	91	90
PALOMA CREEK NORTH	184	172	170	169	169	168
PALOMA CREEK SOUTH	182	171	170	169	169	168
PANTEGO	229	224	221	218	217	217
PARKER	359	353	353	352	350	348
PARKER COUNTY SUD	94	91	90	89	88	88
PELICAN BAY	59	59	59	59	59	59
PILOT POINT	121	118	116	115	114	114
PINK HILL WSC	101	98	96	94	93	93
PLANO	219	214	211	211	210	209
PLEASANT GROVE WSC	88	84	81	80	79	79
POETRY WSC	97	94	92	91	90	90

WUG Name	2020	2030	2040	2050	2060	2070
POINT ENTERPRISE WSC	97	93	90	89	87	87
PONDER	110	107	107	106	105	105
POST OAK SUD	66	63	59	59	59	59
POTTSBORO	143	139	137	136	135	134
PRINCETON	95	92	90	89	89	88
PROSPER	219	216	216	215	214	214
PROVIDENCE VILLAGE WCID	115	113	114	113	112	112
R C H WSC	179	174	172	171	170	169
RED OAK	132	129	128	126	126	125
RED RIVER AUTHORITY OF TEXAS	218	213	210	208	207	207
RENO (Parker)	59	59	59	59	59	59
RHOME	146	142	141	140	140	139
RICE WATER SUPPLY AND SEWER SERVICE	106	102	100	99	99	98
RICHARDSON	213	208	206	204	203	202
RICHLAND HILLS	121	116	113	111	110	110
RIVER OAKS	100	96	93	91	90	90
ROANOKE	251	237	235	234	233	232
ROCKETT SUD	101	97	95	94	93	93
ROCKWALL	157	154	154	153	152	151
ROSE HILL SUD	77	73	71	70	70	69
ROWLETT	131	128	126	125	124	124
ROYSE CITY	102	99	98	97	97	96
RUNAWAY BAY	308	301	299	297	296	295
SACHSE	150	148	147	146	145	145
SAGINAW	114	111	110	109	109	108
SANGER	119	116	114	113	112	112
SANSOM PARK	98	94	91	90	89	89
SANTO SUD	114	105	107	102	103	105
SARDIS LONE ELM WSC	220	216	214	213	212	211
SEAGOVILLE	94	90	89	88	87	87
SEIS LAGOS UD	242	239	238	237	236	235
SHERMAN	216	212	209	207	197	195
SOUTH ELLIS COUNTY WSC	227	223	221	181	120	119
SOUTH FREESTONE COUNTY WSC	88	84	81	79	79	78
SOUTH GRAYSON SUD	108	105	104	103	102	102
SOUTHLAKE	353	346	346	344	342	341
SOUTHMAYD	99	95	92	91	90	90
SOUTHWEST FANNIN COUNTY SUD	88	85	83	82	82	81
SPRINGTOWN	173	146	145	144	143	142
STARR WSC	91	87	85	83	83	82
SUNNYVALE	289	284	282	281	279	278
TALTY SUD	139	135	135	134	133	133
TEAGUE	140	126	123	121	120	120
TERRELL	145	140	139	138	137	136
THE COLONY	134	130	129	127	127	126
TIOGA	109	107	103	102	95	95
TOM BEAN	167	144	117	116	115	114
TRENTON	164	151	146	145	144	144
TRINIDAD	90	85	83	83	81	80

WUG Name	2020	2030	2040	2050	2060	2070
TROPHY CLUB MUD 1	324	318	317	316	314	313
TWO WAY SUD	98	95	93	92	92	91
UNIVERSITY PARK	252	248	245	243	242	241
VAN ALSTYNE	118	114	112	111	110	109
VENUS	165	158	153	151	150	152
VERONA SUD	89	86	84	83	83	82
VIRGINIA HILL WSC	85	81	79	77	77	77
WALNUT CREEK SUD	66	63	62	61	60	60
WATAUGA	99	95	92	91	90	90
WAXAHACHIE	161	157	149	146	145	145
WEATHERFORD	150	143	139	137	136	136
WEST CEDAR CREEK MUD	59	59	59	59	59	59
WEST LEONARD WSC	118	114	112	111	109	109
WEST WISE SUD	109	105	102	100	99	99
WESTLAKE	1,024	973	969	966	962	958
WESTMINSTER WSC	120	117	115	114	114	113
WESTOVER HILLS	1,206	1,121	1,078	1,072	1,069	1,065
WESTWORTH VILLAGE	130	125	122	121	120	119
WHITE SETTLEMENT	109	104	101	99	98	97
WHITE SHED WSC	96	92	90	88	88	87
WHITESBORO	108	104	101	99	98	98
WHITEWRIGHT	121	117	113	112	111	110
WILLOW PARK	137	133	132	130	130	129
WILMER	91	87	85	83	82	82
WOLFE CITY	89	80	82	78	81	76
WOODBINE WSC	94	90	87	86	85	85
WORTHAM	126	122	118	117	115	115
WYLIE	127	125	124	123	123	122
WYLIE NORTHEAST SUD	120	117	116	115	114	114
COUNTY OTHER, COLLIN	139	136	134	131	130	130
COUNTY OTHER, COOKE	117	113	110	108	107	106
COUNTY OTHER, DALLAS	1,759	2,325	2,168	2,041	1,468	1,225
COUNTY OTHER, DENTON	111	109	109	107	107	106
COUNTY OTHER, ELLIS	108	103	100	97	97	96
COUNTY OTHER, FANNIN	99	94	91	89	88	88
COUNTY OTHER, FREESTONE	91	88	85	83	82	81
COUNTY OTHER, GRAYSON	112	108	104	103	102	101
COUNTY OTHER, HENDERSON	81	76	72	72	71	71
COUNTY OTHER, JACK	99	95	92	91	90	90
COUNTY OTHER, KAUFMAN	97	95	93	91	91	91
COUNTY OTHER, NAVARRO	101	97	96	94	93	92
COUNTY OTHER, PARKER	115	112	110	108	107	106
COUNTY OTHER, ROCKWALL	139	137	136	135	134	133
COUNTY OTHER, TARRANT	199	197	200	168	157	150
COUNTY OTHER, WISE	106	103	101	99	98	97
REGION C	**166**	**160**	**159**	**156**	**154**	**151**

Appendix I List of References

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Appendix J

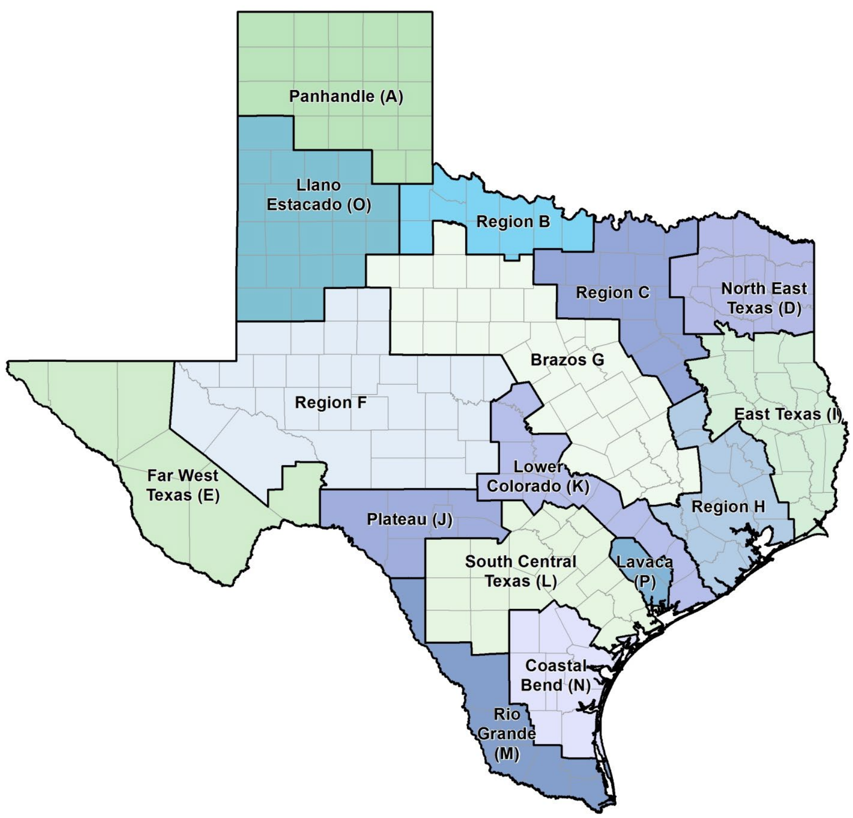
2020 Quantitative Analysis of the Impact of Marvin Nichols Reservoir

Appendix J 2020 Quantitative Analysis of the Impacts of Marvin Nichols Reservoir

Introduction

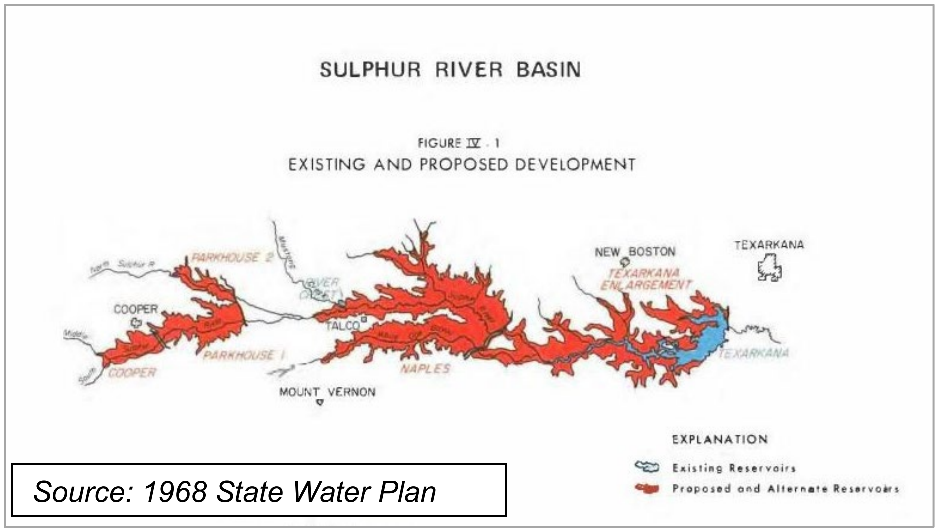
In 1997, the Texas Legislature passed Senate Bill One, which initiated a regional water planning process for Texas. The planning process was implemented by the Texas Water Development Board (TWDB), which set up rules governing planning and established 16 water planning regions across the state (See **Figure J.1**) Planning in each region is overseen by a regional water planning group, which develops a water supply plan addressing the future water needs of the region. The 16 regional plans are reviewed and approved by the Texas Water Development Board and assembled into a state water plan.

Figure J.1 Regional Water Planning Areas Established by Texas Water Development Board



The water planning process is conducted on a five-year cycle. Regional water plans were approved in 2001, 2006, 2011, and 2016, and the fifth round of planning is currently underway. State water plans based on the regional plans were developed in 2002, 2007, 2012, and 2017.

The Region C Regional Water Planning Area includes all or part of 16 counties and includes the Dallas-Fort Worth Metropolitan area. Region C has over a fourth of the state's population and is the most populous of the 16 planning regions. The population of Region C is increasing rapidly, and the *2016 Region C Water Plan* [(1)] included a number of water management strategies to supply additional water to meet growing needs. **Figure J.2** shows the location of Region C, the North East Texas Regional Water Planning Group (Region D), and the proposed Marvin Nichols Reservoir. One of the water management strategies included in the *2021 Region C Water Plan* is the proposed Marvin Nichols Reservoir (elevation 328 msl), which would be located in Red River, Titus, and Franklin Counties in the Sulphur River Basin. This strategy is recommended for implementation by 2050. A separate Sulphur Basin strategy includes the reallocation of flood storage at the existing Wright Patman Reservoir (raising the conservation storage to 235 msl), which would be implemented by 2070. These strategies, which are in North East Texas Regional Water Planning Area (also known as Region D), would be developed to meet needs in Region C. The total yield from both strategies is 573,700 acre-feet per year, of which 483,400 acre-feet per year would be used to meet needs in Region C and the remainder available for local use.



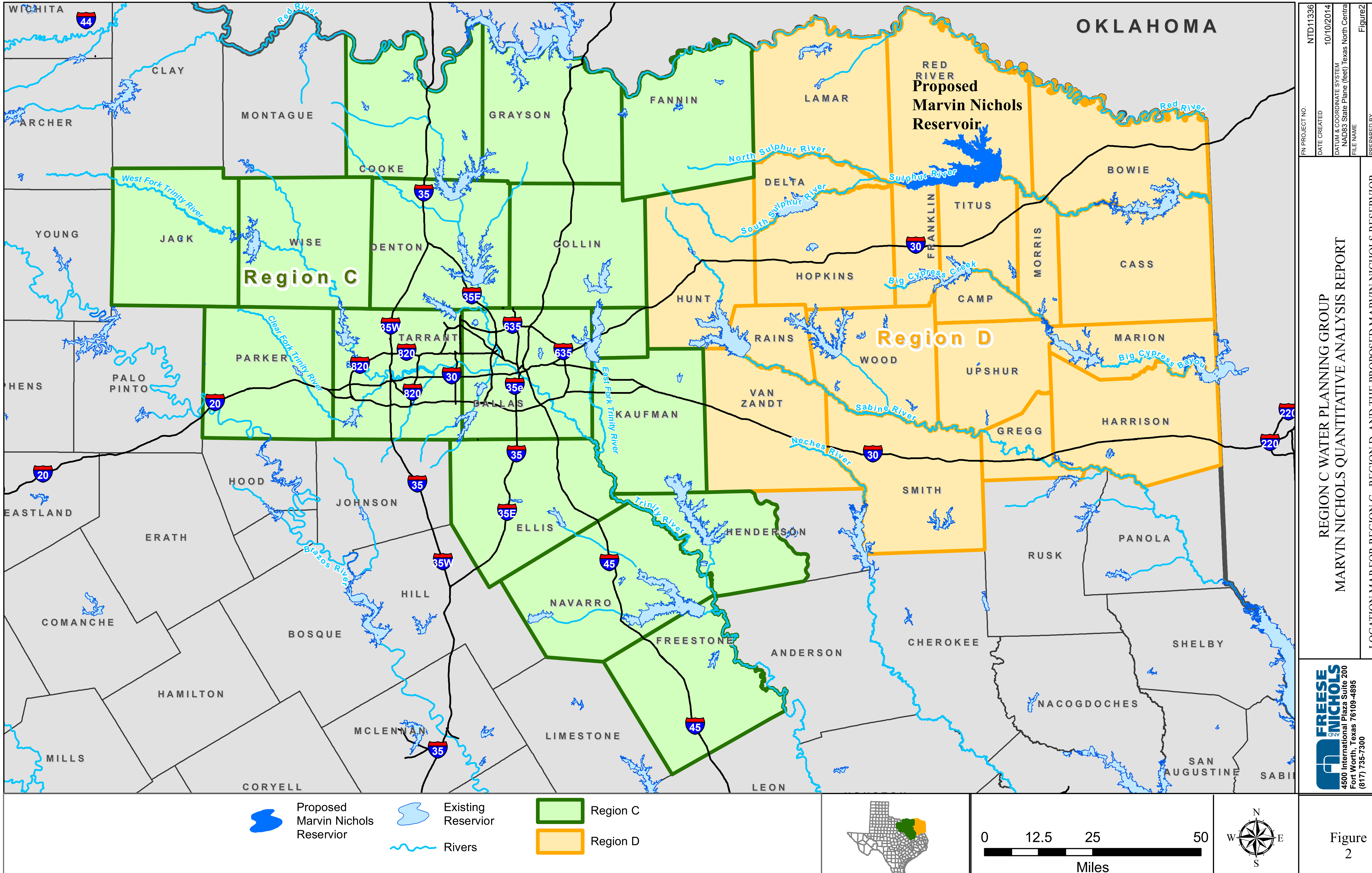
Source: 1968 State Water Plan

Technical memoranda for each of these strategies are included in **Appendix G** in the *2021 Region C Water Plan*. This supplement, included as **Appendix J** to the *2021 Region C Water Plan,* focuses on additional information on the proposed Marvin Nichols Reservoir, with emphasis on the quantification and analysis of the impact of Marvin Nichols Reservoir on agricultural and natural resources. Also included is information on the Socio-Economic Assessment of developing the Marvin Nichols Reservoir and the TWDB's socio-economic assessment of impacts to Region C if needs are not met (**Section J.5**).

In the last round of regional planning (2016 water plans), there was an interregional conflict between the Region C and Region D regional water plans regarding the inclusion of the proposed Marvin Nichols Reservoir, requiring TWDB to take action to resolve the interregional conflict.

On August 7, 2014, the TWDB Board met to consider the interregional conflict and requested additional information from Region C. The Board action is reflected in the Interim Order of August 8, 2014, which included the following language:

> "Region C is directed to conduct an analysis and quantification of the impacts of the Marvin Nichols Reservoir Water Management Strategy on the agricultural and natural resources of Region D and the State, pursuant to


OKLAHOMA
Proposed Marvin Nichols Reservoir
Region C
Region D
WICHITA
CLAY
MONTAGUE
COOKE
GRAYSON
FANNIN
LAMAR
RED RIVER
ARCHER
YOUNG
JACK
WISE
DENTON
COLLIN
DELTA
TITUS
BOWIE
FRANKLIN
MORRIS
CASS
HOPKINS
HUNT
CAMP
RAINS
WOOD
MARION
UPSHUR
PARKER
TARRANT
DALLAS
KAUFMAN
VAN ZANDT
GREGG
HARRISON
PALO PINTO
HOOD
JOHNSON
ELLIS
SMITH
HENDERSON
RUSK
PANOLA
EASTLAND
ERATH
HILL
NAVARRO
COMANCHE
BOSQUE
FREESTONE
ANDERSON
CHEROKEE
SHELBY
HAMILTON
NACOGDOCHES
MCLENNAN
LIMESTONE
MILLS
CORYELL
LEON
SAN AUGUSTINE
Red River
West Fork Trinity River
North Sulphur River
Sulphur River
South Sulphur River
Big Cypress Creek
Big Cypress Bayou
Clear Fork Trinity River
East Fork Trinity River
Sabine River
Neches River
Trinity River
Brazos River
Proposed Marvin Nichols Reservoir
Existing Reservoir
Rivers
Region C
Region D
0
12.5
25
50
Miles
N
S
E
W
Figure 2
REGION C WATER PLANNING GROUP
MARVIN NICHOLS QUANTITATIVE ANALYSIS REPORT
LOCATION MAP FOR REGION C, REGION D, AND THE PROPOSED MARVIN NICHOLS RESERVOIR
FN PROJECT NO. NTD11336
DATE CREATED 10/10/2014
DATUM & COORDINATE SYSTEM NAD83 State Plane (feet) Texas North Central
FILE NAME Figure2
PREPARED BY JLA
FREESE NICHOLS
4500 International Plaza Suite 200
Fort Worth, Texas 76109-4895
(817) 735-7300

> Sections 16.051 and 16.053 of the Texas Water Code and Chapters 357 and 358 of Board rules. Region C should submit this analysis and quantification to the Board by November 3, 2014. Upon receipt of the analysis and quantification, the Executive Administrator and Region D will be given the opportunity to submit a written response to the submission, and the matter will be scheduled for Board consideration. If no submittal is received by the Board on or before November 3, 2014, this matter will set for a Board Meeting to direct the Regions to revise their regional water plans reflecting the removal of the Marvin Nichols Reservoir Water Management Strategy from the 2011 Region C Plan, without prejudice."

The full Interim Order of August 8, 2014 is included as **Attachment J-1** to this appendix. The original version of this report (August 2014) was submitted to TWDB and provided the information requested by the TWDB Board in the Interim Order of August 8, 2014. This January 2020 update to that report has been modified to include additional information developed since 2014 and is included in the *2021 Region C Water Plan* as **Appendix J**.

Section J.2 of this report provides the analysis and quantification of the impacts of Marvin Nichols Reservoir on natural resources. **Section J.3** provides the analysis and quantification of the impacts of the project on agricultural resources. **Section J.4** discusses potential mitigation requirements for the project and how they might affect impacts on natural and agricultural resources**. Section J.5** provides a socio-economic assessment. **Section J.6** provides additional information, and the Attachments include supporting material.

J.1 Background

The transfer of water from the Sulphur River Basin in east Texas to users in the greater Metroplex area has been included in every state plan, in some form, since the 1968 State Water Plan. The originally named Naples Reservoir was projected to meet Dallas-Fort Worth's 2020 water needs in the 1968 plan. This first mention of the now proposed Marvin Nichols Reservoir includes intention to use the reservoir to meet the water need in what is now Region C and has remained in the plan with that intent throughout the years. In the 1990 State Water Plan (when the plan was developed according to river basins) the Sulphur Basin's second largest demand was projected to be exporting water by 2040.

Throughout the continuous development of the Region C Regional Water Plan (2001-2016) the Marvin Nichols Reservoir has been extensively studied and the footprint has changed several times in an effort to reduce the environmental impacts associated with the proposed reservoir. During the first round of regional water planning, representatives of both Region C and Region D met to discuss the proposed development of water supplies in the Sulphur River Basin. It was preferred by the Region D representatives that Region C recommend one large project (Marvin Nichols Reservoir) rather than multiple smaller reservoirs. As a result, the Marvin Nichols Reservoir was included in each Region C Water Plan since the inception of regional water planning. Implementation of this project was recommended for 2030 in each regional water plan until the *2016 Region C Water Plan*. For that plan, the original implementation date of 2050 was modified to 2070 as part of the negotiated resolution of the declared conflict.

J.2 Analysis and Quantification of the Impacts on Natural Resources

J.2.1 Requirements of Texas Water Code and Texas Water Development Board Rules

The requirements for quantitative reporting on the impacts of water management strategies on natural resources are included in the Board rules in Texas Administrative Code §357. Specifically §357.34(e)(3)(B), requires that the quantitative reporting address impacts on certain specific aspects of natural resources:

- Environmental water needs
- Wildlife habitat
- Cultural resources
- Effect on bays, estuaries, and arms of the Gulf of Mexico

A quantitative reporting of impacts on each of these areas is provided below, as is additional information on impacts on threatened and endangered species.

J.2.2 Available Data for Impacts on Natural Resources

Data on impacts of the proposed Marvin Nichols Reservoir on environmental flow needs were updated during the hydrologic analyses of the reservoir conducted for this *2021 Region C Water Plan.* Data on impacts on other natural resources is taken from the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment* [(2)]. The environmental evaluation is a report developed in 2013 for the U.S. Army Corps of Engineers as part of an on-going basin-wide assessment of the Sulphur River Basin. The report includes environmental analyses of Marvin Nichols Reservoir and other potential water supply projects in the Sulphur Basin.

J.2.3 Impacts on Environmental Water Needs

Texas Administrative Code §357.34(d)(3)(B) includes specific requirements for the evaluation of environmental water needs:

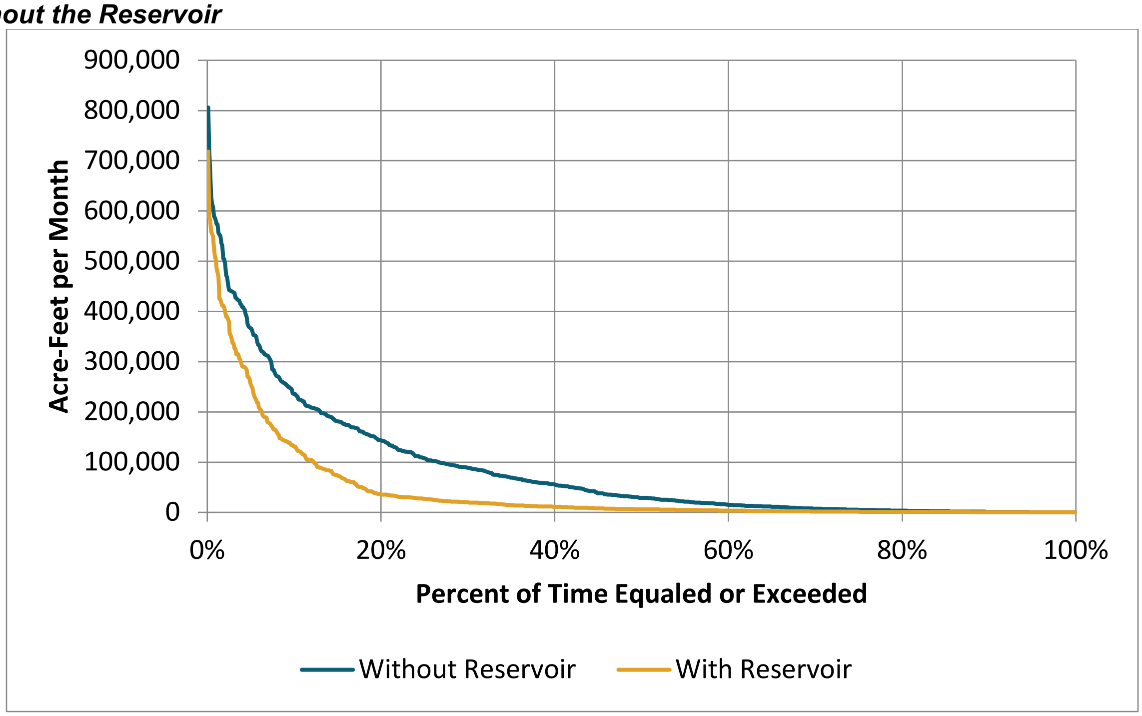
> "Evaluations of effects on environmental flows will include consideration of the Commission's adopted environmental flow standards under 30 TAC Chapter 298 (relating to Environmental Flow Standards for Surface Water). If environmental flow standards have not been established, then environmental information from existing site-specific studies, or in the absence of such information, state environmental planning criteria adopted by the Board for inclusion in the state water plan after coordinating with staff of the Commission and the Texas Parks and Wildlife Department to ensure that water management strategies are adjusted to provide for environmental water needs including instream flows and bays and estuaries inflows."

The Texas Commission on Environmental Quality (TCEQ) has not yet adopted environmental flow standards under 30 TAC Chapter 298 for the Sulphur Basin. As required by TWDB rules, the operation of the proposed reservoir was evaluated using state environmental planning criteria adopted by the Board for inclusion in the state water plan. **Table J.1**and **Figure J.3** summarize the flow-frequency relationship for the Sulphur River immediately below the proposed Marvin Nichols Reservoir with and without the reservoir. It is likely that the detailed studies required for reservoir permitting will result in different streamflow bypass requirements and different impacts on downstream flows. The results in **Table J.1** and **Figure J.3** reflect current TWDB consensus requirements.

Table J.1 Monthly Flow Frequency Relationship with and without Marvin Nichols Reservoir

% of Months Flow is Exceeded	Flow in Acre-Feet/Month	
	Without Marvin Nichols	With Marvin Nichols
5%	366,534	255,222
10%	236,232	131,508
20%	143,577	35,937
30%	88,805	19,741
40%	55,545	11,232
50%	29,145	6,141
60%	15,137	3,384
70%	7,404	1,715
80%	3,310	922
90%	1,135	431
95%	506	252

Figure J.3 Flow-Frequency Relationship of Sulphur River at Marvin Nichols Dam Site with and without the Reservoir



J.2.4 Impacts on Wildlife Habitat

The primary impact of the proposed Marvin Nichols Reservoir on wildlife habitat would be the inundation of habitat by the reservoir. This impact was evaluated as part of the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment*,[2] prepared for the U.S. Army Corps of Engineers as part of an on-going basin-wide assessment of the Sulphur River Basin. The *Environmental Evaluation Interim Report* used the existing Texas Parks and Wildlife Ecological Systems Classification data set, which was developed by analysis of color infra-red and multi-spectral satellite imagery. The data set was considered to be the most recent, readily available data on land cover types in the Sulphur River Basin. The cover types determined from the Ecological Systems Data set were grouped into larger categories based on EPA's Level One National Land Cover Data classifications. U.S. Fish and Wildlife Service National Wetlands Inventory data were used to further refine the classifications. The approach used in the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment* [(2)] is described in greater detail in **Attachment J-2**, which reproduces Sections 2.1 and 2.2 of that report.

Table J.2 shows the acreage of each cover type within the footprint of the proposed Marvin Nichols Reservoir. For comparison, the area of each cover type in all of Region D is also included. (Cover areas in Region D were developed for this study using the database developed in the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment.*) **Attachment J-3** is a map of the cover types in the Marvin Nichols Reservoir site, taken from *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment.*

Table J.2 also presents the impact of the proposed Marvin Nichols Reservoir on wildlife habitat in terms of the acreage of different types of habitat inundated by the reservoir. The reservoir will affect 5.2 percent of the forested wetlands, 2.4 percent of the bottomland hardwood forests, and 0.4 percent of the upland forests in Region D. Bottomland hardwoods and forested wetlands are often lumped together as bottomland hardwoods, and they are considered to be particularly important as wildlife habitat. The total of these two types in the proposed Marvin Nichols Reservoir represents 3.8 percent of the bottomland hardwood and forested wetland areas in Region D. The 31,600 acres of bottomlands and forested wetlands that would be inundated by the proposed reservoir represents less than 1 percent of the estimated 5,973,000 acres [(3)] of bottomland hardwoods in Texas. As a part of permitting for the project, there will be more detailed assessments of the quality of the wildlife habitat that would be affected by the project, which will aid in the development of mitigation plans.

Table J.2 Quantitative Reporting on Impacts on Wildlife Habitat

Cover Type	Area (Acres) Marvin Nichols Reservoir	Area (Acres) Region D	Marvin Nichols Reservoir Area as a Percent of Region D
Barren	<1	8,437	0.0%
Bottomland Hardwood Forest	10,156	417,265	2.4%
Forested Wetland	21,444	414,573	5.2%
Grassland/Old Field	18,241	2,843,656	0.6%
Herbaceous Wetland	1,244	32,011	3.9%
Open Water	1,162	211,761	0.5%
Row Crops	706	314,184	0.2%
Shrub Wetland	1,405	16,445	8.5%
Shrubland	444	47,485	0.9%
Upland Forest	11,223	2,869,079	0.4%
Urban	78	158,878	0.0%
Total	**66,103**	**7,333,774**	**0.9%**

J.2.5 Impacts on Cultural Resources

The impacts of Marvin Nichols Reservoir on cultural resources would result from the inundation of cultural resource sites. The *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment*[2] collected the following data on potential cultural resource impacts from Marvin Nichols Reservoir site and other proposed reservoir sites in the Sulphur River Basin:

- Number of known cultural resources
- Presence of known human remains/burials
- Acres of zones of archaeological potential
- Percentage of reservoir footprint with previous cultural resource surveys
- Surveyed site density

Table J.3 is a quantitative reporting of known cultural resources in the Marvin Nichols Reservoir footprint. **Table J.4** is a quantitative reporting of other measures of potential impacts on cultural resources. The data in both tables is taken from *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment*.

Table J.3 Quantitative Reporting of Impacts on Cultural Resources – Known Cultural Resources

Likely Eligibility of Sites for the National Register of Historic Properties (NRHP)	Historic	Pre-historic	Caddo	Multi-Component	Prehistoric Multi-Component	Total*
Likely NRHP Eligible	0	20	9	2	3	34
Possibly NRHP Eligible - Fair Chance	0	4	2	0	0	6
Possibly NRHP Eligible - Poor Chance	0	4	1	0	0	5
Not Likely NRHP Eligible	0	15	1	2	0	18

**Total for "Likely NRHP Eligible" is corrected from 31 in Environmental Evaluation Interim Report - Sulphur River Basin - Comparative Assessment (2).*

Table J.4 Quantitative Reporting of Impacts on Cultural Resources – Other Factors

Measurement of Impact on Cultural Resources	Value for Measurement
Ratio of High Value Sites to Low Value Sites	1.7*
Number of Known Cemeteries	1 (57 graves)
Acres with High Potential for Archaeological Sites	51,654
Percentage of Project Area Previously Surveyed for Cultural Resources	13%
Number of Acres Surveyed per Site Found in Survey	90.1

*"Ratio of High Value Sites to Low Value Sites" is corrected from 1.6 in *Environmental Evaluation Interim Report - Sulphur River Basin - Comparative Assessment* (2).

In general, impacts on cultural resources are mitigated through coordination with the Corps of Engineers and the Texas State Historical Commission during permitting. Coordination with Indian tribes on archeological issues would also be a part of the permitting process. Mitigation is accomplished by investigating and recording archaeological sites and proper relocation of cemeteries. This process of archaeological mitigation adds to project costs, and it has been considered in costs developed for the proposed Marvin Nichols Reservoir.

J.2.6 Impacts on Bays, Estuaries and Arms of the Gulf of Mexico

The proposed Marvin Nichols Reservoir would not directly affect flows discharging to bays, estuaries and arms of the Gulf of Mexico. The Sulphur River, on which the Marvin Nichols Reservoir would be located, is a tributary of the Red River, which does not flow to any bay, estuary or arm of the Gulf of Mexico in Texas. According to the U.S. Geological Survey, the Red River discharges to the Atchafalaya River, which flows to the Gulf of Mexico in Louisiana (4)(5). Natural discharges from the Atchafalaya to the Gulf of Mexico average 58,000 cubic feet per second, or 42 million acre-feet per year (4)(5). In addition, human diversions of flood flows from the Mississippi River to the Atchafalaya River add about 167,000 cfs, or 121 million acre-feet per year, to the discharge of the Atchafalaya (4)(5), making a total discharge of 163 million acre-feet per year.

Assuming full use of Marvin Nichols Reservoir and no return flows, the project would reduce flows by about 450,500 acre-feet per year. This could reduce the discharge from the Atchafalaya River to the Gulf of Mexico in Louisiana by less than 0.4%. It should be noted that reducing the discharge from the Atchafalaya is moving toward natural conditions, offsetting a very small part of the flows added to the Atchafalaya by human diversion from the Mississippi River. The impact of Marvin Nichols Reservoir on bays, estuaries and arms of the Gulf of Mexico would be negligible.

J.2.7 Impacts on Threatened and Endangered Species

The Texas Water Development Board rules do not require reporting on potential impacts to threatened and endangered species. However, data on potential impacts to endangered and threatened species are available in the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment*[2] and are presented here. The U.S. Fish and Wildlife Service maintains lists of federally endangered and threatened species by county. The Texas Parks and Wildlife Department maintains a separate Texas, or State, list of endangered and threatened species by county. **Table J.5** summarizes State and Federally listed threatened and endangered species in the counties in which Marvin Nichols Reservoir would be located. The potential impact ranking was based on professional judgement, descriptions of habitat, and scarcity of the habitat in the project vicinity.

Table J.5 Quantitative Reporting of Potential Impacts on Endangered and Threatened Species

Classification of Endangered and Threatened Species	Potential for Impact Due to Marvin Nichols Reservoir	Number Present in Counties Where Marvin Nichols Reservoir Would be Located
Federal Endangered Species	No Potential to Low Potential	1
	Moderate Potential	1
	High Potential	0
Federal Threatened Species	No Potential to Low Potential	2
	Moderate Potential	0
	High Potential	0
Texas Endangered Species	No Potential to Low Potential	1
	Moderate Potential	1
	High Potential	0
Texas Threatened Species	No Potential to Low Potential	14
	Moderate Potential	4
	High Potential	0

Of the Federally listed species, there are four potential species that are listed in the counties where Marvin Nichols would be located, but none of these species are expected to be impacted by the reservoir. There is a total of 20 threatened or endangered State-listed species within these counties, but only four threatened species have moderate potential to be impacted by the reservoir, and none have high potential. Because there are four State-listed threatened species with moderate potential to be impacted by Marvin Nichols Reservoir, additional studies may be required to assess the impact on these species, if any, as reservoir development continues. According to the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative*

Assessment, "The Texas Endangered Species Act does not protect wildlife species from indirect or incidental take (e.g., destruction of habitat, unfavorable management practices, etc.). The TPWD has a Memorandum of Understanding with every state agency to conduct a thorough environmental review of state initiated and funded projects, such as highways, reservoirs, land acquisition, and building construction, to determine their potential impact on state endangered or threatened species."

J.3 **Analysis and Quantification of the Impacts on** Agricultural Resources

J.3.1 Requirements of Texas Water Code and Texas Water Development Board Rules

The requirements for quantitative reporting on the impacts of water management strategies on agricultural resources are included in the Board rules in Texas Administrative Code §357. Specifically, §357.34(d)(3)(C) requires that the quantitative reporting address impacts on agricultural resources. The rules do not include any more detailed description of what quantitative reporting is required. To respond to this requirement, this report provides the following quantitative reporting on the impacts of the proposed Marvin Nichols Reservoir on agricultural resources:

- Inundation of land potentially useful as agricultural resources
- Loss of timber harvests
- Inundation of prime farmlands.

J.3.2 Available Data for Impacts on Agricultural Resources

Data on impacts to land cover types potentially useful as agricultural resources is based on a land classification developed for the *Environmental Evaluation Interim Report – Sulphur River Basin – Comparative Assessment.* The data available from that report has been adapted by a simplified re-classification that expands the geographic scope of the analysis for purposes of comparison within this study. Data on the loss of timber harvests is developed from data maintained by the Texas A&M Forestry Service. In the early 2000s, two analyses of the proposed Marvin Nichols reservoir's impacts on timber resources were performed, which reached radically different conclusions [(6)(7)]. Both reports consider the impacts of a previous concept for the proposed Marvin Nichols Reservoir that differs in both size and location from the current concept for the reservoir and which is no longer being considered. Because these studies analyze a different project, they are not considered to be relevant for the current analysis. Data on inundation of prime farmlands is developed from prime farmland data maintained by the U.S. Department of Agriculture Natural Resources Conservation Service.

J.3.3 Impacts Due to Inundation of Land Potentially Useful as Agricultural Resources

The development of land cover type information for the proposed Marvin Nichols Reservoir is discussed in **Section J.2.4** and **Appendices G and H**. Five of the land cover types present in the footprint of the reservoir are potentially useful as agricultural resources. Forested wetlands, bottomland hardwoods, and upland forests might be useful in the growth and harvesting of timber (silvicultural activities). Row crops represent current farming activities. Grassland/old field would potentially include land used for grazing of livestock, although it would also include grassland not currently used for agricultural purposes. **Table J.6** includes information on the area of these land cover types that would be inundated by the Marvin Nichols Reservoir. To allow consideration of the impacts to agricultural resources of Region D and Texas, the areas of these cover types for Region D are included in the table.

Table J.6 Quantitative Reporting on Impacts to Agricultural Resources - Land Potentially Useful for Agriculture

Cover Type		Area (Acres)		Marvin Nichols Reservoir Area as a Percent of Region D
		Marvin Nichols Reservoir	Region D	
Timberlands	Bottomland Hardwood Forest	10,156	417,265	2.4%
	Forested Wetland	21,444	414,573	5.2%
	Upland Forest	11,223	2,689,079	0.4%
Active/Potential Agricultural and Pasture Lands	Row Crops	706	314,184	0.2%
	Grassland/Old Field	18,241	2,872,649	0.6%
Non-Agricultural Lands	Other Land Cover Types	4,333	626,024	0.7%
	Total	**66,103**	**7,333,774**	0.9%

The most significant impacts to agricultural resources relative to the resources of Region D and of Texas are on resources that could potentially be useful to the silviculture industry. These impacts are discussed further (in terms of impacts on timberland and timber sales) in **Section J.3.5**.

J.3.4 Impacts Due to Inundation of Prime Farmland

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) maintains data on prime farmland, which is defined as “land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses (8)”. Prime farmland is not necessarily currently in agricultural use, but it must be available for agricultural use. For example, prime farmland soils underlying an urban area would not be counted as prime farmland because they are not available for agricultural uses. **Table J.7** shows the acreage of prime farmland that would be inundated by the proposed Marvin Nichols Reservoir compared to prime farmland area in Region D and Texas. Marvin Nichols Reservoir would inundate 0.76 percent of the prime farmland in Region D and 0.04 percent of the prime farmland in Texas.

Table J.7 Quantitative Reporting on Impacts on Agricultural Resources – Prime Farmland

Cover Type	Area (Acres)			Marvin Nichols Reservoir Area as a Percent of Area:	
	Marvin Nichols Reservoir	Region D	Texas	Region D	Texas
Prime Farmland	14,893	1,949,929	35,087,200	0.76%	0.04%

J.3.5 Impacts on Timberland and Timber Harvests

Agricultural use of the land that would be inundated by the proposed Marvin Nichols Reservoir includes the production of timber. The Texas A&M Forest Service maintains data on timberland, timber harvest, and the stumpage value of harvests by county. As part of this study, Freese and Nichols contacted the Texas A&M Forest Service to obtain information on the impact of the proposed Marvin Nichols Reservoir on timber resources. Unfortunately, the Texas A&M Forest Service database was not designed to provide information for relatively small areas like the proposed Marvin Nichols Reservoir. The Texas A&M Forest Service indicated that analysis of the data at the county level and above would be most meaningful.

The Texas A&M Forest Service produces annual reports of Harvest Trends for timber products in East Texas, which includes most of the timberland and timber production in Texas. **Figure J.4** shows the area covered by the Harvest Trends reports, as well as the location of the proposed Marvin Nichols Reservoir and the boundaries of Region D. Most of Region D (except for the western counties) is covered by the Harvest Trends Reports.

Although information on the inundation of timberland by the proposed reservoir cannot be gathered directly from data maintained by the Texas A&M Forest Service, it is possible to estimate the magnitude of impacts by looking at county data. Almost all of the footprint of the proposed Marvin Nichols Reservoir is located in Red River, Titus and Franklin Counties. (There are extremely small areas of the reservoir in Delta and Lamar Counties, but they are contained on the Sulphur River floodway channel and would not have forested land.) The total timberland in these three counties is 523,629 acres, and the total of the bottomland hardwood, forested wetland, and upland forest cover types is slightly more, at 531,200 acres. If we treat these three land cover types as a close approximation of timberland, the proposed Marvin Nichols Reservoir will inundate about 42,823 acres of timberland (**Table J.8**), or about 8.2 percent of the 523,629 acres of timberland in Red River, Titus and Franklin Counties.

Table J.8 provides data on potential timberland in Marvin Nichols Reservoir and timberland in Region D [(9)] and East Texas [(10)]. Note that the data for Region D and East Texas include only the area shown in **Figure J.4**. The data for Region D and East Texas were obtained from the Texas Forest Service data set [(9)(10)].

Figure J.4 Region D and Area Covered by Harvest Trends Report

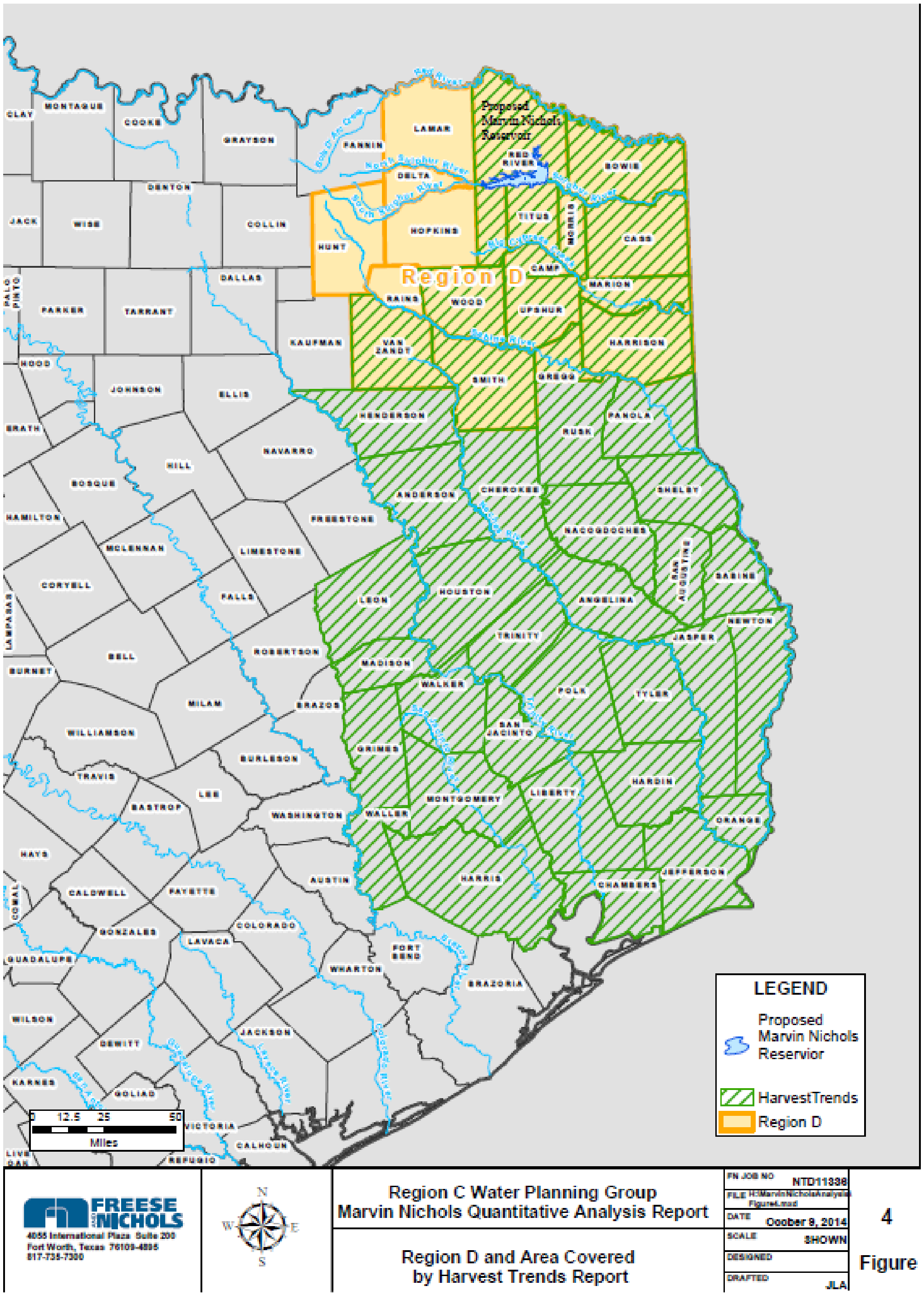


Table J.8 Potential Timberland in Marvin Nichols Reservoir

	Area (Acres)	Percent in Marvin Nichols
Potential Timberland in Marvin Nichols Reservoir		
Bottomland Hardwoods	10,156	
Forested Wetlands	21,444	
Upland Forest	11,223	
Total Potential Timberland in Marvin Nichols	**42,823**	
Total Timberland in Red River, Titus, & Franklin Counties	**523,629**	**8.2%**
Total Timberland in Region D	**3,520,917**	**1.2%**
Total Timberland in East Texas	**11,906,539**	**0.4%**

Table J.9 is a summary of data on timber sales taken from the Texas A&M Forest Service report *Harvest Trends 2017* [(11)]. These data are available only on a county-wide basis. Note that the potential timberland inundated by the proposed Marvin Nichols Reservoir is estimated to be 8.2 percent of the timberland in Red River, Titus and Franklin Counties. As a result, the timber harvest volume and stumpage value from the reservoir area is assumed to be about 8.2 percent of the total value for the three counties. (The stumpage value is the value of the timber harvested, not including the costs of processing and delivering the timber.) The estimated stumpage value of the timber harvests in the Marvin Nichols Reservoir pool is less than one percent of the total for Region D and less than 0.2 percent of the total for East Texas. (None of the 19 East Texas Counties with the highest stumpage timber harvest values (all over $5,000,000) would be affected by Marvin Nichols Reservoir.)

Table J.9 Estimated Impact of Marvin Nichols Reservoir on Timber Harvest Values

County	Volume Harvested (Cubic Feet)			Stumpage Value of the Harvest (thousand dollars)
	Pine	Hardwood	Total	
Franklin	17,424	47,990	65,414	$67
Red River	7,689,356	2,561,886	10,251,242	$4,188
Titus	435,802	328,019	763,821	$537
Total for Marvin Nichols Counties	8,142,582	2,937,895	11,080,477	$4,792
Estimated Stumpage Value for Marvin Nichols (8.2% of Total for Counties)				**$392**
Total for Region D (not including Hunt, Lamar, Delta, Hopkins and Rains Counties)	91,938,000	27,133,561	119,071,561	$57,800
Total for East Texas	432,274,383	66,507,907	498,782,290	$244,834

J.4 Mitigation and the Effect of Mitigation on Impacts to Natural and Agricultural Resources

Developers of a new reservoir project are often required to provide mitigation for the impacts on natural resources in the form of land set aside, protected from development, and managed to enhance ecological value. Mitigation is generally only required for specific types of resources that would be impacted such as waters of the U.S. and the state, including wetlands. The developer of a project gets mitigation credit for improving the environmental functions of the land used for mitigation. The usual approach is to purchase degraded areas with limited environmental value and improve them through restoration, enhancement and careful management to achieve desired compensatory results at minimum cost.

Table J.10 gives information on historical mitigation requirements for Texas reservoirs constructed or permitted since 1980. Significant changes have taken place to the mitigation process since the 1980s. Mitigation is no longer based strictly on acreage. It now considers the quality of the land being taken out of use as well as the improvements made to the mitigation land. It may be more beneficial to examine a more recent example of reservoir mitigation, Bois d'Arc Lake, which is now under construction. Significant land was initially acquired for mitigation (15,000 acres) for Bois d'Arc Lake, and the transaction was on a willing buyer-willing seller basis, with no condemnation of land. Approximately 2,000 additional acres are currently being purchased for mitigation with the same willing seller approach. The total mitigation for Bois d'Arc Lake is 17,000 acres, which is equivalent to a 1:1 ratio to the area impacted by construction. Another reservoir, Lake Ralph Hall, is currently in the permitting process, and mitigation requirements have not yet been finalized.

One of the key differences in recently permitted projects and those permitted decades earlier is the approach to mitigation. No longer are ratios used, but rather habitat value. Also, as previously noted, preferred lands for mitigation are lands that could be improved and developed into new ecological habitats. The potential impacts to the timber industry from mitigation would be much less than claimed by opponents because the preferred land for mitigation would be non-forested. For the Bois d'Arc Lake project, ranch lands are currently being improved, with over 5 million trees planted, to create aquatic and terrestrial habitats on lands that otherwise had limited ecological value.

Mitigation offsets the impacts of a project on natural resources by improving the ecological functions of other land. Mitigation would be expected to offset the impacts of the proposed Marvin Nichols Reservoir on natural resources. While most of the lands dedicated to mitigation may not be active agricultural lands, the potential use of these lands in the future for agricultural purposes would be limited and probably not compatible for the purpose of the mitigation.

Mitigation requirements for new reservoirs are generally determined during the permitting process, and the requirements for the proposed Marvin Nichols Reservoir are not yet known. Estimates of mitigation requirements have been developed as part of cost estimates used for the *2021 Region C Water Plan*. For this Plan, the required mitigation acreage is estimated at approximately equivalent to the total acreage of the proposed new reservoir. For the proposed Marvin Nichols Reservoir, the acreage of the reservoir is 66,103 acres, and the estimated mitigation requirement is equal to that amount (66,103 acres). This is consistent with historical mitigation requirements for reservoirs in Texas. It should be emphasized that this is only an estimate. Actual mitigation requirements and location will be developed as permitting for the proposed reservoir proceeds. As discussed above, mitigation is intended to offset impacts on natural resources but may increase impacts to agricultural resources.

Table J.10 Mitigation Requirements for Texas Reservoirs

Reservoir	Date Impounded	Conservation Pool (Acres)	USACE Mitigation (Acres)	Ratio	Mitigation Site
Alan Henry	1993	2,884	3,000	1.04:1	Down Stream
Applewhite	Permitted in 1989	2,500	2,500	1.00:1	Accepted Down Stream
Bois d'Arc Lake	Permitted in 2018	16,641	16,800	1.01:1	Upstream and Down Stream
Cooper (including Flood Pool)	1991	19,200 (22,740)	35,500	1.85:1 (1.56:1)	Next to Reservoir and 50 miles Down Stream
Gilmer	1997	1,010	1,557	1.54:1	
Joe Pool	1986	7,470	0	0.00:1	None
Mitchell County	1993	1,463	0	0.00:1	None
O. H. Ivie	1990	19,149	5,990	0.31:1	Next to Reservoir
Palo Duro	1989	2,413	0	0.00:1	None
Ray Roberts	1986	29,350	0	0.00:1	None
Richland-Chambers	1987	44,752	13,700	0.31:1	Down Stream

J.5 Socio-Economic Assessment

In 2014, the Corps of Engineers produced the report Sulphur River Basin – Socio-Economic Assessment [12].It was estimated that the construction phase of Marvin Nichols Reservoir would produce over 12,000 direct, indirect, and induced jobs, and have an overall positive effect on the economy of $1.47 billion (in 2014 dollars).

An updated socio-economic study was conducted in April 2020 by Clower & Associates for the recommended Marvin Nichols Reservoir strategy. This strategy assumes the full-size reservoir (elevation 328 ft msl) with over 200 miles of transmission to NTMWD, TRWD, and UTRWD. All costs are in 2018 dollars, which is consistent with the 2021 regional water planning guidance.

The *Economic, Fiscal and Developmental Impacts of the Proposed Marvin Nichols Reservoir* (2020 Clower Report) is included as **Attachment 4** to this appendix. The study found that the development of the lake and transmission system would result in over 38,000 direct, indirect and induced temporary jobs during construction and 1,800 permanent jobs during operations. The total economic activity would increase by $5.5 billion during construction and $228 million during operations. Much of this increased economic activity would occur in Region D, where the reservoir is located.

Terms

Employment: the number of annual average monthly jobs that would be created, and can be either full-time or part-time.

Labor income: represents all forms of employment income, including employee compensation (wages and benefits) and proprietor income.

Value added: gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported), which consists of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus.

Output: the value of industry production.

***Direct* employment:** jobs associated with the project itself.

***Indirect* employment:** employment generated from spending by employees of the project.

***Induced* employment:** employment generated from spending by indirect employees.

Table J.11 provides additional detail during construction and **Table J.12** presents the economic summary during operations. It should be noted that these impacts occur over different geographic areas and at different times, pending construction schedules and project component locations. All values represent direct, indirect and induced economic impacts.

Table J.11 Socio-Economic Impact of Constructing Marvin Nichols Reservoir

	Construction			
	Dam (6 years)	Transmission (6 years)	Housing/ Commercial (20 years)	Total
Economic Activity	$1,223,035,000	$3,830,050,000	$497,573,000	$5,550,658,000
Value Added	$545,522,235	$2,355,441,235	$236,857,235	$3,137,820,705
Labor Income	$396,345,000	$1,667,439,000	$168,042,000	$2,231,826,000
Employment	8,266	25,921	4,061	38,248
Indirect State and Local Taxes	$34,018,000	$109,615,000	$15,506,000	$159,139,000

Table J.12 Socio-Economic Impact of Operating Marvin Nichols Reservoir

	Annual Operations			
	Dam	Transmission	Visitor/Resident Spending	Total
Economic Activity	$39,877,000	$81,106,000	$106,906,000	$227,889,000
Value Added	$17,945,000	$46,802,000	$56,608,000	$121,355,000
Labor Income	$12,569,000	$17,701,000	$29,957,000	$60,227,000
Employment	289	216	1,327	1,832
Indirect State and Local Taxes	$1,121,000	$5,065,000	$9,282,000	$15,468,000

The 2020 Clower Report also addressed potential socio-economic impacts to the North Texas region if this water supply project is not developed. The report notes that the North Texas region, including most of the communities served by the sponsors of the Marvin Nichols Reservoir, has witnessed an unprecedented economic boom over the past decade with record levels of population growth and job creation. Economic forecasts see this growth continuing for at least the next several decades.

Much of the driving factors for the North Texas growth is the growth of industries and migration of workers to service these industries. Water is a major factor for both residents and industry. If water supplies are limited due to the inability to secure reliable new sources of water, continued growth in North Texas will slow. Industries most likely to slow are those that are most dependent upon water, which include pharmaceutical, aerospace and semiconductor manufacturing, hospitals, and service industries such as hotels and restaurants. The impacts to projected job growth for just these six industries could be substantial with the loss of 136,000 jobs and $19 billion in annual economic activity. This assessment assumes a lack of water for growth. The TWDB looked at the effects a one-year drought would have on Region C.

As part of the 2021 Region C Water Plan, the TWDB evaluated the socio-economic impacts of not meeting water needs in Region C. This report is included in **Appendix L** of the 2021 Plan and summarized in **Chapter 6** of the plan. The TWDB analysis is based on the projected needs for the all of Region C, which reach approximately 1.3 million acre-feet per year by 2070. The analysis assumes that these needs cannot be met in a single year in the decade. Projected needs in other years in the decade are assumed to be met. This approach is predicated on the assumption that the needs are solely drought driven. In Region C, the most of the projected water needs are growth related. This means that the impact from not meeting the water need is not limited to a single year in the decade. Previous analyses by the TWDB for Region C (2006

Region C Water Plan) indicate the socio-economic impacts associated with growth could be much higher than estimated using the standard TWDB protocol.

Even with this restricted approach to impacts, the TWDB reported job losses of up to 473,000 and $48 million in income loss by 2070. The limited analysis of not developing Marvin Nichols in the 2020 Clower Report confirms there would likely be substantial impacts to economic growth in the North Texas region. The Marvin Nichols Reservoir is expected to provide about 30 percent of the projected need for Region C providers in 2070 and much more of the need in earlier decades. Not being able to sustain the continued growth in Region C due to the lack of water would have tremendous impacts on the State's economy. In addition to the impacts to Region C, there would be expected indirect impacts to Region D. Region C is the economic engine in North Texas, which supports labor and local industries such as the timber industry in Region D.

J.6 Additional Information

Table J.13 shows the needs for additional water supplies in the Trinity and Sulphur Basins, taken from the Texas Water Development Board database for the 2021 regional water plans [(13)]. The Texas Water Development Board defines needs as the difference between the supply currently available and the projected demands for a water user group. **Table J.13** shows the sum of net needs by river basin and planning group. For suppliers that have a surplus, needs are set at zero. As the table shows, there is need for considerable additional water supply in the Trinity Basin, particularly in Region C.

Table J.13 Needs for Additional Water Supply in the Trinity and Sulphur Basins

Basin	Region	Sum of Supply Needs for All Suppliers (Acre-Feet)					
		2020	2030	2040	2050	2060	2070
Trinity Basin	B	545	50	51	136	226	323
	C	59,557	322,103	538,331	774,198	1,014,402	1,261,260
	D	38	74	136	234	372	582
	G	7,985	8,962	10,072	12,434	15,327	18,494
	H	12,558	13,856	14,147	14,773	15,588	16,457
	I	1,641	1,752	1,796	1,882	2,006	2,172
	Total	**82,324**	**346,797**	**564,533**	**803,657**	**1,047,921**	**1,299,288**
Sulphur Basin	C	215	229	219	299	504	650
	D	29,817	30,765	31,421	32,570	34,180	36,206
	Total	**30,032**	**30,994**	**31,640**	**32,869**	**34,684**	**36,856**

Appendix J List of References

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Attachment J-1

Interim Order of August 8, 2014

TEXAS WATER DEVELOPMENT BOARD

AN INTERIM ORDER concerning the interregional conflict between the 2011 North Central Texas Regional Planning Area Regional Water Plan and the 2011 North East Texas Regional Planning Area Regional Water Plan in accordance with Texas Water Code § 16.053.

On August 7, 2014, the Texas Water Development Board (Board) considered the interregional conflict between the 2011 North Central Texas Regional Planning Area (Region C) Regional Water Plan and the 2011 North East Texas Regional Planning Area (Region D) Regional Water Plan.

After considering the oral argument of the parties and the filings in this matter, the Board determined that there was inadequate analysis and quantification of the impact of the Marvin Nichols Reservoir Water Management Strategy on the agricultural and natural resources of Region D and the State.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS WATER DEVELOPMENT BOARD that:

1. Region C is directed to conduct an analysis and quantification of the impacts of the Marvin Nichols Reservoir Water Management Strategy on the agriculture and natural resources of Region D and the State, pursuant to Sections 16.051 and 16.053 of the Texas Water Code and Chapters 357 and 358 of Board rules. Region C should submit this analysis and quantification to the Board by November 3, 2014. Upon receipt of the analysis and quantification, the Executive Administrator and Region D will be given the opportunity to submit a written response to the submission, and the matter will be scheduled for Board consideration. If no submittal is received by the Board on or before November 3, 2014, this matter will set for a Board Meeting to direct the Regions to revise

their regional water plans reflecting the removal of the Marvin Nichols Reservoir Water Management Strategy from the 2011 Region C Plan, without prejudice.

2. The Executive Administrator is directed to undertake an examination of current rules and guidance pertaining to the development of regional water plans, and identify any opportunities for: ensuring that future regional and state water planning efforts include all statutorily-required analyses; and defining "interregional conflict" in a manner that is consistent with the ruling of the 11th Court of Appeals in *Texas Water Development Board vs. Ward Timber, Ltd.*, 411 S.W.3d 554 (Tex. App.-Eastland 2013, no pet.).

3. The Region C and Region D regional water planning groups are encouraged to continue to participate in the Sulphur River Basin Study.

Issue Date: August 8, 2014

TEXAS WATER DEVELOPMENT BOARD

Carlos Rubinstein, Chairman

Attachment J-2

Background and Methodology for Land Resource/Cover Type Assessment – Excerpt from Section 2 of the Environmental Evaluation Interim Report – Sulphur River Basin Comparative Assessmen

Land Resource / Cover Type Assessment

Background

The Texas Parks and Wildlife Department (TPWD) Ecological Systems Classification data set was utilized to develop the cover types within the footprints of the alternative reservoir sites, including Parkhouse I, Parkhouse II, Marvin Nichols 1A, Wright Patman (237.5 ft. msl and 259.5 ft. msl), Jim Chapman, and Talco. A number of key partners including the Texas Natural Resources Information System (TNRIS), Texas Forest Service, Natural Resources Conservation Service (NRCS), NatureServe, The Nature Conservancy (TNC), and the Missouri Resource Assessment Partnership (MoRAP) were involved in developing the Ecological Systems Classification project.

The creation of the Ecological Systems Classification took into consideration a wide variety of biotic and abiotic variables to establish detailed regional comparisons of vegetation and habitats. Data sources utilized in this classification system included the Farm Service Agency (FSA) National Agriculture Imagery Program (NAIP) aerial imagery, satellite imagery, 10-meter digital elevation models (DEM), U.S. Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) soil data types, TPWD vegetational areas, U.S. Geologic Survey (USGS) National Hydrography Dataset (NHD) layers, USGS Geologic Atlas of Texas, as well as field verified site data. The objective of this classification was to create a land cover type set with sufficient detail to be useful at the sub-county level, targeting the scale of 1:24,000, such as the USGS's 7.5 minute quadrangle scale.

Supervised classifications were performed on both color infra-red and multi-spectral satellite imagery to break down the images into objects that were more easily definable. Both leaf-on and leaf-off imagery conditions were used to establish a proper baseline. Detailed spatial analysis was performed at a 10-meter resolution, with the use of DEM's to identify areas of steep slopes (20% or greater), cliffs, and aspect. The "Ecological Site Type/Range Site" attributes from the NRCS soils data provided more detail to the species typically found in specific soils types, and field verification along public roads and public lands were used to sample present species. Seasonally flooded, versus temporarily flooded areas were estimated based on information from the SSUGRO soil data layer. Riparian data was determined to be either small or large stream riparian areas based on the NHD stream types.

All of the alternative reservoir sites evaluated in this report fell within the area surveyed in the Ecological Classification System project. As such, the data from the TPWD Ecological Classification System project was considered to be the most recent, readily available data collected for all alternative reservoir sites that would allow for a balanced comparison.

Methodology

The cover types used in the TPWD Ecological Systems Classification were derived from the NatureServe Ecological Classification System (Comer, 2003). This classification methodology resulted in a large number of cover types that were not readily observable or comparable at the scale spanning much of the Sulphur River Basin. To produce a cover type/vegetation classification within each alternative reservoir site that would be more readily observable and comparable, the Ecological Classification System cover types were re-assigned into broader and more general categories based on the EPA's Level I National Land Cover Data (NLCD). The definitions from the NLCD cover types were compared to the definitions contained in the Draft Descriptions of Systems, Mapping Subsystems, and Vegetation Types for Phase II (Elliott, 2009), and matched accordingly. Table 1 identifies the cover types resulting from this re-classification and the corresponding Ecological Classification System cover types that were included. Once this initial re-classification was complete, an additional re-classification was conducted utilizing the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) data within each alternative reservoir site. A GIS analysis was then conducted and the re-classified vegetation/cover types were clipped to the NWI data layer in an effort to try and distinguish the bottomland hardwood forest cover type from the forested wetland cover type, as these cover types often overlap when based solely on remotely sensed data. Table 2 summarizes the final types and amounts (acres) of each cover type that were identified within the footprint of each alternative reservoir site. Figures 2 through 8 display the cover types identified within the footprint of each alternative reservoir site.

Table 1: Results of the Re-Classification of the Ecological Classification System Cover Types into EPA-based Level I NLCD Cover Types

EPA-Based Level I Cover Types	TPWD Ecological Systems Classification Cover Types
Barren	o Barren
Bottomland Hardwood Forest	o Pineywoods: Bottomland Seasonally Flooded Hardwood Forest o Pineywoods: Bottomland Temporarily Flooded Hardwood Forest o Pineywoods: Bottomland Temporarily Flooded Mixed Pine / Hardwood Forest o Pineywoods: Small Stream and Riparian Seasonally Flooded Hardwood Forest o Pineywoods: Small Stream and Riparian Temporarily Flooded Hardwood Forest
Forested Wetland	o Pineywoods: Bottomland Baldcypress Swamp o Pineywoods: Small Stream and Riparian Baldcypress Swamp o Swamp
Grassland/Old Field	o Blackland Prairie: Disturbance or Tame Grassland o Pineywoods: Bottomland Wet Prairie o Pineywoods: Small Stream and Riparian Wet Prairie o Post Oak Savanna: Savanna Grassland o Pineywoods: Disturbance or Tame Grassland
Herbaceous Wetland	o Marsh o Pineywoods: Bottomland Herbaceous Wetland o Pineywoods: Herbaceous Seepage Bog o Pineywoods: Small Stream and Riparian Herbaceous Wetland o Pineywoods: Wet Hardwood Flatwoods
Open Water	o Open Water o Pineywoods: Herbaceous Flatwoods Pond
Row Crops	o Row Crops
Shrub Wetland	o Pineywoods: Bottomland Deciduous Successional Shrubland o Pineywoods: Small Stream and Riparian Deciduous Successional Shrubland
Shrubland	o Native Invasive: Deciduous Shrubland o Native Invasive: Juniper Shrubland o Native Invasive: Mesquite Shrubland o Pineywoods: Small Stream and Riparian Evergreen Successional Shrubland o Red River: Floodplain Evergreen Shrubland
Upland Forest	o Native Invasive: Deciduous Woodland o Pine Plantation > 3 meters tall o Pine Plantation 1 to 3 meters tall o Pineywoods: Dry Pine / Hardwood Forest or Plantation o Pineywoods: Dry Pine Forest or Plantation o Pineywoods: Dry Upland Hardwood Forest

EPA-Based Level I Cover Types	TPWD Ecological Systems Classification Cover Types
	○ Pineywoods: Hardwood Flatwoods ○ Pineywoods: Longleaf or Loblolly Pine / Hardwood Flatwoods or Plantation ○ Pineywoods: Longleaf or Loblolly Pine Flatwoods or Plantation ○ Pineywoods: Northern Mesic Hardwood Forest ○ Pineywoods: Northern Mesic Pine / Hardwood Forest ○ Pineywoods: Pine / Hardwood Forest or Plantation ○ Pineywoods: Pine Forest or Plantation ○ Pineywoods: Sandhill Pine Woodland ○ Pineywoods: Small Stream and Riparian Temporarily Flooded Mixed Forest ○ Pineywoods: Upland Hardwood Forest ○ Post Oak Savanna: Oak / Hardwood Slope Forest ○ Post Oak Savanna: Post Oak / Redcedar Motte and Woodland ○ Post Oak Savanna: Post Oak Motte and Woodland
Urban*	○ Urban High Intensity ○ Urban Low Intensity

* According to the descriptions contained within the TPWD Ecological Systems Classification, urban areas consist of built-up areas including wide transportation corridors that are dominated by impervious cover (Elliott, 2009). By definition, this cover type could include smaller roadways, parking lots, and other areas dominated by impervious cover.

Table 2: Summary of Types and Approximate Amounts (acres) of Cover Types within the Footprint of each Alternative Reservoir Site

ALTERNATIVE RESERVOIR SITES	Wright Patman (237.5)	Wright Patman (259.5)	Marvin Nichols 1A	Talco	Parkhouse I	Parkhouse II	Jim Chapman (446.2)
COVER TYPES							
Barren	<1	<1	<1	<1	1	1	1
Bottomland Hardwood Forest	2,566	8,202	10,156	7,251	4,267	1,960	2,264
Forested Wetland	16,069	35,098	21,444	10,316	5,487	1,116	736
Grassland/Old Field	201	4,026	18,241	18,107	12,133	7,718	373
Herbaceous Wetland	438	1,151	1,244	276	432	91	94
Open Water	2,636	3,376	1,162	394	181	182	42
Row Crops	39	292	706	1,989	3,987	3,626	2
Shrub Wetland	55	204	1,405	468	278	28	109
Shrubland	34	187	444	288	65	19	241
Upland Forest	5,951	34,062	11,223	9,803	1,521	602	1,029
Urban	17	105	78	23	10	14	9
TOTAL	**28,006**	**86,703**	**66,103**	**48,915**	**28,362**	**15,357**	**4,900**

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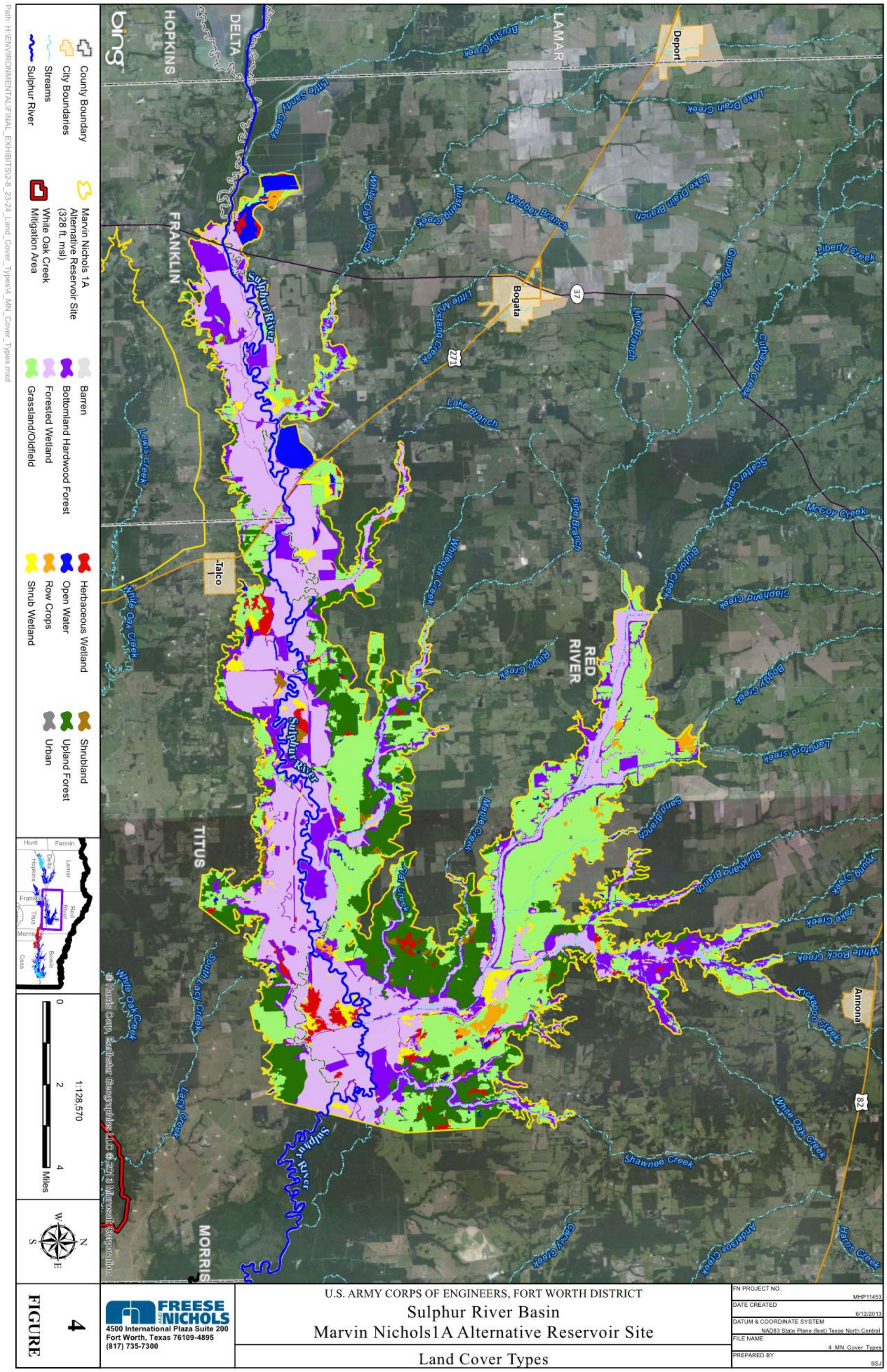
Attachment J-3

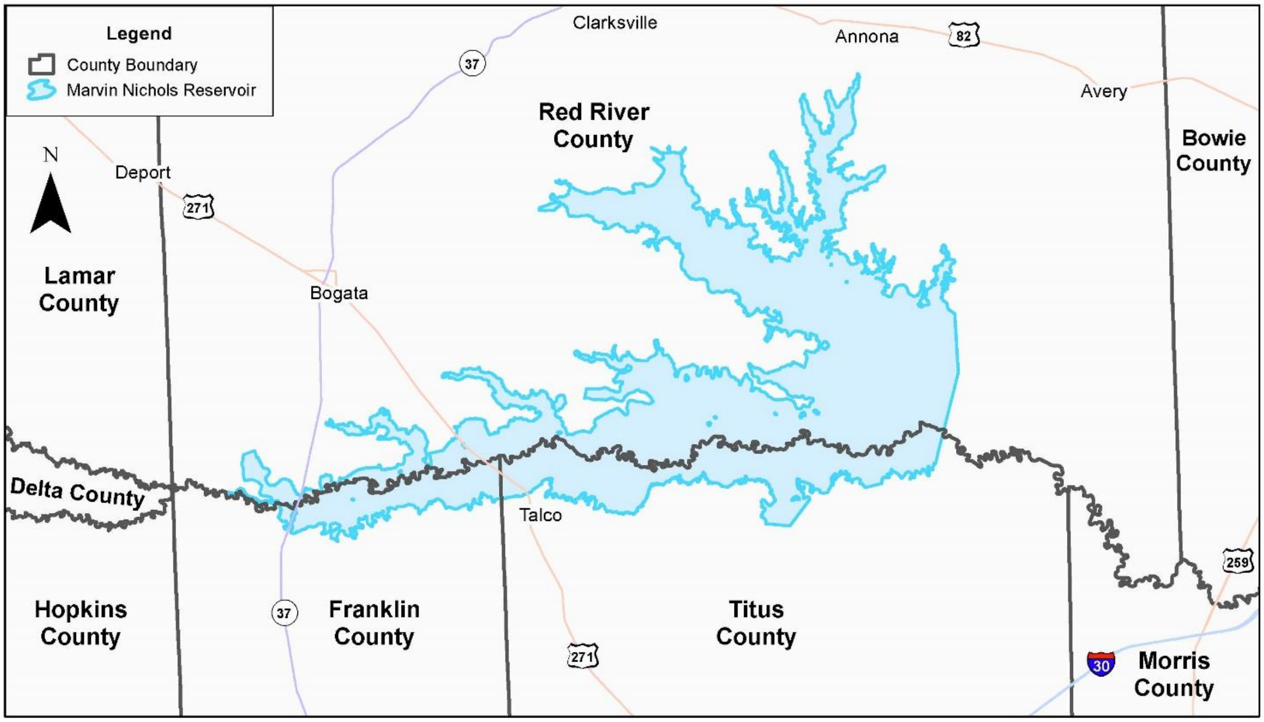
Land Cover Type Figure 4 from the Environmental Evaluation Interim Report – Sulphur River Basin Comparative Assessment



County Boundary
City Boundaries
Streams
Sulphur River
Marvin Nichols 1A Alternative Reservoir Site (328 ft. msl)
White Oak Creek Mitigation Area
Barren
Bottomland Hardwood Forest
Forested Wetland
Grassland/Oldfield
Herbaceous Wetland
Open Water
Row Crops
Shrub Wetland
Shrubland
Upland Forest
Urban
1:128,570
0 2 4 Miles
HOPKINS
DELTA
FRANKLIN
TITUS
MORRIS
LAMAR
RED RIVER
Deport
Bogata
Talco
Annona
Sulphur River
U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT
Sulphur River Basin
Marvin Nichols1A Alternative Reservoir Site
Land Cover Types
FREESE NICHOLS
4500 International Plaza Suite 200
Fort Worth, Texas 76109-4895
(817) 735-7300
FIGURE 4
FN PROJECT NO. MHP11453
DATE CREATED 6/12/2013
DATUM & COORDINATE SYSTEM NAD83 State Plane (feet) Texas North Central
FILE NAME 4_MN_Cover_Types
PREPARED BY SSJ

Attachment J-4

Economic, Fiscal and Developmental Impacts of the Proposed Marvin Nichols Reservoir, April 13, 2020



Economic, Fiscal and Developmental Impacts of the Proposed Marvin Nichols Reservoir

Prepared for:

North Texas Municipal Water District
Upper Trinity Regional Water District
Tarrant Regional Water District
Dallas Water Utilities

April 13, 2020

Clower & Associates

Dallas-Fort Worth / Washington DC
(202) 769-6868

Table of Contents

Statement of Report Status: This is a draft report based on initial estimates of development and operating costs associated with the proposed Marvin Nichols Reservoir. Subsequent adjustments in total spending and budget allocations may influence the reported economic impacts.

Clower & Associates is a professional services firm providing economic and public policy analysis and advisory services to clients in the public, private, and non-profit sectors.

Terry L. Clower, Ph.D.—Principal
Bernard L. Weinstein, Ph.D.—Principal
Nicholas Saliba, B.S., B.B.A., B.A.—Senior Research Associate

Executive Summary

The following summarizes the findings of our analysis of the potential economic, fiscal, and developmental impacts that would attend the creation of the proposed Marvin Nichols Reservoir. This new Sulphur River basin lake will cover over 66,000 acres of surface area in Franklin, Red River, and Titus counties of northeast Texas, collectively referred to herein as the "Lake Counties."

Our analysis considers geographical differences in the effective economic study area at differing phases of development and operations of the reservoir. Therefore, the economic impacts of each development phase cannot be considered additive.

- Construction of the dam to impound the proposed Marvin Nichols Reservoir will cost in excess of $760 million, including work conducted to address required environmental mitigation strategies. The effective economic geography for this work includes the counties surrounding the proposed reservoir plus Bowie and Morris counties since it is expected that these counties will supply workers for the construction project. Construction of the dam and related infrastructure will boost local area economic activity by more than $1.2 billion during the multi-year project. This activity will increase gross regional product by over $545 million and support well over 8,200 person years of employment, boosting labor earnings by $396 million. A person-year of employment is one job lasting for one year and is the most accurate way to describe job impacts from projects that last more than one year.

- This proposed water resource development project also includes building a new raw water transmission pipeline from the reservoir to facilities in the Dallas-Fort Worth Metroplex. The related construction activities will occur in Collin, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Titus and Wise counties. Total spending for materials, services, and the purchase of right-of-way and other construction and permitting-related activities will exceed $3 billion. Building the water transmission pipeline will temporarily boost regional economic activity by $3.8 billion, increase gross regional product by about $2.4 billion, and support almost 26,000 person-years of employment paying almost $1.7 billion in salaries, wages, and benefits.

- On-going annual expenditures for operations and maintenance of the dam will boost economic activity in nearby counties. We estimate that recurring annual maintenance and operations spending to support the Marvin Nichols Reservoir will increase local economic activity by $39.9 million per year, expressed in constant 2020 dollars, and increase local labor income by $12.6 million through the creation of 289 direct, indirect, and induced jobs.

- Operations and maintenance of the transmission pipeline will spread across a wider region and will include water district employees based in Dallas and Fort Worth. The annual economic impact of maintenance and operations spending for the pipeline and related infrastructure will boost regional economic activity by $81.1 million, increase gross regional product by $46.8 million, and support 216 direct, indirect, and induced jobs paying more than $17.7 million in salaries, wages and benefits.

- Once the lake is impounded, the surrounding counties will attract new investment and spending for commercial and residential properties, as well as spending by visitors who will enjoy lake-based recreational activities. We expect the local area to see 2,000 new residential units constructed, as well as commercial facilities such as campgrounds, lodging venues, marinas, restaurants and similar businesses. Total investment in new residential and commercial properties will boost construction spending by more than $360 million over a 20-year period. This spending will increase local economic activity by more than $497 million, enhance labor income by $168 million, and support over 4,000 person-years of employment. On average that would be about 200 jobs per year, helping to create recurring economic opportunities in Franklin, Red River, and Titus counties.

- The housing that will be built near the new reservoir will include homes for full-time residents as well as vacation homes. New residents will be contributing about $30 million in annual regional spending by year 20. In addition, based on the experience of other Texas lakes, we estimate that annual visitor spending will be about $56 million per year. Combined, this new spending will increase local economic activity by almost $107 million per year, in 2020 dollars, and support more than 1,300 permanent jobs paying about $30 million in annual labor income.

- The presence of the proposed Marvin Nichols Reservoir will enhance the region's attractiveness for business location. As a recreational amenity, the lake will enhance the quality of life features of the region, which is an increasingly important factor in business site location decisions. Industries requiring reliable local water resources will also find new reasons to locate in the area.

- In addition to temporary gains in tax revenues associated with construction and project development activities, local taxing jurisdictions in the Lake Counties will enjoy new property tax revenues from adjacent residential and commercial developments, as well as recurring tax revenue associated with household and visitor spending. By year 20, we project that Lake Counties governments will share about $3.3 million in new property tax revenues and that local school district revenues will increase by over $6.6 million annually. Local jurisdictions' recurring annual revenues from new residents and visitors will be about $6 million per year, assuming visitor-focused commercial enterprises are located within a taxing jurisdiction.

- In addition to creating substantial growth and development opportunities in northeast Texas, building the Marvin Nichols Reservoir is paramount for the Dallas-Fort Worth Metroplex to sustain its competitive economic advantage over the long term. Continued population growth, and the ability to attract new and expanding businesses in key industries, is highly dependent on reliable water supplies.

Table ES1
Temporary Local Economic Impacts of Construction Activities
(2020 dollars)

Description	Impact ($2020, Direct, Indirect, Induced)
Dam Construction Impacted counties: Bowie, Franklin, Morris, Red River, Titus.	
Total Economic Activity (economic transactions)	$ 1,223,035,000
Total Value Added (gross regional product)	$ 545,522,235
Total Labor Income (salaries, wages, benefits)	$ 396,345,000
Total Employment (person-years of employment)	8,266
Indirect State Taxes	$ 18,357,000
Indirect Local Taxes	$ 15,661,000
Pipeline & Pump Station Construction Impacted counties: Collin, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Titus, Wise	
Total Economic Activity (economic transactions)	$ 3,830,050,000
Total Value Added (gross regional product)	$ 2,355,441,235
Total Labor Income (salaries, wages, benefits)	$ 1,667,439,000
Total Employment (person-years of employment)	25,921
Indirect State Taxes	$ 52,719,000
Indirect Local Taxes	$ 56,896,000
Housing and Commercial Construction Impacted counties: Franklin, Red River, Titus. Construction period: 20 years.	
Total Economic Activity (economic transactions)	$ 497,573,000
Total Value Added (gross regional product)	$ 236,857,235
Total Labor Income (salaries, wages, benefits)	$ 168,042,000
Total Employment (person-years of employment)	4,061
Indirect State Taxes	$ 7,315,000
Indirect Local Taxes	$ 8,191,000

Sources: Freese & Nichols, IMPLAN, Authors' estimates

Table ES2
Recurring Annual Local Economic Impacts
(2020 dollars)

Description	Impact ($2020, Direct, Indirect, Induced)
Dam Operations Impacted counties: Bowie, Franklin, Morris, Red River, Titus	
Total Economic Activity (economic transactions)	$ 39,877,000
Total Value Added (gross regional product)	$ 17,945,000
Total Labor Income (salaries, wages, benefits)	$ 12,569,000
Total Employment (headcount)	289
Indirect State Taxes	$ 605,000
Indirect Local Taxes	$ 516,000
Pipeline & Pump Station Operations Impacted counties: Collin, Dallas, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Tarrant, Titus, Wise.	
Total Economic Activity (economic transactions)	$ 81,106,000
Total Value Added (gross regional product)	$ 46,802,000
Total Labor Income (salaries, wages, benefits)	$ 17,701,000
Total Employment (headcount)	216
Indirect State Taxes	$ 2,477,000
Indirect Local Taxes	$ 2,588,000
Visitor and Resident Spending Impacted counties: Franklin, Red River, Titus	
Total Annual Household Income: New Permanent Residents	$ 58,300,000
Total Annual Household Income: New Weekend Residents (portion while in local area)	$ 8,162,000
Total annual spending: recreational visitors	$ 56,090,000
Total Economic Activity (economic transactions)	$ 106,906,000
Total Value Added (gross regional product)	$ 56,608,000
Total Labor Income (salaries, wages, benefits)	$ 29,957,000
Total Employment (headcount)	1,327
Indirect State Taxes	$ 4,455,000
Indirect Local Taxes	$ 4,827,000

Sources: Freese & Nichols, IMPLAN, Authors' estimates

ES3
Recurring Annual Fiscal Impacts of New Housing Developments and Resident and Recreational Out-of-Area Visitor Spending+

Description	**Impact** ($2020 Direct, Indirect, Induced)
Total Taxable Value of New Housing (permanent & weekend)	$ 408,000,000
Total Taxable Value of New Commercial Structures	$ 21,350,000
Total Increase in Taxable Land Values Adjacent and Near the Lake	$ 368,151,000
Net New Taxable Value (after removing lake & all mitigation land)	$ 539,794,000
Net# gain in county property tax revenues	$ 3,360,000
Net# gain in school district property tax revenues	$ 6.669.000
Other Local Government Revenue (taxes, fees, other)	$ 6,054,000

+ At buildout. # Net of losses to taxable property value of lake and environmental mitigation areas.
* Value will be impacted by land annexation and business location decisions.
Sources: Freese & Nichols, IMPLAN, Authors' estimates

Section 1: Introduction

The following updates our 2003 analysis of the economic, fiscal and developmental impacts of the proposed Marvin Nichols Reservoir. The proposed reservoir will be located in Franklin, Red River, Titus counties in the Sulphur River basin of northeast Texas about 16 miles north of the city of Mount Pleasant. The project also includes a major investment in new pipeline infrastructure that will cross several counties from Red River County to north central Texas. The creation of a new large reservoir will bring temporary and recurring economic activity to the host regions from the reservoir and related pipeline, and it will also support economic development in localities near the reservoir and for communities gaining access to a new reliable source of water.

We begin our report with an overview of the regional economy in the three counties immediately surrounding the proposed reservoir including Franklin, Red River, and Titus counties, hereinafter referred to as the "Lake Counties." Section 3 describes the methodology used in this analysis. Section 4 presents the findings of our analysis of the temporary economic impacts that will attend the construction of the dam to impound the proposed reservoir, the water transmission pipeline and associated infrastructure. In addition, these temporary impacts include an assessment of the economic benefits from construction spending on new residential and commercial properties as the lake attracts households and business investment to the region. Section 5 discusses how on-going operations of the dam, pipeline, and spending by visitors and new residents around the reservoir will impact area economic activity and revenues for local taxing jurisdictions. Section 6 considers how increasing the availability of reliable water supplies will impact development opportunities in Region C that can create positive economic spillover effects across the state. Finally, Section 7 offers our conclusions.

Section 2: Economic Overview of the Host Counties Region

As noted, the proposed reservoir will cover parts of Franklin, Red River, and Titus counties in northeast Texas. According to the most recent data from the U.S. Census Bureau (five-year estimate 2014-2018), the resident population of this region is 55,684. The population has recently been growing at about 0.3 percent per year, on average, which is less than half the national annual population growth rate of 0.7 percent. The region has slightly higher proportions of the population under the age of 18 and 65+ years of age, which is reflected in the region's labor force participation rate at 59.3 percent versus the national average of 62.3 percent. Median annual household income in the Lake Counties region also trails the U.S. at $45,646 and $60,293, respectively. Unsurprisingly, the poverty rate in the Lake Counties is 2.8 percent higher than the national average of 14.1 percent. However, housing costs are comparably affordable with a median value of owner-occupied dwellings being $97,585, less than half the U.S. median, while the local cost of living is about 13 percent below the national average. Still, total area cost of living adjusted household purchasing power in this region is almost 25 percent below the national average.

While the percentage of working age adults possessing a college degree is lower than the national average, the workforce data suggests there is a good supply of workers with at least basic skills. As of the fourth quarter of 2019, total jobs in the Lake Counties region had grown to 24,743, a 4.9 percent year-over-year increase. The area unemployment rate of 4.2 percent is higher than the national average but has dropped by one-half percent over the past year, as of January 2020.[1] Average wages of the jobs in the Lake Counties was $37,882 in 4Q2019 with a 2.1 increase over the preceding year. Table 1 below shows the ten largest industry sectors by jobs. The regional economy, particularly Franklin and Titus counties, has historically been built around Pilgrim's Pride's poultry processing operations and related agricultural and transportation activities. The region also has a concentration in transportation equipment manufacturing (trailers). Because of a somewhat older population, social services providers and residential care facilities are also important regional employers.

Table 1: Top Ten Industries by Employment, Lake Counties Region (4Q2019)

NAICS	Industry	Jobs	Avg Annual Wages	5-Year Job Change
311	Food Manufacturing	3,860	$41,498	156
611	Educational Services	2,249	$35,193	-156
621	Ambulatory Health Care Services	1,616	$44,852	255
722	Food Services and Drinking Places	1,478	$16,850	163
336	Transportation Equipment Manufacturing	1,071	$56,739	102
112	Animal Production and Aquaculture	1,006	$26,563	50
622	Hospitals	856	$49,495	302
493	Warehousing and Storage	813	$32,382	-29
624	Social Assistance	797	$14,308	500
623	Nursing and Residential Care Facilities	739	$26,487	-133

Source: JobsEQ, Chmura Economics.

Overall, due to the on-going influence of the poultry industry, and a few other key employment sectors, the Lake Counties regional economy is doing relatively well, especially for an area outside a major metropolitan market. But with population growth slowing, the counties that will host the proposed Marvin Nichols Reservoir need to attract new residents and investment. Importantly, over the past several years it has become clear that the region needs to diversify its economic base and bring in new sources of business and household spending. The addition of a major recreational amenity can help attract commercial development and households to the Lake Counties region, bringing new spending and economic opportunity for current and new area residents. In the following sections we provide estimates of the magnitude of this new regional economic activity.

Section 3: Overview of Methodology

In assessing the economic impacts of new spending related to the proposed Marvin Nichols Reservoir, we rely on data provided by Freese and Nichols (FNI), a professional engineering and planning firm, and the IMPLAN economic input-output model.

[1] At the time this report is being written we are just beginning to see the profound, and hopefully short-term, impacts the COVID-19 pandemic is having on U.S. labor markets.

The data provided to Clower and Associates is based on planning data and costs for the recommended strategy developed in accordance with state and regional water supply planning rules administered by the Texas Water Development Board (TWDB). This strategy assumes the Marvin Nichols Reservoir would have a conservation elevation of 328 feet mean sea level, a surface area of about 66,100 acres, and require approximately an equivalent number of acres for mitigation. The sponsors of the recommended project include NTMWD, TRWD and UTRWD. This project is an alternate strategy for Dallas Water Utilities (DWU) and therefore, associated transmission and operations spending by DWU related to water from the Marvin Nichols Reservoir is not included in this study. Land costs for both the reservoir and mitigation lands were obtained from the Lake Counties' tax assessors' offices.

The IMPLAN model is a planning tool that estimates how spending in a given sector of the economy flows through regional industries and households. The IMPLAN model is widely used in academic and professional research. The model provides estimates of direct, indirect and induced impacts of new spending. Direct impacts are those made by the companies, agencies or individuals who are the subject of the study, such as a water district engaging in new resource investments for planning, designing and building the dam and related infrastructure to create a new reservoir. Indirect effects capture the economic activity associated with the supply chain of the business/agency who is doing the spending. In this case, a water district hires a construction contractor who in turn buys materials and supplies, rents equipment, and makes other purchases of goods and services. The equipment rental company purchases equipment, buys parts, and hires an accounting service to prepare their tax filings. The accountant hires bookkeepers, rents office space and pays a janitorial service to clean the office, and so on. The model adjusts the spending to account for items that are not likely to be sourced from local vendors. For example, there are no petroleum refineries in the Lake Counties region, so the money used to purchase fuel for earthmovers would largely "leave" the regional economy. Induced effects are related to employees of all these firms spending a portion of their earnings in the regional economy for goods and services. The model provides estimates of total economic activity (business transactions), value added (gross regional product), employment (headcount jobs), and labor income (salaries, wages, and benefits). IMPLAN models also offer estimates of revenue that is generated by the indirect and induced economic activity for state and local jurisdictions. These revenues include sales and use taxes, property taxes, fees and other sources.

Because the IMPLAN model adjusts for spending that stays in a particular region, it is important to appropriately define the study area. Due to the varying geographic scale of the project components in creating the Marvin Nichols Reservoir, we use multiple study geographies in this research. Table 2 summarizes the geographies used for each research component. By convention, the study region will always include the location of physical activity, such as building the dam or pipeline, but can also be expanded to account for area labor markets.

Table 2: Study Geographies for Economic Modeling

Research Component	Counties	Notes
Dam Construction and Operations	Bowie, Franklin, Morris, Red River, Titus	Because of the location of the dam, we expect that contractors will draw some workers from Morris and Bowie counties.
Pipeline Construction	Collin, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Titus, Wise	Reflects the pipeline's path.
Pipeline Operations	Collin, Dallas, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Tarrant, Titus, Wise	Pipeline and base location for water district employees.
New Commercial Operations & Households	Franklin, Red River, Titus	Core activities based at the new reservoir.

Source: FNI, Authors' estimates

In addition to geography, we also consider the nature of the spending. Construction spending is temporary by nature. The impacts may be large, but once the dam and pipeline are built, that spending and its related economic impacts cease. The temporary nature of construction spending requires one important change in the way we report job impacts. The construction of the dam and pipeline will take a few years to complete. Therefore, the job impacts from construction and related spending are expressed as person-years of employment, one job lasting for one year. If the employment impact were 500 person years of employment, and the project lasted for 5 years, that would suggest that the average annual employment impact would be 100 jobs. Since we do not know exactly how long the construction of the dam and pipeline will take, we present the jobs impacts as total person-years of employment for the entire project. Other key assumptions used in estimating the economic impacts of specific project components will be described in the relevant sections of this report.

Section 4: Economic Impacts of Construction Activities

Because the effective geography of impact is different across the reservoir development components and stages, we separate the discussion of our findings into three sub-sections: dam construction, pipeline construction, and the building of new commercial and residential properties near the new reservoir.

Dam Construction

Construction of the dam to impound the proposed Marvin Nichols Reservoir will cost in excess of $760 million, including work conducted to prepare required environmental mitigation areas. This spending includes project planning, design work, environmental studies and other outlays. However, to take a conservative approach in considering the potential regional impacts, we have adjusted some spending categories. For this project component we do not include budgeted contingency costs and interest costs during construction. Budgeted contingency costs, while in practice are often actually spent, are not guaranteed spending so we do not include them in our economic impacts. Interest costs are the temporary borrowing costs incurred during construction. At the time of this analysis we do not know what entity or entities will be used for these financial services, so we do not know if any of those costs are relevant to the study area. In addition, we only include a portion of the costs to resolve conflicts and acquire land for the reservoir and mitigation area. Of the costs allocated for resolving conflicts, we assume that no more than 10 percent of these expected expenditures will be spent in the study area. Finally, our assessment of the economic impacts of construction spending include land acquisition costs. Based on data provided by FNI, we allocated land acquisition costs between the dam and pipeline construction projects. We assumed that no more than 50 percent of the monies paid for land acquisition would go to local landowners. We then modeled the reduced land acquisition spending as income to area households that would be spent in the regional economy. Combined, it is likely our exclusion of several categories of expenditure will result in estimates understating the total potential economic impact associated with building the proposed dam and related infrastructure.

Construction of the dam and related infrastructure will boost local area economic activity by more than $1.2 billion during this multi-year project (see Table 3). This activity will increase gross regional product by over $545 million and support well over 8,200 person years of employment, boosting labor earnings by $396 million. Area taxing jurisdictions will share more than $15.6 million in new revenues due to building the proposed dam and related economic activities.

Table 3: Temporary Local Economic Impacts of Dam Construction

Description	Impact ($2020 Direct, Indirect, Induced)
Dam Construction Impacted counties: Bowie, Franklin, Morris, Red River, Titus.	
Total Economic Activity (economic transactions)	$ 1,223,035,000
Total Value Added (gross regional product)	$ 545,522,235
Total Labor Income (salaries, wages, benefits)	$ 396,345,000
Total Employment (person-years of employment)	8,266
Indirect State Taxes	$ 18,357,000
Indirect Local Taxes	$ 15,661,000

Sources: Freese & Nichols, IMPLAN, authors' estimates.

Pipeline Construction

This proposed water resource development project also includes building a new transmission pipeline from the reservoir to facilities in the Dallas-Fort Worth region. The related construction activities will occur in Collin, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Titus and Wise counties, which serve as the economic region for this component of our analysis. Total spending for materials, services, and the purchase of right-of-way, combined with other construction and permitting-related spending, will exceed $3 billion. As noted above, we do not include more than 10 percent of projected conflict costs, any of the budgeted financing or contingency costs, and we assume that only half of land and right-of-way acquisition expenses will go to study area households.

Building the water transmission pipeline will temporarily boost regional economic activity by $3.8 billion, increase gross regional product by about $2.4 billion, and support almost 26,000 person-years of employment paying almost $1.7 billion in salaries, wages, and benefits (see Table 4). Local government entities in the study area, combined, will receive an estimated $56.9 million in new revenues from taxes, fees and other government revenue sources.

Table 4: Temporary Local Economic Impacts of Pipeline Construction

Description	Impact ($2020 Direct, Indirect, Induced)
Pipeline & Pump Station Construction Impacted counties: Collin, Delta, Denton, Fannin, Red River, Wise	
Total Economic Activity (economic transactions)	$ 3,830,050,000
Total Value Added (gross regional product)	$ 2,355,441,235
Total Labor Income (salaries, wages, benefits)	$ 1,667,439,000
Total Employment (person-years of employment)	25,921
Indirect State Taxes	$ 52,719,000
Indirect Local Taxes	$ 56,896,000

Sources: Freese & Nichols, IMPLAN, authors' estimates.

New Commercial and Residential Construction

Once the reservoir is impounded and begins to fill, we expect substantial new residential and commercial development to be attracted to the lake. In developing our estimates of total potential housing and commercial property development we referenced multiple studies examining the impacts of reservoirs on their local communities. However, we focused our attention on a recent study[2] that examined the development of properties near several lakes in the "upper highland" area of central Texas. These lakes are Colorado River fed reservoirs including Buchannan, Inks, LBJ, Marble Falls, and Travis. Recognizing there are notable socio-economic and population density variances across these reservoirs, we focused our attention of those lakes that are further away from population centers. We also noted that these reservoirs are much smaller than the proposed Marvin Nichols Reservoir, but we chose not to simply scale-up the development impacts of the Upper Highlands Lakes based on relative surface area. We did use this study to inform our estimates of the value of new commercial and residential properties that we then tailored to the MNR study area.

Importantly, we do not attempt to forecast the specific timing of new commercial and residential property development in the Lake Counties. There are many environmental, socio-economic and regulatory factors that will influence the pace of new development. These include rainfall levels after impoundment, overall economic conditions, the permitting and development of supporting infrastructure, and the strategies employed by local government to plan and manage this potential growth. For purposes of this analysis, we have assumed development will occur over a 20-year

[2] The study can be accessed at:
https://www.co.llano.tx.us/upload/page/0978/docs/Economic%20Impact%20Of%20The%20Upper%20Highland%20Lakes%20Of%20The%20Colorado%20River%20-%20Fall%202012%20(2).pdf

period after reservoir impoundment. We feel we have been conservative in both this timeline and our projections of development potential. We took this conservative approach specifically to show that even with careful management that keeps the pace of development in line with local government capacity to deliver services, there is tremendous economic potential for the Lake Counties region. Moreover, our assessment does not include the value of growth that will likely happen after this initial development period.

We expect the local area will attract 2,000 new residential units as well as commercial facilities such as campgrounds, lodging venues, marinas, restaurants and similar businesses. This new development activity will likely show up as a surge of initial investment, followed by market-driven growth over a twenty-plus year time horizon. The housing units will have an average value, not including land, of about $170,000 per unit, suggesting the Lake Counties will remain relatively affordable compared to the state's major metropolitan areas. Total investment in new residential and commercial properties will boost construction spending by more than $360 million over this extended time period. This spending will increase local economic activity by more than $497 million, enhance labor income by $168 million, and support over 4,000 person-years of employment (see Table 5). On average that would be about 200 jobs per year, creating recurring economic opportunities in Fannin, Red River, and Titus counties. New revenues to local tax jurisdictions related specifically to these construction activities will be $8.1 million.

Table 5: Temporary Local Economic Impacts of New Commercial and Residential Property Construction

Description	Impact ($2020 Direct, Indirect, Induced)
Housing and Commercial Construction Impacted counties: Franklin, Red River, Titus. Construction period: 20 years.	
Total Economic Activity (economic transactions)	$ 497,573,000
Total Value Added (gross regional product)	$ 236,857,235
Total Labor Income (salaries, wages, benefits)	$ 168,042,000
Total Employment (person years of employment)	4,061
Indirect State Taxes	$ 7,315,000
Indirect Local Taxes	$ 8,191,000

Sources: Freese & Nichols, IMPLAN, authors' estimates.

Section 5: Recurring Economic Impacts of Marvin Nichols Reservoir

Recurring economic impacts of the proposed Marvin Nichols Reservoir include four separate types of spending: operations and maintenance of the dam, operations of the water transmission pipeline, household spending by new permanent and weekend residents, and visitor spending by non-residents. As noted previously, the operations of the dam, pipeline and new commercial and household spending will impact different regions.

Dam Operations

As with the construction of the dam, we expect employment and supplier opportunities for dam maintenance and operations to be concentrated in Bowie, Franklin, Morris, Red River and Titus counties. We estimate that recurring annual maintenance and operations spending to support the Marvin Nichols Reservoir will increase local economic activity by $39.9 million per year, expressed in constant 2020 dollars, and boost local labor income by $12.6 million through the creation of 289 direct, indirect, and induced jobs (see Table 6). Tax revenues for local governments will total $516,000 per year.

Table 6: Recurring Annual Local Economic Impacts

Description	Impact ($2020 Direct, Indirect, Induced)
Dam Operations Impacted counties: Bowie, Franklin, Morris, Red River, Titus	
Total Economic Activity (economic transactions)	$ 39,877,000
Total Value Added (gross regional product)	$ 17,945,000
Total Labor Income (salaries, wages, benefits)	$ 12,569,000
Total Employment (headcount) (190 direct jobs)	289
Indirect State Taxes	$ 605,000
Indirect Local Taxes	$ 516,000

Sources: Freese & Nichols, IMPLAN, authors' estimates.

Pipeline Operations

Operations and maintenance expenditures for the pipeline will spread across the counties where the infrastructure is located and will also include Dallas and Tarrant counties, since some of the operations and maintenance work will be performed by employees based at headquarters of the North Texas Municipal Water District and the Tarrant Regional Water District. The annual economic impacts of maintenance and operations spending include boosting regional economic activity by $81.1 million, increasing gross regional product by $46.8 million, and supporting 216 direct, indirect, and induced jobs that will pay more than $17.7 million in salaries, wages and benefits (see Table 7). New tax and other revenues to local jurisdictions will increase by $2.6 million per year.

Table 7: Recurring Annual Local Economic Impacts

Description	Impact ($2020 Direct, Indirect, Induced)
Pipeline & Pump Station Operations Impacted counties: Collin, Dallas, Delta, Denton, Fannin, Franklin, Hopkins, Hunt, Red River, Tarrant, Titus, Wise	
Total Economic Activity (economic transactions)	$ 81,106,000
Total Value Added (gross regional product)	$ 46,802,000
Total Labor Income (salaries, wages, benefits)	$ 17,701,000
Total Employment (headcount) (90 direct jobs)	216
Indirect State Taxes	$ 2,477,000
Indirect Local Taxes	$ 2,588,000

Sources: Freese & Nichols, IMPLAN, authors' estimates.

Household and Visitor Spending

For this component of our analysis we focus on the economic and tax revenue impacts that will occur in the Lake Counties of Franklin, Red River, and Titus. In this preliminary assessment we do not attempt to forecast specific locations for the projected commercial and residential property development, which may prove to be unrelated to the amount of lake shoreline in each county.

The economic impact of new residents is based on household spending in the Lake Counties region. Our key assumptions in this analysis address average household income, the proportion of new households that are permanent versus weekend/vacation residents, and the number of days in residence for weekender households. We have assumed the average household income for new residents will be a little over $58,000 per year, which is higher than that of current residents. Our estimate is based on the level of income needed to afford the type of housing that will likely be built around the lake, acknowledging that some new residents will be retirees who have lower incomes but higher levels of assets. Some owners of vacation properties will have higher income levels but will not have proportionately higher levels of local spending. To illustrate this last point, we would assume that weekend/vacation residents would bring in some retail items like groceries with them, suggesting their proportional local household spending will be lower than permanent residents. We assumed that half of the 2,000 new households added over a 20-year period will be weekend/vacation residents who will spend an average of 51 days per year in-residence.

We modeled the economic impacts of new household spending at the projected 20-year build-out using the household spending module of the IMPLAN model. The model adjusts household consumption for total income, recognizing the relative wealth affects in spending patterns.

Our estimates of visitor spending are further informed by the previously referenced study of the economic impacts of the Upper Highlands lakes in central Texas and data from the Texas Governor's Office of Economic Development and Tourism. Using hotel receipts data from counties with a reservoir in the Upper Highlands, and adjusting for overall development density, we estimated that at full development spending by visitors on lodging near the Marvin Nichols Reservoir will approach $20 million per year. This includes both hotel properties and receipts from vacation homes and AirBNB-type rentals. Using overall tourism spending data, we estimated other categories of visitor outlays including food and beverages, retail purchases, and local travel expenditures, which we modeled as purchases at gas stations for automobiles and boats. Our estimates suggest that at full development, visitors will bring about $56 million in new spending to the Lake Counties region.

When combined with household spending by new permanent and weekend residents, recurring annual economic activity in the Lake Counties region will increase by almost $107 million, boosting gross regional product by $56.6 million, generating almost $30 million in new labor income, and supporting over 1,300 jobs in the local economy (see Table 8). Taxes on the indirect and induced economic activity will add $4.8 million to annual revenues for local taxing jurisdictions.

Table 8: Recurring Annual Local Economic Impacts

Description	Impact ($2020, Direct, Indirect, Induced)
Visitor and Resident Spending Impacted counties: Franklin, Red River, Titus	
Total Annual Household Income: New Permanent Residents	$ 58,300,000
Total Annual Household Income: New Weekend Residents	$ 8,162,000
Total annual spending: recreational visitors	$ 56,090,000
Total Economic Activity (economic transactions)	$ 106,906,000
Total Value Added (gross regional product)	$ 56,608,000
Total Labor Income (salaries, wages, benefits)	$ 29,957,000
Total Employment (headcount)	1,327
Indirect State Taxes	$ 4,455,000
Indirect Local Taxes	$ 4,827,000

Sources: Freese & Nichols, IMPLAN, authors' estimates.

Recurring Revenues for Local Tax Jurisdictions

The combination of new property development, resident household spending, and visitor spending will have an impact on direct tax receipts in addition to the taxes paid on economic activities described in previous sections of this report. What is more, land values, especially for those properties located adjacent to the new reservoir, should increase significantly based on the experiences of other Texas counties not located immediately adjacent to a major metropolitan area. (For example, we did not consider land values around Lake Travis to be relevant to this analysis.) We estimate that the construction of 2,000 new residential units, along with higher land values on residential-sized lots, will increase total taxable values of residential properties in the Lake Counties by $408 million by year 20. In addition, larger properties and those not immediately converted to residential lots will see a substantial increase in value when they become waterfront, water view, or near waterfront properties totaling $368 million. Our estimates include an allowance for homestead exemptions for permanent residents. New taxable commercial property value is estimated to be $21 million.

An important consideration in assessing the increase in area property taxes is accounting for the loss of value associated with the lake's footprint and the required environmental mitigation area. Using data gathered by FNI, and assuming that all the mitigated land will be in the Lake Counties, the creation of Marvin Nichols Reservoir will remove about $257 million in property values. This assumption likely overstates the loss of property value in the Lake Counties area since the final mitigation area may be smaller and located at least partially outside the area. Still, even if we maximize the assumed mitigation related property losses and use conservative projections of development, the net gain in taxable property values at year 20 will be almost $540 million (see Table 9). In assessing the tax revenues that will be generated, we have used an average current tax rate for jurisdictions in the Lake Counties area. We again caution that, in this preliminary assessment, we do not know exactly where the new development will be located within the study area. Based on these valuation assumptions, we expect the Lake Counties to share an additional $3.4 million in annual property tax revenues by year 20. Area school districts will see about $6.7 million in new property taxes each year.

Visitor and household spending will also generate new sales tax revenues in the Lake Counties region. We assume that as commercial and residential development occurs, local jurisdictions will look to expand their effective taxing jurisdictions and/or the counties will use their existing or new authority to tax hotel revenues. Adjusting visitor spending for sales that will likely be taxable, we estimate that annual local sales and hotel occupancy taxes will increase by $1.2 million. Overall, total tax revenues associated with recurring household and visitor spending, in addition to direct property tax payments, will reach $6 million per year as lake properties develop.

Table 9: Recurring Annual Fiscal Impacts

Description	Impact ($2020 Direct, Indirect, Induced)
Total Taxable Value of New Housing (permanent & weekend)	$ 408,000,000
Total Taxable Value of New Commercial Structures	$ 21,350,000
Total Increase in Taxable Land Values Adjacent and Near the Lake	$ 368,151,000
Net New Taxable Value (after removing lake & all mitigation land)	$ 539,794,000
Net# gain in county property tax revenues	$ 3,360,000
Net# gain in school district property tax revenues	$ 6,669,000
Other Local Government Revenue (taxes, fees, other)	$ 6,054,000

+ At 20 years. # Net of lake and environmental mitigation areas. Sources: FNI, IMPLAN, Authors' estimates

Section 6: The Developmental Impacts of the Marvin Nichols Reservoir on Region C and the Consequences of a "No Build" Scenario

In this analysis we examine how increasing the effective water supply by building the Marvin Nichols Reservoir will sustain economic growth and opportunities in North Central Texas and especially in the Dallas-Fort Worth area, a major driver of overall economic growth and resiliency in Texas. In assessing these impacts, it is essential to review how the planning and investment for water resources has allowed Texas to emerge over the past 40 years as a premier state attracting new residents and business investment.

Water and regional economic development

It almost goes without saying that access to clean water is an economic driver. Conversely, scarce water, either in terms of quantity or quality, will become a key limiting factor in regional economic growth. Since North Texas does not have any natural lakes of significant size, reservoirs are constructed to control flooding and to collect and store surface water to meet regional water supply needs. Without question, the huge economic success of the North Texas region over the past 70 years would not have occurred absent access to abundant, available and affordable water supplies for residential and industrial use—accomplished by building an extensive network of reservoirs. The proposed Marvin Nichols Reservoir Project is but an extension of that function.

Gone to Texas

Texas, now America's second largest state with a population more than 29 million, has been America's economic bellwether for the past several decades. No other large state comes close in terms of population growth, job creation, and business formation. Net migration to Texas has totaled nearly 2 million over the past decade and shows no signs of abating. Moreover, for years Texas has ranked first in the nation for corporate relocations and expansions.

According to the U.S. Census Bureau, between July 2018 and July 2019, Texas had the largest numeric growth among the 50 states, adding 367,215 people. By contrast, California—with a population about one-third larger than Texas—added only 50,635. Put differently, **Texas is currently growing seven times faster than California.** Texas grew both from more births than deaths and from a large net gain in movers from within and outside the United States. In percentage terms, Texas' population grew 1.3 percent last year, nearly twice the national rate of 0.7 percent. California's growth rate has been falling for nearly a decade and just equaled the national average last year.

The Census Bureau also recently reported that of the nation's 15 fastest-growing counties in terms of numeric population change, eight are in Texas while California only recorded one. What is more, three of the **top five fastest-growing cities** in numeric terms are found in Texas—San Antonio**, Dallas and Fort Worth**. Indeed, over the past decade Dallas-Fort Worth has added 1.2 million residents, **the most of any U.S. metropolitan area.** Seven of the 15 fastest-growing cities in percentage terms last year are here in Texas. **Last year, Frisco, Texas grew at 8.2 percent, 11 times faster than the national average.**

Unlike in many other states, net-migration into Texas has accounted for a large share of the state's population growth over the past decade. According to the U.S. Bureau of the Census, net-migration to the state has averaged about 200,000 annually over the past decade. California sends more migrants to Texas than to any other state. Of total net out-migration of 521,000 between 2012 and 2016, more than 114,000 Californians relocated to Texas. Cities that had once been popular destinations for young people—in particular, New York, Los Angeles and Chicago—are now losing residents in large numbers. Last year alone, New York City registered a loss of more than 60,000 people, the biggest population decline of any American city. Many of those "out-migrants" chose to relocate to the Dallas area.

Another indicator of Texas' magnetic pull is the inflow of U-Haul vehicles. In 2018, for the third year in a row, Texas led the nation in "net inflow" of trucks and trailers. Locations in Houston, **Dallas-Fort Worth** and Austin saw the **largest influxes of U-Haul traffic**. Illinois, California and Michigan saw the largest "net outflow" of U-Hauls. Most migrants to Texas locate in the state's large metropolitan areas. In 2017, according to an analysis of Census data by Bloomberg, **Dallas-Fort Worth led the nation in net in-migration, with 246 more people moving into the region than out every day.**

Migration to Texas is partly due to a record number of business relocations from other states. Toyota's move from Torrance, California to Plano and PGA America's relocation from Palm Beach Gardens, Florida to Frisco have garnered the most attention. But a steady stream of small and middle-sized companies to the state has also spurred the in-migration of people. According to a recent analysis by Spectrum Location Solutions, Texas is the number one destination for California companies relocating to other states. In 2016 alone, 299 of these departures landed in Texas. The Dallas Regional Chamber reports that 43 of the 123 corporate headquarters that have relocated to Dallas-Fort Worth since 2010 came from California.

Employment trends

Job gains in Texas have been nothing short of remarkable in recent years. Over the past decade, total state employment has jumped by more than two million, or 18.3 percent, compared to a 5.6 percent increase for the nation. No other large state comes close. Indeed, Pennsylvania, Illinois and Ohio actually lost jobs over the decade. Incredibly***, one of every four U.S. jobs created over the past ten years has been in Texas.***

Demographic and employment changes in North Central Texas

Within the state of Texas, Dallas-Fort Worth has been the economic superstar over the past decade. As mentioned above, the North Texas region attracts the largest numbers of immigrants and the lion's share of corporate relocations. This population growth is occurring in cities that touch all three of the region's water districts sponsoring the Marvin Nichols Reservoir Project, North Texas

Municipal Water District (NTMWD), Tarrant Regional Water District (TRWD), and the Upper Trinity Regional Water District (UTRWD) plus Dallas Water Utilities (DWU).

As indicated in Tables 10 & 11, the North Central Texas Region (as defined by the North Central Texas Council of Governments) added about 830,000 residents between 2010 and 2019 for a population gain of 14 percent, or a 1.5 percent compounded average. But many of the cities grew at a much faster pace. Frisco and McKinney were the fastest-growing large cities served by NTMWD, adding 57 percent and 44 percent to their populations over the nine-year period. Plano, the largest municipality in the service area, grew more slowly than the region—mainly because the city is already close to its build-out potential. Frisco is the fastest growing city in America among places with a population of 50,000 or more. Over the past two years, the city's population grew by more than 22,000, or 14 percent. That's a growth rate 11 times faster than the national average. Some of the smaller cities grew at astronomical rates between 2010 and 2019. Melissa and Prosper posted triple-digit percentage gains while Princeton, Forney, and Little Elm grew four to five times faster than the region.

TABLE 10: Fastest Growing North Texas Cities by Count: 2010-2019

	2010	2019	Change	% Change	CAGR*
Fort Worth	741,206	848,860	107,654	14.5%	1.5%
Dallas	1,197,816	1,301,970	104,154	8.7%	0.9%
Frisco	116,989	183,560	66,571	56.9%	5.1%
McKinney	131,117	188,500	57,383	43.8%	4.1%
Plano	259,841	284,070	24,229	9.3%	1.0%
Irving	216,290	240,420	24,130	11.2%	1.2%
Denton	113,383	134,460	21,077	18.6%	1.9%
Arlington	365,438	386,180	20,742	5.7%	0.6%
Little Elm	25,898	44,530	18,632	71.9%	6.2%
Carrollton	119,097	136,170	17,073	14.3%	1.5%
Grand Prairie	175,396	191,720	16,324	9.3%	1.0%
Prosper	9,423	25,630	16,207	172.0%	11.8%
Allen	84,246	99,020	14,774	17.5%	1.8%
Richardson	99,223	113,710	14,487	14.6%	1.5%
Midlothian	18,037	32,100	14,063	78.0%	6.6%
N. Central Texas Region	5,927,539	6,755,320	827,781	14.0%	1.5%

* Compounded Annual Growth Rate Source: North Central Texas Council of Governments

TABLE 11: Fasting Growing North Central Texas Cities by Percent Change: 2010-2019

	2010	2019	Change	% Chng	CAGR
Celina	6,028	17,680	11,652	193.3%	12.7%
Prosper	9,423	25,630	16,207	172.0%	11.8%
McLendon-Chisholm	1,373	3,470	2,097	152.7%	10.9%
Northlake	1,724	4,140	2,416	140.1%	10.2%
Fate	6,434	14,940	8,506	132.2%	9.8%
Melissa	4,695	10,820	6,125	130.5%	9.7%
Annetta	1,288	2,780	1,492	115.8%	8.9%
Josephine	812	1,550	738	90.9%	7.4%
Princeton	6,807	12,680	5,873	86.3%	7.2%
Anna	8,249	15,010	6,761	82.0%	6.9%
Midlothian	18,037	32,100	14,063	78.0%	6.6%
Aubrey	2,595	4,530	1,935	74.6%	6.4%
Lavon	2,219	3,860	1,641	74.0%	6.3%
Little Elm	25,898	44,530	18,632	71.9%	6.2%
Ponder	1,395	2,390	995	71.3%	6.2%

* Compounded Annual Growth Rate   Source: North Central Texas Council of Governments

Employment and business development trends in North Central Texas

As discussed above, Texas led the nation in job growth last year, adding 284,414 positions (2.1 percent) and bringing the state's unemployment rate down to 3.5 percent. For Dallas-Fort Worth, employment jumped by 109,647 (2.9 percent) and the unemployment rate fell to 2.9 percent. Put differently, **with about 24 percent of Texas' population, 38.6 percent of all the job growth in the state occurred in North Central Texas**. Office jobs in the Dallas-Fort Worth Metroplex grew 5.7 percent in 2019, more than in the tech markets of San Francisco and Seattle, and the region is forecast by CBRE to lead again in 2020.

Job growth is being seen in core cities and suburban markets. For example, Frisco has been adding jobs at a rapid clip as many businesses and corporate headquarters have relocated to the city. According to the U.S. Bureau of Labor Statistics, just in the past eight years Frisco's employment jumped from 64,000 to almost 93,000. That's about two-thirds the number of jobs located in downtown Dallas.

The entire North Texas region is becoming one of the most dynamic data center markets in the country. For instance, Compass Datacenters LLC maintains a huge processing facility in Allen. According to Cushman & Wakefield**, Dallas-Fort Worth is now the third-largest data center market in the world** with more than 80 megawatts of capacity currently under construction in North Texas. **Importantly, the availability of reliable water supplies is a key site location consideration in the placement of data centers**.

Logistics—the movement of people and products—is one of the largest industries in the North Central Texas region. In fact, the Dallas-Fort Worth area is the largest transportation and distribution center between the two coasts and employs several hundred thousand people.

Defense-related manufacturing, food processing, and the health care/hospital industry also rank among the largest employers in the region. **Both manufacturing and food processing require huge amounts of water.**

Corporate relocations continue apace in North Texas, with Uber and Charles Schwab perhaps the most notable in recent months. Boeing, Samsung, Fannie Mae, JP Morgan and USAA have recently undertaken expansions or relocations to Plano. Last year, PGA of American and Keurig Dr Pepper announced relocations of their corporate headquarters to Frisco. Frisco is also home to The Star, the huge retail, residential, office, hotel and sports complex developed by the Dallas Cowboys organization that has become a major employment center.

Other indicators point to a robust North Texas economy. Last year, Dallas-Fort Worth was the top homebuilding market in the country with 33,000 new homes. North Texas also leads the nation in overall home sales, up 21 percent over the past year. According to RealPage, North Texas is the leading rental construction market in the country with 43,000 units permitted to date for 2020. At $22.5 billion, Dallas-Fort Worth ranked second nationwide in total construction last year after New York City while the region attracted nearly $10.5 billion in commercial investments.

What may happen to the North Texas economy if Marvin Nichols is not built?

The North Texas region, including most of the communities served by the North Texas Municipal Water District, has witnessed an unprecedented economic boom over the past decade with record levels of population growth and job creation. The Dallas-Fort Worth area also receives more migrants from other states than any other metropolitan region in the U.S. Recent forecasts from the North Central Texas Council of Governments see this growth continuing for at least the next several decades.

By 2040, the region's population is projected to grow to 10.7 million people, or 58 percent. That's an annual average growth rate of almost 3 percent. Employment, currently at 3.9 million, is expected to reach 6.7 million by 2040, a 72 percent increase from today's levels. Because economic development tends to compound where it is already occurring, a sizeable share of Dallas-Fort Worth's population and employment growth will likely occur in the NTMWD, TRWD and UTRWD service areas. However, realizing this growth potential requires new water resources to be brought on-line. Other water development projects, including the new Bois d'Arc Lake and the Integrated Pipeline will help but is clearly not enough.

Another way to consider the potential effects of *not building* the proposed Marvin Nichols Reservoir is to look at the potential contributions of industries that are particularly reliant on water availability. We previously mentioned data centers and food processing as key examples of these kind of industries. Using data available in the IMPLAN model we can identify the industries in the Dallas-Fort Worth region who are especially sensitive to water availability based on the value of their consumption of this resource. Aside from electric power generation and the rapidly growing higher education sector, examples of industries that have notable water requirements include Pharmaceutical Manufacturing, Aerospace Products and Parts Manufacturing, and Semi-

Conductor Manufacturing. In the services sector we include hotels, restaurants and hospitals. Table 12 shows current employment and projected new jobs for these industries in the Dallas-Fort Worth Metropolitan Area. These are some of the industries Texas and Dallas-Fort Worth need to support in order to remain competitive in an increasingly globalized economy. In rough terms, if a lack of available water supply were to disrupt the projected job growth in just the six industries shown in Table 12, the region would lose $19 billion in annual economic activity, expressed in 2020 dollars, and more than 136,000 total jobs.

Table 12: Selected Water Dependent Industries: Dallas-Fort Worth Metropolitan Area

Industry	4Q2019 Jobs	Projected 10-Year Growth
Pharmaceutical Manufacturing	4,580	460
Semiconductors and Related Devices Manufacturing	21,982	456
Aerospace Products & Parts Manufacturing	35,534	350
Hospitals	106,344	14,714
Restaurants	284,486	66,831
Hotels	33,747	3,565

Source: IMPLAN, JobsEQ,

Section 7: Conclusions

The construction of the proposed Marvin Nichols Reservoir is an important component of the state's overall resource management plan **to support economic development across Texas**. The spending for planning and development of the reservoir will boost economic activity in northeast Texas, along the proposed pipeline route, and in Region C creating thousands of job opportunities for local workers. Importantly, the operations of the dam and the creation of a high-quality recreational amenity will bring well over $100 million in new economic activity to the host region and support more than 1,300 direct, indirect and induced jobs. This will help diversify the economic base of the Lake Counties, thereby enhancing regional economic resiliency. Local taxing jurisdictions will receive millions in temporary and recurring revenues, especially as property development occurs around the lake over the next 20 years.

From a broader economic development perspective, bringing additional water resources online is a necessary condition for Texas, and especially North Texas, to remain competitive in the quest for jobs, new residents, and investment. Marvin Nichols, and other water projects planned for the region, must come online in order to support the rapid population and employment growth projected for the next several decades. **In a "no build" scenario for the Marvin Nichols Reservoir, economic development in the North Texas region will be constrained, especially in the fast-growing communities currently served by participating Region C water providers.**

Appendix K

Key Water Quality Parameters

Appendix K - Key Water Quality Parameters

Section Outline

Section K.1 – Key Water Quality Parameter Selection

Section K.2 – Baseline Water Quality Conditions

Section K.3 – Water Quality Data Summary

Related Chapters

Chapter 6 – Impacts of Regional Water Plan and Consistency with Protection of Water Resources, Agricultural Resources, and Natural Resources

Key Water Quality Parameters Selected for 2021 Region C Plan

- Surface Water:
  - Ammonia-nitrogen
  - Nitrate-nitrogen
  - Total phosphorous
  - Chlorophyll-a
  - Total dissolved solids (TDS)
  - Chloride **NEW**
  - Sulfate **NEW**
- Groundwater
  - TDS
  - Chloride **NEW**
  - Sulfate **NEW**

K.1 Key Water Quality Parameters Selection

Regional Water Planning Groups are charged with selecting key water quality parameters that are important to water uses in the region and assessing impacts of water management strategies on these parameters. This appendix provides the parameter selection process and establishes baseline water quality conditions for the selected parameters.

In order to provide some basis for selection of parameters and for quantitative comparisons between different water bodies within the region, regulatory standards and screening levels are referenced throughout this memorandum. <u>However, it is not the intent of this memorandum to evaluate regulatory compliance of any water body within the region.</u> These regulatory standards are only used as "yardsticks" for relative comparisons of water quality within the region.

K.1.1 Process of Selecting Key Water Quality Parameters

Selection of key water quality parameters for surface water and groundwater involved a two-stage process. The first stage included a compilation of potential water quality parameters from various sources. These sources are described below:

- Parameters regulated by the Texas Commission on Environmental Quality (TCEQ) in the Texas Surface Water Quality Standards (TSWQS);
- Parameters considered for the TCEQ Water Quality Inventory in evaluation of whether water body uses are supported, not supported, or have water quality concerns. The designated water body uses included in the Water Quality Inventory are:
    - Aquatic life use
    - Contact recreation use
    - General use
    - Fish consumption use
    - Public water supply use;
- Parameters that may impact suitability of water for irrigation; and
- Parameters that may impact treatability of water for municipal or industrial supply.

Categories a and b above were selected to represent environmental water quality parameters, and Categories c and d were selected to be representative of water quality as related to irrigation uses and treatability for municipal or industrial supplies.

For the second stage of the process, key water quality parameters were selected from this compiled list of potential parameters based on general guidelines which were established in Appendix P of the 2006 Region C Plan. The general guidelines used to further develop a manageable and meaningful list of key water quality parameters are described below.

- Selected parameters should be representative of water quality conditions that may be impacted on a regional scale and that are likely to be impacted by multiple water management strategies within the region. Water quality issues associated with localized conditions (such as elevated levels of a toxic material within one water body) will be addressed as necessary within the environmental impact evaluations of the individual water management strategies for each water user group. In addition, water

quality parameters that could impact specific advanced treatment processes (e.g., membranes or ozone) will be addressed as necessary during pilot testing and/or preliminary design.
- Sufficient data must be available for a parameter in order to include it as a key water quality parameter. If meaningful statistical summaries cannot be carried out on the parameter, it should not be designated as a key water quality parameter.

K.1.2 Selection of Parameters for the 2021 Plan

Potential key water quality parameters were assessed for the Region C planning area according to the process described above. Little has changed since 2011 in terms of parameters that may impact suitability for irrigation, municipal, or industrial purposes. Since development of the 2011 Plan, the TCEQ has added Surface Water Quality Standards for the following parameters:

- Toxics:
  - Nonylphenol and diazinon standards for all segments.
  - Site-specific copper and aluminum standards for various segments.
- Site-specific dissolved oxygen standards for various classified and unclassified segments.
- Site-specific chlorophyll-a standards for various reservoirs.
- Site-specific E. coli standards for various unclassified segments.

Any entity that proposes to discharge treated wastewater must show that the discharge will not cause a violation of the Surface Water Quality Standards to obtain a discharge permit. In addition, most of the new standards only apply to a few segments/locations in Region C. Therefore, with the exception of chlorophyll-a, it has been assumed that the newly regulated parameters will be addressed as necessary for each water user group within the environmental impact evaluations of the individual water management strategies or during preliminary wastewater treatment design.

Therefore, the first stage in the process of selecting key water quality parameters yielded the same candidate parameters as those in the 2006, 2011 and 2016 Region C Water Plans. In addition, baseline conditions are not anticipated to have changed significantly in the years since the 2006 Plan development and were not re-assessed in this round of planning. While total dissolved solids were evaluated in previous plans, chloride and sulfate were not. Since data for these two parameters are readily available and they both have Federal secondary standards, these two parameters were added into the evaluation for this plan, though they were not included in previous plans. Further information on specific candidate parameters and basis for selection, is available in Appendix P of the 2006 Plan.

Similarly, key water quality parameters were identified for groundwater based on an evaluation of the parameters regulated by drinking water standards and those known to be potential problems for groundwater in Region C.

The following key water quality parameters were selected to assess impacts from water management strategies:

- Surface Water:
  - Ammonia-nitrogen
  - Nitrate-nitrogen
  - Total phosphorous
  - Chlorophyll-a
  - Total dissolved solids (TDS)
  - Chloride
  - Sulfate
- Groundwater
  - TDS
  - Chloride
  - Sulfate

K.2 Baseline Water Quality Conditions

Baseline water quality conditions were evaluated using data obtained from the Texas Surface Water Quality Monitoring Database. Water quality data for reservoirs and streams located within Region C were evaluated, as well as sources located outside of Region C that are currently being considered for use or are in use as raw water sources for the region. Statistical analyses were conducted to determine the number of data points (count), mean, median, 75th percentile, maximum, and minimum for each water body assessed. Data from 1998 through 2018 for surface water and 1993 to 2019 for groundwater were assessed for each parameter. Statistical summaries for each surface water parameter are presented in **Section K.3**.

To further demonstrate baseline water quality conditions in Region C, each water body was placed in categories based on parameter concentration. The lowest bin (Bin 1) constitutes levels that are less than regulatory or literature levels of concern. The second bin (Bin 2) represents parameter levels that are approaching regulatory standards or levels of concern (nominally 80 percent of regulated standard). The highest bin (Bin 3) represents parameter levels that exceed the stated regulatory standards, levels of concern, or screening criteria. Screening levels for nutrient parameters were based on the TCEQ *2014 Guidance for Assessing and Reporting Surface Water Quality in Texas*. For surface water assessment of TDS, chloride, and sulfate, screening levels were based on National Secondary Drinking Water Standards. For the groundwater TDS, chloride and sulfate assessment, screening limits were based on the State of Texas Secondary Drinking Water Standard.

It is important to note that placement in Bins 2 or 3 does not necessarily indicate a violation of a water quality standard or the need for additional treatment levels. As mentioned earlier, the data presented here are summarized over the entire surface water segment (at all depths and all stations located in the main water body) or the entire aquifer/county area. In many cases, regulatory application of the standard or level of concern is performed on a different group of data than are summarized here (e.g., for lake mixed layer samples only). The bin designations, while derived from regulatory standards, are only provided as a "yardstick" for assessing water quality conditions and as a basis for comparisons between water bodies. The bin designations are not to be used to evaluate whether conditions within a given water body are in compliance with regulatory standards. **Table K.1** and **Table K.2** demonstrate baseline surface water and groundwater quality bins by parameter.

For TDS, chloride and sulfate, the median value is used for comparison with the numerical regulatory standard or level of concern, but for nutrients and chlorophyll-a (parameters subject to the TCEQ secondary screening levels), the 75th percentile is used. This value was used for comparison because the TCEQ secondary screening levels are applied such that a source water is "of concern" when more than 25 percent of the samples taken exceed the numerical screening limit.

K.2.1 Surface Water Baseline Conditions

The following sections summarize the baseline water quality conditions for each key surface water quality parameter. As discussed earlier, this review of baseline conditions is not intended to provide an evaluation of compliance with regulatory standards. When referenced, regulatory standards are only used as a means of making relative comparisons between water bodies.

With respect to nutrients, it should be noted that the impact of nutrients on chlorophyll-a concentrations is site-specific and can vary significantly between water bodies. Therefore, high levels of nutrients are not necessarily indicative of poor water quality in any given water body.

Ammonia Nitrogen

Ammonia Nitrogen levels were measured from 26 reservoirs between 1998 and 2018. Of the 26 reservoirs sampled, fifteen demonstrated 75th percentile ammonia nitrogen concentrations ranging between 0.088 and 0.11 mg/L and fell into Bin 2. Lakes with screening levels exceeding 0.11 mg/L fell into Bin 3 and included Lake O' the Pines (Segment 403), Toledo Bend Reservoir (Segment 504), Lake Tawakoni (Segment 507), and Wright-Patman Lake (Segment 302). Seven other reservoirs fell into Bin 1 with screening levels less than 0.088 mg/L

Of the twenty streams sampled for ammonia nitrogen, all but one stream fell below screening levels and were categorized as Bin 1. One stream demonstrated 75th percentile ammonia nitrogen concentrations ranging between 0.26 and 0.33 mg/L and fell into Bin 2and was Sulphur/South Sulphur River (Segment 303). This contrasts with the 2016 Plan, where an analysis of samples collected between 1993 and 2009 yielded one stream that exceeded the 0.33 mg/L screening level and fell into Bin 3.

Nitrate Nitrogen

Twenty-four reservoirs were sampled for nitrate nitrogen concentrations in the Region C planning area. Eight of the 24 reservoirs demonstrated 75th percentile concentrations exceeding the Bin 3 screening criteria of 0.37 mg/L. Five reservoirs were categorized as Bin 2 with 75th percentile concentrations between 0.3 mg/L and 0.37 mg/L. Eleven other reservoirs fell into Bin 1 with screening levels less than 0.3 mg/L.

Of the 16 streams sampled for nitrate nitrogen concentrations, eleven fell below screening criteria and were classified into Bin 1 (< 1.56 mg/L). Five streams exceeded the screening criteria of 1.95 mg/L and were placed in Bin 3. Streams categorized as Bin 3 included Elm Fork Trinity River above Ray Roberts Lake (Segment 824), Upper Trinity River (Segment 805), Lower West Fork Trinity River (Segment 841), Trinity River Above Lake Livingston (Segment 804) and East Fork Trinity River (Segment 819). There were no streams that fell within Bin 2 with concentrations ranging between 1.56 and 1.95 mg/L.

Table K.1 Definition of Baseline Surface Water Quality Bins by Parameter

Parameter	Statistic Used for Comparison	Lower Bound of Bin 3	Basis of Lower Bound, Bin 3	Lower Bound of Bin 2	Basis of Lower Bound, Bin 2
Total Dissolved Solids	Median	500 mg/L	National Secondary Drinking Water Standard	400 mg/L	80 percent of secondary standard
Chloride	Median	250 mg/L	National Secondary Drinking Water Standard	200 mg/L	80 percent of secondary standard
Sulfate	Median	250 mg/L	National Secondary Drinking Water Standard	200 mg/L	80 percent of secondary standard
Ammonia-Nitrogen (as N)	75th percentile	0.11 mg/L (reservoir) 0.33 mg/L (stream)	TCEQ 2014 Guidance for Assessing and Recording Surface Water Quality in Texas	0.088 mg/L (reservoir) 0.26 mg/L (stream)	80 percent of screening level
Nitrate-Nitrogen (as N)	75th percentile	0.37 mg/L (reservoir) 1.95 mg/L (stream)	TCEQ 2014 Guidance for Assessing and Recording Surface Water Quality in Texas	0.30 mg/L (reservoir) 1.56 mg/L (stream)	80 percent of screening level
Total Phosphorus (as P)	75th percentile	0.20 mg/L (reservoir) 0.69 mg/L (stream)	TCEQ 2014 Guidance for Assessing and Recording Surface Water Quality in Texas	0.16 mg/L (reservoir) 0.55 mg/L (stream)	80 percent of screening level
Chlorophyll-a	75th percentile	26.7 µg/L (reservoir) 14.1 µg/L (stream)	TCEQ 2014 Guidance for Assessing and Recording Surface Water Quality in Texas	21.4 µg/L (reservoir) 11.3 µg/L (stream)	80 percent of screening level

Table K.2 Definition of Baseline Groundwater Quality Bins by Parameter

Parameter	Statistic Used for Comparison	Lower Bound of Bin 3	Basis of Lower Bound, Bin 3	Lower Bound of Bin 2	Basis of Lower Bound, Bin 2
Total Dissolved Solids	Median	1000 mg/L	State of Texas Secondary Drinking Water Standard	500 mg/L	National Secondary Drinking Water Standard
Chloride	Median	300 mg/L	State of Texas Secondary Drinking Water Standard	250 mg/L	National Secondary Drinking Water Standard
Sulfate	Median	300 mg/L	State of Texas Secondary Drinking Water Standard	250 mg/L	National Secondary Drinking Water Standard

Total Phosphorous

None of the 26 reservoirs sampled for total phosphorous in Region C exhibited 75th percentile concentrations that exceed the TCEQ screening level of 0.20 mg/L to be placed into Bin 3. One reservoir was found to approach screening levels and was placed into Bin 2 (0.16 to 0.20 mg/L). Wright-Patman Lake (Segment 302) demonstrated a 75th percentile concentration of 0.16 mg/L.

Of the 20 streams sampled for total phosphorous concentrations, five streams demonstrated 75th percentile concentrations exceeding the Bin 3 screening criteria of 0.69 mg/L and included East Fork Trinity River (Segment 819), Lower West Fork Trinity River (Segment 841), Upper Trinity River (Segment 805) Clear Fork Trinity River Below Lake Weatherford (Segment 831) and Trinity River Above Lake Livingston (Segment 804). Fourteen out of twenty streams sampled for total phosphorous were below the screening criteria and fell in Bin 1. One stream, West Fork Trinity River Above Bridgeport Reservoir (Segment 812) fell within Bin 2 with a 75th percentile concentration of 0.55 mg/L.

Chlorophyll-a

Of the 25 reservoirs sampled for chlorophyll-a, 17 fell into Bins 2 or 3, demonstrating 75th percentile concentrations approaching or exceeding screening levels. Six reservoirs fell into Bin 2 with concentrations ranging from 21.4 to 26.7 µg/L, and eleven exceeded 26.7 µg/L and fell into Bin 3. Bin 2 reservoirs included Lake Fork (Segment 512), Grapevine Lake (Segment 826), Lewisville Lake (Segment 823), Lake Waxahachie (Segment 816), Richland-Chambers Reservoir (Segment 836), and Chapman Lake (Segment 307).

Ten out of nineteen streams that were sampled for chlorophyll-a exceeded the screening criteria of 14.1 µg/L and fell into Bin 3. One stream was categorized in Bin 2 (West Fork Trinity River above Bridgeport Reservoir, Segment 812) with a concentration ranging from 11.3 to 14.1 µg/L

Total Dissolved Solids

In general, concentrations of TDS in surface water for sampled water bodies were relatively low. Eight of 46 reservoirs and streams in the area approached or exceeded screening levels for TDS. Three water bodies were categorized into Bin 2 with median concentrations ranging from 400-500 mg/L. Bin 2 water bodies included the Upper Trinity River (Segment 805), Clear Fork Trinity River below Lake Weatherford (Segment 831), and the Lower West Fork Trinity River (Segment 841). Five water bodies demonstrated median concentrations above 500 mg/L and included East Fork Trinity River (Segment 819), Clear Fork Trinity River above Lake Weatherford (Segment 833), Red River above and below Lake Texoma (Segments 202 and 204), and Lake Texoma (Segment 203).

Sulfate

In general, concentrations of sulfate in surface water for sampled water bodies were relatively low. Only two of 44 reservoirs and streams in the area exceeded and approached screening levels for sulfate. Lake Texoma (Segment 203) was categorized into Bin 2 with a median concentration ranging from 200-250 mg/L. Red River Above Lake Texoma (Segment 204) fell into Bin 3 with a median concentration of 565 mg/L.

Chloride

In general, concentrations of chloride in surface water for sampled water bodies were relatively low. Three of 46 reservoirs and streams in the area approached or exceeded screening levels for chloride. One water body was categorized in Bin 2 with median concentrations ranging from 200-250 mg/L (Red River Below Lake Texoma, Segment 202). Two water bodies demonstrated median concentrations above 250 mg/L and included Lake Texoma (Segment 203) and Red River above Lake Texoma (Segment 204).

K.2.2 Groundwater Baseline Conditions

In previous plans, the sole key water quality parameter selected for groundwater in Region C was TDS. However, since chloride and sulfate are also regulated by secondary drinking water standards and data were available, they have been added in the 2021 Plan. Baseline conditions for TDS, chloride and sulfate were summarized using data from 1993-2019. The groundwater quality data summaries are presented in **Table K.10**, **Table K.11**, and **Table K.12**.

Total Dissolved Solids

With the exception of the Carrizo-Wilcox and Queen City aquifers, most groundwater sources in Region C report median TDS concentrations greater than 500 mg/L, the National secondary drinking water standard. The Trinity aquifer beneath these counties generally reports median concentrations between 500 mg/L and 1,000 mg/L. TDS concentrations in the Woodbine aquifer are even greater, with the highest median concentrations occurring in the most urban counties and those counties immediately down-gradient (Dallas, Tarrant, Ellis, and Navarro). Although limited, data for the Nacatoch aquifer indicate that TDS levels are greater than 500 mg/L in Kaufman County and slightly below 500 mg/L in Navarro County.

Sulfate

Median sulfate concentrations are generally below the National secondary drinking water standard of 250 mg/L in all aquifers except the Woodbine. The highest median sulfate concentrations (greater than 300 mg/L) were found in Dallas, Ellis and Navarro Counties within the Woodbine aquifer.

Chloride

Median chloride concentrations in all aquifers are well below the National secondary drinking water standard of 250 mg/L. Therefore, all aquifers were classified as Bin 1 for chloride.

K.3 Water Quality Data Summary

K.3.1 Surface Water Quality Data Summary

Table K.3 through **Table K.9** summarize surface water quality data by segment and parameter. This data was collected between January 1, 1998 and December 31, 2018. The source of this data is TCEQ's Water Quality Monitoring Database.

K.3.2 Groundwater Quality Data Summary

Table K.10 through **Table K.12** summarize groundwater water quality data by aquifer and county.

Table K.3 Ammonia Nitrogen in Surface Water

Segment Number	Segment Description	Water Body Type	Total Nitrogen (mg/L as N)						
			Count	Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	81	0.05	0.06	0.07	0.20	0.02	1
302	Wright-Patman Lake	Lake	9	0.05	0.09	0.16	0.24	0.02	3
307	Chapman/Cooper Lake	Lake	244	0.05	0.10	0.11	1.52	0.02	2
403	Lake O' the Pines	Lake	228	0.09	0.09	0.12	0.40	0.02	3
504	Toledo Bend Reservoir	Lake	156	0.06	0.18	0.11	6.74	0.02	3
507	Lake Tawakoni	Lake	404	0.08	0.13	0.14	1.95	0.02	3
512	Lake Fork	Lake	51	0.09	0.15	0.11	1.53	0.05	2
605	Lake Palestine	Lake	51	0.1	0.10	0.10	0.23	0.05	2
807	Lake Worth	Lake	533	0.06	0.07	0.10	0.44	0.02	2
809	Eagle Mountain Reservoir	Lake	59	0.05	0.06	0.06	0.23	0.02	1
811	Bridgeport Reservoir	Lake	347	0.1	0.08	0.10	0.46	0.02	2
815	Bardwell Reservoir	Lake	1244	0.1	0.12	0.10	3.76	0.02	2
816	Lake Waxahachie	Lake	261	0.1	0.08	0.10	0.31	0.02	2
817	Navarro Mills Lake	Lake	239	0.03	0.04	0.05	0.21	0.02	1
818	Cedar Creek Reservoir	Lake	426	0.05	0.11	0.10	6.00	0.01	2
820	Lake Ray Hubbard	Lake	107	0.05	0.06	0.06	0.80	0.00	1
821	Lake Lavon	Lake	715	0.03	0.06	0.10	2.03	0.02	2
823	Lewisville Lake	Lake	158	0.05	0.08	0.05	2.36	0.00	1
826	Grapevine Lake	Lake	624	0.1	0.11	0.11	2.60	0.02	2
827	White Rock Lake	Lake	155	0.05	0.08	0.10	0.30	0.02	2
828	Lake Arlington	Lake	134	0.05	0.06	0.05	1.00	0.00	1
830	Benbrook Lake	Lake	37	0.05	0.08	0.07	0.46	0.02	1
832	Lake Weatherford	Lake	120	0.1	0.12	0.11	1.30	0.02	2
836	Richland-Chambers Reservoir	Lake	392	0.1	0.09	0.10	0.50	0.01	2
838	Joe Pool Lake	Lake	542	0.05	0.07	0.09	0.41	0.02	2
840	Ray Roberts Lake	Lake	1159	0.07	0.08	0.10	0.92	0.02	2
202	Red River Below Lake Texoma	Stream	93	0.09	0.09	0.10	0.27	0.02	1
204	Red River Above Lake Texoma	Stream	296	0.05	0.08	0.10	0.67	0.02	1
303	Sulphur/South Sulphur River	Stream	187	0.1	0.26	0.27	2.59	0.02	2
804	Trinity River Above Lake Livingston	Stream	266	0.05	0.06	0.06	0.43	0.02	1
805	Upper Trinity River	Stream	75	0.05	0.07	0.06	0.43	0.02	1
806	West Fork Trinity River Below Lake Worth	Stream	124	0.04	0.14	0.10	2.92	0.01	1
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	1331	0.09	0.10	0.10	2.30	0.02	1
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	315	0.07	0.12	0.14	1.42	0.02	1
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	65	0.05	0.07	0.07	0.48	0.02	1

Segment Number	Segment Description	Water Body Type	Total Nitrogen (mg/L as N)						
			Count	Median	Mean	75th Percentile	Max	Min	Bin
819	East Fork Trinity River	Stream	68	0.05	0.06	0.06	0.20	0.02	1
822	Elm Form Trinity River Below Lewisville Lake	Stream	48	0.03	0.07	0.10	0.31	0.02	1
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	638	0.1	0.12	0.10	1.50	0.03	1
825	Denton Creek	Stream	251	0.05	0.07	0.06	0.49	0.02	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	440	0.05	0.08	0.05	1.13	0.01	1
831	Clear Fork Trinity River Below Lake Weatherford	Stream	151	0.1	0.16	0.12	3.13	0.02	1
833	Clear Fork Trinity River Above Lake Weatherford	Stream	15	0.05	0.08	0.14	0.17	0.02	1
835	Chambers Creek Below Richland−Chambers Reservoir	Stream	4	0.05	0.07	0.07	0.14	0.05	1
837	Richland Creek Above Richland−Chambers Reservoir	Stream	42	0.05	0.07	0.06	0.28	0.02	1
839	Elm Fork Trinity River Below Ray Roberts Lake	Stream	461	0.1	0.08	0.10	1.10	0.02	1
841	Lower West Fork Trinity River	Stream	260	0.05	0.11	0.06	1.62	0.02	1

Bin 1: Less than regulatory or literature levels of concern
Bin 2: Approaching regulatory standards or levels of concern
Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.4 Nitrate Nitrogen in Surface Water

Segment Number	Segment Description	Water Body Type	Count	Nitrate Nitrogen, Total (mg/L as N)					
				Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	136	0.0795	0.13	0.19	0.45	0.02	1
302	Wright-Patman Lake	Lake	165	0.05	0.08	0.05	1.64	0.01	1
307	Chapman/Cooper Lake	Lake	146	0.055	0.15	0.24	0.54	0.02	1
403	Lake O' the Pines	Lake	36	0.05	0.09	0.05	0.56	0.01	1
504	Toledo Bend Reservoir	Lake	1547	0.05	0.08	0.08	3.12	0.02	1
507	Lake Tawakoni	Lake	570	0.08	0.14	0.21	1.99	0.00	1
512	Lake Fork	Lake	562	0.05	0.11	0.14	1.28	0.01	1
605	Lake Palestine	Lake	26	0.085	0.98	1.64	6.99	0.05	3
809	Eagle Mountain Reservoir	Lake	131	0.19	0.24	0.34	0.93	0.01	2
811	Bridgeport Reservoir	Lake	24	0.19	0.24	0.29	0.50	0.14	1
815	Bardwell Reservoir	Lake	25	0.25	0.35	0.63	0.88	0.05	3
816	Lake Waxahachie	Lake	25	0.13	0.29	0.39	1.15	0.01	3
817	Navarro Mills Lake	Lake	6	0.075	1.00	1.92	3.23	0.05	3
818	Cedar Creek Reservoir	Lake	54	0.245	0.29	0.37	0.82	0.01	2
820	Lake Ray Hubbard	Lake	170	0.125	0.20	0.27	0.96	0.00	1
821	Lake Lavon	Lake	555	0.33	0.82	0.86	15.50	0.02	3
823	Lewisville Lake	Lake	113	0.1	0.33	0.35	7.13	0.00	2
826	Grapevine Lake	Lake	73	0.17	0.26	0.40	1.15	0.00	3
828	Lake Arlington	Lake	19	0.3	0.28	0.38	0.78	0.05	3
830	Benbrook Lake	Lake	18	0.24	0.24	0.25	0.32	0.18	1
832	Lake Weatherford	Lake	6	0.05	0.06	0.05	0.09	0.05	1
836	Richland-Chambers Reservoir	Lake	48	0.245	0.28	0.34	0.79	0.01	2
838	Joe Pool Lake	Lake	5	0.25	1.35	0.36	5.72	0.20	2
840	Ray Roberts Lake	Lake	164	0.175	0.47	0.52	5.36	0.00	3
202	Red River Below Lake Texoma	Stream	67	0.06	0.18	0.22	1.06	0.04	1
204	Red River Above Lake Texoma	Stream	22	0.04	0.57	0.84	4.98	0.02	1
303	Sulphur/South Sulphur River	Stream	27	0.08	0.22	0.29	1.44	0.05	1
804	Trinity River Above Lake Livingston	Stream	195	2.55	3.51	5.22	13.65	0.02	3
805	Upper Trinity River	Stream	92	4.83	5.68	9.49	16.14	0.07	3
806	West Fork Trinity River Below Lake Worth	Stream	13	0.23	0.50	0.83	1.40	0.02	1
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	8	0.51	0.54	0.75	1.09	0.05	1
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	6	0.05	0.05	0.05	0.05	0.05	1
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	5	0.8	0.87	1.24	2.10	0.05	1
819	East Fork Trinity River	Stream	16	9.97	10.19	13.25	17.80	4.90	3
822	Elm Form Trinity River Below Lewisville Lake	Stream	93	0.5	0.57	0.73	1.73	0.00	1

Segment Number	Segment Description	Water Body Type	Count	Nitrate Nitrogen, Total (mg/L as N)					
				Median	Mean	75th Percentile	Max	Min	Bin
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	36	4.26	4.54	7.35	12.82	0.18	3
825	Denton Creek	Stream	9	0.58	0.70	0.96	1.25	0.30	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	8	0.27	0.30	0.34	0.54	0.17	1
839	Elm Fork Trinity River Below Ray Roberts Lake	Stream	7	0.55	0.67	0.83	1.32	0.17	1
841	Lower West Fork Trinity River	Stream	58	9.04	7.74	11.35	15.21	0.36	3

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.5 Phosphorous Total, Wet Method, in Surface Water

Segment Number	Segment Description	Water Body Type	Count	Phosphorous Total, Wet Method (mg/L as P)					
				Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	387	0.06	0.06	0.07	0.46	0.02	1
302	Wright-Patman Lake	Lake	545	0.11	0.13	0.16	1.65	0.01	2
307	Chapman/Cooper Lake	Lake	262	0.09	0.10	0.13	0.38	0.02	1
403	Lake O' the Pines	Lake	435	0.06	0.13	0.10	8.34	0.01	1
504	Toledo Bend Reservoir	Lake	1045	0.06	0.07	0.06	0.35	0.06	1
507	Lake Tawakoni	Lake	405	0.06	0.08	0.08	0.28	0.01	1
512	Lake Fork	Lake	470	0.06	0.08	0.07	0.54	0.02	1
605	Lake Palestine	Lake	391	0.06	0.10	0.09	1.97	0.01	1
807	Lake Worth	Lake	365	0.07	0.08	0.09	0.94	0.01	1
809	Eagle Mountain Reservoir	Lake	1186	0.07	0.08	0.10	0.64	0.01	1
811	Bridgeport Reservoir	Lake	746	0.05	0.06	0.06	0.66	0.01	1
815	Bardwell Reservoir	Lake	81	0.05	0.05	0.06	0.25	0.01	1
816	Lake Waxahachie	Lake	65	0.05	0.05	0.06	0.25	0.02	1
817	Navarro Mills Lake	Lake	70	0.06	0.06	0.08	0.25	0.02	1
818	Cedar Creek Reservoir	Lake	1399	0.08	0.11	0.12	1.33	0.01	1
820	Lake Ray Hubbard	Lake	240	0.05	0.06	0.06	1.50	0.01	1
821	Lake Lavon	Lake	638	0.10	0.18	0.15	5.30	0.02	1
823	Lewisville Lake	Lake	123	0.05	0.13	0.08	2.50	0.01	1
826	Grapevine Lake	Lake	228	0.04	0.05	0.06	0.58	0.01	1
827	White Rock Lake	Lake	35	0.07	0.08	0.10	0.13	0.02	1
828	Lake Arlington	Lake	498	0.06	0.07	0.08	1.29	0.01	1
830	Benbrook Lake	Lake	647	0.06	0.07	0.08	0.63	0.01	1
832	Lake Weatherford	Lake	58	0.05	0.06	0.06	0.13	0.02	1
836	Richland-Chambers Reservoir	Lake	1268	0.05	0.09	0.10	1.26	0.01	1
838	Joe Pool Lake	Lake	116	0.04	0.06	0.06	0.40	0.01	1
840	Ray Roberts Lake	Lake	244	0.03	0.06	0.06	0.50	0.01	1
202	Red River Below Lake Texoma	Stream	282	0.11	0.14	0.16	1.04	0.02	1
204	Red River Above Lake Texoma	Stream	189	0.20	0.30	0.35	1.47	0.05	1
303	Sulphur/South Sulphur River	Stream	258	0.14	0.15	0.20	0.75	0.01	1
804	Trinity River Above Lake Livingston	Stream	498	0.77	0.89	1.16	3.30	0.05	3
805	Upper Trinity River	Stream	571	1.08	1.15	1.68	4.17	0.03	3
806	West Fork Trinity River Below Lake Worth	Stream	253	0.08	0.09	0.10	0.70	0.02	1
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	124	0.16	0.26	0.29	1.80	0.01	1
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	53	0.28	0.41	0.55	1.70	0.02	2

Segment Number	Segment Description	Water Body Type	Coun t	Phosphorous Total, Wet Method (mg/L as P)					
				Median	Mean	75th Percentile	Max	Min	Bin
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	200	0.14	0.35	0.51	2.40	0.01	1
819	East Fork Trinity River	Stream	165	1.72	1.81	2.57	6.20	0.03	3
822	Elm Form Trinity River Below Lewisville Lake	Stream	289	0.11	0.14	0.15	2.87	0.01	1
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	145	0.16	0.62	0.42	4.12	0.02	1
825	Denton Creek	Stream	48	0.19	0.24	0.30	0.94	0.04	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	81	0.06	0.07	0.07	0.59	0.02	1
831	Clear Fork Trinity River Below Lake Weatherford	Stream	202	0.44	0.52	0.78	2.36	0.01	3
833	Clear Fork Trinity River Above Lake Weatherford	Stream	27	0.08	0.10	0.13	0.23	0.01	1
835	Chambers Creek Below Richland−Chambers Reservoir	Stream	4	0.11	0.13	0.18	0.24	0.05	1
837	Richland Creek Above Richland−Chambers Reservoir	Stream	39	0.12	0.16	0.22	0.45	0.02	1
839	Elm Fork Trinity River Below Ray Roberts Lake	Stream	6	0.04	0.04	0.04	0.06	0.01	1
841	Lower West Fork Trinity River	Stream	235	0.91	0.97	1.35	2.66	0.06	3

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.6 Chlorophyll-a, Spectrophotometric Acid Method, in Surface Water

Segment Number	Segment Description	Water Body Type	Count	Chlorophyll-a, (µg/L)					
				Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	267	10.10	13.28	17.65	155.00	2.88	1
302	Wright-Patman Lake	Lake	231	18.00	26.25	35.20	150.00	1.00	3
307	Chapman/Cooper Lake	Lake	158	13.90	17.61	22.85	130.00	3.00	2
403	Lake O' the Pines	Lake	265	10.00	9.82	11.80	63.40	0.01	1
504	Toledo Bend Reservoir	Lake	494	10.00	14.30	18.00	204.00	1.00	1
507	Lake Tawakoni	Lake	402	34.00	36.18	49.00	124.00	1.00	3
512	Lake Fork	Lake	513	15.50	17.18	22.00	108.00	1.00	2
605	Lake Palestine	Lake	128	14.60	26.90	32.93	237.00	1.00	3
807	Lake Worth	Lake	365	16.90	21.94	31.20	159.30	0.50	3
809	Eagle Mountain Reservoir	Lake	1188	19.40	21.27	28.50	124.60	0.50	3
811	Bridgeport Reservoir	Lake	759	5.30	6.13	7.30	51.60	0.50	1
815	Bardwell Reservoir	Lake	63	15.00	18.73	28.00	58.70	1.00	3
816	Lake Waxahachie	Lake	49	11.00	15.51	23.00	41.40	1.00	2
817	Navarro Mills Lake	Lake	33	10.00	8.79	10.70	22.40	0.00	1
818	Cedar Creek Reservoir	Lake	1385	19.60	24.00	32.70	112.30	0.50	3
820	Lake Ray Hubbard	Lake	123	22.00	22.32	32.00	53.00	1.00	3
821	Lake Lavon	Lake	584	24.70	32.96	47.60	202.00	3.00	3
823	Lewisville Lake	Lake	85	17.00	20.90	25.00	150.10	3.00	2
826	Grapevine Lake	Lake	149	17.00	17.55	23.60	58.40	3.00	2
828	Lake Arlington	Lake	499	20.00	24.01	34.95	95.40	0.90	3
830	Benbrook Lake	Lake	671	17.80	20.57	30.70	65.40	0.50	3
832	Lake Weatherford	Lake	17	10.00	14.72	19.80	35.20	1.00	1
836	Richland-Chambers Reservoir	Lake	1237	11.80	15.59	21.80	94.70	0.50	2
838	Joe Pool Lake	Lake	57	8.00	16.45	17.80	170.00	0.00	1
840	Ray Roberts Lake	Lake	85	6.50	7.73	9.00	37.40	3.00	1
202	Red River Below Lake Texoma	Stream	141	10.00	13.75	18.20	73.40	1.00	3
204	Red River Above Lake Texoma	Stream	26	16.15	26.34	42.65	93.30	1.00	3
303	Sulphur/South Sulphur River	Stream	93	10.00	10.73	10.40	45.40	1.00	1
804	Trinity River Above Lake Livingston	Stream	471	10.60	17.56	19.16	191.00	0.01	3
805	Upper Trinity River	Stream	410	10.55	12.56	15.60	80.00	0.20	3
806	West Fork Trinity River Below Lake Worth	Stream	250	18.00	21.70	29.55	94.00	0.90	3
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	31	10.00	10.74	10.70	41.60	1.00	1
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	11	10.00	12.77	12.50	32.00	3.20	2

Segment Number	Segment Description	Water Body Type	Count	Chlorophyll-a, (µg/L)					
				Median	Mean	75th Percentile	Max	Min	Bin
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	13	10.00	9.55	10.70	19.60	1.33	1
819	East Fork Trinity River	Stream	88	10.00	12.81	15.30	45.60	3.00	3
822	Elm Form Trinity River Below Lewisville Lake	Stream	239	12.00	17.53	18.95	100.00	0.20	3
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	73	10.70	20.30	21.40	163.00	1.00	3
825	Denton Creek	Stream	30	10.00	7.20	10.00	13.90	1.00	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	33	10.00	9.64	10.00	30.00	1.00	1
831	Clear Fork Trinity River Below Lake Weatherford	Stream	83	4.00	5.97	9.90	38.40	0.20	1
833	Clear Fork Trinity River Above Lake Weatherford	Stream	23	6.90	7.05	10.00	18.10	0.82	1
835	Chambers Creek Below Richland−Chambers Reservoir	Stream	4	10.00	25.83	25.83	73.30	10.00	3
837	Richland Creek Above Richland−Chambers Reservoir	Stream	7	1.25	3.24	2.81	12.80	1.00	1
841	Lower West Fork Trinity River	Stream	229	10.40	12.03	15.10	58.00	0.90	3

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.7 Total Dissolved Solids in Surface Water

Segment Number	Segment Description	Water Body Type	Total Dissolved Solids (mg/L) as Residue, Total Filtrable (dried at 180°)						
			Count	Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	394	1020.00	993.55	1120.00	1640.00	286.00	3
302	Wright-Patman Lake	Lake	380	136.50	141.78	158.25	536.00	21.00	1
307	Chapman/Cooper Lake	Lake	208	125.50	132.94	138.25	420.00	88.00	1
403	Lake O' the Pines	Lake	202	106.00	117.44	123.00	376.00	54.00	1
504	Toledo Bend Reservoir	Lake	3	77.00	77.67	81.00	85.00	71.00	1
507	Lake Tawakoni	Lake	116	107.50	108.84	118.00	150.00	78.00	1
512	Lake Fork	Lake	60	103.00	128.68	117.00	1300.00	75.00	1
605	Lake Palestine	Lake	245	130.00	144.47	164.00	416.00	74.00	1
807	Lake Worth	Lake	369	213.00	214.67	231.00	306.00	147.00	1
809	Eagle Mountain Reservoir	Lake	1164	215.00	214.96	234.00	551.00	52.20	1
811	Bridgeport Reservoir	Lake	731	179.00	183.67	199.00	329.00	78.00	1
815	Bardwell Reservoir	Lake	64	236.50	233.70	257.25	342.00	75.00	1
816	Lake Waxahachie	Lake	61	186.00	192.85	214.00	291.00	64.00	1
817	Navarro Mills Lake	Lake	29	201.00	205.79	226.00	256.00	154.00	1
818	Cedar Creek Reservoir	Lake	1358	122.00	127.01	136.00	804.00	33.00	1
820	Lake Ray Hubbard	Lake	170	194.00	199.59	213.00	835.00	118.00	1
821	Lake Lavon	Lake	639	222.00	247.39	273.00	744.00	131.00	1
823	Lewisville Lake	Lake	127	207.00	252.46	240.00	730.00	67.00	1
826	Grapevine Lake	Lake	159	212.00	202.86	224.00	258.00	92.00	1
827	White Rock Lake	Lake	7	270.00	247.57	281.00	288.00	184.00	1
828	Lake Arlington	Lake	500	182.50	204.54	201.00	1573.00	78.00	1
830	Benbrook Lake	Lake	657	197.00	198.16	212.00	287.00	119.00	1
832	Lake Weatherford	Lake	32	243.50	240.34	258.25	302.00	166.00	1
836	Richland-Chambers Reservoir	Lake	1241	163.00	167.53	179.00	498.00	59.10	1
838	Joe Pool Lake	Lake	63	340.00	402.32	379.00	2260.00	175.00	1
840	Ray Roberts Lake	Lake	184	179.00	183.15	193.25	344.00	38.00	1
819	East Fork Trinity River	Stream	114	527.50	536.67	635.50	1300.00	214.00	3
841	Lower West Fork Trinity River	Stream	147	435.00	421.52	484.00	662.00	215.00	2
805	Upper Trinity River	Stream	199	420.00	393.61	474.00	1080.00	73.00	2
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	120	387.00	417.63	485.00	1310.00	144.00	1
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	93	348.00	389.02	463.00	964.00	162.00	1
825	Denton Creek	Stream	57	230.00	244.12	264.00	354.00	185.00	1
806	West Fork Trinity River Below Lake Worth	Stream	26	253.00	249.35	273.50	326.00	153.00	1
839	Elm Fork Trinity River Below Ray Roberts Lake	Stream	23	195.00	196.00	204.50	241.00	169.00	1

Segment Number	Segment Description	Water Body Type	Total Dissolved Solids (mg/L) as Residue, Total Filtrable (dried at 180°)						
			Count	Median	Mean	75th Percentile	Max	Min	Bin
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	50	323.00	363.66	427.25	788.00	170.00	1
822	Elm Form Trinity River Below Lewisville Lake	Stream	217	250.00	256.63	285.00	708.00	69.00	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	52	279.00	279.79	312.50	690.00	28.00	1
303	Sulphur/South Sulphur River	Stream	164	201.00	222.24	284.50	620.00	76.00	1
202	Red River Below Lake Texoma	Stream	300	774	795.94	985	9380	45	3
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	20	283.00	559.40	604.00	3450.00	109.00	1
804	Trinity River Above Lake Livingston	Stream	383	332.00	334.59	418.00	566.00	71.00	1
204	Red River Above Lake Texoma	Stream	125	2900.00	2999.39	3960.00	5590.00	666.00	3
831	Clear Fork Trinity River Below Lake Weatherford	Stream	63	422.00	430.89	467.00	922.00	258.00	2
833	Clear Fork Trinity River Above Lake Weatherford	Stream	15	544.00	528.00	566.00	610.00	422.00	3
835	Chambers Creek Below Richland−Chambers Reservoir	Stream	4	232.00	224.25	243.00	270.00	163.00	1
837	Richland Creek Above Richland−Chambers Reservoir	Stream	30	229.00	350.15	412.00	1010.00	160.00	1

Bin 1: Less than regulatory or literature levels of concern
Bin 2: Approaching regulatory standards or levels of concern
Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.8 Sulfate in Surface Water

Segment Number	Segment Description	Water Body Type	Count	Sulfate (mg/L as SO4) Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	408	242.50	231.70	266.25	920.00	28.00	2
302	Wright-Patman Lake	Lake	636	16.00	17.78	22.00	89.10	5.00	1
307	Chapman/Cooper Lake	Lake	344	8.55	9.59	11.00	119.00	1.00	1
403	Lake O' the Pines	Lake	437	22.30	24.57	28.00	121.00	1.65	1
504	Toledo Bend Reservoir	Lake	2257	16.40	18.08	20.00	112.00	1.06	1
507	Lake Tawakoni	Lake	710	10.00	10.06	11.00	37.94	1.47	1
512	Lake Fork	Lake	821	18.80	18.59	22.10	38.00	3.22	1
605	Lake Palestine	Lake	451	24.00	25.37	30.50	80.00	7.00	1
807	Lake Worth	Lake	186	24.19	24.14	28.50	37.00	5.00	1
809	Eagle Mountain Reservoir	Lake	258	25.85	27.10	30.38	64.20	5.00	1
811	Bridgeport Reservoir	Lake	247	15.00	17.37	20.15	50.00	2.80	1
815	Bardwell Reservoir	Lake	148	43.30	44.04	46.80	76.50	11.70	1
816	Lake Waxahachie	Lake	66	22.50	27.40	35.00	58.40	12.00	1
817	Navarro Mills Lake	Lake	178	24.90	26.45	29.58	60.60	9.59	1
818	Cedar Creek Reservoir	Lake	413	20.70	21.09	25.00	73.60	5.00	1
820	Lake Ray Hubbard	Lake	79	40.00	41.19	49.00	60.00	5.00	1
821	Lake Lavon	Lake	658	32.85	37.11	46.58	140.00	1.00	1
826	Grapevine Lake	Lake	140	32.65	32.51	35.50	48.00	15.90	1
827	White Rock Lake	Lake	37	35.60	37.48	45.00	63.00	18.00	1
828	Lake Arlington	Lake	331	28.73	29.49	32.65	54.00	0.32	1
830	Benbrook Lake	Lake	180	27.34	28.50	30.80	55.70	5.00	1
832	Lake Weatherford	Lake	61	32.00	30.65	35.00	39.00	15.00	1
836	Richland-Chambers Reservoir	Lake	413	28.04	29.00	32.50	94.70	8.56	1
838	Joe Pool Lake	Lake	255	104.00	101.85	112.00	423.00	17.53	1
840	Ray Roberts Lake	Lake	113	15.15	14.07	17.00	19.34	8.72	1
202	Red River Below Lake Texoma	Stream	326	182.50	178.56	231.00	434.00	10.00	1
204	Red River Above Lake Texoma	Stream	153	565.00	579.32	778.00	1200.00	24.00	3
303	Sulphur/South Sulphur River	Stream	295	22.00	35.21	49.50	251.00	1.00	1
804	Trinity River Above Lake Livingston	Stream	469	66.00	64.73	80.60	431.00	5.00	1
805	Upper Trinity River	Stream	415	78.29	74.01	89.60	223.90	13.20	1
806	West Fork Trinity River Below Lake Worth	Stream	181	33.00	35.39	40.40	128.00	6.00	1
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	54	37.50	42.64	50.50	110.00	11.00	1
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	20	11.50	57.70	36.75	506.00	2.00	1

Segment Number	Segment Description	Water Body Type	Count	Sulfate (mg/L as SO4)					
				Median	Mean	75th Percentile	Max	Min	Bin
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	193	70.01	85.23	107.00	312.00	2.54	1
819	East Fork Trinity River	Stream	195	99.00	103.52	125.50	365.00	19.80	1
822	Elm Form Trinity River Below Lewisville Lake	Stream	48	56.75	55.78	66.03	114.40	20.20	1
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	114	40.50	40.96	50.00	96.00	7.00	1
825	Denton Creek	Stream	74	40.50	69.28	60.50	463.00	18.00	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	84	36.35	38.71	45.00	68.00	9.00	1
831	Clear Fork Trinity River Below Lake Weatherford	Stream	79	48.00	47.66	56.50	95.00	14.00	1
833	Clear Fork Trinity River Above Lake Weatherford	Stream	15	68.00	62.89	71.90	78.00	34.00	1
835	Chambers Creek Below Richland−Chambers Reservoir	Stream	4	34.00	36.00	47.25	54.00	22.00	1
837	Richland Creek Above Richland−Chambers Reservoir	Stream	61	28.04	57.59	69.00	279.00	7.00	1
841	Lower West Fork Trinity River	Stream	204	59.80	59.33	68.05	107.00	13.50	1

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.9 Chloride in Surface Water

Segment Number	Segment Description	Water Body Type	Count	Chloride (mg/L as Cl) Median	Mean	75th Percentile	Max	Min	Bin
203	Lake Texoma	Lake	407	333.00	326.36	394.00	603.00	33.50	3
302	Wright-Patman Lake	Lake	638	10.00	10.95	13.10	36.30	1.00	1
307	Chapman/Cooper Lake	Lake	342	3.97	4.94	5.00	172.00	1.00	1
403	Lake O' the Pines	Lake	437	13.10	14.63	17.00	57.00	3.00	1
504	Toledo Bend Reservoir	Lake	2264	15.70	17.77	19.00	161.00	2.20	1
507	Lake Tawakoni	Lake	806	6.00	6.87	10.00	16.00	1.82	1
512	Lake Fork	Lake	827	14.80	14.47	17.00	48.00	4.33	1
605	Lake Palestine	Lake	445	23.00	24.51	28.00	84.00	5.00	1
807	Lake Worth	Lake	341	28.90	28.06	33.20	52.00	11.05	1
809	Eagle Mountain Reservoir	Lake	1093	31.05	30.74	35.10	64.76	9.10	1
811	Bridgeport Reservoir	Lake	644	18.45	20.60	23.43	174.20	9.80	1
815	Bardwell Reservoir	Lake	148	16.55	17.20	19.00	36.20	10.00	1
816	Lake Waxahachie	Lake	66	11.95	13.39	15.98	28.50	7.00	1
817	Navarro Mills Lake	Lake	177	9.00	9.35	10.60	44.00	1.73	1
818	Cedar Creek Reservoir	Lake	1209	13.50	13.76	15.31	99.70	2.20	1
820	Lake Ray Hubbard	Lake	234	22.50	24.17	26.00	80.00	5.00	1
821	Lake Lavon	Lake	667	19.24	23.47	30.10	130.00	1.00	1
823	Lewisville Lake	Lake	126	19.65	29.62	28.38	190.00	4.50	1
826	Grapevine Lake	Lake	225	26.00	27.14	29.10	54.00	11.00	1
827	White Rock Lake	Lake	37	25.00	24.45	29.00	37.00	8.00	1
828	Lake Arlington	Lake	569	16.10	17.00	18.80	62.03	6.00	1
830	Benbrook Lake	Lake	544	21.86	22.26	24.40	44.71	10.90	1
832	Lake Weatherford	Lake	61	31.00	30.36	34.00	44.00	15.50	1
836	Richland-Chambers Reservoir	Lake	1066	9.90	10.52	11.40	72.30	2.50	1
838	Joe Pool Lake	Lake	214	18.60	19.75	21.87	69.00	6.09	1
840	Ray Roberts Lake	Lake	294	16.50	16.13	19.38	48.50	2.50	1
202	Red River Below Lake Texoma	Stream	326	219.00	223.91	307.75	600.00	10.00	2
204	Red River Above Lake Texoma	Stream	152	1150.00	1126.65	1465.00	2190.00	18.00	3
303	Sulphur/South Sulphur River	Stream	298	12.00	17.61	23.00	128.00	1.00	1
804	Trinity River Above Lake Livingston	Stream	440	45.05	47.61	67.20	112.10	5.10	1
805	Upper Trinity River	Stream	347	52.30	55.85	74.90	397.00	9.35	1
806	West Fork Trinity River Below Lake Worth	Stream	147	22.50	24.61	29.79	180.00	5.00	1

Segment Number	Segment Description	Water Body Type	Count	Chloride (mg/L as Cl)					
				Median	Mean	75th Percentile	Max	Min	Bin
810	West Fork Trinity River Below Bridgeport Reservoir	Stream	119	44.00	57.84	77.85	261.00	3.30	1
812	West Fork Trinity River Above Bridgeport Reservoir	Stream	51	21.70	74.45	90.15	474.00	2.70	1
814	Chambers Creek Above Richland-Chambers Reservoir	Stream	218	20.45	40.55	49.38	325.00	4.40	1
819	East Fork Trinity River	Stream	193	74.00	80.52	101.00	340.00	10.23	1
822	Elm Form Trinity River Below Lewisville Lake	Stream	122	27.00	29.70	34.38	98.00	10.80	1
824	Elm Fork Trinity River Above Ray Roberts Lake	Stream	136	30.00	35.61	47.00	155.00	7.00	1
825	Denton Creek	Stream	73	26.00	27.59	33.00	51.00	9.36	1
829	Clear Fork Trinity River Below Benbrook Lake	Stream	83	23.00	23.19	27.00	52.30	9.53	1
831	Clear Fork Trinity River Below Lake Weatherford	Stream	152	48.00	52.64	67.85	158.00	6.00	1
833	Clear Fork Trinity River Above Lake Weatherford	Stream	15	69.00	68.32	75.90	95.00	40.00	1
835	Chambers Creek Below Richland−Chambers Reservoir	Stream	4	39.50	36.00	51.25	58.00	7.00	1
837	Richland Creek Above Richland−Chambers Reservoir	Stream	61	11.30	36.76	51.00	213.00	2.80	1
839	Elm Fork Trinity River Below Ray Roberts Lake	Stream	23	19.50	19.93	21.00	28.00	16.00	1
841	Lower West Fork Trinity River	Stream	179	72.20	68.34	84.50	167.00	12.00	1

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.10 Total Dissolved Solids in Groundwater

Aquifer	County	Count	Total Dissolved Solids (mg/L)					
			Mean	Median	75th Percentile	Max	Min	Bin
Carrizo-Wilcox	Anderson	101	354	293	390	1,869	123	1
Carrizo-Wilcox	Freestone	61	301	280	331	632	99	1
Carrizo-Wilcox	Henderson	59	258	269	304	638	32	1
Carrizo-Wilcox	Navarro	3	406	326	462	598	295	1
Carrizo-Wilcox	Smith	127	300	235	335	972	99	1
Carrizo-Wilcox	Upshur	27	437	380	496	1,130	148	1
Carrizo-Wilcox	Wood	41	258	244	285	926	124	1
Nacatoch	Kaufman	6	877	865	993	1,041	730	2
Nacatoch	Navarro	7	475	453	552	642	316	1
Queen City	Freestone	3	173	108	207	306	106	1
Queen City	Henderson	14	179	151	168	418	92	1
Trinity	Collin	42	820	746	904	1,688	394	2
Trinity	Cooke	46	508	457	550	843	399	1
Trinity	Dallas	62	957	822	961	4,606	255	2
Trinity	Denton	99	631	610	712	1,291	408	2
Trinity	Ellis	59	897	734	1,099	1,432	634	2
Trinity	Fannin	18	888	892	904	932	804	2
Trinity	Grayson	120	673	605	812	1,492	268	2
Trinity	Jack	3	1,073	1,094	1,269	1,443	681	3
Trinity	Kaufman	4	1,074	1,070	1,085	1,106	1,048	3
Trinity	Parker	80	502	443	649	1,086	97	1
Trinity	Tarrant	128	715	643	844	3,302	274	2
Trinity	Wise	63	674	534	762	2,186	304	2
Woodbine	Collin	26	649	579	727	1,388	318	2
Woodbine	Cooke	6	596	410	624	1,505	184	1
Woodbine	Dallas	22	1,150	1,226	1,460	1,700	436	3
Woodbine	Denton	18	710	683	770	1,841	291	2
Woodbine	Ellis	32	1,363	1,391	1,608	2,144	785	3
Woodbine	Fannin	40	804	825	886	1,201	408	2
Woodbine	Grayson	66	601	587	742	1,105	186	2
Woodbine	Navarro	4	1,589	1,586	1,620	1,634	1,549	3
Woodbine	Tarrant	55	1,399	828	1,352	8,150	163	2

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.11 Sulfate in Groundwater

Aquifer	County	Count	Sulfate (mg/L as SO4)					
			Mean	Median	75th Percentile	Max	Min	Bin
Carrizo-Wilcox	Anderson	90	19.89	17.45	26.75	52	1	1
Carrizo-Wilcox	Freestone	36	24.09	19.6	35.95	63.2	4.19	1
Carrizo-Wilcox	Henderson	44	23.27	22.5	33.78	80	1	1
Carrizo-Wilcox	Navarro	1	72.5	72.5	72.50	72.5	72.5	1
Carrizo-Wilcox	Smith	106	20.60	14.6	22.18	132	1	1
Carrizo-Wilcox	Upshur	24	18.73	8.89	30.50	62	1	1
Carrizo-Wilcox	Wood	30	19.48	16.25	27.28	53	1	1
Nacatoch	Kaufman	6	228.7	224	309.3	320	139	1
Nacatoch	Navarro	6	37.35	36.65	50.68	81	1	1
Queen City	Freestone	2	14	14	17.5	21	7	1
Queen City	Henderson	15	20.47	15.3	18.5	73	4	1
Trinity	Collin	37	139.9	90	128	590	47.7	1
Trinity	Cooke	42	38.82	32.5	35.98	129	24.5	1
Trinity	Dallas	59	249.1	178	207.5	2920	77	1
Trinity	Denton	86	73.69	64	91.08	326	26.3	1
Trinity	Ellis	53	113.6	102	139	262	65	1
Trinity	Fannin	18	128.4	128.5	133.8	144	116	1
Trinity	Grayson	105	79.05	77	99.7	155	15.2	1
Trinity	Jack	2	163.1	163.05	202.5	242	84.1	1
Trinity	Parker	61	53.97	43	73.3	202	12	1
Trinity	Tarrant	113	117.3	92	154	1430	0.89	1
Trinity	Wise	40	67.79	50.75	71.25	207	25.2	1
Woodbine	Collin	20	121	96.5	135.3	394	19	1
Woodbine	Cooke	6	123.5	49.2	69.3	522	17.7	1
Woodbine	Dallas	21	332.2	348	428	507	36.6	3
Woodbine	Denton	16	125	97.95	137.5	347	43	1
Woodbine	Ellis	32	383.3	383.5	490.8	729	137	3
Woodbine	Fannin	33	185.1	202	214	260	67	1
Woodbine	Grayson	62	99.07	88.05	150	330	17	1
Woodbine	Navarro	4	434	438	440	440	420	3
Woodbine	Tarrant	18	437.7	109.5	255	3300	5.42	1

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Table K.12 Chloride in Groundwater

Aquifer	County	Count	Chloride (mg/L as Cl)					
			Mean	Median	75th Percentile	Max	Min	Bin
Carrizo-Wilcox	Anderson	90	19.59	10	20.13	196	2.86	1
Carrizo-Wilcox	Freestone	36	24.51	23.35	38.28	46.4	8.86	1
Carrizo-Wilcox	Henderson	44	28.24	15.95	42.23	164	2	1
Carrizo-Wilcox	Navarro	1	46.9	46.9	46.9	46.9	46.9	1
Carrizo-Wilcox	Smith	106	26.98	10.3	24.53	178	1.92	1
Carrizo-Wilcox	Upshur	24	49.79	37.75	82.93	116	9	1
Carrizo-Wilcox	Wood	30	21.80	12.2	37.33	71.8	3.72	1
Nacatoch	Kaufman	6	95.77	93.5	107.5	119	80.1	1
Nacatoch	Navarro	6	28.35	28.25	35.2	57	8.62	1
Queen City	Freestone	2	8.71	8.71	9.065	9.42	8	1
Queen City	Henderson	15	29.28	14.9	18.2	127	4.48	1
Trinity	Collin	37	77.29	23	44	647	10.6	1
Trinity	Cooke	42	53.56	16	45.25	311	3	1
Trinity	Dallas	59	92.37	75	103.5	340	16.5	1
Trinity	Denton	86	89.27	20.35	153	532	2.74	1
Trinity	Ellis	53	162.3	74.3	213	427	63.6	1
Trinity	Fannin	18	34.49	35.3	38.33	44	4	1
Trinity	Grayson	105	70.12	32.5	56.5	571	6.79	1
Trinity	Jack	2	124.9	124.9	139	153	96.8	1
Trinity	Parker	61	40.9	24.4	50	297	4	1
Trinity	Tarrant	113	77.98	37.8	78	1822	5.64	1
Trinity	Wise	40	148.8	47.45	186	678	4.17	1
Woodbine	Collin	20	53.91	37.2	66.15	148	14	1
Woodbine	Cooke	6	126.2	39.2	201.5	369	24.6	1
Woodbine	Dallas	21	101.7	86.9	180	235	12	1
Woodbine	Denton	16	62.59	29.65	46.45	371	9	1
Woodbine	Ellis	32	109.3	76.55	145.3	364	31.5	1
Woodbine	Fannin	33	60.52	54	78	120	22	1
Woodbine	Grayson	62	33.43	26	39.95	180	6	1
Woodbine	Navarro	4	132	131.5	143.8	146	119	1
Woodbine	Tarrant	18	153.4	46.2	93.3	1700	10	1

☐ Bin 1: Less than regulatory or literature levels of concern
☐ Bin 2: Approaching regulatory standards or levels of concern
☐ Bin 3: Exceed the stated regulatory standards, levels of concern, or screening criteria

Appendix L

Socio-Economic Impacts

Socioeconomic Impacts of Projected Water Shortages

for the Region C Regional Water Planning Area

Prepared in Support of the 2021 Region C Regional Water Plan

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Texas Water Development Board

November 2019

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Executive Summary

Evaluating the social and economic impacts of not meeting identified water needs is a required analysis in the regional water planning process. The Texas Water Development Board (TWDB) estimates these impacts for regional water planning groups (RWPGs) and summarizes the impacts in the state water plan. The analysis presented is for the Region C Regional Water Planning Group (Region C).

Based on projected water demands and existing water supplies, Region C identified water needs (potential shortages) that could occur within its region under a repeat of the drought of record for six water use categories (irrigation, livestock, manufacturing, mining, municipal and steam-electric power). The TWDB then estimated the annual socioeconomic impacts of those needs—if they are not met—for each water use category and as an aggregate for the region.

This analysis was performed using an economic impact modeling software package, IMPLAN (Impact for Planning Analysis), as well as other economic analysis techniques, and represents a snapshot of socioeconomic impacts that may occur during a single year repeat of the drought of record with the further caveat that no mitigation strategies are implemented. Decade specific impact estimates assume that growth occurs, and future shocks are imposed on an economy at 10-year intervals. The estimates presented are not cumulative (i.e., summing up expected impacts from today up to the decade noted), but are simply snapshots of the estimated annual socioeconomic impacts should a drought of record occur in each particular decade based on anticipated water supplies and demands for that same decade.

For regional economic impacts, income losses and job losses are estimated within each planning decade (2020 through 2070). The income losses represent an approximation of gross domestic product (GDP) that would be foregone if water needs are not met.

The analysis also provides estimates of financial transfer impacts, which include tax losses (state, local, and utility tax collections); water trucking costs; and utility revenue losses. In addition, social impacts are estimated, encompassing lost consumer surplus (a welfare economics measure of consumer wellbeing); as well as population and school enrollment losses.

IMPLAN data reported that Region C generated more than $533 billion in GDP (2018 dollars) and supported more than 4.8 million jobs in 2016. The Region C estimated total population was approximately 7.25 million in 2016.

It is estimated that not meeting the identified water needs in Region C would result in an annually combined lost income impact of approximately $3.5 billion in 2020, increasing to $48 billion in 2070 (Table ES-1). In 2020, the region would lose approximately 20,400 jobs, and by 2070 job losses would increase to approximately 473,000 if anticipated needs are not mitigated.

All impact estimates are in year 2018 dollars and were calculated using a variety of data sources and tools including the use of a region-specific IMPLAN model, data from TWDB annual water use estimates, the U.S. Census Bureau, Texas Agricultural Statistics Service, and the Texas Municipal League.

Table ES-1 Region C socioeconomic impact summary

Regional Economic Impacts	2020	2030	2040	2050	2060	2070
Income losses ($ millions)*	$3,505	$8,361	$16,791	$27,127	$37,499	$48,071
Job losses	20,437	73,315	158,102	260,573	366,762	472,979
Financial Transfer Impacts	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
Tax losses on production and imports ($ millions)*	$279	$582	$1,123	$1,777	$2,461	$3,221
Water trucking costs ($ millions)*	$2	$4	$46	$140	$218	$303
Utility revenue losses ($ millions)*	$189	$1,075	$1,818	$2,668	$3,594	$4,639
Utility tax revenue losses ($ millions)*	$3	$20	$33	$47	$63	$80
Social Impacts	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
Consumer surplus losses ($ millions)*	$28	$371	$1,194	$2,223	$3,861	$6,701
Population losses	3,752	13,461	29,027	47,841	67,338	86,839
School enrollment losses	718	2,575	5,552	9,151	12,880	16,610

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

1 Introduction

Water shortages during a repeat of the drought of record would likely curtail or eliminate certain economic activity in businesses and industries that rely heavily on water. Insufficient water supplies could not only have an immediate and real impact on the regional economy in the short term, but they could also adversely and chronically affect economic development in Texas. From a social perspective, water supply reliability is critical as well. Shortages could disrupt activity in homes, schools and government, and could adversely affect public health and safety. For these reasons, it is important to evaluate and understand how water supply shortages during drought could impact communities throughout the state.

As part of the regional water planning process, RWPGs must evaluate the social and economic impacts of not meeting water needs (31 Texas Administrative Code §357.33 (c)). Due to the complexity of the analysis and limited resources of the planning groups, the TWDB has historically performed this analysis for the RWPGs upon their request. Staff of the TWDB's Water Use, Projections, & Planning Division designed and conducted this analysis in support of Region C, and those efforts for this region as well as the other 15 regions allow consistency and a degree of comparability in the approach.

This document summarizes the results of the analysis and discusses the methodology used to generate the results. Section 1 provides a snapshot of the region's economy and summarizes the identified water needs in each water use category, which were calculated based on the RWPG's water supply and demand established during the regional water planning process. Section 2 defines each of ten impact assessment measures used in this analysis. Section 3 describes the methodology for the impact assessment and the approaches and assumptions specific to each water use category (i.e., irrigation, livestock, manufacturing, mining, municipal, and steam-electric power). Section 4 presents the impact estimates for each water use category with results summarized for the region as a whole. Appendix A presents a further breakdown of the socioeconomic impacts by county.

1.1 Regional Economic Summary

The Region C Regional Water Planning Area generated more than $533 billion in gross domestic product (2018 dollars) and supported more than 4.8 million jobs in 2016, according to the IMPLAN dataset utilized in this socioeconomic analysis. This activity accounted for approximately 31 percent of the state's total gross domestic product of 1.73 trillion dollars for the year based on IMPLAN. Table 1-1 lists all economic sectors ranked by the total value-added to the economy in Region C. The manufacturing sector generated roughly 12 percent of the region's total value-added and was also a significant source of tax revenue. The top employers in the region were in the retail trade, health care, and public administration sectors. Region C's estimated total population was approximately 7.25 million in 2016, comprising 26 percent of the state's total.

This represents a snapshot of the regional economy as a whole, and it is important to note that not all economic sectors were included in the TWDB socioeconomic impact analysis. Data considerations prompted use of only the more water-intensive sectors within the economy because damage estimates could only be calculated for those economic sectors which had both reliable income and water use estimates.

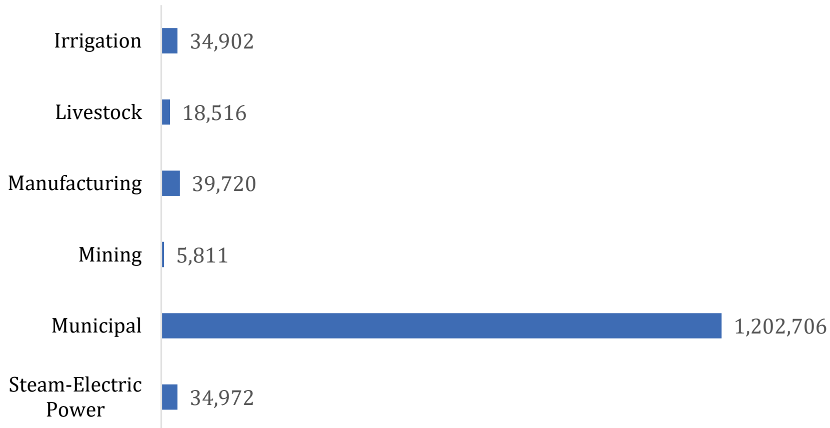
Table 1-1 Region C regional economy by economic sector*

Economic sector	Value-added ($ millions)	Tax ($ millions)	Jobs
Manufacturing	$62,978.8	$1,422.0	290,469
Real Estate and Rental and Leasing	$60,989.5	$6,715.6	224,291
Wholesale Trade	$48,387.8	$6,525.2	221,952
Professional, Scientific, and Technical Services	$46,146.5	$1,188.2	404,776
Finance and Insurance	$39,674.9	$2,314.0	356,671
Public Administration	$38,293.7	$(359.5)	415,703
Health Care and Social Assistance	$32,225.7	$359.5	431,364
Information	$28,633.0	$5,167.7	100,869
Retail Trade	$28,055.2	$6,043.7	438,523
Construction	$27,064.4	$321.3	289,959
Mining, Quarrying, and Oil and Gas Extraction	$22,396.6	$3,381.6	87,272
Administrative and Support and Waste Management and Remediation Services	$22,353.2	$392.8	380,194
Transportation and Warehousing	$21,270.4	$1,370.3	232,078
Accommodation and Food Services	$16,488.0	$2,207.0	369,917
Other Services (except Public Administration)	$14,367.5	$1,355.7	314,052
Management of Companies and Enterprises	$8,703.7	$172.7	61,370
Utilities	$7,514.4	$1,094.8	11,294
Arts, Entertainment, and Recreation	$4,313.9	$529.0	85,366
Educational Services	$2,959.7	$109.7	75,326
Agriculture, Forestry, Fishing and Hunting	$566.8	$20.9	38,718
Grand Total	$533,383.7	$40,332.1	4,830,165

*Source: 2016 IMPLAN for 536 sectors aggregated by 2-digit NAICS (North American Industry Classification System)

While the manufacturing sector led the region in economic output, the majority (90 percent) of water use occurred in the municipal category in 2016. In fact, more than 27 percent of the state's municipal water use occurred within Region C. Figure 1-1 illustrates Region C's breakdown of the 2016 water use estimates by TWDB water use category.

Figure 1-1 Region C 2016 water use estimates by water use category (in acre-feet)



Source: TWDB Annual Water Use Estimates (all values in acre-feet)

1.2 Identified Regional Water Needs (Potential Shortages)

As part of the regional water planning process, the TWDB adopted water demand projections for water user groups (WUG) in Region C with input from the planning group. WUG-level demand projections were established for utilities that provide more than 100 acre-feet of annual water supply, combined rural areas (designated as county-other), and county-wide water demand projections for five non-municipal categories (irrigation, livestock, manufacturing, mining and steam-electric power). The RWPG then compared demands to the existing water supplies of each WUG to determine potential shortages, or needs, by decade.

Table 1-2 summarizes the region's identified water needs in the event of a repeat of the drought of record. Demand management, such as conservation, or the development of new infrastructure to increase supplies, are water management strategies that may be recommended by the planning group to address those needs. This analysis assumes that no strategies are implemented, and that the identified needs correspond to future water shortages. Note that projected water needs generally increase over time, primarily due to anticipated population growth, economic growth, or declining supplies. To provide a general sense of proportion, total projected needs as an overall percentage of total demand by water use category are also presented in aggregate in Table 1-2. Projected needs for individual water user groups within the aggregate can vary greatly and may reach 100% for a given WUG and water use category. A detailed summary of water needs by WUG and county appears in Chapter 4 of the 2021 Region C Regional Water Plan.

Table 1-2 Regional water needs summary by water use category

Water Use Category		2020	2030	2040	2050	2060	2070
Irrigation	water needs (acre-feet per year)	7,405	7,405	7,405	7,686	7,825	8,028
	% of the category's total water demand	17%	17%	17%	18%	18%	18%
Livestock	water needs (acre-feet per year)	479	479	479	479	479	479
	% of the category's total water demand	3%	3%	3%	3%	3%	3%
Manufacturing	water needs (acre-feet per year)	1,638	6,475	10,044	13,354	15,949	18,918
	% of the category's total water demand	3%	12%	19%	25%	30%	36%
Mining	water needs (acre-feet per year)	11,447	12,355	13,547	15,823	18,318	22,636
	% of the category's total water demand	25%	32%	40%	44%	47%	52%
Municipal*	water needs (acre-feet per year)	57,793	314,807	526,638	761,342	1,008,970	1,276,114
	% of the category's total water demand	4%	18%	27%	35%	42%	48%
Steam-electric power	water needs (acre-feet per year)	6,913	10,658	13,024	14,467	15,537	16,387
	% of the category's total water demand	11%	16%	20%	22%	23%	25%
Total water needs (acre-feet per year)		**85,675**	**352,179**	**571,137**	**813,151**	**1,067,078**	**1,342,562**

***** Municipal category consists of residential and non-residential (commercial and institutional) subcategories.

2 Impact Assessment Measures

A required component of the regional and state water plans is to estimate the potential economic and social impacts of potential water shortages during a repeat of the drought of record. Consistent with previous water plans, ten impact measures were estimated and are described in Table 2-1.

Table 2-1 Socioeconomic impact analysis measures

Regional economic impacts	Description
Income losses - value-added	The value of output less the value of intermediate consumption; it is a measure of the contribution to gross domestic product (GDP) made by an individual producer, industry, sector, or group of sectors within a year. Value-added measures used in this report have been adjusted to include the direct, indirect, and induced monetary impacts on the region.
Income losses - electrical power purchase costs	Proxy for income loss in the form of additional costs of power as a result of impacts of water shortages.
Job losses	Number of part-time and full-time jobs lost due to the shortage. These values have been adjusted to include the direct, indirect, and induced employment impacts on the region.
Financial transfer impacts	**Description**
Tax losses on production and imports	Sales and excise taxes not collected due to the shortage, in addition to customs duties, property taxes, motor vehicle licenses, severance taxes, other taxes, and special assessments less subsidies. These values have been adjusted to include the direct, indirect and induced tax impacts on the region.
Water trucking costs	Estimated cost of shipping potable water.
Utility revenue losses	Foregone utility income due to not selling as much water.
Utility tax revenue losses	Foregone miscellaneous gross receipts tax collections.
Social impacts	**Description**
Consumer surplus losses	A welfare measure of the lost value to consumers accompanying restricted water use.
Population losses	Population losses accompanying job losses.
School enrollment losses	School enrollment losses (K-12) accompanying job losses.

2.1 Regional Economic Impacts

The two key measures used to assess regional economic impacts are income losses and job losses. The income losses presented consist of the sum of value-added losses and the additional purchase costs of electrical power.

Income Losses - Value-added Losses

Value-added is the value of total output less the value of the intermediate inputs also used in the production of the final product. Value-added is similar to GDP, a familiar measure of the productivity of an economy. The loss of value-added due to water shortages is estimated by input-output analysis using the IMPLAN software package, and includes the direct, indirect, and induced monetary impacts on the region. The indirect and induced effects are measures of reduced income as well as reduced employee spending for those input sectors which provide resources to the water shortage impacted production sectors.

Income Losses - Electric Power Purchase Costs

The electrical power grid and market within the state is a complex interconnected system. The industry response to water shortages, and the resulting impact on the region, are not easily modeled using traditional input/output impact analysis and the IMPLAN model. Adverse impacts on the region will occur and are represented in this analysis by estimated additional costs associated with power purchases from other generating plants within the region or state. Consequently, the analysis employs additional power purchase costs as a proxy for the value-added impacts for the steam-electric power water use category, and these are included as a portion of the overall income impact for completeness.

For the purpose of this analysis, it is assumed that power companies with insufficient water will be forced to purchase power on the electrical market at a projected higher rate of 5.60 cents per kilowatt hour. This rate is based upon the average day-ahead market purchase price of electricity in Texas that occurred during the recent drought period in 2011. This price is assumed to be comparable to those prices which would prevail in the event of another drought of record.

Job Losses

The number of jobs lost due to the economic impact is estimated using IMPLAN output associated with each TWDB water use category. Because of the difficulty in predicting outcomes and a lack of relevant data, job loss estimates are not calculated for the steam-electric power category.

2.2 Financial Transfer Impacts

Several impact measures evaluated in this analysis are presented to provide additional detail concerning potential impacts on a portion of the economy or government. These financial transfer impact measures include lost tax collections (on production and imports), trucking costs for imported water, declines in utility revenues, and declines in utility tax revenue collected by the state. These measures are not solely adverse, with some having both positive and negative impacts. For example, cities and residents would suffer if forced to pay large costs for trucking in potable water. Trucking firms, conversely, would benefit from the transaction. Additional detail for each of these measures follows.

Tax Losses on Production and Imports

Reduced production of goods and services accompanying water shortages adversely impacts the collection of taxes by state and local government. The regional IMPLAN model is used to estimate reduced tax collections associated with the reduced output in the economy. Impact estimates for this measure include the direct, indirect, and induced impacts for the affected sectors.

Water Trucking Costs

In instances where water shortages for a municipal water user group are estimated by RWPGs to exceed 80 percent of water demands, it is assumed that water would need to be trucked in to support basic consumption and sanitation needs. For water shortages of 80 percent or greater, a fixed, maximum of $35,000[1] per acre-foot of water applied as an economic cost. This water trucking cost was utilized for both the residential and non-residential portions of municipal water needs.

Utility Revenue Losses

Lost utility income is calculated as the price of water service multiplied by the quantity of water not sold during a drought shortage. Such estimates are obtained from utility-specific pricing data provided by the Texas Municipal League, where available, for both water and wastewater. These water rates are applied to the potential water shortage to estimate forgone utility revenue as water providers sold less water during the drought due to restricted supplies.

Utility Tax Losses

Foregone utility tax losses include estimates of forgone miscellaneous gross receipts taxes. Reduced water sales reduce the amount of utility tax that would be collected by the State of Texas for water and wastewater service sales.

2.3 Social Impacts

Consumer Surplus Losses for Municipal Water Users

Consumer surplus loss is a measure of impact to the wellbeing of municipal water users when their water use is restricted. Consumer surplus is the difference between how much a consumer is

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[1] Based on staff survey of water hauling firms and historical data concerning transport costs for potable water in the recent drought in California for this estimate. There are many factors and variables that would determine actual water trucking costs including distance to, cost of water, and length of that drought.

willing and able to pay for a commodity (i.e., water) and how much they actually have to pay. The difference is a benefit to the consumer's wellbeing since they do not have to pay as much for the commodity as they would be willing to pay. Consumer surplus may also be viewed as an estimate of how much consumers would be willing to pay to keep the original quantity of water which they used prior to the drought. Lost consumer surplus estimates within this analysis only apply to the residential portion of municipal demand, with estimates being made for reduced outdoor and indoor residential use. Lost consumer surplus estimates varied widely by location and degree of water shortage.

Population and School Enrollment Losses

Population loss due to water shortages, as well as the associated decline in school enrollment, are based upon the job loss estimates discussed in Section 2.1. A simplified ratio of job and net population losses are calculated for the state as a whole based on a recent study of how job layoffs impact the labor market population.[2] For every 100 jobs lost, 18 people were assumed to move out of the area. School enrollment losses are estimated as a proportion of the population lost based upon public school enrollment data from the Texas Education Agency concerning the age K-12 population within the state (approximately 19%).

[2] Foote, Andrew, Grosz, Michel, Stevens, Ann. "Locate Your Nearest Exit: Mass Layoffs and Local Labor Market Response." University of California, Davis. April 2015, http://paa2015.princeton.edu/papers/150194. The study utilized Bureau of Labor Statistics data regarding layoffs between 1996 and 2013, as well as Internal Revenue Service data regarding migration, to model the change in the population as the result of a job layoff event. The study found that layoffs impact both out-migration and in-migration into a region, and that a majority of those who did move following a layoff moved to another labor market rather than an adjacent county.

3 Socioeconomic Impact Assessment Methodology

This portion of the report provides a summary of the methodology used to estimate the potential economic impacts of future water shortages. The general approach employed in the analysis was to obtain estimates for income and job losses on the smallest geographic level that the available data would support, tie those values to their accompanying historic water use estimate, and thereby determine a maximum impact per acre-foot of shortage for each of the socioeconomic measures. The calculations of economic impacts are based on the overall composition of the economy divided into many underlying economic sectors. Sectors in this analysis refer to one or more of the 536 specific production sectors of the economy designated within IMPLAN, the economic impact modeling software used for this assessment. Economic impacts within this report are estimated for approximately 330 of these sectors, with the focus on the more water-intensive production sectors. The economic impacts for a single water use category consist of an aggregation of impacts to multiple, related IMPLAN economic sectors.

3.1 Analysis Context

The context of this socioeconomic impact analysis involves situations where there are physical shortages of groundwater or surface water due to a recurrence of drought of record conditions. Anticipated shortages for specific water users may be nonexistent in earlier decades of the planning horizon, yet population growth or greater industrial, agricultural or other sector demands in later decades may result in greater overall demand, exceeding the existing supplies. Estimated socioeconomic impacts measure what would happen if water user groups experience water shortages for a period of one year. Actual socioeconomic impacts would likely become larger as drought of record conditions persist for periods greater than a single year.

3.2 IMPLAN Model and Data

Input-Output analysis using the IMPLAN software package was the primary means of estimating the value-added, jobs, and tax related impact measures. This analysis employed regional level models to determine key economic impacts. IMPLAN is an economic impact model, originally developed by the U.S. Forestry Service in the 1970's to model economic activity at varying geographic levels. The model is currently maintained by the Minnesota IMPLAN Group (MIG Inc.) which collects and sells county and state specific data and software. The year 2016 version of IMPLAN, employing data for all 254 Texas counties, was used to provide estimates of value-added, jobs, and taxes on production for the economic sectors associated with the water user groups examined in the study. IMPLAN uses 536 sector-specific Industry Codes, and those that rely on water as a primary input were assigned to their appropriate planning water user categories (irrigation, livestock, manufacturing, mining, and municipal). Estimates of value-added for a water use category were obtained by summing value-added estimates across the relevant IMPLAN sectors associated with that water use category. These calculations were also performed for job losses as well as tax losses on production and imports.

The adjusted value-added estimates used as an income measure in this analysis, as well as the job and tax estimates from IMPLAN, include three components:

- ***Direct effects*** representing the initial change in the industry analyzed;
- ***Indirect effects*** that are changes in inter-industry transactions as supplying industries respond to reduced demands from the directly affected industries; and,
- ***Induced effects*** that reflect changes in local spending that result from reduced household income among employees in the directly and indirectly affected industry sectors.

Input-output models such as IMPLAN only capture backward linkages and do not include forward linkages in the economy.

3.3 Elasticity of Economic Impacts

The economic impact of a water need is based on the size of the water need relative to the total water demand for each water user group. Smaller water shortages, for example, less than 5 percent, are generally anticipated to result in no initial negative economic impact because water users are assumed to have a certain amount of flexibility in dealing with small shortages. As a water shortage intensifies, however, such flexibility lessens and results in actual and increasing economic losses, eventually reaching a representative maximum impact estimate per unit volume of water. To account for these characteristics, an elasticity adjustment function is used to estimate impacts for the income, tax and job loss measures. Figure 3-1 illustrates this general relationship for the adjustment functions. Negative impacts are assumed to begin accruing when the shortage reaches the lower bound ‘b1’ (5 percent in Figure 3-1), with impacts then increasing linearly up to the 100 percent impact level (per unit volume) once the upper bound reaches the ‘b2’ level shortage (40 percent in Figure 3-1).

To illustrate this, if the total annual value-added for manufacturing in the region was $2 million and the reported annual volume of water used in that industry is 10,000 acre-feet, the estimated economic measure of the water shortage would be $200 per acre-foot. The economic impact of the shortage would then be estimated using this value-added amount as the maximum impact estimate ($200 per acre-foot) applied to the anticipated shortage volume and then adjusted by the elasticity function. Using the sample elasticity function shown in Figure 3-1, an approximately 22 percent shortage in the livestock category would indicate an economic impact estimate of 50% of the original $200 per acre-foot impact value (i.e., $100 per acre-foot).

Such adjustments are not required in estimating consumer surplus, utility revenue losses, or utility tax losses. Estimates of lost consumer surplus rely on utility-specific demand curves with the lost consumer surplus estimate calculated based on the relative percentage of the utility’s water shortage. Estimated changes in population and school enrollment are indirectly related to the elasticity of job losses.

Assumed values for the lower and upper bounds ‘b1’ and ‘b2’ vary by water use category and are presented in Table 3-1.

Figure 3-1 Example economic impact elasticity function (as applied to a single water user's shortage)

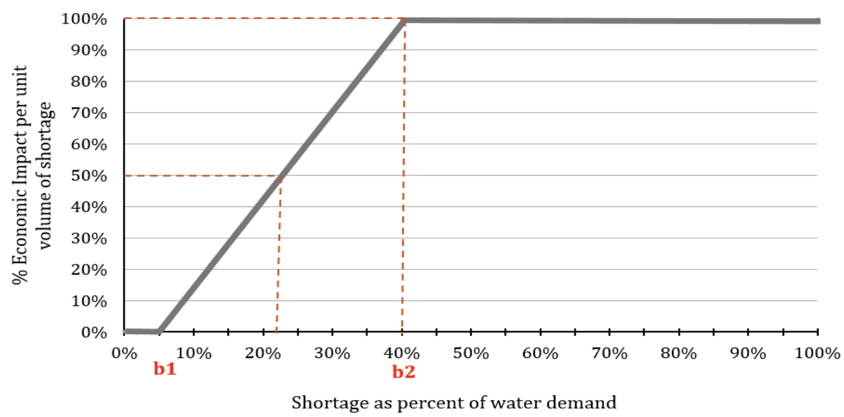

Table 3-1 Economic impact elasticity function lower and upper bounds

Water use category	Lower bound (b1)	Upper bound (b2)
Irrigation	**5%**	**40%**
Livestock	**5%**	**10%**
Manufacturing	**5%**	**40%**
Mining	**5%**	**40%**
Municipal (non-residential water intensive subcategory)	**5%**	**40%**
Steam-electric power	**N/A**	**N/A**

3.4 Analysis Assumptions and Limitations

The modeling of complex systems requires making many assumptions and acknowledging the model's uncertainty and limitations. This is particularly true when attempting to estimate a wide range of socioeconomic impacts over a large geographic area and into future decades. Some of the key assumptions and limitations of this methodology include:

1. The foundation for estimating the socioeconomic impacts of water shortages resulting from a drought are the water needs (potential shortages) that were identified by RWPGs as part of the

regional water planning process. These needs have some uncertainty associated with them but serve as a reasonable basis for evaluating the potential impacts of a drought of record event.

2. All estimated socioeconomic impacts are snapshots for years in which water needs were identified (i.e., 2020, 2030, 2040, 2050, 2060, and 2070). The estimates are independent and distinct “what if” scenarios for each particular year, and water shortages are assumed to be temporary events resulting from a single year recurrence of drought of record conditions. The evaluation assumed that no recommended water management strategies are implemented. In other words, growth occurs and future shocks are imposed on an economy at 10-year intervals, and the resulting impacts are estimated. Note that the estimates presented are not cumulative (i.e., summing up expected impacts from today up to the decade noted), but are simply snapshots of the estimated annual socioeconomic impacts should a drought of record occur in each particular decade based on anticipated water supplies and demands for that same decade.

3. Input-output models such as IMPLAN rely on a static profile of the structure of the economy as it appears today. This presumes that the relative contributions of all sectors of the economy would remain the same, regardless of changes in technology, availability of limited resources, and other structural changes to the economy that may occur in the future. Changes in water use efficiency will undoubtedly take place in the future as supplies become more stressed. Use of the static IMPLAN structure was a significant assumption and simplification considering the 50-year time period examined in this analysis. To presume an alternative future economic makeup, however, would entail positing many other major assumptions that would very likely generate as much or more error.

4. This is not a form of cost-benefit analysis. That approach to evaluating the economic feasibility of a specific policy or project employs discounting future benefits and costs to their present value dollars using some assumed discount rate. The methodology employed in this effort to estimate the economic impacts of future water shortages did not use any discounting methods to weigh future costs differently through time.

5. All monetary values originally based upon year 2016 IMPLAN and other sources are reported in constant year 2018 dollars to be consistent with the water management strategy requirements in the State Water Plan.

6. IMPLAN based loss estimates (income-value-added, jobs, and taxes on production and imports) are calculated only for those IMPLAN sectors for which the TWDB’s Water Use Survey (WUS) data was available and deemed reliable. Every effort is made in the annual WUS effort to capture all relevant firms who are significant water users. Lack of response to the WUS, or omission of relevant firms, impacts the loss estimates.

7. Impacts are annual estimates. The socioeconomic analysis does not reflect the full extent of impacts that might occur as a result of persistent water shortages occurring over an extended duration. The drought of record in most regions of Texas lasted several years.

8. Value-added estimates are the primary estimate of the economic impacts within this report. One may be tempted to add consumer surplus impacts to obtain an estimate of total adverse economic impacts to the region, but the consumer surplus measure represents the change to the wellbeing of households (and other water users), not an actual change in the flow of dollars through the economy. The two measures (value-added and consumer surplus) are both valid impacts but ideally should not be summed.

9. The value-added, jobs, and taxes on production and import impacts include the direct, indirect and induced effects to capture backward linkages in the economy described in Section 2.1. Population and school enrollment losses also indirectly include such effects as they are based on the associated losses in employment. The remaining measures (consumer surplus, utility revenue, utility taxes, additional electrical power purchase costs, and potable water trucking costs), however, do not include any induced or indirect effects.

10. The majority of impacts estimated in this analysis may be more conservative (i.e., smaller) than those that might actually occur under drought of record conditions due to not including impacts in the forward linkages in the economy. Input-output models such as IMPLAN only capture backward linkages on suppliers (including households that supply labor to directly affected industries). While this is a common limitation in this type of economic modeling effort, it is important to note that forward linkages on the industries that use the outputs of the directly affected industries can also be very important. A good example is impacts on livestock operators. Livestock producers tend to suffer substantially during droughts, not because there is not enough water for their stock, but because reductions in available pasture and higher prices for purchased hay have significant economic effects on their operations. Food processors could be in a similar situation if they cannot get the grains or other inputs that they need. These effects are not captured in IMPLAN, resulting in conservative impact estimates.

11. The model does not reflect dynamic economic responses to water shortages as they might occur, nor does the model reflect economic impacts associated with a recovery from a drought of record including:
    a. The likely significant economic rebound to some industries immediately following a drought, such as landscaping;
    b. The cost and time to rebuild liquidated livestock herds (a major capital investment in that industry);
    c. Direct impacts on recreational sectors (i.e., stranded docks and reduced tourism); or,
    d. Impacts of negative publicity on Texas' ability to attract population and business in the event that it was not able to provide adequate water supplies for the existing economy.

12. Estimates for job losses and the associated population and school enrollment changes may exceed what would actually occur. In practice, firms may be hesitant to lay off employees, even in difficult economic times. Estimates of population and school enrollment changes are based on regional evaluations and therefore do not necessarily reflect what might occur on a statewide basis.

13. **The results must be interpreted carefully. It is the general and relative magnitudes of impacts as well as the changes of these impacts over time that should be the focus rather than the absolute numbers.** Analyses of this type are much better at predicting relative percent differences brought about by a shock to a complex system (i.e., a water shortage) than the precise size of an impact. To illustrate, assuming that the estimated economic impacts of a drought of record on the manufacturing and mining water user categories are $2 and $1 million, respectively, one should be more confident that the economic impacts on manufacturing are twice as large as those on mining and that these impacts will likely be in the millions of dollars. But one should have less confidence that the actual total economic impact experienced would be $3 million.

14. The methodology does not capture "spillover" effects between regions – or the secondary impacts that occur outside of the region where the water shortage is projected to occur.

15. The methodology that the TWDB has developed for estimating the economic impacts of unmet water needs, and the assumptions and models used in the analysis, are specifically designed to estimate potential economic effects at the regional and county levels. Although it may be tempting to add the regional impacts together in an effort to produce a statewide result, the TWDB cautions against that approach for a number of reasons. The IMPLAN modeling (and corresponding economic multipliers) are all derived from regional models – a statewide model of Texas would produce somewhat different multipliers. As noted in point 14 within this section, the regional modeling used by TWDB does not capture spillover losses that could result in other regions from unmet needs in the region analyzed, or potential spillover gains if decreased production in one region leads to increases in production elsewhere. The assumed drought of record may also not occur in every region of Texas at the same time, or to the same degree.

4 Analysis Results

This section presents estimates of potential economic impacts that could reasonably be expected in the event of water shortages associated with a drought of record and if no recommended water management strategies were implemented. Projected economic impacts for the six water use categories (irrigation, livestock, manufacturing, mining, municipal, and steam-electric power) are reported by decade.

4.1 Impacts for Irrigation Water Shortages

Four of the 16 counties in the region are projected to experience water shortages in the irrigated agriculture water use category for one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-1. Note that tax collection impacts were not estimated for this water use category. IMPLAN data indicates a negative tax impact (i.e., increased tax collections) for the associated production sectors, primarily due to past subsidies from the federal government. However, it was not considered realistic to report increasing tax revenues during a drought of record.

Table 4-1 Impacts of water shortages on irrigation in Region C

Impact measure	2020	2030	2040	2050	2060	2070
Income losses ($ millions)*	$1	$1	$1	$2	$2	$2
Job losses	43	43	43	49	58	66

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

4.2 Impacts for Livestock Water Shortages

Three of the 16 counties in the region are projected to experience water shortages in the livestock water use category for one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-2.

Table 4-2 Impacts of water shortages on livestock in Region C

Impact measure	2020	2030	2040	2050	2060	2070
Income losses ($ millions)*	$8	$8	$8	$8	$8	$8
Jobs losses	350	350	350	350	350	350
Tax losses on production and imports ($ millions)*	$0	$0	$0	$0	$0	$0

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

4.3 Impacts of Manufacturing Water Shortages

Manufacturing water shortages in the region are projected to occur in 13 of the 16 counties in the region for one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-3.

Table 4-3 Impacts of water shortages on manufacturing in Region C

Impacts measure	2020	2030	2040	2050	2060	2070
Income losses ($ millions)*	$452	$2,478	$6,378	$11,650	$16,347	$20,409
Job losses	4,340	19,079	44,637	79,535	110,525	138,156
Tax losses on production and Imports ($ millions)*	$34	$146	$341	$605	$841	$1,053

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

4.4 Impacts of Mining Water Shortages

Mining water shortages in the region are projected to occur in 11 of the 16 counties in the region for one or more decades within the planning horizon. Estimated impacts to this water use type appear in Table 4-4.

Table 4-4 Impacts of water shortages on mining in Region C

Impacts measure	2020	2030	2040	2050	2060	2070
Income losses ($ millions)*	$2,422	$2,218	$2,525	$2,870	$3,363	$4,832
Job losses	13,884	12,871	14,699	16,903	19,787	27,838
Tax losses on production and Imports ($ millions)*	$235	$208	$237	$266	$314	$471

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

4.5 Impacts for Municipal Water Shortages

All of the 16 counties in the region are projected to experience water shortages in the municipal water use category for one or more decades within the planning horizon.

Impact estimates were made for two sub-categories within municipal water use: residential and non-residential. Non-residential municipal water use includes commercial and institutional users, which are further divided into non-water-intensive and water-intensive subsectors including car wash, laundry, hospitality, health care, recreation, and education. Lost consumer surplus estimates were made only for needs in the residential portion of municipal water use. Available IMPLAN and TWDB Water Use Survey data for the non-residential, water-intensive portion of municipal demand allowed these sectors to be included in income, jobs, and tax loss impact estimate.

Trucking cost estimates, calculated for shortages exceeding 80 percent, assumed a fixed, maximum cost of $35,000 per acre-foot to transport water for municipal use. The estimated impacts to this water use category appear in Table 4-5.

Table 4-5 Impacts of water shortages on municipal water users in Region C

Impacts measure	2020	2030	2040	2050	2060	2070
Income losses[1] ($ millions)*	$128	$2,893	$6,947	$11,563	$16,669	$21,649
Job losses[1]	1,820	40,971	98,372	163,735	236,043	306,569
Tax losses on production and imports[1] ($ millions)*	$10	$227	$544	$906	$1,306	$1,696
Trucking costs ($ millions)*	$2	$4	$46	$140	$218	$303
Utility revenue losses ($ millions)*	$189	$1,075	$1,818	$2,668	$3,594	$4,639
Utility tax revenue losses ($ millions)*	$3	$20	$33	$47	$63	$80

[1] Estimates apply to the water-intensive portion of non-residential municipal water use.
** Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.*

4.6 Impacts of Steam-Electric Water Shortages

Steam-electric water shortages in the region are projected to occur in seven of the 16 counties in the region for one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-6.

Note that estimated economic impacts to steam-electric water users:

- Are reflected as an income loss proxy in the form of estimated additional purchasing costs for power from the electrical grid to replace power that could not be generated due to a shortage;
- Do not include estimates of impacts on jobs. Because of the unique conditions of power generators during drought conditions and lack of relevant data, it was assumed that the industry would retain, perhaps relocating or repurposing, their existing staff in order to manage their ongoing operations through a severe drought.
- Do not presume a decline in tax collections. Associated tax collections, in fact, would likely increase under drought conditions since, historically, the demand for electricity increases during times of drought, thereby increasing taxes collected on the additional sales of power.

Table 4-6 Impacts of water shortages on steam-electric power in Region C

Impacts measure	2020	2030	2040	2050	2060	2070
Income Losses ($ millions)*	$494	$762	$931	$1,034	$1,110	$1,171

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

4.7 Regional Social Impacts

Projected changes in population, based upon several factors (household size, population, and job loss estimates), as well as the accompanying change in school enrollment, were also estimated and are summarized in Table 4-7.

Table 4-7 Region-wide social impacts of water shortages in Region C

Impacts measure	2020	2030	2040	2050	2060	2070
Consumer surplus losses ($ millions)*	$28	$371	$1,194	$2,223	$3,861	$6,701
Population losses	3,752	13,461	29,027	47,841	67,338	86,839
School enrollment losses	718	2,575	5,552	9,151	12,880	16,610

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero ($0) indicate estimated income losses less than $500,000.

Appendix A - County Level Summary of Estimated Economic Impacts for Region C

County level summary of estimated economic impacts of not meeting identified water needs by water use category and decade (in 2018 dollars, rounded). Values are presented only for counties with projected economic impacts for at least one decade.
(* Entries denoted by a dash (-) indicate no estimated economic impact)

		Income losses (Million $)*						Job losses					
County	Water Use Category	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
COLLIN	MANUFACTURING	-	$88.18	$202.33	$389.94	$615.16	$825.98	-	648	1,487	2,866	4,522	6,071
COLLIN	MUNICIPAL	$6.06	$277.80	$777.43	$1,553.46	$2,492.57	$3,327.53	86	3,933	11,007	21,994	35,291	47,114
COLLIN Total		**$6.06**	**$365.99**	**$979.76**	**$1,943.40**	**$3,107.73**	**$4,153.50**	**86**	**4,582**	**12,494**	**24,860**	**39,813**	**53,185**
COOKE	IRRIGATION	-	-	-	$0.21	$0.50	$0.79	-	-	-	6	15	23
COOKE	MANUFACTURING	-	-	-	$16.75	$33.50	$49.70	-	-	-	140	279	414
COOKE	MINING	$335.60	$31.65	$91.42	$73.24	$77.18	$44.79	2,067	195	563	451	475	276
COOKE	MUNICIPAL	$0.01	$0.02	$0.06	$1.41	$10.44	$55.38	0	0	1	20	148	784
COOKE Total		**$335.61**	**$31.67**	**$91.48**	**$91.61**	**$121.62**	**$150.65**	**2,067**	**195**	**564**	**617**	**917**	**1,497**
DALLAS	MANUFACTURING	-	$226.38	$970.35	$1,884.39	$2,605.80	$3,246.95	-	1,762	7,555	14,671	20,288	25,279
DALLAS	MUNICIPAL	$44.62	$735.34	$1,775.17	$3,082.52	$4,208.31	$5,173.37	632	10,409	25,129	43,636	59,572	73,234
DALLAS Total		**$44.62**	**$961.72**	**$2,745.52**	**$4,966.90**	**$6,814.11**	**$8,420.32**	**632**	**12,172**	**32,684**	**58,307**	**79,860**	**98,513**
DENTON	MANUFACTURING	-	$142.14	$439.03	$705.09	$863.57	$954.13	-	620	1,914	3,074	3,766	4,160
DENTON	MINING	-	-	-	-	$153.20	$1,097.14	-	-	-	-	767	5,490
DENTON	MUNICIPAL	$12.33	$343.22	$1,083.90	$2,045.44	$3,185.07	$4,062.56	175	4,859	15,344	28,955	45,088	57,509
DENTON Total		**$12.33**	**$485.36**	**$1,522.93**	**$2,750.52**	**$4,201.84**	**$6,113.83**	**175**	**5,478**	**17,258**	**32,029**	**49,620**	**67,160**
ELLIS	IRRIGATION	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	10	10	10	10	10	10
ELLIS	MANUFACTURING	$110.84	$718.91	$1,048.71	$1,559.64	$1,876.54	$2,214.76	936	6,070	8,854	13,168	15,843	18,699
ELLIS	MUNICIPAL	$5.67	$44.10	$64.07	$108.16	$245.73	$556.50	83	627	911	1,536	3,484	7,885
ELLIS	STEAM ELECTRIC POWER	$10.00	$13.58	$14.36	$15.15	$15.58	$16.08	-	-	-	-	-	-
ELLIS Total		**$126.81**	**$776.87**	**$1,127.44**	**$1,683.23**	**$2,138.14**	**$2,787.63**	**1,028**	**6,706**	**9,774**	**14,713**	**19,337**	**26,593**
FANNIN	IRRIGATION	$0.97	$0.97	$0.97	$0.97	$0.97	$0.97	28	28	28	28	28	28
FANNIN	MANUFACTURING	-	-	$0.07	$2.23	$3.44	$4.13	-	-	1	21	32	38
FANNIN	MINING	$48.51	$26.96	$5.41	$5.41	$5.41	$5.41	362	201	40	40	40	40

County	Water Use Category	Income losses (Million $)* 2020	2030	2040	2050	2060	2070	Job losses 2020	2030	2040	2050	2060	2070
FANNIN	MUNICIPAL	$8.95	$9.60	$10.49	$43.51	$96.78	$143.69	127	137	150	617	1,372	2,037
FANNIN Total		**$58.43**	**$37.53**	**$16.94**	**$52.13**	**$106.61**	**$154.20**	**516**	**366**	**218**	**706**	**1,472**	**2,143**
FREESTONE	MINING	$1,362.69	$1,289.76	$1,332.51	$1,343.51	$1,365.52	$1,436.56	6,836	6,471	6,685	6,740	6,851	7,207
FREESTONE	MUNICIPAL	$0.08	$0.18	$2.07	$15.22	$25.54	$42.08	1	3	29	216	362	596
FREESTONE	STEAM ELECTRIC POWER	$483.46	$541.70	$589.21	$630.66	$660.81	$684.82	-	-	-	-	-	-
FREESTONE Total		**$1,846.22**	**$1,831.64**	**$1,923.79**	**$1,989.39**	**$2,051.87**	**$2,163.46**	**6,838**	**6,473**	**6,714**	**6,956**	**7,212**	**7,803**
GRAYSON	MANUFACTURING	-	-	-	-	-	$189.41	-	-	-	-	-	1,480
GRAYSON	MINING	$79.48	-	-	-	-	-	398	-	-	-	-	-
GRAYSON	MUNICIPAL	$5.14	$17.05	$23.10	$47.49	$127.23	$370.83	73	241	327	672	1,801	5,249
GRAYSON Total		**$84.62**	**$17.05**	**$23.10**	**$47.49**	**$127.23**	**$560.24**	**470**	**241**	**327**	**672**	**1,801**	**6,729**
HENDERSON	LIVESTOCK	$6.62	$6.62	$6.62	$6.62	$6.62	$6.62	263	263	263	263	263	263
HENDERSON	MANUFACTURING	-	-	-	-	$39.21	$111.23	-	-	-	-	361	1,023
HENDERSON	MINING	-	$0.79	-	$0.46	$1.55	$1.59	-	4	-	2	8	8
HENDERSON	MUNICIPAL	$2.29	$4.01	$6.15	$11.13	$44.01	$113.15	32	57	87	158	623	1,602
HENDERSON	STEAM ELECTRIC POWER	-	$5.72	$10.36	$14.43	$17.36	$19.79	-	-	-	-	-	-
HENDERSON Total		**$8.90**	**$17.13**	**$23.12**	**$32.64**	**$108.75**	**$252.39**	**295**	**324**	**350**	**423**	**1,254**	**2,896**
JACK	MINING	-	$83.86	$176.91	$293.01	$406.92	$541.14	-	420	885	1,466	2,036	2,708
JACK	MUNICIPAL	$0.01	$0.06	$0.10	$0.11	$0.15	$0.19	0	1	1	2	2	3
JACK	STEAM ELECTRIC POWER	-	$32.65	$59.38	$82.53	$99.46	$112.90	-	-	-	-	-	-
JACK Total		**$0.01**	**$116.58**	**$236.38**	**$375.64**	**$506.53**	**$654.22**	**0**	**421**	**887**	**1,468**	**2,038**	**2,711**
KAUFMAN	MANUFACTURING	-	$0.23	$2.15	$6.53	$12.63	$18.41	-	2	19	58	111	162
KAUFMAN	MINING	-	-	-	-	$4.32	$30.61	-	-	-	-	29	206
KAUFMAN	MUNICIPAL	$7.33	$32.96	$116.12	$185.35	$287.07	$420.54	104	467	1,645	2,627	4,069	5,962
KAUFMAN	STEAM ELECTRIC POWER	$0.50	$12.43	$17.58	$23.44	$29.08	$33.30	-	-	-	-	-	-
KAUFMAN Total		**$7.83**	**$45.63**	**$135.85**	**$215.32**	**$333.09**	**$502.86**	**104**	**469**	**1,664**	**2,684**	**4,210**	**6,329**
NAVARRO	MANUFACTURING	-	-	-	$5.76	$39.39	$115.90	-	-	-	49	332	976
NAVARRO	MINING	$8.90	$13.16	$17.95	$60.97	$90.29	$119.67	64	94	128	436	646	856
NAVARRO	MUNICIPAL	$0.02	$0.02	$0.02	$1.32	$9.92	$32.49	0	0	0	19	140	460

County	Water Use Category	Income losses (Million $)* 2020	2030	2040	2050	2060	2070	Job losses 2020	2030	2040	2050	2060	2070
NAVARRO Total		**$8.92**	**$13.18**	**$17.97**	**$68.06**	**$139.60**	**$268.06**	**64**	**95**	**129**	**503**	**1,118**	**2,292**
PARKER	MINING	$11.64	$103.04	$99.73	$109.45	$117.05	$154.92	85	749	725	796	851	1,126
PARKER	MUNICIPAL	$13.98	$130.12	$235.77	$367.62	$622.67	$859.93	207	1,852	3,347	5,213	8,824	12,183
PARKER Total		**$25.62**	**$233.16**	**$335.50**	**$477.07**	**$739.72**	**$1,014.85**	**292**	**2,601**	**4,072**	**6,009**	**9,675**	**13,309**
ROCKWALL	MANUFACTURING	-	$2.43	$7.54	$15.39	$22.14	$28.74	-	24	74	151	217	282
ROCKWALL	MUNICIPAL	$0.00	$18.93	$67.08	$131.76	$226.27	$295.22	0	268	950	1,865	3,204	4,181
ROCKWALL Total		**$0.00**	**$21.37**	**$74.63**	**$147.15**	**$248.41**	**$323.96**	**0**	**292**	**1,024**	**2,017**	**3,421**	**4,463**
TARRANT	LIVESTOCK	$1.69	$1.69	$1.69	$1.69	$1.69	$1.69	87	87	87	87	87	87
TARRANT	MANUFACTURING	-	$781.83	$3,180.11	$6,521.73	$9,684.68	$12,093.61	-	4,786	19,466	39,921	59,282	74,028
TARRANT	MUNICIPAL	$13.49	$1,221.12	$2,673.08	$3,776.05	$4,807.77	$5,824.24	191	17,288	37,850	53,480	68,106	82,512
TARRANT	STEAM ELECTRIC POWER	-	$130.48	$194.21	$204.22	$211.58	$217.44	-	-	-	-	-	-
TARRANT Total		**$15.18**	**$2,135.12**	**$6,049.09**	**$10,503.69**	**$14,705.71**	**$18,136.98**	**278**	**22,162**	**57,403**	**93,488**	**127,476**	**156,627**
WISE	IRRIGATION	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	6	6	6	6	6	6
WISE	MANUFACTURING	$341.31	$518.02	$528.03	$543.04	$550.55	$555.56	3,405	5,167	5,267	5,417	5,492	5,542
WISE	MINING	$574.97	$668.89	$800.76	$984.14	$1,141.20	$1,400.47	4,073	4,738	5,672	6,971	8,084	9,920
WISE	MUNICIPAL	$7.70	$58.51	$112.64	$192.56	$279.52	$371.60	109	828	1,595	2,726	3,957	5,260
WISE	STEAM ELECTRIC POWER	-	$25.01	$45.52	$63.31	$76.31	$86.60	-	-	-	-	-	-
WISE Total		**$924.07**	**$1,270.53**	**$1,487.05**	**$1,783.16**	**$2,047.68**	**$2,414.33**	**7,592**	**10,739**	**12,539**	**15,120**	**17,538**	**20,728**
REGION C Total		**$3,505.24**	**$8,360.53**	**$16,790.55**	**$27,127.40**	**$37,498.65**	**$48,071.48**	**20,437**	**73,315**	**158,102**	**260,573**	**366,762**	**472,979**

Appendix M

Summary of Drought Responses

Table M.1
Summary of Existing DCPs for Region C

DWU and DWU Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	**Plan Date**	**Entity Type**	**Wholesale Water Provider(s)**	**Source(s)**	**No. of Stages**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**
Dallas (DWU)	Apr-19	WUG		Lake Ray Roberts, Lewisville Lake, Grapevine Lake, Elm Fork Channel of the Trinity River, Lake Ray Hubbard, Lake Tawakoni, Lake Fork, Lake Palestine (unconnected), White Rock Lake, Return Flows into Lakes Lewisville, Ray Roberts and Ray Hubbard	3	• Either: (1) the total raw water supply in connected lakes (east and west); or, (2) the western lakes; or, (3) the eastern lakes have dropped below 65% (35% depleted) of DWU's share of the total conservation storage of the lakes; or • Water demand has reached or exceeded 85% of delivery capacity for 4 consecutive days; or • Water demand approaches a reduced delivery capacity for all or part of the system, as determined by DWU; or • Water line breaks or pump or system failures, which impact the ability of DWU to provide treated water service; or • Natural or man-made contamination of the water supply source(s) occurs	5%	• Either: (1) the total raw water supply in connected lakes (east and west); or, (2) the western lakes; or, (3) the eastern lakes have dropped below 50% (50% depleted) of DWU's share of the total conservation storage of the lakes; or • Water demand has reached or exceeded 90% of delivery capacity for 3 consecutive days; or • Water demand equals a reduced delivery capacity for all or part of the system, as determined by DWU; or • Water line breaks or pump or system failures occur, which impact the ability of DWU to provide treated water service; or • Natural or man-made contamination of the water supply source(s) occurs.	15%	• Either (1) the total raw water supply in connected lakes (east and west) or (2) the western lakes or (3) the eastern lakes have dropped below 35% (65% depleted) of DWU's share of the total conservation storage; or • Water demand has reached or exceeded 95% of delivery capacity for 2 consecutive days; or • Water demand exceeds a reduced delivery capacity for all or part of the system, as determined by DWU; or • Water line breaks or pump or system failures occur, which impact the ability of DWU to provide treated water service; or • Natural or man-made contamination of the water supply source(s) occurs	20%				
Coppell	May-19	WUG	DWU	DWU sources	5	Stage 1 of the Plan shall remain in effect year-round.	Voluntary Reduction	Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section IX of this Plan when one or more of the following conditions occurs: 1. Notification is received from DWU requiring implementation of like procedures by wholesale customers. 2. Water demands exceed ninety percent (90%) of the current maximum flow rate contracted with DWU for five (5) consecutive days. 3. Ground Storage Reservoir levels do not recover for two (2) consecutive days.	2%	Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section IX of this Plan when one or more of the following conditions occurs: 1. Notification is received from DWU requiring water demand reductions in accordance with contract obligations for wholesale customers. 2. Water demands exceed ninety-five percent (95%) of the current maximum flow rate contracted with DWU for five (5) consecutive days. 4. Short-term deficiencies in the City's distribution system,	5%	Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section IX of this Plan when one or more of the following conditions occurs: 1. Notification is received from DWU requiring water demand reductions in accordance with contract obligations for wholesale customers. 2. Water demands exceed one hundred percent (100%) of the current maximum flow rate contracted with DWU for two (2) consecutive days. 4. Short-term deficiencies in the City's distribution system,	15%	Customers shall be required to comply with the requirements and restrictions for Stage 5 of this Plan when the City Manager, or his/her designee, determines that a water supply emergency exists based on 1) Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service, or 2. Natural or man-made contamination of the water supply source(s)	20%

DWU and DWU Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	**Plan Date**	**Entity Type**	**Wholesale Water Provider(s)**	**Source(s)**	**No. of Stages**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**
								4. Short-term deficiencies in the City's distribution system limit supply capabilities.		such as system outage due to the failure or damage of major water system components, limit supply capabilities. 4. Ground Storage Reservoir levels do not recover for three (3) consecutive days.		such as system outage due to the failure or damage of major water system components, limit supply capabilities. 4. Ground Storage Reservoir levels do not recover for four (4) consecutive days.			
Denton Denton, continued	Apr-19	WUG	DWU	Lake Ray Roberts, Lake Lewisville	3	Type A Water Management Condition Total raw water supply in (1) Denton and Dallas connected lakes (east and west); or (2) western connected lakes; or (3) eastern connected lakes drops below 65% of the total conservation storage of the lakes Type B Water Management Condition Water demand reaches or exceeds 85% of delivery capacity for 4 consecutive days Type C Water Management Condition • Water demand approaches a reduced delivery capacity for all or part of the system, as determined by DWU • A major water line breaks, or a pump or system failure occurs, which cause unprecedented loss of capability to provide treated water service • Natural or man-made contamination of the water supply	5%	Type A Water Management Condition Total raw water supply in (1) Denton and Dallas connected lakes (east and west); or (2) western connected lakes; or (3) eastern connected lakes drops below 50% of the total conservation storage Type B Water Management Condition Water demand reaches or exceeds 90% of delivery capacity for 3 consecutive days Type C Water Management Condition • Water demand equals a reduced delivery capacity for all or part of the system, as determined by DWU • A major water line breaks, or a pump or system failure occurs, which cause unprecedented loss of capability to provide treated water service • Natural or man-made contamination of the water supply	15%	Type A Water Management Condition Total raw water supply in (1) Denton and Dallas connected lakes (east and west); or (2) western connected lakes; or (3) eastern connected lakes drops below 35% of the total conservation storage Type B Water Management Condition Water demand reaches or exceeds 95% of delivery capacity for 2 consecutive days Type C Water Management Condition • Water demand exceeds a reduced delivery capacity for all or part of the system, as determined by DWU • A major water line breaks, or a pump or system failure occurs, which cause unprecedented loss of capability to provide treated water service • Natural or man-made contamination of the water supply	20%				

DWU and DWU Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Duncanville	May-19	WUG	DWU	DWU sources	5	If one or more occurs: 1. Supply and Storage: a. Dallas Water utilities initiates action and requests customer cities to do likewise b. Combined required ground and elevated storage falls below 75 percent of capacity for a five-day period. 2. Distribution - Continued potable water storage depletion due to water demand or water pipeline breaks, pump or system failures which hinder system ability to continue to supply water at the demand encountered to all or part of the system. 3. Other - Natural or manmade contamination of water supply occurs.	1%	One of more may apply: 1. Supply and storage - a. Dallas Water Utilities initiates action and requests customer cities to do likewise during high demand months. b. Combined ground and elevated storage falls below 60 percent of capacity at the beginning of a 24-hour period. 2. Distribution - Stage 1 voluntary restrictions fail to alleviate continued potable water storage depletion 3. Other - a. Situations that limit distribution of water, as determined by the Public Works Director, or designee, such as: (i) Short or long-term equipment failure or failure to maintain 20 psi at up to 200 locations or up to ten fire hydrants in a localized area. (ii) Short-term deficiencies exist within an entire pressure district (iii) Power failure or restrictions (iv) Natural or manmade contamination of water supply occurs.	5%	One or more may apply: 1. Supply and storage: a. Dallas Water utilities supply cut by five percent on a continuous basis during high demand month. b. Combined ground and elevated storage fall below 50 percent of capacity at the beginning of a 24-hour period. 2. Distribution - Failure of Stage 2 restrictions to reduce usage below supply capability 3. Other - Situation that limit distribution of water, as determined by the Public Works Director, or designee, as such: a. Long-term deficiencies in water supply within an entire pressure district. b. Failure to maintain 20 psi at more than 300 service locations or more than 15 fire hydrants in a localized area. c. Any unanticipated situations that limit distribution of water, as determined by the Public Works director, or Designee. d. Power failure or restrictions. e. Natural or manmade contamination of water supply occurs.	15%	If one or more occurs: 1. Supply and storage: a. Dallas Water Utilities supply cut by ten percent on a continuous basis during high demand months. b. Combined ground and elevated storage falls below 40 percent of total capacity 2. Distribution - Failure of Stage 3 restrictions to reduce usage below supply capacity. 3. Other: a. Any unanticipated situations that limit distribution of water, as determined by the designated official. b. Power failure or restrictions. c. Natural or manmade contaminations of water supply occurs.	25%	If one or more occurs: 1. Supply and storage: a. Dallas Water utilities water supply cut by greater than 15 percent on a continuous basis b. Combined ground and elevated storage fall below 20 percent of total capacity. 2. Distribution - Failure of Stage 4 restrictions to reduce usage below supply capability. 3. Other a. Any unanticipated situations that severely limit distribution of water, as determined by the Public Works Director. b. Notification of mandatory restrictions from the City of Dallas Water Utilities. c. Power failure or restrictions. d. Natural or manmade contamination of water supply occurs.	30%
Irving	Apr-19	WUG	DWU	DWU sources, Jim Chapman Lake	3	• Condition 1: Pursuant to the requirements specified in the wholesale treated water purchase contract, notification is received from DWU requesting initiation of the Stage 1 restrictions • Condition 2: Water use exceeds eighty-five percent (85%) of the combined current maximum wholesale flow rate contracted from DWU and Irving Lake Chapman water supply for four (4) consecutive days • Condition 3: Irving's combined water storage	3%	• Condition 1: Pursuant to the requirements specified in the wholesale treated water purchase contract, notification is received from DWU requesting initiation of the Stage 2 restrictions • Condition 2: Water use exceeds 100 percent (100%) of the combined current maximum wholesale flow rate contracted from DWU and Irving Lake Chapman water supply for five (5) consecutive days • Condition 3: Irving's combined water storage	8%	• Condition 1: Pursuant to the requirements specified in the wholesale treated water purchase contract, notification is received from DWU requesting initiation of the Stage 3 restrictions • Condition 2: Irving's combined water storage account in Jim Chapman Lake and Lewisville Lake is less than 20 percent (20%) of Irving's total storage account capacity in Jim Chapman Lake • Condition 3: Short-term deficiencies in the city's	20%				

DWU and DWU Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						account in Jim Chapman Lake and Lewisville Lake is less than sixty-five percent (65%) of Irving's total storage account capacity in Jim Chapman Lake • Condition 4: Short-term deficiencies in the city's distribution system limit supply capabilities • Condition 5: Supply source becomes contaminated • Condition 6: As determined by Director due to drought or reduced water supply		account in Jim Chapman Lake and Lewisville Lake is less than 45 percent (45%) of Irving's total storage account capacity in Jim Chapman Lake • Condition 4: Short-term deficiencies in the city's distribution system limit supply capabilities, such as system outage due to the failure or damage of major water system components • Condition 5: Inability to maintain or replenish adequate volumes of water in storage to provide for public health and safety • Condition 6: Supply source becomes contaminated • Condition 7: As determined by Director due to drought or reduced water supply		distribution system limit supply capabilities, such as system outage due to the failure or damage of major water system components • Condition 4: Inability to maintain or replenish adequate volumes of water in storage to provide for public health and safety • Condition 5: Supply source becomes contaminated • Condition 6: As determined by Director due to drought or reduced water supply					

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
North Texas Municipal Water District (NTMWD)	Feb-19	WWP		Lake Lavon, Jim Chapman Lake, Lake Texoma, SRA Upper Sabine Basin (Lake Tawakoni, Lake Fork), Lake Bonham, East Fork Raw Water Supply Project (wetland) Wilson Creek Reuse, Direct Reuse for Irrigation (Collin, Kaufman, Rockwall Counties), Main Stem Pump Station (reuse)	3	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. • Water demand is projected to approach the limit of the permitted supply. • The storage level in Lavon Lake, as published by the Texas Water Development Board (TWDB)3, is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next 6 months. • Water demand exceeds 95 percent of the amount that can be delivered to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.	2%	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. • Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake, as published by the TWDB3, is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months. • Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.	10%	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. • Water demand is projected to approach or exceed the limit of the permitted supply. • The storage level in Lavon Lake, as published by the TWDB3, is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. • The supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. • Water demand exceeds the amount that can be delivered to Customers. • Water demand for all or part of the delivery system exceeds delivery capacity, because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.	30%
Allen	May-19	WUG	NTMWD	NTMWD sources	3	•Water demand is projected to approach the limit of the permitted supply. •The storage level, as published by the Texas Water Development Board, in Lavon Lake is less than 70 percent of the conservation pool capacity during the months of November through March. •The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 1 drought. •NTMD has concern that Texamo, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD source may be limited in availability within the next six (6) months. •Water demand exceeds 95 percent of the amount that can be delivered to customers for three (3) consecutive days. •Water demands for all or part of the delivery capacity is inadequate. •Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other causes. •Part of the system has a shortage in supply or damage to	2%	•Water demand is projected to approach the limit of NTMWD permitted supply. •The storage level, as published by the Texas Water Development Board, in Lavon Lake is less than 55 percent of the total conservation pool capacity during the months of November through March. •The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2. •NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be delivered to customers for three (3) months. •Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. •Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. •Water supply is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.	10%	•Water demand is projected to approach or exceed the limit of NTMWD permitted supply. •The storage level, as published by the Texas Water Development Board, in Lavon Lake is less than 30 percent of the total conservation pool capacity during the months of April through October or less than 20 percent of the total conservation pool capacity during the months of November through March. •The Sabine River Authority (SRA) has indicted that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 3 drought. •The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD source has become limited in availability. •Water demand exceeds the amount that can be delivered to customers. •Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. •Water supply system is unable to deliver water due to the failure or damage of major water system components. •Part of the system has a shortage in supply or damage to	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Allen, continued						the equipment. The district may implement measure for only that portion of the system is unable to deliver water to the failure or damage of major water system components. •The city's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. •The City's water demand for all or part of the delivery capacity is inadequate. •The City's water supply system is unable to deliver water due to the failure or damage of major water system components. •The City is unable to recover water storage of 90 percent in all storage facilities within a twenty-four hour period.		•water supply system is unable to deliver water due to the failure or damage of major water system components. •Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. •The City's water demand exceeds 98 percent of the amount that can be delivered to customers for three (3) consecutive days. •The City's water demand for all or part of the delivery system exceeds delivery capacity because delivery is inadequate. •The City's water supply source becomes contaminated. •The City's water supply is unable to deliver water due to the failure or damage of major water system components. •The City is unable to recover water storage of 75 percent in all storage facilities within a twenty-four hour period.		equipment. NTMWD may implement measures for only that portion of the system impacted. •The City's water demand exceeds the amount that can be delivered to customers. •The City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. •The City's water supply source becomes contaminated. •The City's water supply is unable to deliver water due to the failure or damage of major water system components. •The City is unable to recover water storage of 50 percent in all storage facilities within a twenty-four hour period.	
Cash SUD	Apr-19	WUG	NTMWD	NTMWD sources	3	o The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. o Water demand is projected to approach the limit of the permitted supply. o The storage level, as published by the Texas Water Development Board3, in Lavon Lake is less than 70 percent of the total conservation pool capacity during the months of April through October or less than 60 percent of the total conservation pool capacity during the months of November through March. o The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Mild drought. o NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Reuse Project, Main Stem Pump Station, or some other NTMWD source may be limited in availability within the next 6 months. o Water demand exceeds 95 percent of the amount that can	2%	o The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. o Water demand is projected to approach the limit of the permitted supply. o The storage level, as published by the Texas Water Development Board3, in Lavon Lake is less than 55 percent of the total conservation pool capacity during the months of April through October or less than 45 percent of the total conservation pool capacity during the months of November through March. o The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Moderate drought. o NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Reuse Project, Main Stem Pump Station, or some other NTMWD source may be limited in availability within the next 3 months. o Water demand exceeds 98 percent of the amount that can	10%	o The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. o Water demand is projected to approach or exceed the limit of the permitted supply. o The storage level, as published by the Texas Water Development Board3, in Lavon Lake is less than 30 percent of the total conservation pool capacity during the months of April through October or less than 20 percent of the total conservation pool capacity during the months of November through March. o The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Severe drought. (Measures required by SRA under a Severe drought designation are similar to those under NTMWD's Stage 3.) o The supply from Lake Texoma, Jim Chapman Lake, the East Fork Reuse Project, Main Stem Pump Station, or some other NTMWD source has become limited in availability.	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						be delivered to Customers for three consecutive days. o Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. o Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. o Water supply system is unable to deliver water due to the failure or damage of major water system components. o Part of the system has a shortage in supply or damage to equipment. The District may implement measures for only that portion of the system impacted. • Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. • Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components. • Supplier's individual plan may be implemented if other criteria dictate.		be delivered to Customers for three consecutive days. o Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. o Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. o Water supply system is unable to deliver water due to the failure or damage of major water system components. o Part of the system has a shortage in supply or damage to equipment. The District may implement measures for only that portion of the system impacted. • Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. • Supplier's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supply source is interrupted or unavailable due to invasive species. • Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components. • Supplier's individual plan may be implemented if other criteria dictate.		o Water demand exceeds the amount that can be delivered to Customers. o Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. o Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. o Water supply system is unable to deliver water due to the failure or damage of major water system components. o Part of the system has a shortage in supply or damage to equipment. The District may implement measures for only that portion of the system impacted. • Supplier's water demand exceeds the amount that can be delivered to customers. • Supplier's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate. • Supply source becomes contaminated. • Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components. • Supplier's individual plan may be implemented if other criteria dictate.	
Copeville SUD	Apr-19	WUG	NTMWD	NTMWD Sources	3	•The Executive Director, with the concurrence of the NTMWD Board of directors, finds that conditions warrant the declaration of Stage 1. •Water demand is projected to approach the limit of NTMWD's permitted supply. •The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB), is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. •The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. •NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months. •Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. •Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. •Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.	2%	•The Executive Director, with the concurrence of the NTMWD Board of directors, finds that conditions warrant the declaration of Stage 2. •Water demand is projected to approach the limit of NTMWD's permitted supply. •The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB), is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. •The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. •NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months. •Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. •Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. •Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause.	10%	•The Executive Director, with the concurrence of the NTMWD Board of directors, finds that conditions warrant the declaration of Stage 3. •Water demand is projected to approach the limit of NTMWD's permitted supply. •The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB), is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. •The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. •The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. •Water demand exceeds the amount that can be delivered to Customers. •Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. •Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. •Water supply system is unable to deliver water due to the failure or damage of major water system components.	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						•Water supply system is unable to deliver water due to the failure or damage of major water system components. •Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. •Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. •Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. •Supply source becomes contaminated. •Supplier's water system is unable to deliver water due to the failure or damage of major water system components. •Supplier's individual plan may be implemented if other criteria dictate.		•Water supply system is unable to deliver water due to the failure or damage of major water system components. •Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. •Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. •Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. •Supply source becomes contaminated. •Supplier's water system is unable to deliver water due to the failure or damage of major water system components. •Supplier's individual plan may be implemented if other criteria dictate.		•Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. •Supplier's water demand exceeds the amount that can be delivered to customers. •Supplier's water demand for all or part of the delivery system seriously exceeds delivery capacity because delivery capacity is inadequate. •Supply source becomes contaminated. •Supplier's water system is unable to deliver water due to the failure or damage of major water system components. •Supplier's individual plan may be implemented if other criteria dictate.	
Frisco	Apr-19	WUG	NTMWD	NTMWD sources	3	1. The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. 2. Water demand is projected to approach the limit of NTMWD's permitted supply. 3. The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. 4. The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 1 drought. 5. NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months 6. Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. 7. Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. 9. Water supply system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.	2%	1. The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. 2. Water demand is projected to approach the limit of NTMWD's permitted supply. 3. The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. 4. The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 2 drought. 5. NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months 6. Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. 7. Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. 8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. 9. Water supply system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.	10%	1. The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. 2. Water demand is projected to approach the limit of NTMWD's permitted supply. 3. The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. 4. The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 3 drought. 5. NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source have become limited in availability 6. Water demand exceeds the amount that can be delivered by NTMWD member cities and customers. 7. Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. 9. NTMWD water supply system is unable to deliver water due to the failure or damage of major water system components 10. Part of the NTMWD system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Frisco, continued											
Garland	Jun-19	WUG	NTMWD	NTMWD sources	3	(i) The City's wholesale water provider, NTMWD, notifies the Director of delivery or source shortages, requests initiation of Stage 1 of the plan, an the Director concurs (ii) Total daily water demand exceeds 95 percent of the amount that can be delivered to Customers for three consecutive days (iii) Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate (iv) Supply source becomes contaminated (v) water system is unable to deliver water due to the failure or damage of major water system components (vi) The water system experiences continually falling treated water storage levels that do not refill above 65% overnight.	2%	(i) The City's wholesale water provider, NTMWD, notifies the Director of delivery or source shortages, requests initiation of Stage 2 of the plan, an the Director concurs (ii) Total daily water demand exceeds 98 percent of the amount that can be delivered to Customers for three consecutive days (iii) Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate (iv) Supply source becomes contaminated (v) water system is unable to deliver water due to the failure or damage of major water system components, or (vi) The water system experiences continually falling treated water storage levels that do not refill above 50 percent overnight.	10%	(i) The City's wholesale water provider, NTMWD, notifies the Director of delivery or source shortages, requests initiation of Stage 2 of the plan, an the Director concurs (ii) Total daily water demand exceeds the amount that can be delivered to Customers (iii) Water demand for all or part of the delivery system seriously exceeds delivery capacity because delivery capacity is inadequate (iv) Supply source becomes contaminated (v) Water supply system is unable to deliver water due to the failure or damage of major water system components, or (vi) The water system experiences continually falling treated water storage levels that do not refill above 20 percent overnight.	
Little Elm	Apr-19	WUG	NTMWD	NTMWD sources	3	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. • Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB),3 is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months. • Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. • Town of Little Elm water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.	2%	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. • Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake, as published by the TWDB,3 is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months. • Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. • Town of Little Elm water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. • Town of Little Elm water demand for all or part of the delivery system exceeds delivery capacity because delivery	10%	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. • Water demand is projected to approach or exceed the limit of the permitted supply. • The storage level in Lavon Lake, as published by the TWDB,3 is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. • The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source has become limited in availability. • Water demand exceeds the amount that can be delivered to Customers. • Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. • Town of Little Elm water demand exceeds the amount that can be delivered to customers. • Town of Little Elm water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate. • Supply source becomes contaminated.	Obtained from NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Little Elm, continued						• Town of Little Elm water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Town of Little Elm water system is unable to deliver water due to the failure or damage of major water system components. • Town of Little Elm individual plan may be implemented if other criteria dictate.		capacity is inadequate. • Supply source becomes contaminated. • Supply source is interrupted or unavailable due to invasive species. • Town of Little Elm water supply system is unable to deliver water due to the failure or damage of major water system components. • Town of Little Elm individual plan may be implemented if other criteria dictate.		• Town of Little Elm water supply system is unable to deliver water due to the failure or damage of major water system components. • Town of Little Elm individual plan may be implemented if other criteria dictate.	
McKinney	Jan-19	WUG	NTMWD	NTMWD sources	3	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. • Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB), is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem	2%	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. • Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake, as published by the TWDB, is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem	10%	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. • Water demand is projected to approach or exceed the limit of the permitted supply. • The storage level in Lavon Lake, as published by the TWDB, is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. • The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source has become limited in	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months. • Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.		Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months. • Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.		availability. • Water demand exceeds the amount that can be delivered to Customers. • Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted.	
Melissa	Apr-19	WUG	GTUA (NTMWD)	NTMWD sources, Woodbine Aquifer	3	1. The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. 2. Water demand is projected to approach the limit of NTMWD's permitted supply. 3. The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. 4. The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 1 drought. 5. NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months 6. Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. 7. Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. 9. Water supply system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. Supplier has initiated stage 1 due to one or more of the following reasons: a. Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three days. b. Supplier's water demand for all or part of the delivery	2%	1. The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. 2. Water demand is projected to approach the limit of NTMWD's permitted supply. 3. The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. 4. The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 2 drought. 5. NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months 6. Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. 7. Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. 8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. 9. Water supply system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. Supplier has initiated stage 2 due to one or more of the following reasons: a. Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three days. b. Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is	10%	1. The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. 2. Water demand is projected to approach or exceed the limit of NTMWD's permitted supply. 3. The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. 4. The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 3 drought. 5. NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. 6. Water demand exceeds the amount that can be delivered to Customers. 7. Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. 9. Water supply system is unable to deliver water due to the failure or damage of major water system components. Supplier has initiated stage 3 due to one or more of the following reasons: a. Supplier's water demand exceeds the amount that can be delivered to customers. b. Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. c. Supply source becomes contaminated.	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Melissa, continued						system equals delivery capacity because delivery capacity is inadequate. c. Supply source becomes contaminated. d. Supplier's water system is unable to delivery water due to the failure or damage of major water system components. e. Supplier's individual plan may be implemented if other criteria dictate.		inadequate. c. Supply source becomes contaminated. d. Supplier's water system is unable to delivery water due to the failure or damage of major water system components. e. Supplier's individual plan may be implemented if other criteria dictate.		d. Supplier's water system is unable to delivery water due to the failure or damage of major water system components. e. Supplier's individual plan may be implemented if other criteria dictate.	
Mesquite	May-19	WUG	NTMWD	NTMWD Sources	3	• Water demand is projected to approach the limit of the permitted supply • The storage level, as published by the Texas Water Development Board, in Lavon Lake is less than 70 percent of the total conservation pool capacity during the months of April through October or less than 60 percent of the total conservation pool capacity during the months of November through March. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD source may be limited in availability within the next six (6) months. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 1 • Water demand exceeds 95 percent of the amount that can be delivered to customers for (3) three consecutive days. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other causes. • Part of the system has a shortage in supply or damage to the equipment. The District may implement measure for only that portion of the system impacted. • Water supply system is unable to deliver water due to the failure or damage of major water system components • The City's water demand exceeds 90 percent of the amount that can be delivered to customers for three consecutive days • The City's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate • The City's water supply source becomes contaminated • The City's water supply system is unable to deliver water due to the failure or damage of major water system components • The City's water system experiences overhead water storage levels incapable of filling above 80 percent for three consecutive days	2%	• Water demand is projected to approach the limit of the permitted supply • The water storage in Lavon Lake is less than 55 percent of the total conservation pool capacity during the months of April through October or less than 45 percent of the total conservation pool capacity during the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station or some other NTMWD source may be limited in availability within the next three (3) months • Water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days • Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause • Water supply system is unable to deliver water due to the failure or damage of major water system components • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. • The City's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days • The City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate • The City's water supply source becomes contaminated • The City's water supply system is unable to deliver water due to the failure or damage of major water system components • The City's water system experiences overhead water storage levels that do no refill above 65 percent for three consecutive days	10%	• Water demand is projected to approach or exceed the limit of the permitted supply • The storage level, as published by the Texas Water Development Board, in Lavon Lake is less than 30 percent of the total conservation pool capacity during the months of April through October or less than 20 percent of the total conservation pool capacity during the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 3. • The supply from Lake Texoma, Jim Chapman Lake, the East Fork Raw Water Reuse Project, the Main Stem Pump Station,, or some other NTMWD source has become limited in availability • Water demand exceeds the amount that can be delivered to customers • Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components • Part of the system has a shortage in supply or damage to equipment. The District may implement measures for only that portion of the system impacted. • The City's water demand exceeds the amount that can be delivered to customers • The City's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate • The City's water supply source becomes contaminated • The City's water supply system is unable to deliver water due to the failure or damage of major water system components • The City's water system experiences water storage levels incapable of filling above 40 percent for three consecutive days	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Murphy Murphy, continued	Apr-19	WUG	NTMWD	NTMWD sources	3	1) The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1 2) Water demand is projected to approach the limit of NTMWD's permitted supply 3) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March 4) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. 5) NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months 6) Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to customers for three (3) consecutive days 7) Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 9) Water supply system is unable to deliver water due to the failure or damage of major water system components 10) Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted Supplier has initiated Stage 1 due to one or more of the following reasons: 1) Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. 2) Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. 3) Supply source becomes contaminated. 4) Supplier's water system is unable to deliver water due to the failure or damage of major water system components. 5) Supplier's individual plan may be implemented if other criteria dictate.	2%	1) The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2 2) Water demand is projected to approach the limit of NTMWD's permitted supply 3) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March 4) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. 5) NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months 6) Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to customers for three(3) consecutive days 7) Water demand for al or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 9) Water supply system is unable to deliver water due to the failure or damage of major water system components 10) Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted Supplier has initiated Stage 2 due to one or more of the following reasons: 1) Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. 2) Supplier's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 3) Supply source becomes contaminated. 4) Supplier's water system is unable to deliver water due to the failure or damage of major water system components. 5) Supplier's individual plan may be implemented if other criteria dictate.	10%	1) The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3 2) Water demand is projected to approach or exceed the limit of NTMWD's permitted supply 3) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March 4) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. 5) The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. 6) Water demand exceeds the amount that can be delivered by NTMWD to customers for three(3) consecutive days 7) Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 8) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 9) Water supply system is unable to deliver water due to the failure or damage of major water system components 10) Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted Supplier has initiated Stage 3 due to one or more of the following reasons: 1) Supplier's water demand exceeds the amount that can be delivered to customers for three consecutive days. 2) Supplier's water demand for all or part of the delivery system seriously exceeds delivery capacity because delivery capacity is inadequate. 3) Supply source becomes contaminated. 4) Supplier's water system is unable to deliver water due to the failure or damage of major water system components. 5) Supplier's individual plan may be implemented if other criteria dictate.	Designated by NTMWD
Plano	Apr-19	WUG	NTMWD	NTMWD sources	3	(1) The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. (2) Plano's water demand exceeds ninety-five (95) percent of the amount that can be delivered to customers for three consecutive days.	5%	(1) The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. (2) Plano's water demand exceeds ninety-eight (98) percent of the amount that can be delivered to customers for three (3) consecutive days.	10%	(1) The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. (2) Plano's water demand exceeds the amount that can be delivered to customers. (3) Plano’s water demand for all or part of the water delivery	Designated by NTMWD

NTMWD and NTMWD Customers DCP

Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Stage 1 Trigger	Stage 1 Savings Goal	Stage 2 Trigger	Stage 2 Savings Goal	Stage 3 Trigger	Stage 3 Savings Goal
						(3) Plano's water demand for all or part of the water delivery system equals delivery capacity because delivery capacity is inadequate. (4) Plano's supply source becomes contaminated. (5) Plano's water supply system is unable to deliver water due to the failure or damage of major water system components. (6) Other criteria as determined by the City.		(3) Plano’s water demand for all or part of the water delivery system exceeds delivery capacity because delivery capacity is inadequate. (4) Plano’s supply source becomes contaminated. (5) Plano’s water supply system is unable to deliver water due to the failure or damage of major water system components. (6) Other criteria as determined by the City Manager.		system seriously exceeds delivery capacity because the delivery capacity is inadequate. (4) Plano's supply source becomes contaminated. (5) Plano's water supply system is unable to deliver water due to the failure or damage of major water system components. (6) Plano is unable to recover water storage of one hundred (100) percent in all storage facilities within a twenty-four (24) hour period. (7) Plano's individual Plan may be implemented if other criteria dictate.	
Prosper Prosper, continued	Apr-19	WUG	NTMWD	NTMWD sources	3	1) The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1 2) Water demand is projected to approach the limit of NTMWD's permitted supply 3) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March 4) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. 5) NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months 6) Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to customers for three(3) consecutive days 7) Water demand for al or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 9) Water supply system is unable to deliver water due to the failure or damage of major water system components 10) Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted Supplier has initiated Stage 1 due to one or more of the following reasons: 1) Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. 2) Supplier's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. 3) Supply source becomes contaminated. 4) Supplier's water system is unable to deliver water due to	2%	1) The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2 2) Water demand is projected to approach the limit of NTMWD's permitted supply 3) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March 4) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. 5) NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months 6) Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to customers for three(3) consecutive days 7) Water demand for al or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 8) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 9) Water supply system is unable to deliver water due to the failure or damage of major water system components 10) Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted Supplier has initiated Stage 2 due to one or more of the following reasons: 1) Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. 2) Supplier's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 3) Supply source becomes contaminated. 4) Supplier's water system is unable to deliver water due to		1) The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3 2) Water demand is projected to approach or exceed the limit of NTMWD's permitted supply 3) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March 4) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. 5) The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. 6) Water demand exceeds the amount that can be delivered by NTMWD to customers for three(3) consecutive days 7) Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 8) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 9) Water supply system is unable to deliver water due to the failure or damage of major water system components 10) Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted Supplier has initiated Stage 3 due to one or more of the following reasons: 1) Supplier's water demand exceeds the amount that can be delivered to customers for three consecutive days. 2) Supplier's water demand for all or part of the delivery system seriously exceeds delivery capacity because delivery capacity is inadequate. 3) Supply source becomes contaminated. 4) Supplier's water system is unable to deliver water due to the failure or damage of major water system components.	

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	**Plan Date**	**Entity Type**	**Wholesale Water Provider(s)**	**Source(s)**	**No. of Stages**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**
						the failure or damage of major water system components. 5) Supplier's individual plan may be implemented if other criteria dictate.		the failure or damage of major water system components. 5) Supplier's individual plan may be implemented if other criteria dictate.		5) Supplier's individual plan may be implemented if other criteria dictate.	
Richardson	May-19	WUG	NTMWD	NTMWD sources	3	1) Water demand is projected to approach the limit of NTMWD's permitted supply 2) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March 3) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. 4) NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months 5) Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to customers for three(3) consecutive days 6) Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 7) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 8) Water supply system is unable to deliver water due to the failure or damage of major water system components 9) City Manager may impose other conditions that may warrant the initiation of Stage 1	2%	1) Water demand is projected to approach or exceed the limit of NTMWD's permitted supply 2) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March 3) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. 4) NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months 5) Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to customers for three (3) consecutive days 6) Water demand for al or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 7) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 8) Water supply system is unable to deliver water due to the failure or damage of major water system components 9) City Manager may impose other conditions that may warrant the initiation of Stage 2	10%	1) Water demand is projected to approach or exceed the limit of NTMWD's permitted supply 2) The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March 3) The Sabin River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. 4) NTMWD's water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability 5) Water demand exceeds the amount that can be delivered to customers 6) Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 7) Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause 8) Water supply system is unable to deliver water due to the failure or damage of major water system components 9) City Manager may impose other conditions that may warrant the initiation of Stage 3	Designated by NTMWD

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Rockwall Rockwall, continued	May-19	WUG	NTMWD	NTMWD sources	3	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. • Water demand is projected to approach the limit of the permitted supply. • The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB),3 is less than 70 percent of the total conservation pool capacity during any months or April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD source may be limited in availability in the next six (6) months. • NTMWD water demand exceeds 95 percent of the amount that can be delivered to customers for three (3) consecutive days. • Water demand for all or part of NTMWD's delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due contamination, invasive species, equipment failure or other causes. • NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only the portion of the NTMWD system impacted. Supplier has initiated Stage 1 due to one or more of the following reasons: • Supplier's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. • Supplier's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components. • Supplier's individual plan may be implemented if other criteria dictate.	2%	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. • Water demand is projected to approach the limit of NTMWD permitted supply. • The storage in Lavon Lake, as published by the TWDB,3 is less than 55 percent of the total conservation pool during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD source may be limited in availability in the next three (3) months. • NTMWD water demand exceeds 98 percent of the amount that can be delivered to customers for three (3) consecutive days. • NTMWD water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. • NTMWD's supply source is interrupted or unavailable due contamination, invasive species, equipment failure, or other causes. • NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. Supplier has initiated Stage 2 due to one or more of the following reasons: • Supplier's water demand exceeds 98 percent of the amount that can be delivered to customers for three (3) consecutive days. • Supplier's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components. • Supplier's individual plan may be implemented if other criteria dictate.	10%	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3 • Water demand is projected to approach or exceed the limit of the permitted supply. • The storage in Lavon Lake, as published by the TWDB, 3 is less than 30 percent of the total conservation pool during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 3. • The water supplied from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. • NTMWD water demand exceeds the amount that can be delivered to Customers. • NTMWD water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • NTMWD's supply source is interrupted or unavailable due contamination, invasive species, equipment failure, or other causes. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. Supplier has initiated Stage 3 due to one or more of the following reasons: • Supplier's water demand exceeds the amount that can be delivered to customers. • Supplier's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supplier's water supply system is unable to deliver water due to the failure or damage of major water system components. • Supplier's individual plan may be implemented if other criteria dictate.	Designated by NTMWD
Rowlett	May-19	WUG	NTMWD	NTMWD sources	3	NTMWD has initiated Stage 1, which may be initiated due to one or more of the following: • The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.	2%	NTMWD has initiated Stage 2, which may be initiated due to one or more of the following: • The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.	10%	NTMWD has initiated Stage 3, which may be initiated due to one or more of the following: • The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.	Designated by NTMWD Director

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Rowlett, continued						• Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months. • Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. Rowlett can initiate Stage 1 for one or more of the following reasons: • Rowlett's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. • Rowlett's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Rowlett's water system is unable to deliver water due to the failure or damage of major water system components. • The City Manager, with the concurrence of the City Council, finds that conditions warrant the declaration of Stage 1.		• Water demand is projected to approach the limit of NTMWD's permitted supply. • The storage level in Lavon Lake, as published by the TWDB is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months. • Water demand exceeds 98 percent of the amount that can be delivered to Customers for three (3) consecutive days. • Water demand for all or part of the delivery system equals delivery capacity, because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. Rowlett can initiate Stage 2 for one or more of the following reasons: • Rowlett's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. • Rowlett's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supply source is interrupted or unavailable due to invasive species. • Rowlett's water supply system is unable to deliver water due to the failure or damage of major water system components. • The City Manager, with the concurrence of the City Council, finds that conditions warrant the declaration of Stage 2.		• Water demand is projected to approach or exceed the limit of the permitted supply. • The storage level in Lavon Lake, as published by the TWDB is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool capacity during any of the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. • The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD water source has become limited in availability. • Water demand exceeds the amount that can be delivered to Customers. • Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. Rowlett can initiate Stage 3 for one or more of the following reasons: • Rowlett's water demand exceeds the amount that can be delivered to customers. • Rowlett's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate. • Supply source becomes contaminated. • Rowlett's water supply system is unable to deliver water due to the failure or damage of major water system components. • The City Manager, with the concurrence of the City Council, finds that conditions warrant the declaration of Stage 3	
Terrell	Apr-19	WUG	NTMWD	NTMWD sources	3	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. • Water demand is projected to approach the limit of the permitted supply. • The storage level in Lavon Lake as published by the Texas Water Development Board (TWDB) is less than 70 percent of the total conservation pool capacity during any of the	2%	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. • Water demand is projected to approach or exceed the limit of the permitted supply. • The storage level in Lavon Lake, as published by the TWDB is less than 55 percent of the total conservation pool capacity during any of the months of April through October	10%	• The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. • Water demand is projected to approach or exceed the limit of the permitted supply. • The storage level in Lavon Lake, as published by the TWDB is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than	

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						months of April through October or less than 60 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station or some other NTMWD source may be limited in availability in the next six (6) months. • NTMWD water demand exceeds 95 percent of the amount that can be delivered to customers for three (3) consecutive days. • NTMWD water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. • NTMWD's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • The portion of the NTMWD system serving the City of Terrell has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. The City of Terrell has initiated Stage 1 due to one or more of the following reasons: • Terrell's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. • Terrell's water demand for all or part of the delivery system equals delivery capacity. • Supply source becomes contaminated. • Terrell's water supply system is unable to deliver water due to the failure or damage of major water system components. • Conditions are such that implementation of Stage 1 is desirable.		or less than 45 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. (Measures required by SRA under a Stage 2 drought designation are similar to those under NTMWD's Stage 2.) • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station or some other NTMWD source may be limited in availability within the next three (3) months. • NTMWD water demand exceeds 98 percent of the amount that can be delivered to customers for three (3) consecutive days. • NTMWD water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • NTMWD's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • The portion of the NTMWD system serving the City of Terrell has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. The City of Terrell has initiated Stage 2 due to one or more of the following reasons: • Terrell's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. • Terrell's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Supply source becomes contaminated. • Supply source is interrupted or unavailable due to invasive species. • Terrell's water supply system is unable to deliver water due to the failure or damage of major water system components. • Conditions are such that implementation of Stage 2 is desirable.		20 percent of the total conservation pool capacity during any of the months of November through March. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 Drought. (Measures required by SRA under Stage 3 drought designation are similar to those under NTMWD's Stage 3). • The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station or some other NTMWD source has become severely limited in availability. • NTMWD water demand exceeds the amount that can be delivered to customers. • NTMWD water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate. • NTMWD's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause. • NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • The portion of the NTMWD system serving the City of Terrell has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. The City of Terrell has initiated Stage 3 due to one or more of the following reasons: • Terrell's water demand exceeds the amount that can be delivered to customers. • Terrell's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate. • Supply source becomes contaminated. • Terrell's water supply system is unable to deliver water due to the failure or damage of major water system components. • Conditions are such that implementation of Stage 3 is desirable.	

NTMWD and NTMWD Customers DCP											
						Stage 1		Stage 2		Stage 3	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Terrell, continued											
Wylie	Apr-19	WUG	NTMWD	NTMWD Sources	3	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. • Water demand is projected to approach the limit of the NTMWD's permitted supply • The storage level, as published by the Texas Water Development Board, in Lavon Lake is less than 70 percent of the total conservation pool capacity during the months of April through October or less than 60 percent of the total conservation pool capacity during the months of November through March. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, Main Stem Pump Station, or some other NTMWD source may be limited in availability within the next six (6) months. • The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in Stage 1 • Water demand exceeds 95 percent of the amount that can be delivered to customers for (3) three consecutive days. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other causes. • Part of the system has a shortage in supply or damage to the equipment. NTMWD may implement measures for only that portion of the system impacted. • Water supply system is unable to deliver water due to the failure or damage of major water system components • The City's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days • The City's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate • The City's water supply source becomes contaminated • The City's water supply system is unable to deliver water due to the failure or damage of major water system components • The City's individual plan may be implemented if other criteria dictate	2%	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. • Water demand is projected to approach the limit of the NTMWD's permitted supply • The storage level in Lavon Lake, as published by the TWDB, is less than 55 percent of the total conservation pool capacity during the months of April through October or less than 45 percent of the total conservation pool capacity during the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. • NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station or some other NTMWD source may be limited in availability within the next three (3) months • Water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days • Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause • Water supply system is unable to deliver water due to the failure or damage of major water system components • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. • The City's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days • The City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate • The City's water supply source becomes contaminated • The City's water supply system is unable to deliver water due to the failure or damage of major water system components • The City's individual plan may be implemented if other criteria dictate	10%	• The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. • Water demand is projected to approach the limit of the NTMWD's permitted supply • The storage level in Lavon Lake, as published by the TWDB, is less than 30 percent of the total conservation pool capacity during the months of April through October or less than 20 percent of the total conservation pool capacity during the months of November through March. • SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. • The water supply from Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station or some other NTMWD source has become limited in availability • Water demand exceeds the amount that can be delivered to customers • Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate • Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause • Water supply system is unable to deliver water due to the failure or damage of major water system components • Part of the system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the system impacted. • The City's water demand exceeds the amount that can be delivered to customers • The City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate • The City's water supply source becomes contaminated • The City's water supply system is unable to deliver water due to the failure or damage of major water system components • The City's individual plan may be implemented if other criteria dictate	Designated by NTMWD

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Tarrant Regional Water District (TRWD)	May-19	WWP		Lake Bridgeport Eagle Mountain Lake Lake Benbrook Cedar Creek Reservoir Richland-Chambers Reservoir	3	• Total combined raw water supply in TRWD water supply reservoirs (Bridgeport, Eagle Mountain, Richland Chambers and Cedar Creek) drops below 75% (25% depleted) of conservation storage capacity. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • One or more of TRWD's water supply sources has become limited in availability. • Water demand is projected to approach the limit of permitted supply. • Supply source becomes contaminated or unusable for other regulatory reasons (i.e., invasive species). • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The General Manager finds that conditions warrant the declaration of a Stage 1 drought.	5%	• Total raw water supply in TRWD water supply reservoirs (Bridgeport, Eagle Mountain, Richland Chambers and Cedar Creek) drops below 60% (40% depleted) of conservation storage capacity. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • One or more of TRWD's water supply sources has become limited in availability. • Water demand is projected to approach the limit of permitted supply. • Supply source becomes contaminated or unusable for other regulatory reasons (i.e. invasive species). • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The General Manager finds that conditions warrant the declaration of a Stage 2 drought.	10%	• Total raw water supply in TRWD water supply reservoirs (Bridgeport, Eagle Mountain, Richland Chambers and Cedar Creek) drops below 45% (55% depleted) of conservation storage capacity. • Water demand exceeds the amount that can be delivered to customers. • Water demand for all or part of the TRWD delivery system approaches delivery capacity because delivery capacity is inadequate. • One or more of TRWD's water supply sources has become limited in availability. • Water demand is projected to approach the limit of permitted supply. • Supply source becomes contaminated or unusable for other regulatory reasons (i.e., invasive species). • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The General Manager finds that conditions warrant the declaration of a Stage 3 drought.	20%						
Arlington	May-19	WUG	TRWD	TRWD sources, Lake Arlington	3	Total raw water supply in TRWD western and eastern division reservoirs drops to or below 75% (25% depleted) of conservation storage.	5%	Total raw water supply in TRWD western and eastern division reservoirs drops to or below 60% (40% depleted) of conservation storage.	10%	Total raw water supply in TRWD western and eastern division reservoirs drops to or below 45% (55% depleted) of conservation storage.	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Azle Azle, continued	Apr-19	WUG	TRWD	Eagle Mountain Lake	3	• Total combined raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage capacity. • Water demand is projected to approach the limit of permitted supply. • Supply source becomes contaminated. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The City Manager, with concurrence of the City Council, finds that conditions warrant the declaration of a Stage 1 drought.	5%	• Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage capacity. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Water demand is projected to approach the limit of permitted supply. • Supply source becomes contaminated. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The City Manager, with concurrence of the City Council, finds that conditions warrant the declaration of a Stage 2 drought.	10%	• Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage capacity. • Water demand exceeds the amount that can be delivered to customers. • Water demand for all or part of the Azle delivery system approaches delivery capacity because delivery capacity is inadequate. • One or more of TRWD's water supply sources has become limited in availability. • Water demand is projected to approach the limit of permitted supply. • Supply source becomes contaminated. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The City Manager, with concurrence of the City Council, finds that conditions warrant the declaration of a Stage 3 drought.	20%						
Crowley	Apr-19	WUG	Fort Worth (TRWD)	TRWD sources, Trinity Aquifer	3	• Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Fort Worth's water treatment or distribution system becomes contaminated. • City of Crowley water demand for all or part of the delivery system	5%	• Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • The City of Crowley's water demand for all or part of the delivery system equals or	10%	• Water demand has reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • City of Crowley's water demand for all or part of the delivery system exceeds delivery	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Crowley, continued						approaches delivery capacity because delivery capacity is inadequate. • Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components. TRWD initiated Stage 1 – Water Watch may be initiated for one or more of the following reasons: • Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage. • Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. • Water demand is projected to approach the limit of TRWD's permitted supply. • TRWD's supply source becomes contaminated. • TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 1 drought.		exceeds delivery capacity because delivery capacity is inadequate. • The City of Crowley's water supply system is unable to deliver water due to the failure or damage of major water system components. TRWD initiated Stage 2 – Water Warning for one or more of the following reasons: • Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage. • Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. • Water demand is projected to approach the limit of TRWD's permitted supply. • TRWD's supply source becomes contaminated. • TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 drought.		capacity because delivery capacity is inadequate. • Crowley's water supply system is unable to deliver water due to the failure or damage of major water system components. TRWD has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following: • Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage. • Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. • Water demand is projected to approach or exceed the limit of TRWD's permitted supply. • TRWD's supply source becomes contaminated. • TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. • The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 drought.							

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Ennis	Apr-19	WUG	TRA (TRWD)	TRWD sources, Lake Bardwell	6	When the elevation of Lake Bardwell is less than 421" Mean Sea Level (MSL) or the daily water usage is greater than 45% of system capacity.		When the elevation of Lake Bardwell is equal to or less than 417' MSL or 74% of available capacity, and/or the daily potable water supply system demand is 6.0 Million Gallons per Day (MGD) or 50% of plant capacity	2%	When the elevation of Lake Bardwell is equal to or less than 414' MSL or 54% of available capacity, and/or the daily potable water supply system demand is 7.3 Million Gallons per Day (MGD) or 60% of plant capacity	3%	When the elevation of Lake Bardwell is equal to or less than 412' MSL or 40% of available capacity, and/or the daily potable water supply system demand is 9 Million Gallons per Day (MGD) or 75% of plant capacity	5%	When the elevation of Lake Bardwell is equal to or less than 409' MSL or 20% of available capacity, and/or the daily potable water supply system demand is 10.8 Million Gallons per Day (MGD) or 90% of plant capacity	10%	Customers shall be required to comply with the requirements and restrictions for Stage 5 of this Plan when the City Manager, or his designee determines that a water supply emergency exists based on: 1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; 2. Natural or man-made contamination of the water supply source(s); or 3. Any other situation deemed an emergency by the city manager	Determined by Manager
Euless	Apr-19	WUG	TRA (TRWD)	TRWD Sources	3	1. Total combined raw water supply in Tarrant Regional Water District (TRWD) western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage. 2. Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 3. Water demand is projected to approach the limit of permitted supply. 4. Supply source becomes contaminated. 5. Water supply system is unable to deliver water due to the failure or damage of major water system components. 6. The City Manager, or	5%	1. Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation shortage 2. Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate 3. Water demand is projected to approach the limit of permitted supply 4. Supply source becomes contaminated. 5. Water supply system is unable to deliver water due to the failure or damage of major water system components. 6. The city manager, with concurrence of the Trinity River Authority,	10%	1. Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage. 2. Water demand exceeds the amount that can be delivered to customers. 3. Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. 4. One or more of TRWD's water supply sources has become limited in availability. 5. Water demand is projected to approach the limit of permitted supply. 6. Supply source becomes contaminated.	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Euless, continued						his/her designee, with concurrence or TRA, finds that conditions warrant the declaration of a Stage 1 drought.		finds that conditions warrant the declaration of a stage 2 drought.		7. Water supply system is unable to deliver water due to the failure or damage of major water system components. 8. The city manager, with the concurrence of the TRA, finds that conditions warrant the declaration of a Stage 3 drought.							
Fort Worth	Apr-19	WUG	TRWD	TRWD Sources	3	• Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Fort Worth's water treatment or distribution system becomes contaminated. • Fort Worth's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD initiated Stage 1 – Water Watch for one or more of the following reasons: o Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is	5%	• Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD initiated Stage 2 – Water Warning for one or more of the following reasons: o Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach the limit of TRWD's permitted supply.	10%	• Water demand has reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following: o Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach or exceed the limit of	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Fort Worth, continued						projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 1 drought.		o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 drought.		TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 drought.							
Grapevine	May-19	WUG	TRA (TRWD)	TRWD sources, Grapevine Lake	3	(a) Stage 1, moderate condition is attained when the surface water demand reaches 90 percent of pumping capacity of the City of Grapevine/Trinity River Authority water treatment plants). (b) Production at the combined City of Grapevine and Trinity River Authority surface water treatment plant reduced to a point such that the aggregate surface water demand		(a) Stage 2, severe condition is attained when the surface water demand reaches 95 percent of pumping capacity City of Grapevine/Trinity River Authority water treatment plants. (b) Production at the City of Grapevine/Trinity River Authority surface water treatment plant is reduced to a point such that the aggregate surface water demand of the system is 100		(a) Stage 3, critical condition is attained when the surface water demand (seven-day period) exceeds 100 percent of pumping capacity of the City of Grapevine/Trinity River Authority water treatment plants). (b) Production at the City of Grapevine/Trinity River Authority plants reduced to a point such that aggregate surface water demand of the system exceeds the							

TRWD and TRWD Customers DCP																	
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						of the system is 90 percent of the reduced pumping capacity.		percent of the reduced pumping capacity.		reduced production, including a complete failure of the plant to produce any water.							
Hurst	Apr-19	WUG	Fort Worth (TRWD)	TRWD sources, Trinity Aquifer	3	• When, pursuant to requirements specified in the City of Hurst wholesale water purchase contract with the City of Fort Worth, notification is received requesting initiation of Stage 1 of the Drought Plan. • Water demands reach or exceed 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Hurst' s water distribution system becomes contaminated. • Hurst' s water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Hurst' s water supply system is unable to deliver water due to the failure or damage of major water system components, or due to other criteria, such as power outages or restrictions.	5%	• When, pursuant to requirements specified in the City of Hurst wholesale water purchase contract with the City of Fort Worth, notification is received requesting initiation of Stage 2 of the Drought Contingency Plan. • Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be city wide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components.	10%	• When, pursuant to requirements specified in the City of Hurst wholesale water purchase contract with the City of Fort Worth, notification is received requesting initiation of Stage 3 of the Drought Plan. • Water demand has reached or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • Demand for all or part of the water system exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components • TRWD has initiated Stage 3 — Emergency Water Use, which may also be initiated by one or more of the following: o Total raw water supply in TRWD western and eastern division' s reservoirs drops below 45% (55% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity	20%						

TRWD and TRWD Customers DCP																		
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Hurst, continued										because delivery capacity is inadequate. o Water demand is projected to approach or exceed the limit of TRWD' s permitted supply. o TRWD' s supply source becomes contaminated. o TRWD' s water supply system is unable to deliver water due to failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 Drought.							
Keller	Apr-19	WUG	Fort Worth (TRWD)	TRWD sources	3	• Keller's water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Keller's water supply sources or water distribution system becomes contaminated. • Keller's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Keller's water supply system is unable to deliver water due to the failure or damage of major water system components. • Fort Worth initiates Stage 1 – Water Watch for one or more of the	5%	• Keller's water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Keller's water supply sources or water distribution system becomes contaminated. • Keller's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Keller's water supply system is unable to deliver water due to the failure or damage of major water system components. • Fort Worth initiates Stage 2 – Water Warning for one or more of the	10%	• Keller's water demand has reached or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system. • Keller's water supply sources or water distribution system becomes contaminated. • Keller's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Keller's water supply system is unable to deliver water due to the failure or damage of major water system components. • Fort Worth initiates Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following: o Total raw water supply in TRWD western and	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Keller, continued						following reasons: o Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o One or more of TRWD's water supply sources has become limited in availability. o Water demand is projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager finds that conditions warrant the declaration of a Stage 1 drought.		following reasons: o Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o One or more of TRWD's water supply sources has become limited in availability. o Water demand is projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager finds that conditions warrant the declaration of a Stage 2 drought.		eastern division reservoirs drops below 45% (55% depleted) of conservation storage. o Water demand exceeds the amount that can be delivered to customers. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o One or more of TRWD's water supply sources has become limited in availability. o Water demand is projected to approach or exceed the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager finds that conditions warrant the declaration of a Stage 3 drought.							
Mabank	Jun-19	WUG	TRWD	Cedar Creek Reservoir	3	• Total combined raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage capacity. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Water demand is projected to approach the limit of permitted supply. • Water supply system is	5%	• Total combined raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage capacity. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. •Water demand is projected to approach the limit of permitted supply. • Supply source	10%	• Total combined raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage capacity. • Water demand exceeds the amount that can be delivered. • Water demand for all or part of the system approaches delivery capacity because delivery capacity is inadequate. • Water demand is projected to approach	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Mabank, continued						unable to deliver water due to the failure or damage of major water system components.		becomes contaminated. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The General Manager with concurrence of the TRWD Board of Directors finds that conditions warrant Stage 2 drought.		the limit of permitted supply. • One or more of TRWD's water supply sources has become limited in availability. • Supply source becomes contaminated. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • The General Manager with concurrence of the TRWD Board of Directors finds that conditions warrant Stage 3 drought.							
Midlothian	Apr-19	WUG	TRWD	TRWD sources, Joe Pool Lake	3	1) The Joe Pool Lake WSE declines to 516.0 feet; and 2) When the City Manager or their designee, is notified in writing by TRA that their Stage 1 drought management level has been declared. OR 1) Total combined raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage capacity. 2) Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 3) Water demand is projected to approach the limit of permitted supply.	5%	1) The Joe Pool Lake WSE declines to below 511.0 feet; and 2) When the City Manager or their designee, is notified in writing by TRA that the reservoir is now operating at less than 60% of the conservation pool, and their Stage 2 drought management level has been declared. OR 1) Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage capacity. 2) Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 3) Water demand is projected to approach	10%	1) The Joe Pool Lake WSE declines to below 501.0 feet; and 2) When the City Manager or their designee, is notified in writing by TRA that the reservoir is now operating at less than 35% of the conservation pool, and their Stage 3 drought management level has been declared. OR 1) Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage capacity. 2) Water demand exceeds the amount that can be delivered to customers. 3) Water demand for all or part of the delivery system approaches delivery capacity							

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						4) Supply source becomes contaminated. 5) Water supply system is unable to deliver water due to the failure or damage of major water system components. 6) The City Manager or their designee finds that conditions warrant the declaration of a Stage 1 drought.		the limit of permitted supply. 4) Supply source becomes contaminated. 5) Water supply system is unable to deliver water due to the failure or damage of major water system components. 6) The City Manager or their designee, finds that conditions warrant the declaration of a Stage 2 drought.		because delivery capacity is inadequate. 4) One or more of TRWD's water supply sources has become limited in availability. 5) Water demand is projected to approach the limit of permitted supply. 6) Supply source becomes contaminated. 7) Water supply system is unable to deliver water due to the failure or damage of major water system components. 8) The City Manager or their designee, finds that conditions warrant the declaration of a Stage 3 drought.							
Saginaw	May-19	WUG	Fort Worth (TRWD)	TRWD sources	3	1) Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system 2) Saginaw's water distribution system becomes contaminated 3) Saginaw's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate 4) Saginaw's water supply system is unable to deliver water due to the failure or damage of major water system components 5) Fort Worth initiated Stage 1 - Water Watch for one or more of the following reasons: a. Fort Worth's water treatment or distribution	5%	1) Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system 2) Saginaw's water distribution system becomes contaminated 3) Saginaw's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate 4) Saginaw's water supply system is unable to deliver water due to the failure or damage of major water system components 5) Fort Worth initiated Stage 2 - Water Warning for one or more of the following reasons: a. Fort Worth's water treatment or distribution	10%	1) Water demand reaches or exceeds 98% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system 2) Saginaw's water distribution system becomes contaminated 3) Saginaw's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate 4) Saginaw's water supply system is unable to deliver water due to the failure or damage of major water system components 5) Fort Worth initiated Stage 3 - Emergency Water Use for one or more of the following reasons: a. Fort Worth's water							

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						system becomes contaminated b. Fort Worth's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate c. Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components 6) TRWD initiated Stage 1 - Water Watch for one or more of the following reasons: a. Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage b. Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate c. Water demand is projected to approach the limit of TRWD's permitted supply d. TRWD's supply source becomes contaminated e. TRWD's water supply system is unable to deliver water due tot he failure or damage of major water system components f. The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 1 drought		system becomes contaminated b. Fort Worth's water demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate c. Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components d. Fort Worth's water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system 6) TRWD initiated Stage 2 - Water Warning for one or more of the following reasons: a. Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage b. Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate c. Water demand is projected to approach the limit of TRWD's permitted supply d. TRWD's supply source becomes contaminated e. TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components f. The TRWD General		treatment or distribution system becomes contaminated b. Fort Worth's water demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate c. Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components d. Fort Worth's water demand reaches or exceeds 98% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system 6) TRWD initiated Stage 3 - Emergency Water Use for one or more of the following reasons: a. Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage b. Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate c. Water demand is projected to approach or exceed limit of TRWD's permitted supply d. TRWD's supply source becomes contaminated e. TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components							

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Saginaw, continued								Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 drought		f. The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 drought							
Trinity River Authority (Tarrant County Water Supply Project)	Apr-19	WWP	TRWD	TRWD sources	3	• Total combined raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage capacity; • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate; • Water demand is projected to approach the limit of permitted supply; • Supply source becomes contaminated; • Water supply system is unable to deliver water due to the failure or damage of major water system components; and • The General Manager finds that conditions	5%	• Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage capacity; • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate; • Water demand is projected to approach the limit of permitted supply; • Supply source becomes contaminated; • Water supply system is unable to deliver water due to the failure or damage of major water system components; and • The General Manager finds that conditions warrant the declaration of a Stage 2 drought.	10%	• Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage capacity; • Water demand exceeds the amount that can be delivered to customers; • Water demand for all or part of the TRWD delivery system approaches delivery capacity because delivery capacity is inadequate; • One or more of TRWD's water supply sources has become limited in availability; • Water demand is projected to approach the limit of permitted supply; • Supply source becomes contaminated; • Water supply system is	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	**Plan Date**	**Entity Type**	**Wholesale Water Provider(s)**	**Source(s)**	**No. of Stages**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**
						warrant the declaration of a Stage 1 drought.		Subject to preceding paragraphs regarding the Termination of a Drought Response		unable to deliver water due to the failure or damage of major water system components; and • The General Manager finds that conditions warrant the declaration of a Stage 3 drought.							
Trophy Club MUD 1 Trophy Club MUD 1, continued	Apr-19	WUG	Fort Worth (TRWD)	TRWD sources, Trinity Aquifer	3	1. Water demand reaches or exceeds 90% of reliable delivery capacity for three (3) consecutive days. 2. Contamination of the City of Fort Worth's water treatment or distribution system. 3. Inadequate delivery capacity by the City of Fort Worth. 4. Failure of or damage to the City of Fort Worth's water supply system. 5. Water demand approaches a reduced delivery capacity for all or part of the system due to supply or production capacity limitation including contamination of the system. 6. Pursuant to requirements established in the agreement with the City of Fort Worth, notification is received requesting initiation of Stage 1 of their Drought Contingency Plan. 7. Conditions within the District's water system that warrant a mild reduction in water usage. These conditions may include loss of supply, storage, or pumping capacity, water	5%	1. Water demand reaches or exceeds 95% of reliable delivery capacity for three (3) consecutive days. The delivery capacity could be District-wide or in a specified portion of the system. 2. Contamination of the water supply source(s) or water supply system. 3. Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate. 4. Pursuant to requirements established in the agreement with the City of Fort Worth, notification is received requesting initiation of Stage 2 of their Drought Contingency Plan. 5. Conditions within the District's water system that warrants a moderate reduction in water usage. These conditions may include loss of supply, storage, or pumping capacity, water main break, or other system failure.	10%	1. Water demand has reached or exceeds 98% of reliable delivery capacity for one (1) day. 2. Contamination of the water supply source(s) or water supply system. 3. Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 4. Pursuant to requirements established in the agreement with the City of Fort Worth, notification is received requesting initiation of Stage 3 of their Drought Contingency Plan. 5. Conditions within the District's water system that warrant a major reduction in water usage. These conditions may include loss of supply, storage, or pumping capacity, water main break, or other system failure	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						main break, or other system failure.											
Waxahachie	Apr-19	WUG	TRA (TRWD)	Lake Waxahachie, Lake Bardwell, TRWD sources	5	When Lake Waxahachie elevation drops to 527' msl. This is 4.5-feet below spillway elevation and the lake is operating at less than 74 percent capacity.	2%	When Lake Waxahachie elevation drops to 524' msl. This is 7.5-feet below spillway elevation and the lake is operating at less than 68 percent capacity.	5%	When Lake Waxahachie elevation drops to 520' msl. This is 11.5-feet below spillway elevation and the lake is operating at less than 4 percent capacity.	10%	When Lake Waxahachie elevation drops to 517.5' msl. This is 14-feet below spillway elevation and the lake is operating at less than 25 percent capacity.	15%	Customers shall be required to comply with the requirements and restrictions for Stage 5 of this Plan when the City Manager, or his/her designee, determines that a water supply emergency exists based on: 1) Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; or 2) Natural or man-made contamination of the water supply source(s).	30%		
Weatherford	Apr-19	WUG	TRWD	Lake Weatherford, TRWD sources	3	(a) The lake level in Lake Weatherford reaches 889.0 feet or 61.5% capacity; or (b) Water demand reaches 85 percent of the water treatment capacity or (c) Any mechanical failure of pumping equipment will require more than 48 hours to repair when dry weather conditions exist and continued dry weather is expected. (d) TRWD initiates Stage 1 – Water Watch for one or more of the following reasons: 1. Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage. 2. Water demand for all	5%	(a) The lake level in Lake Weatherford reaches 887.5 feet or 54% capacity; or (b) Water demand reaches 85 percent of the water treatment capacity or (c) Any mechanical failure of pumping equipment will require more than 48 hours to repair when dry weather conditions exist and continued dry weather is expected. (d) TRWD initiates Stage 2 – Water Warning for one or more of the following reasons: 1. Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage. 2. Water demand for all	10%	(a) The lake level in Lake Weatherford reaches 885.5 feet or 45% percent capacity; or (b) Water demand reaches 85 percent of the water treatment capacity or (c) Major water line breaks, pump or system failures occur, which cause unprecedented loss of capability to provide water service; or (d) Natural or man-made contamination of the water supply source(s) (e) TRWD initiates Stage 3 – Water Emergency for one or more of the following reasons: 1. Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage.	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. 3. Water demand is projected to approach the limit of TRWD's permitted supply. 4. TRWD's supply source becomes contaminated. 5. TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. 6. The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of Stage 1 drought.		or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. 3. Water demand is projected to approach the limit of TRWD's permitted supply. 4. TRWD's supply source becomes contaminated. 5. TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. 6. The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of Stage 2 drought.		2. Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. 3. Water demand is projected to approach the limit of TRWD's permitted supply. 4. TRWD's supply source becomes contaminated. 5. TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. 6. The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of Stage 3 drought.							
West Wise SUD (Wholesale) West Wise SUD (Wholesale), continued	Apr-19	WUG	TRWD, Walnut Creek SUD	TRWD sources	3	1. Total water demand equals or exceeds 80 percent of daily maximum supply for three consecutive days (.800 mgd for 3 days), or as notified per Tarrant Regional Water District. 2. Supply source becomes contaminated. 3. Water supply is unable to deliver water due to the failure or damage of major water system components. 4. The General Manager, with concurrence of the WWSUD Board of Directors, finds that conditions warrant declaration of a Stage 1 drought.	6%	1. Total water demand equals or exceeds 90 percent of daily maximum supply for three consecutive days (.900 mgd for 3 days), or as notified per Tarrant Regional Water District. 2. Supply source becomes contaminated. 3. Water supply is unable to deliver water due to the failure or damage of major water system components. 4. The General Manager, with concurrence of the WWSUD Board of Directors, finds that conditions warrant declaration of a Stage 2 drought.	6%	1. Water consumption of 95 percent or more of maximum available for three consecutive days (.950 mgd for 3 days), or as notified per Tarrant Regional Water District. 2. Water demand exceeds the amount that can be delivered to customers. 3. Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 4. One or more of WWSUD's water supply sources has become limited in availability. 5. Water demand is projected to approach the limit of permitted supply. 6. Supply source	6%						

TRWD and TRWD Customers DCP																			
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
										becomes contaminated. 7. Water supply system is unable to deliver water due to the failure or damage of major water system components. 8. The General Manager, with concurrence of the WWSUD Board of Directors, finds that conditions warrant declaration of a Stage 3 drought.							
West Wise SUD (Retail)	Mar-19	WUG	TRWD, Walnut Creek SUD	TRWD sources	3	Stage 1 water allocation measures may be implemented when one or more of the following conditions exist: 1) Water consumption has reached 80 percent of daily maximum supply for three consecutive days (.800 mgd for 3 days). 2) Water supply is reduced to a level that is only 20 percent greater than the average consumption for the previous month. 3) There is an extended period (at least eight (8) weeks) of low rainfall and daily use has risen 20 percent above the use for the same period during the previous year.		Stage 2 water allocation measures may be implemented when one of the following conditions exist: 1) Water consumption has reached 90 percent of the available for three consecutive days (.900 mgd for 3 days). 2) The Water level in any of the water storage tanks cannot be replenished for three consecutive days. Example: Water plant clear wells drop to 8 feet in 3 days.		Stage 3 water allocation measures may be implemented when one of the following five conditions exist: 1) Failure of a major component of the system or an event which reduces the minimum residual pressure in the system below 20 psi for a period of 24 hours or longer 2) Water consumption of 95 percent or more of the maximum available for three consecutive days (.950 mgd for 3 days). 3) Water consumption of 100 percent of the maximum available and the water storage levels system drop during one 24-hour period. 4) Natural or man-made contamination of the water supply source(s). 5) The declaration of a state of disaster due to drought conditions in a county or counties served by the District. 6) Reduction of wholesale water supply due to drought conditions. 7) Other unforeseen events which could cause imminent health							

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
West Wise SUD (Retail), continued										or safety risks to the public.							
Watauga	Jul-19	WUG	North Richland Hills (TRWD)	TRWD sources	3	• Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Distribution system becomes contaminated. • Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD initiated Stage 1- Water Watch for one or more of the following reasons: o Total raw water supply within the Tarrant Regional Water District	5%	• Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD initiated Stage 2 – Water Warning for one or more of the following reasons: o Total raw water supply within TRWD, western	10%	• Water demand reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s) or water supply system. • Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following: o Total raw water supply within TRWD, western	20%						

TRWD and TRWD Customers DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						(TRWD) western and eastern division reservoirs, drops below 75% (25% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of Stage 1 of the Plan.		and eastern division reservoirs, drops below 60% (40% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 of the plan.		and eastern division reservoirs, drops below 45% (55% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach or exceed the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of Stage 3 of the plan.							

UTRWD and UTRWD Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Upper Trinity Regional Water District (UTRWD)	Apr-19	WWP	DWU, Denton	Lewisville Lake, Lake Ray Roberts, Jim Chapman Lake, DWU sources, Denton sources	3	1. The total raw water supply in the water supply lakes available to Upper Trinity has dropped below 75% (25%) 2. Dallas Water Utilities has initiated Stage 1 and given notice to Upper Trinity; or 3. Water demand has reached or exceeded 80% of delivery capacity for three consecutive days; or	5%	1. The total raw water supply in the water supply lakes available to Upper Trinity has dropped below 60% (40% depleted); or 2. Dallas Water Utilities has initiated Stage 2 and given notice to Upper Trinity; or 3. Water demand has reached or exceeded 85% of delivery capacity for three	10%	1. The total raw water supply in the water supply lakes available to Upper Trinity has dropped below 45% (55% depleted); or 2. Dallas Water Utilities has initiated Stage 3 and given notice to Upper Trinity; or 3. Water demand has reached or exceeded 90% of delivery capacity for three	20%				

UTRWD and UTRWD Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						4. Water demand is approaching a level that will cause a reduced delivery capacity for all or part of the transmission system, as determined by Upper Trinity; or 5. The Executive Director, with the concurrence of the Upper Trinity Board of Directors, finds that conditions warrant the declaration of Stage 1.		consecutive days; or 4. Water demand is approaching a level that will cause a reduced delivery capacity for all or part of the transmission system, as determined by Upper Trinity; or 5.The transmission system is unable to deliver water at normal rates due to failure of, or damage to, major water system components; or 6. A significant deterioration in the quality of a water supply, being affected by a natural or man-made source; or 7. The Executive Director, with the concurrence of the Upper Trinity Board of Directors, finds that conditions warrant the declaration of Stage 2.		consecutive days; or 4. Water demand exceeds the delivery capacity for all or part of the transmission system, as determined by Upper Trinity; or 5.The transmission system is unable to deliver water at normal rates due to failure of, or damage to, major water system components; or 6. Interruption of one or more water supply sourced; or 7. The Executive Director, with the concurrence of the Upper Trinity Board of Directors, finds that conditions warrant the declaration of Stage 3.					
Krum	Nov-17	WUG	UTRWD	UTRWD sources, Trinity Aquifer	5	1. The Mayor or his/her designee finds that conditions warrant the declaration of Stage 1 2. Ground water level reaches 100' above current pump settings. 3. City's water demand exceeds 90 percent of the amount that can be delivered to customers for three consecutive days. 4. City's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. 5. Water demand is approaching the limit of the permitted supply.	2%	1. The Mayor or his/her designee finds that conditions warrant the declaration of Stage 2. 2. Ground water level reaches 75' above current pump settings. 3. City's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. 4. City's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. 5. Water demand is approaching the limit of the permitted supply.	5%	1. The Mayor or his/her designee finds that conditions warrant the declaration of Stage 3. 2. Ground water level reaches 50' above current pump settings. 3. City's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days. 4. City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 5. Water demand is approaching the limit of the permitted supply.	10%	1. The Mayor or his/her designee finds that conditions warrant the declaration of Stage 4. 2. Ground water level reaches 40' above current pump settings. 3. City's water demand exceeds the amount that can be delivered to customers. 4. City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. 5. Water demand is approaching the limit of the permitted supply.	As necessary	1. The Mayor or his/her designee finds that conditions warrant the declaration of Stage 5. 2. Major water line breaks, or pump or system failure occur, which cause unprecedented loss of capability to provide water service or 3. National or manmade contamination of the water supply occurs.	As necessary
Providence Village WCID	Mar-17	WUG	UTRWD	UTRWD sources	3	UTRWD has announced Stage 1 - Water Watch, which may be a result of: 1) The total raw water supply in water supply lakes available to UTRWD has dropped below 75% (25% depleted); or	5%	UTRWD has announced Stage 2 - Water Warning, which may be a result of: 1) The total raw water supply in water supply lakes available to UTRWD has dropped below 60% (40% depleted); or	10%	UTRWD has announced Stage 3 - Water Emergency, which may be a result of: 1) The total raw water supply in water supply lakes available to UTRWD has dropped below 45% (55% depleted); or	20%				

UTRWD and UTRWD Customers DCPs																
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	
Providence Village WCID, continued						2) Dallas Water Utilities (a source of raw water to UTRWD) has initiated Stage 1 and given notice to UTRWD; or 3) UTRWD, with concurrence of the Board of Directors, finds that conditions warrant the declaration of Stage 1; or 4) Water demand has reached or exceeded (80%) of delivery capacity for three consecutive days; or 5) Water demand is approaching a level that will cause a reduced delivery capacity for all or part of the distribution system, as determined by Town of Providence Village; or 6) The water supply system has a significant limitation due to failure of or damage to important water system components		2) Dallas Water Utilities (a source of raw water to UTRWD) has initiated Stage 2 and given notice to UTRWD; or 3) UTRWD, with concurrence of the Board of Directors, finds that conditions warrant the declaration of Stage 2; or 4) Water demand has reached or exceeded (85%) of delivery capacity for three consecutive days; or 5) Water demand has reached a level that will cause a reduced delivery capacity for all or part of the distribution system, as determined by Town of Providence Village; or 6) The water supply system is unable to deliver water at normal rates due to failure of or damage to important water system components 7) A significant deterioration in the quality of a water supply, being affected by a natural or man-made source		2) Dallas Water Utilities (a source of raw water to UTRWD) has initiated Stage 3 and given notice to UTRWD; or 3) UTRWD, with concurrence of the Board of Directors, finds that conditions warrant the declaration of Stage 3; or 4) Water demand has reached or exceeded (90%) of delivery capacity for three consecutive days; or 5) Water demand exceeds the delivery capacity for all or part of the distribution system, as determined by Town of Providence Village; or 6) The water supply system is unable to deliver water in adequate quantities due to failure of or damage to important water system components 7) interruption of one or more water supply source(s) 8) Natural or man-made contamination of the water supply source that threatens water availability						
Sanger	May-19	WUG	UTRWD	UTRWD sources, Trinity Aquifer	3	UTRWD has announced Stage 1 - Water Watch, which may be a result of: 1) The total raw water supply in water supply lakes available to UTRWD has dropped below 75% (25% depleted) during the time period from April 1 to October 31; or 2) The total raw water supply in water supply lakes available to UTRWD has dropped below 80% (20% depleted) during the time period from November 1 to March 31; or 3) Dallas Water Utilities (a source of raw water to UTRWD) has initiated Stage 1 and given notice to UTRWD; or	5%	UTRWD has announced Stage 2 - Water Warning, which may be a result of: 1) The total raw water supply in water supply lakes available to UTRWD has dropped below 60% (40% depleted) during the time period from April 1 to October 31; or 2) The total raw water supply in the water supply lakes available to Upper Trinity has dropped below 65% (35% depleted) during the time period from November 1 to March 31; or 3) Dallas Water Utilities (a source of raw water to UTRWD) has initiated Stage 2 and given notice to UTRWD; or	10%	UTRWD has announced Stage 3 - Water Emergency, which may be a result of: 1) The total raw water supply in water supply lakes available to UTRWD has dropped below 45% (55% depleted) during the time period from April 1 to October 31; or 2) The total raw water supply in the water supply lakes available to Upper Trinity has dropped below 50% (50% depleted) during the time period from November 1 to March 31; or 3) Dallas Water Utilities (a source of raw water to UTRWD) has initiated Stage 3 and given notice to UTRWD; or 4) UTRWD, with concurrence of the Board of Directors, finds that conditions warrant	20%					

UTRWD and UTRWD Customers DCPs															
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Sanger, continued						4) UTRWD, with concurrence of the Board of Directors, finds that conditions warrant the declaration of Stage 1; or 5) Water demand has reached or exceeded (80%) of delivery capacity for three consecutive days; or 6) Water demand is approaching a level that will cause a reduced delivery capacity for all or part of the distribution system, as determined by City of Sanger; or 7) The water supply system has a significant limitation due to failure of or damage to important water system components		4) UTRWD, with concurrence of the Board of Directors, finds that conditions warrant the declaration of Stage 2; or 5) Water demand has reached or exceeded (85%) of delivery capacity for three consecutive days; or 6) Water demand has reached a level that will cause a reduced delivery capacity for all or part of the distribution system, as determined by City of Sanger; or 7) The water supply system is unable to deliver water at normal rates due to failure of or damage to important water system components 8) A significant deterioration in the quality of a water supply, being affected by a natural or man-made source		the declaration of Stage 3; or 5) Water demand has reached or exceeded (90%) of delivery capacity for three consecutive days; or 6) Water demand exceeds the delivery capacity for all or part of the distribution system, as determined by City of Sanger; or 7) The water supply system is unable to deliver water in adequate quantities due to failure of or damage to important water system components 8) interruption of one or more water supply source(s) 9) Natural or man-made contamination of the water supply source that threatens water availability					

						Additional DCP											
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Brazos River Authority	Apr-19	WWP		Brazos River Authority sources	4	Water level triggers in Table 1 of the plan. • For a reservoir/reservoir sub-system, when the Palmer Hydrologic Drought Index (PHDI) is equal to or less than -2.4. The PHDI for each reservoir/reservoir sub-system is derived monthly. • For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir subsystem is at or below its corresponding Stage 1 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 2 Trigger or less during the next 12 months. • For a reservoir, group of reservoirs, or the entire BRA System, when the combined storage of the BRA System is below the Stage 1 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 2 System Storage Trigger or less during the next 12 months. • For Lake Georgetown (in addition to triggers	Voluntary 5%	Water level triggers in Table 1 of the plan. • For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir subsystem is at or below its corresponding Stage 2 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 3 Trigger or less during the next 12 months. • For a reservoir, group of reservoirs, or the entire BRA System, when the combined storage of the BRA System is below the Stage 2 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 3 System Storage Trigger or less during the next 12 months. • For Lake Georgetown (in addition to triggers shown in Table 1), o When sustained WCRRWL pumping operations continue for longer than 18 months. o As deemed appropriate due to disruption in WCRRWL pumping operations. • For LCRA water, when the combined storage of	10%	Water level triggers in Table 1 of the plan. • For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir subsystem is at or below its corresponding Stage 3 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 4 Trigger within the next 12 months. • For a reservoir, group of reservoirs, or the entire BRA System, when the combined storage of the BRA System is below the Stage 3 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 4 System Storage Trigger within the next 12 months. • For a reservoir/reservoir sub-system, when critical water supply infrastructure is damaged or otherwise rendered unable to meet projected demands due to natural disaster, power outage, structural failure, sabotage, or other reasons. • For Lake Georgetown	20%	Water level triggers in Table 1 of the plan. • For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir subsystem is at or below its corresponding Stage 4 Trigger (Table 1). • For a reservoir, group of reservoirs, or the entire BRA System, when the combined storage of the BRA System is below the Stage 4 System Storage Trigger (Table 1). • For Lake Georgetown (in addition to triggers shown in Table 1), as deemed appropriate by the BRA's GM/CEO or his/her designee due to disruption in WCRRWL pumping operations. • For EWCRWS (in addition to triggers shown in Table 1 for Lake Granger), as deemed appropriate by the BRA's GM/CEO or his/her designee due to a major water line break or pump or system failures, which cause unprecedented loss of capacity to provide water service, or natural or man-made contamination of the water supply source. • For a reservoir, group of reservoirs, or the entire BRA System, when an unexpected condition has the potential to adversely affect the public health, welfare or safety.	As necessary				

						Additional DCP											
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						shown in Table 1), o When sustained pumping operations through the WCRRWL continue for longer than six months. o As deemed appropriate due to disruption in WCRRWL pumping operations. • For LCRA water, when the combined storage of Lakes Buchanan and Travis drops below 1.4 million acre-feet and interruptible stored water supplies to the irrigation operations are being curtailed. • For EWCRWS (in addition to triggers shown in Table 1 for Lake Granger), when the total daily water consumption reaches eighty-five (85) percent of production capacity for a period of thirty (30) consecutive days. Currently, this would equate to 9.1 million gallons a day based on a maximum output of 13.0 million gallons a day production. • For a reservoir, group of reservoirs, or the entire BRA System, when an unexpected condition has the potential to adversely affect the public health, welfare or safety.		Lakes Buchanan and Travis is below 900,000 acre-feet and interruptible stored water supplies to the irrigation operations are being curtailed. • For EWCRWS (in addition to triggers shown in Table 1 for Lake Granger), when the total daily water consumption reaches ninety (90) percent of production capacity for a period of 30 consecutive days. Currently this would equate to 10.4 million gallons a day based on a maximum output of 13.0 million gallons a day production. • For a reservoir, group of reservoirs, or the entire BRA System, when an unexpected condition has the potential to adversely affect the public health, welfare or safety.		(in addition to triggers shown in Table 1), o When the GM/CEO or his/her designee determines that hydrologic conditions (inflow and/or evaporation) are as severe as or worse than the driest 24-month period on record. o As deemed appropriate due to disruption in WCRRWL pumping operations. • For LCRA water, when LCRA, in accordance with its Water Management Plan, declares a Drought Worse than the Drought of Record. • For EWCRWS (in addition to triggers shown in Table 1 for Lake Granger), when the total daily water consumption reaches ninety-five (95) percent of production/distribution capacity for a period of 30 consecutive days. Currently this would equate to 11.05 million gallons a day based on a maximum output of 13.0 million gallons a day production. • For a reservoir, group of reservoirs, or the entire BRA System, when an unexpected condition has the potential to adversely affect the public health, welfare or safety.							

						Additional DCP											
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Brazos River Authority, continued																	
Dallas County Park Cities MUD (DCPCMUD)	Apr-19	WWP		Grapevine Lake	4	• The District's water supply in Grapevine Lake becomes 35% depleted. • Grapevine Reservoir becomes contaminated. • The District's demand exceeds 90% of its delivery capacity for seven consecutive days. • The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. • Any other condition that would cause the District to initiate Stage I.	2%	• The District's water supply in Grapevine Lake becomes 45% depleted. • Grapevine Reservoir becomes contaminated. • The District's demand exceeds 95% of its delivery capacity for five consecutive days. • The District's water system is unable to deliver water to its customers due to the failure or damage of major water system components. • Any other condition that would cause the District to initiate Stage II.	5%	• The District's water supply in Grapevine Lake becomes 55% depleted. • Grapevine reservoir has been contaminated. • The District's demand exceeds 98% of its delivery capacity for three consecutive days. • The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. • The District's water use is approaching the limit of the permitted supply. • Any other condition that would cause The District to initiate Stage III.	10%	• The District's water supply in Grapevine Lake becomes 70% depleted. • Grapevine reservoir has been contaminated. • The District's demand exceeds its delivery capacity. • The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. • The District's water use is approaching the limit of the permitted supply. • Any other condition that would cause the District to initiate Stage IV.	25%				
Highland Park Highland Park, continued	Apr-19	WUG	DCPCMUD	Grapevine Lake	4	• The Town's water use is approaching the limit of its contracted supply. • The Town's demand exceeds 90% of its delivery capacity for seven consecutive days. • The Town's water demand for any portion of the delivery system approaches the delivery capacity. • The Town's supply source or delivery system becomes contaminated. • The Town's water supply system is unable to deliver water due to the failure or damage of major water system components.	2%	• The Town's water use is approaching the limit of its contracted supply. • The Town's demand exceeds 95% of its delivery capacity for seven consecutive days. • The Town's water demand for any portion of the delivery system approaches the delivery capacity. • The Town's supply source or delivery system becomes contaminated. • The Town's water supply system is unable to deliver water due to the failure or damage of major water system components.	5%	• The Town's water use is approaching the limit of its contracted supply. • The Town's demand exceeds 98% of its delivery capacity for seven consecutive days. • The Town's water demand for any portion of the delivery system approaches the delivery capacity. • The Town's supply source or delivery system becomes contaminated. • The Town's water supply system is unable to deliver water due to the failure or damage of major water system components.	10%	• The Town's demand exceeds the amount that can be delivered to customers. • The Town's water demand for any portion of the delivery system seriously exceeds delivery capacity. • The Town's supply source or delivery system becomes contaminated. • The Town's water supply system is unable to deliver water due to the failure or damage of major water system components. • The District has initiated Stage IV. This may occur with one or	25%				

Additional DCP																	
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
						• The District has initiated Stage I. This may occur with one or more of the following: o The District's water supply in Grapevine Lake becomes 35% depleted. o Grapevine Reservoir becomes contaminated. o The District's demand exceeds 90% of its delivery capacity for seven consecutive days. o The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. o Any other condition that would cause the District to initiate Stage I.		• The District has initiated Stage II. This may occur with one or more of the following: o The District's water supply in Grapevine Lake becomes 45% depleted. o Grapevine Reservoir becomes contaminated. o The District's demand exceeds 95% of its delivery capacity for five consecutive days. o The District's water system is unable to deliver water to its customers due to the failure or damage of major water system components. o Any other condition that would cause the District to initiate Stage II.		• The District has initiated Stage III. This may occur with one or more of the following: o The District's water supply in Grapevine Lake becomes 55% depleted. o Grapevine reservoir has been contaminated. o The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. o The District's water use is approaching the limit of the permitted supply. o Any other condition that would cause The District to initiate Stage III. o The District's demand exceeds 98% of its delivery capacity for three consecutive days.		more of the following: o The District's water supply in Grapevine Lake becomes 70% depleted. o Grapevine reservoir has been contaminated. o The District's demand exceeds its delivery capacity. o The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. o The District's water use is approaching the limit of the permitted supply. o Any other condition that would cause the District to initiate Stage IV.					
University Park	Apr-19	WUG	DCPCMUD	Grapevine Lake	4	• The City's water use is approaching the limit of its contracted supply. • The City's demand exceeds 90% of its delivery capacity for seven consecutive days. • The City's water demand for any portion of the delivery system approaches the delivery capacity. • The City's supply source or delivery system becomes contaminated. • The City's water supply system is unable to deliver water due to the failure or damage of major water system components. • The District has initiated Stage I. This	2%	• The City's water use is approaching the limit of its contracted supply. • The City's demand exceeds 95% of its delivery capacity for seven consecutive days. • The City's water demand for any portion of the delivery system approaches the delivery capacity. • The City's supply source or delivery system becomes contaminated. • The City's water supply system is unable to deliver water due to the failure or damage of major water system components. • The District has initiated Stage II. This	5%	• The City's water use is approaching the limit of its contracted supply. • The City's demand exceeds 98% of its delivery capacity for seven consecutive days. • The City's water demand for any portion of the delivery system approaches the delivery capacity. • The City's supply source or delivery system becomes contaminated. • The City's water supply system is unable to deliver water due to the failure or damage of major water system components. • The District has initiated Stage III. This	10%	• The City's demand exceeds the amount that can be delivered to customers. • The City's water demand for any portion of the delivery system seriously exceeds delivery capacity. • The City's supply source or delivery system becomes contaminated. • The City's water supply system is unable to deliver water due to the failure or damage of major water system components. • The District has initiated Stage IV. This may occur with one or more of the following: o The District's water	25%				

Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Additional DCP Stage 1 Trigger	Stage 1 Savings Goal	Stage 2 Trigger	Stage 2 Savings Goal	Stage 3 Trigger	Stage 3 Savings Goal	Stage 4 Trigger	Stage 4 Savings Goal	Stage 5 Trigger	Stage 5 Savings Goal	Stage 6 Trigger	Stage 6 Savings Goal
University Park, continued						may occur with one or more of the following: o The District's water supply in Grapevine Lake becomes 35% depleted. o Grapevine Reservoir becomes contaminated. o The District's demand exceeds 90% of its delivery capacity for seven consecutive days. o The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. o Any other condition that would cause the District to initiate Stage I.		may occur with one or more of the following: o The District's water supply in Grapevine Lake becomes 45% depleted. o Grapevine Reservoir becomes contaminated. o The District's demand exceeds 95% of its delivery capacity for five consecutive days. o The District's water system is unable to deliver water to its customers due to the failure or damage of major water system components. o Any other condition that would cause the District to initiate Stage II.		may occur with one or more of the following: o The District's water supply in Grapevine Lake becomes 55% depleted. o Grapevine reservoir has been contaminated. o The District's demand exceeds 98% of its delivery capacity for three consecutive days. o The District's water supply system is unable to deliver water to it's customers due to the failure or damage of major water system components. o The District's water use is approaching the limit of the permitted supply. o Any other condition that would cause The District to initiate Stage III.		supply in Grapevine Lake becomes 70% depleted. o Grapevine reservoir has been contaminated. o The District's demand exceeds its delivery capacity. o The District's water supply system is unable to deliver water to its customers due to the failure or damage of major water system components. o The District's water use is approaching the limit of the permitted supply.					
Greater Texoma Utility Authority (GTUA)	Mar-19	WWP	NTMWD	NTMWD sources, Lake Texoma	3	• NTMWD has informed GTUA that NTMWD has initiated Stage 1 of their Plan. o The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1. o Water demand is projected to approach the limit of the NTMWD's permitted supply. o The storage level in Lake Lavon as published by the Texas Water Development Board (TWDB),4 is less than 70 percent of the total conservation pool capacity during any of the months of April through October or less than 60 percent of the total conservation pool capacity during any of	2%	• NTMWD has informed GTUA that NTMWD has initiated Stage 2 of their Plan. o The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2. o Water demand is projected to approach the limit of the NTMWD's permitted supply. o The storage level in Lake Lavon as published by the Texas Water Development Board (TWDB), is less than 55 percent of the total conservation pool capacity during any of the months of April through October or less than 45 percent of the total conservation pool capacity during any of	10%	• NTMWD has informed GTUA that NTMWD has initiated Stage 3 of their Plan. o The Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3. o NTMWD water demand is projected to approach the limit of the NTMWD's permitted supply. o The storage level in Lake Lavon as published by the Texas Water Development Board (TWDB),3 is less than 30 percent of the total conservation pool capacity during any of the months of April through October or less than 20 percent of the total conservation pool	Designated by GTUA Director						

Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Additional DCP Stage 1 Trigger	Savings Goal	Stage 2 Trigger	Savings Goal	Stage 3 Trigger	Savings Goal	Stage 4 Trigger	Savings Goal	Stage 5 Trigger	Savings Goal	Stage 6 Trigger	Savings Goal
GTUA, continued						the months of November through March. o The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 1 drought. o NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next six (6) months. o Water demand exceeds 95 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. o Water demand for all or part of the NTMWD delivery system approaches delivery capacity because delivery capacity is inadequate. o NTMWD supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. o NTMWD water supply system is unable to deliver water due to the failure or damage of major water system components. o Part of the NTMWD system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.		the months of November through March. o The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 2 drought. o NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source may be limited in availability within the next three (3) months. o Water demand exceeds 98 percent of the amount that can be delivered by NTMWD to Customers for three (3) consecutive days. o Water demand for all or part of the NTMWD delivery system approaches delivery capacity because delivery capacity is inadequate. o NTMWD supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. o NTMWD water supply system is unable to deliver water due to the failure or damage of major water system components. o Part of the NTMWD system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted.		capacity during any of the months of November through March. o SRA has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Stage 3 drought. o NTMWD has concern that Lake Texoma, Jim Chapman Lake, the East Fork Water Reuse Project, the Main Stem Pump Station, or some other NTMWD water source has become limited in availability. o Water demand exceeds the amount that can be delivered by NTMWD to Member Cities and Customers. o Water demand for all or part of the NTMWD delivery system approaches delivery capacity because delivery capacity is inadequate. o NTMWD supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. o NTMWD water supply system is unable to deliver water due to the failure or damage of major water system components. o Part of the NTMWD system has a shortage in supply or damage to equipment. NTMWD may implement measures for only that portion of the NTMWD system impacted. GTUA requirements for initiating Stage 3:							

Additional DCP																			
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6			
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal		
						GTUA Stage 1 Initiation Conditions: • The General Manager, with the concurrence of the GTUA Board of Directors, finds that conditions warrant the declaration of Stage 1. • GTUA's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days. • GTUA's supply source becomes contaminated. • GTUA's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate • GTUA's water system is unable to deliver water due to the failure or damage of major water system components		GTUA requirements for initiating Stage 2: • The General Manager, with the concurrence of the GTUA Board of Directors, finds that conditions warrant the declaration of Stage 2. • GTUA's water demand exceeds 98 percent of the amount that can be delivered to Customers for three consecutive days. • GTUA's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • GTUA's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate. • GTUA's water system is unable to deliver water due to the failure or damage of major water system components.		• The General Manager, with the concurrence of the GTUA Board of Directors, finds that conditions warrant the declaration of Stage 3. • GTUA's water demand exceeds the amount that can be delivered to Customers. • GTUA's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate. • GTUA's supply source is interrupted or unavailable due to contamination, invasive species, equipment failure, or other cause. • GTUA's water system is unable to deliver water due to the failure or damage of major water system components.									

Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Additional DCP Stage 1 Trigger	Stage 1 Savings Goal	Stage 2 Trigger	Stage 2 Savings Goal	Stage 3 Trigger	Stage 3 Savings Goal	Stage 4 Trigger	Stage 4 Savings Goal	Stage 5 Trigger	Stage 5 Savings Goal	Stage 6 Trigger	Stage 6 Savings Goal
GTUA, continued																	
Sherman	May-19	WUG	GTUA	Lake Texoma, Trinity Aquifer, Woodbine Aquifer	4	Customers shall be requested to voluntarily conserve water and adhere to the prescribed restrictions on certain water uses, defined in section 11.7 - Definitions, when total daily water demand equals 80 percent of 18 mgd for five (5) consecutive days based on the "safe" operating	5%	Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses	15%	Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section 11.7 of this Plan when water demands equal or equals 100 percent, or 23 mgd for three (3) consecutive days based	20%	The City of Sherman will recognize an emergency water shortage when one or more of the following conditions exist: a. Natural or man-made contamination occurs in the water supply source(s) of Lake Texoma b. The City of Sherman experiences water					

Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Additional DCP Stage 1 Trigger	Stage 1 Savings Goal	Stage 2 Trigger	Stage 2 Savings Goal	Stage 3 Trigger	Stage 3 Savings Goal	Stage 4 Trigger	Stage 4 Savings Goal	Stage 5 Trigger	Stage 5 Savings Goal	Stage 6 Trigger	Stage 6 Savings Goal
						capacity of water supply facilities.				on the state operating capacity of the facilities.		production or distribution system limitations. c. The City of Sherman experiences a system outage due to the failure or damage of major water system components.					
Red River Authority	Jul-19	WWP		Red River Authority sources	4	When low aquifer levels result in a 20% loss of production capability for a continuous 30-day-period	20%	When low aquifer levels result in a 30% loss of production capability for a continuous 20-day-period	30%	When low aquifer levels result in a 40% production capability for a continuous 15-day-period	40%	When low aquifer levels result in a 50% production capability for a continuous 10-day-period	As necessary				
Trinity River Authority (Bardwell, Joe Pool, Navarro Mills)	Apr-19	WWP		Lake Bardwell Joe Pool Lake Navarro Mills Reservoir	4	• Bardwell Reservoir - water surface elevation of Bardwell Reservoir declines below 417.0 feet • Joe Pool Reservoir - water surface elevation of Joe Pool Reservoir declines below 516.0 feet • Navarro Mills Reservoir - water surface elevation of Navarro Mills Reservoir declines below 421.5 feet	5%	• Bardwell Reservoir water surface elevation of Bardwell Reservoir declines below 414.0 feet • Joe Pool Reservoir water surface elevation of Joe Pool Reservoir declines below 511.0 feet • Navarro Mills Reservoir water surface elevation of Navarro Mills Reservoir declines below 419.0 feet	10%	• Bardwell Reservoir water surface elevation of Bardwell Reservoir declines below 408.0 feet • Joe Pool Reservoir water surface elevation of Joe Pool Reservoir declines below 501.0 feet • Navarro Mills Reservoir water surface elevation of Navarro Mills Reservoir declines below 414.5 feet	30%	• Natural or man-made contamination of the water supply source occurs; and • Any condition exists which prevents or imminently threatens to prevent Authority customers from withdrawing sufficient water from each individual reservoir to meet demands					
Athens	Apr-19	WUG	Athens Municipal Water Authority	Lake Athens, Carrizo-Wilcox Aquifer	6	When daily usage exceeds 4.5 million gallons per day (MGD).	Voluntary 10%	When daily usage exceeds 4.5 MGD and the storage facilities do not refill above eighty (80) percent of full capacity overnight.	4.0 MGD	When daily usage exceeds 4.5 MGD and the storage facilities do not refill above sixty-five (65) percent of full capacity overnight.	4.0 MGD or less	When daily usage exceeds 4.5 MGD and the storage facilities do not refill above fifty (50) percent of full capacity overnight.	4.0 MGD or less	When the City Administrator or his/her designee determines that a water supply emergency exists based on: • The occurrence of major water line breaks or pump or system failures, which cause unprecedented loss of capability to provide water service; or • Natural or man-made contamination of the water supply source(s).	4.0 MGD or less	When daily usage exceeds 4.5 MGD and the storage facilities do not refill above thirty-five (35) percent of full capacity overnight.	

						Additional DCP													
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Athens, continued																	
Blue Ridge	Apr-19	WUG		Woodbine Aquifer	3	• Condition 1: Notification is received from TCEQ requesting initiation of Stage 1 restrictions. • Condition 2: Water demand exceeds ninety percent (90%) of the water well flow rate for water supply for seven (7) consecutive days. • Condition 3: Blue Ridge's combined water storage is less than 65 percent (65%) of capacity. • Condition 4: Deficiencies in the City's distribution system limit supply capabilities. • Condition 5: Supply source becomes contaminated. • Condition 6: As determined by the Director due to drought or reduced water supply.	3%	• Condition 1: Notification is received from TCEQ requesting initiation of Stage 2 restrictions. • Condition 2: Water use exceeds 100 percent (100%) of the combined current maximum flow rate from Blue Ridge water supply for five (5) consecutive days. • Condition 3: Blue Ridge's combined water storage is less than 45 percent (45%) of total storage capacity. • Condition 4: Short-term deficiencies in the City's distribution system limit supply capabilities, such as system outage due to the failure or damage of major water system components. • Condition 5: Inability to maintain or replenish adequate volumes of water in storage to provide for public health and safety. • Condition 6: Supply source becomes contaminated. • Condition 7: As determined by Director due to drought or reduced water supply.	8%	• Condition 1: Notification is received from TCEQ requesting initiation of Stage 3 of the Plan. • Condition 2: Blue Ridge's combined water storage is less than 20 percent (20%) of Blue Ridge's total storage capacity. • Condition 3: Short-term deficiencies in the City's distribution system limit supply capabilities, such as system outage due to the failure or damage of major water system components. • Condition 4: Inability to maintain or replenish adequate volumes of water in storage to provide for public health and safety. • Condition 5: Supply source becomes contaminated. • Condition 6: As determined by the Director due to drought or reduced water supply.	20%						
Everman	May-19	WUG		Trinity Aquifer	3	• Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Fort Worth's water treatment or distribution	5%	• Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s)	10%	• Water demand has reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system. • Contamination of the water supply source(s)	20%						

						Additional DCP											
						Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal	Trigger	Savings Goal
Everman, continued						system becomes contaminated. • Fort Worth's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Fort Worth's water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD initiated Stage 1 – Water Watch for one or more of the following reasons: o Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 1 drought.		or water supply system. • Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD initiated Stage 2 –Water Warning for one or more of the following reasons: o Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 drought.		or water supply system. • Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate. • Water supply system is unable to deliver water due to the failure or damage of major water system components. • TRWD has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following: o Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage. o Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate. o Water demand is projected to approach or exceed the limit of TRWD's permitted supply. o TRWD's supply source becomes contaminated. o TRWD's water supply system is unable to deliver water due to the failure or damage of major water system components. o The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 drought.							

						Additional DCP Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
Entity	**Plan Date**	**Entity Type**	**Wholesale Water Provider(s)**	**Source(s)**	**No. of Stages**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**	**Trigger**	**Savings Goal**
Gainesville	May-19	WUG		Hubert Moss Lake, Trinity Aquifer	5	• The Mayor or his/her designee finds that conditions warrant the declaration of Stage 1 • The water storage level in Moss Lake is less than 65% of the total conservation pool capacity • Ground water level reaches 100' above current pump settings • City's water demand exceeds 90 percent of the amount that can be delivered to customers for three consecutive days. • City's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate. • Water demand is approaching the limit of the permitted supply	2%	• The Mayor or his/her designee finds that conditions warrant the declaration of Stage 1 • The water storage level in Moss Lake is less than 55% of the total conservation pool capacity • Ground water level reaches 75' above current pump settings • City's water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days • City's water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate • Water demand is approaching the limit of the permitted supply.	5%	• The Mayor or his/her designee finds that conditions warrant the declaration of Stage 3 • The water storage level in Moss Lake is less than 45% of the total conservation pool capacity • Ground water level reaches 50' above current pump settings • City's water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days • City's water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate • Water demand is approaching the limit of the permitted supply.	10%	• The Mayor or his/her designee finds that conditions warrant the declaration of Stage 4 • The water storage level in Moss Lake is less than 35% of the total conservation pool capacity • Ground water level reaches 40' above current pump settings • City's water demand exceeds the amount that can be delivered to customers • City's water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate • Water demand is approaching the limit of the permitted supply.	12%	• The Mayor or his/her designee finds that conditions warrant the declaration of Stage 5 • Major water line breaks, or pump or system failure occur, which cause unprecedented loss of capability to provide water service or • National or manmade contamination of the water supply sources occurs	15%		
Ladonia	Aug-18	WUG		Trinity Aquifer	5	1. Daily water exceeds 300,000 gallons per day for three consecutive days, or 2. Daily water demand exceeds 250,000 gallons per day for seven consecutive days.		1. Daily water exceeds 400,000 gallons per day for three consecutive days, or 2. Daily water demand exceeds 350,000 gallons per day for seven consecutive days.		1. Daily water exceeds 450,000 gallons per day for three consecutive days		1. Failure of either well, or 2. Imminent failure of system component where immediate health or safety hazards exist.		1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water services, or 2. Natural or man-made contamination of the water supply source(s).			
Pottsboro	Oct-18	WUG	Denison	Denison sources, Woodbine Aquifer	4	1) Demand exceeds 90% of the amount that can be delivered to customers for seven consecutive days 2) Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate 3) Supply source becomes contaminated 4) Water supply system is unable to deliver water	0%	1) Demand exceeds 95% of the amount that can be delivered to customers for seven consecutive days 2) Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate 3) Supply source becomes contaminated 4) Water supply system is unable to deliver water	2%	1) Demand exceeds 98% of the amount that can be delivered to customers for seven consecutive days 2) Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate 3) Supply source becomes contaminated 4) Water supply system is unable to deliver water	5%	1) Demand exceeds the amount that can be delivered to customers 2) Water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate 3) Supply source becomes contaminated 4) Water supply system is unable to deliver water due to the failure	10%				

Entity	Plan Date	Entity Type	Wholesale Water Provider(s)	Source(s)	No. of Stages	Additional DCP Stage 1 Trigger	Stage 1 Savings Goal	Stage 2 Trigger	Stage 2 Savings Goal	Stage 3 Trigger	Stage 3 Savings Goal	Stage 4 Trigger	Stage 4 Savings Goal	Stage 5 Trigger	Stage 5 Savings Goal	Stage 6 Trigger	Stage 6 Savings Goal
						due to the failure or damage of major water system components 5) Water demand is approaching the limit of the permitted supply		due to the failure or damage of major water system components 5) Water demand is approaching the limit of the permitted supply		due to the failure or damage of major water system components 5) Water demand is approaching the limit of the permitted supply		or damage of major water system components 5) Water demand is approaching the limit of the permitted supply					
White Shed WSC	Apr-19	WUG		Woodbine Aquifer	3	Water consumption has reached 85 percent of daily maximum supply for three (3) consecutive days.		Water consumption has reached 90 percent of the amount available for three consecutive days.		1. Total daily water demand equals or exceeds 95 percent of the system's safe. 2. Total daily water demand equals or exceeds 100 percent of capacity on a single day. 3. There is natural or man-made contamination of the water supply source(s). 4. The declaration of a state of disaster due to drought conditions in a country or counties served by the Corporation. 5. Reduction of wholesale water supply due to drought conditions. 6. Other unforeseen events which could cause imminent health or safety risks to the public.							

Table M.2
Potential Emergency Supply Options

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
ALVORD	WISE	1,625	228	NO	NO	NO	NO	NO	YES	YES	YES	**Emergency Interconnect:** Conveyance Facilities; **Other Named Local Supply:** Conveyance facilities, Treatment facility; **Trucked in Water:** None	**Emergency Interconnect:** City of Chico, Montague Water Systems, West Wise SUD, City of Decatur, Bolivar WSC; **Other Named Local Supply:** Big Sandy Creek, Denton Creek, Lake Amon Carter	City of Chico, Montague Water Systems, West Wise SUD, City of Decatur, Bolivar WSC	NO
ANNETTA	PARKER	3,720	431	YES	NO	YES	NO	NO	YES	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Other Named Local Supply:** Conveyance Infrastructure, Treatment Facility; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Weatherford; **Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** City of Aledo, Aledo Mobile Home Park, City of Weatherford, City of Hudson Oaks, City of Willow Park; Other Named Local Supply: Town Creek, Clear Fork Trinity River	City of Aledo, Aledo Mobile Home Park, City of Weatherford, City of Hudson Oaks, City of Willow Park	NO
AUBREY	DENTON	4,597	547	YES	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Ray Roberts; **Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Mustang SUD	Mustang SUD, City of Denton, Bolivar WSC, Blackrock WSC, City of Pilot Point	YES
AVALON WATER SUPPLY & SEWER SERVICE	ELLIS	1,182	149	NO	NO	YES	YES	NO	NO	NO	YES	**Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer	South Ellis County WSC, Navarro Mils WSC, B and B WSC, City of Italy, Rice Water Supply and Sewer Service, Buena Vista-Bethel SUD, City of Corsicana, City of Blooming Grove, City of Frost	NO
BETHEL-ASH WSC	HENDERSON (C), HENDERSON (I), VAN ZANDT (D)	6,174	628	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer, Queens City Aquifer, Sparta Aquifer; **Emergency Interconnect:** City of Eustace, Athens Land Company, Lakeshore Utility Co Inc., Crescent Heights WSC, Rick Brown, Virginia WSC, Leagueville WSC, Monarch Utilities, Martin Mill WSC, Little Hope-Moore WSC MacBee SUD, Toe WSC; **Other Named Local Supply:** Cream Level Creek, Little Duncan Branch, One Mile Creek, Lake Athens, Cedar Creek Reservoir	City of Eustace, Athens Land Company, Lakeshore Utility Co Inc., Crescent Heights WSC, Rick Brown, Virginia WSC, Leagueville WSC, Monarch Utilities, Martin Mill WSC, Little Hope-Moore WSC, MacBee SUD, Toe WSC	NO
BLACK ROCK WSC	DENTON	1,570	296	YES	YES	YES	NO	NO	NO	NO	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:**	**Release from Upstream Reservoir:** Lake Ray Roberts; **Local Groundwater Well:** Trinity Aquifer	Mustang SUD, City of Denton, Bolivar WSC, City of Pilot Point	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
												Conveyance Infrastructure; **Trucked in Water:** None			
BLUE RIDGE	COLLIN	2,425	413	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Frognot WSC, Verona WSC, Westminster; **Other Named Local Supply:** Pilot Grove Creek	Frognot WSC, Verona WSC, Westminster	NO
BOIS D'ARC MUD	FANNIN	2,319	273	YES	NO	YES	NO	NO	NO	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Trucked in Water:** None	**Release from Upstream Reservoir:** Bois D'arc Lake **Local Groundwater Well:** Trinity Aquifer; **Other Named Local Supply:** Bois D'arc Creek	Town of Windom, City of Dodd City, City of Honey Grove, Mccraw Chapel WSC, Dial WSC, City of Bonham, White Shed WSC	NO
BRANDON-IRENE WSC	ELLIS, NAVARRO, HILL (G)	2,013	265	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Files Valley WSC, South Ellis County WSC, Navarro Mills WSC, Post Oak SUD, City of Malone, City of Bynum, Chatt WSC, City of Hillsboro; **Other Named Local Supply:** Richard Creek, Navarro Mills, Mill Creek;	Files Valley WSC, South Ellis County WSC, Navarro Mills WSC, Post Oak SUD, City of Malone, City of Bynum, Chatt WSC, City of Hillsboro	NO
BUTLER WSC	FREESTONE	1,459	223	NO	NO	YES	NO	NO	NO	YES	YES	**Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer; **Other Named Local Supply:** Trinity River	South Freestone WSC, Tucker WSC, City of Oakwood, Turlington WSC	NO
COLLINSVILLE	GRAYSON	2,567	282	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Two Way SUD, City of Tioga, Kiowa Homeowners WSC; **Other Named Local Supply:** Ray Roberts Lake;	Two Way SUD, City of Tioga, Kiowa Homeowners WSC	NO
COUNTY-OTHER	COLLIN	4,000	627	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Allen, Frisco, McKinney, Plano		NO
COUNTY-OTHER	COOKE	5,627	743	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:**	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Gainesville, Muenster		NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
												Conveyance facilities; **Trucked in Water:** None			
COUNTY-OTHER	DALLAS	1,092	2,229	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Dallas		NO
COUNTY-OTHER	DENTON	9,573	1,199	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Denton		NO
COUNTY-OTHER	ELLIS	3,392	414	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Ennis, Midlothian, Rockett SUD, Waxahachie		NO
COUNTY-OTHER	FANNIN	5,959	663	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Bonham		NO
COUNTY-OTHER	FREESTONE	4,101	422	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Fairfield, Teague, Wortham		NO
COUNTY-OTHER	GRAYSON	5,882	747	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Denison, Sherman, Whitesboro		NO
COUNTY-OTHER	HENDERSON (C), HENDERSON (I)	10,948	1,004	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer, Queen City Aquifer Woodbine Aquifer; **Emergency Interconnect:** Athens, East Cedar Creek FWSD, West Cedar Creek MUD		NO
COUNTY-OTHER	JACK	4,878	545	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Cross Timbers Aquifer; **Emergency Interconnect:** Jacksboro, Bryson		NO
COUNTY-OTHER	KAUFMAN	1,559	172	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment	**Local Groundwater Well:** Nacatoch Aquifer; **Emergency Interconnect:**		NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
												Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	College Mound WSC, Forney, Kaufman, Terrell, West Cedar Creek MUD		
COUNTY-OTHER	NAVARRO	2,298	261	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Nacatoch Aquifer, Other Aquifer; **Emergency Interconnect:** Chatfield WSC, Corsicana, Navarro Mills WSC		NO
COUNTY-OTHER	PARKER	50,936	6,614	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Fort Worth, Walnut Creek SUD, Weatherford		NO
COUNTY-OTHER	ROCKWALL	2,491	401	NO	NO	NO	NO	NO	NO	NO	YES	**Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Emergency Interconnect:** Blackland WSC, Rockwall, Heath, Rockwall, Rowlett, Royse City, Wylie		NO
COUNTY-OTHER	TARRANT	31,254	7,212	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Arlington, Bedford, Benbrook, Bethesda WSC, Burleson, Colleyville, Crowley, Euless, Fort Worth, Grand Prairie, Grapevine, Haltom City, Hurst, Keller, Mansfield, North Richland Hills, Saginaw, Southlake, Watauga, White Settlement		NO
COUNTY-OTHER	WISE	33,674	4,043	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Bridgeport, Decatur, Fort Worth, Walnut Creek SUD, West Wise SUD		NO
CRESCENT HEIGHTS WSC	HENDERSON	1,885	163	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer	Athens, Malakoff, CRC WSC, Virginia Hill WSC, Lakeshore Utility Company Inc., Payne Springs WSC, City of Log Cabin, Bethel-Ash WSC, City of Eustace, Dogwood Estates Water	NO
DOGWOOD ESTATES WATER	HENDERSON	1,205	183	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well**: Conveyance Infrastructure; **Emergency Interconnect:** Conveyance Infrastructure; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer	Bethel-Ash WSC, Athens, Murchison, City of Eustace, Virginia Hill WSC, Crescent Heights WSC, Leagueville WSC	NO
EUSTACE	HENDERSON	1,170	126	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities,	**Local Groundwater Well:** Carrizo-Wilcox Aquifer; **Emergency Interconnect:** Bethel-Ash WSC, Athens Land Company, Payne Springs WSC, East Cedar Creek FWSD, City of Mabank, Quality Water	Bethel-Ash WSC, Athens Land Company, Payne Springs WSC, East Cedar Creek FWSD, City of Mabank, Quality Water of East Texas	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
												Treatment Facilities; **Trucked in Water:** None	of East Texas; **Other Named Local Supply:** Cedar Creek Reservoir		
EVERMAN	TARRANT	6,153	529	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer	Bethesda WSC, City of Kennedale, City of Fort Worth, City of Forest Hill, City of Crowley, City of Arlington, City of Edgecliff, City of Burleson, Johnson County SUD	NO
FAIRFIELD	FREESTONE	4,593	955	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer	South Freestone WSC, Ward Prairie WSC, Turlington WSC, Pleasant Grove WSC	NO
FLO COMMUNITY WSC	FREESTONE, LEON (H)	3,079	392	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer, Queen City and Sparta Aquifer; **Emergency Interconnect:** South Freestone WSC, Butler WSC, St. Paul Shiloh-Timesville WSC, Consolidation WSC, Southeast WSC, Concord Robbins WSC; **Other Named Local Supply:** Upper Keechi Creek	South Freestone WSC, Butler WSC, St. Paul Shiloh-Timesville WSC, Consolidation WSC, Southeast WSC, Concord Robbins WSC	NO
FROGNOT WSC	COLLIN, HUNT (D)	1,657	174	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer	City of Blue Ridge, Desert WSC, Westminster WSC, Verona WSC, Hickory Creek SUD, South Grayson WSC, City of Anna, North Collin SUD, West Leonard WSC, North Farmersville WSC, Caddo Basin SUD	NO
GUNTER	GRAYSON	1,841	297	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Marilee SUD; **Other Named Local Supply:** Little Elm Creek	Marilee SUD	NO
HICKORY CREEK SUD	COLLIN, FANNIN, HUNT (D)	4,673	465	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer, Nacatoch Aquifer; **Emergency Interconnect:** Frognot WSC, West Leonard WSC, City of Leonard, Southwest Fannin County SUD, Arledge Ridge WSC, City of Wolfe City, North Hunt SUD, Jacobia WSC, City of Greenville, Caddo Basin SUD; **Other Named Local Supply:** Hickory Creek, Tidwell Creek, Horse Creek, Honey Creek	Frognot WSC, West Leonard WSC, City of Leonard, Southwest Fannin County SUD, Arledge Ridge WSC, City of Wolfe City, North Hunt SUD, Jacobia WSC, City of Greenville, Caddo Basin SUD	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
HONEY GROVE	FANNIN	1,817	292	NO	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; Groundwater field near the intersection of Hwy 82 and 100th St. **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Bois D' Arc MUD, Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Bois D' Arc MUD, Lamar County Water Supply District, Dial WSC, Mccraw Chapel WSC	Bois D' Arc MUD, Lamar County Water Supply District, Dial WSC, Mccraw Chapel WSC	YES
HORSESHOE BEND WATER SYSTEM	PARKER	1,655	157	NO	NO	YES	NO	NO	NO	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Other Named Local Supply:** Brazos River	Parker County SUD, Rio Brazos WSC, Monarch Utilities	NO
JACKSBORO	JACK	4,873	682	NO	NO	NO	NO	NO	YES	YES	YES	**Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Emergency Interconnect:** City of Bryson, Walnut Creek SUD; **Other Named Local Supply:** West Fork Trinity River, Bridgeport Reservoir	City of Bryson, Walnut Creek SUD	NO
KENTUCKYTOWN WSC	GRAYSON	2,856	355	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** City if Tom Bean, Pink Hill WSC, City of Bells, Southwest Fannin County SUD, City of Whitewright, South Grayson WSC, Luella WSC; **Other Named Local Supply:** Bois D' Arc Creek	City of Tom Bean, Pink Hill WSC, City of Bells, Southwest Fannin County SUD, City of Whitewright, South Grayson WSC, Luella WSC	NO
LAKE KIOWA SUD	COOKE	2,200	891	NO	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Woodbine WSC	Woodbine WSC	NO
LADONIA	FANNIN	1,600	248	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Mccraw Chapel WSC, DIAL WSC, Delta County MUD, North Hunt SUD, Bartley WSC, Arledge Ridge WSC, City of Dodd City, Town of Windom; **Other Named Local Supply:** North Sulphur River, Pecan Creek, Middle Sulphur River	Mccraw Chapel WSC, DIAL WSC, Delta County MUD, North Hunt SUD, Bartley WSC, Arledge Ridge WSC, City of Dodd City, Town of Windom	NO
LAKESIDE	TARRANT	1,350	370	NO	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:**	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Aqua Texas Inc., City of Fort Worth	Aqua Texas Inc., City of Fort Worth	YES

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
												Conveyance facilities; **Trucked in Water:** None			
LEONARD	FANNIN	2,200	328	NO	NO	YES	YES	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Southwest Fannin County SUD, Hickory Creek SUD, West Leonard WSC, Arledge Ridge WSC	Southwest Fannin County SUD, Hickory Creek SUD, West Leonard WSC, Arledge Ridge WSC	NO
LINDSAY	COOKE	1,325	173	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Myra Water System, City of Muenster, City of Gainesville, Bolivar WSC, ERA WSC; **Other Named Local Supply:** Elm Fork Trinity River	Myra Water System, City of Muenster, City of Gainesville, Bolivar WSC, ERA WSC	NO
LUELLA SUD	GRAYSON	3,680	387	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** City of Sherman, Pink Hill WSC, Kentuckytown WSC, South Grayson WSC, City of Howe; **Other Named Local Supply:** Deaver Creek	City of Sherman, Pink Hill WSC, Kentuckytown WSC, South Grayson WSC, City of Howe	NO
MOUNTAIN SPRINGS WSC	COOKE, DENTON	2,709	454	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer	Woodbine WSC, City of Tioga, City of Gainesville, Bolivar WSC, City of Collinsville	NO
MUENSTER	COOKE	1,564	268	NO	NO	YES	NO	NO	YES	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Muenster; **Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** Forestburg WSC, City of Gainesville, City of Lindsay, Myra Water System, Bolivar WSC; **Other Named Local Supply:** Elm Fork Trinity River	Forestburg WSC, City of Gainesville, City of Lindsay, Myra Water System, Bolivar WSC	NO
NAVARRO MILLS WSC	NAVARRO	3,128	333	YES	NO	YES	YES	NO	YES	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Navarro Mills; **Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** South Ellis County WSC, City of Frost, Avalon Water & Sewer SVC Corp, City of Blooming Grove, City of Corsicana, Corbet WSC, Community Water Company, Post Oak SUD, Brandon-Irene WSC; **Other Named Local Supply:** Richland Creek	South Ellis County WSC, City of Frost, Avalon Water & Sewer SVC Corp, City of Blooming Grove, City of Corsicana, Corbet WSC, Community Water Company, Post Oak SUD, Brandon-Irene WSC	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
NEW FAIRVIEW	WISE	1,597	163	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Emergency Interconnect:** Aqua Texas Inc., Longhorn Company, City of Justin, City of Rhome; **Other Named Local Supply:** Trail Creek, Denton Creek	Aqua Texas Inc., Longhorn Company, City of Justin, City of Rhome	NO
NEWARK	WISE	1,772	194	NO	NO	YES	YES	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** City of Rhome	City of Rhome	NO
NORTHWEST GRAYSON COUNTY WCID 1	GRAYSON	1,906	194	YES	NO	YES	NO	NO	NO	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Texoma; **Local Groundwater Well**: Trinity Aquifer; **Other Named Local Supply:** Red River	Monarch Utilities, Callisburg WSC, Two Way SUD, City of Pottsboro, Woodbine WSC	NO
NORTH HUNT SUD	FANNIN, DELTA (D), HUNT (D)	4,333	291	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** City of Wolfe City, Arledge Ridge WSC, Bartley Woods WSC, Town of Windom, Mccraw Chapel WSC, City of Ladonia, Delta County MUD, West Delta WSC, City of Commerce, Maloy WSC, Campbell WSC, Jacobia WSC, City of Greenville, Hickory Creek SUD; **Other Named Local Supply:** Pecan Creek, Middle Sulphur River, Upper Sulphur River, Cooper Lake	City of Wolfe City, Arledge Ridge WSC, Bartley Woods WSC, Town of Windom, Mccraw Chapel WSC, City of Ladonia, Delta County MUD, West Delta WSC, City of Commerce, Maloy WSC, Campbell WSC, Jacobia WSC, City of Greenville, Hickory Creek SUD	NO
PANTEGO	TARRANT	2,653	686	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** City of Dalworthington Gardens, City of Arlington; **Other Named Local Supply:** Kee Branch	City of Dalworthington Gardens, City of Arlington	NO
PELICAN BAY	TARRANT	1,684	113	YES	NO	YES	YES	NO	YES	NO	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Eagle Mountain Lake; **Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** City of Azle, City of Fort Worth, Community WSC;	City of Azle, City of Fort Worth, Community WSC	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
PILOT POINT	DENTON	6,500	891	YES	NO	YES	NO	NO	YES	NO	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Ray Roberts; **Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Mustang SUD	Mustang SUD	YES
PLEASANT GROVE WSC	FREESTONE, NAVARRO	1,354	135	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer	Winkler WSC, Ward Prairie WSC, City of Fairfield, M E N WSC	NO
PONDER	DENTON	3,117	388	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer	Aqua Texas Inc, City of Denton, Town of Northlake, City of Justin, Bolivar WSC, City of Denton	NO
SOUTH ELLIS COUNTY WSC	ELLIS, NAVARRO	1,622	416	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer	South Ellis County WSC, Navarro Mils WSC, B and B WSC, City of Italy, Rice Water Supply and Sewer Service, Buena Vista-Bethel SUD, City of Corsicana, City of Blooming Grove, City of Frost	NO
SOUTHMAYD	GRAYSON	1,281	143	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Wel**l: Trinity Aquifer	Monarch Utilities, Callisburg WSC, Two Way SUD, City of Pottsboro, Woodbine WSC, Lass Water Company, City of Sherman, City of Dorchester, Aqua Texas Inc	NO
STARR WSC	GRAYSON	2,355	242	YES	NO	YES	NO	NO	NO	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Texoma; **Local Groundwater Well**: Trinity Aquifer; **Other Named Local Supply:** Red River	City of Denison, Oak Ridge-South Gale WSC, Southwest Fannin County SUD, City of Sherman, Pink Hill WSC	NO
SOUTHWEST FANNIN COUNTY SUD	FANNIN, GRAYSON	5,835	578	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Starr WSC, Oak Ridge-South Gale WSC, City of bells, City of Savoy, Ravenna Nunnelee WSC, City of Bonham, Randolph WSC, Arledge Ridge WSC, West Leonard WSC, Desert WSC, City of Trenton, City of Whitewright, Kentuckytown WSC; **Other Named Local Supply:** Bois D' Arc Creek, Red River	Starr WSC, Oak Ridge-South Gale WSC, City of bells, City of Savoy, Ravenna Nunnelee WSC, City of Bonham, Randolph WSC, Arledge Ridge WSC, West Leonard WSC, Desert WSC, City of Trenton, City of Whitewright, Kentuckytown WSC	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
TEAGUE	FREESTONE	4,029	683	NO	NO	YES	YES	NO	NO	NO	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer	South Freestone, Pleasant Grove WSC, City of Fairfield	NO
TIOGA	GRAYSON	1,209	165	NO	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** City of Collinsville, Two Way SUD, Marilee SUD, City of Celina, Mustang SUD, City of Pilot Point	City of Collinsville, Two Way SUD, Marilee SUD, City of Celina, Mustang SUD, City of Pilot Point	NO
TOM BEAN	GRAYSON	1,256	237	NO	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Kentuckytown WSC	Kentuckytown WSC	NO
TRENTON	FANNIN	736	136	NO	NO	YES	NO	NO	YES	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Southwest Fannin County SUD, Desert WSC	Southwest Fannin County SUD, Desert WSC	NO
TRINIDAD	HENDERSON	1,026	105	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer; **Emergency Interconnect:** West Cedar Creek MUD, Community Water Company, Monarch Utilities, Crescent Heights WSC, Aqua Texas Inc., CRC WSC, Chatfield WSC, City of Kerens; **Other Named Local Supply:** Trinity River, Cedar Creek Reservoir	West Cedar Creek MUD, Community Water Company, Monarch Utilities, Crescent heights WSC, Aqua Texas Inc., CRC WSC, Chatfield WSC, City of Kerens	YES
TWO WAY SUD	COOKE, GRAYSON	6,256	693	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Northwest Grayson Co WCID 1, City of Southmayd, City of Pottsboro, City of Denison, Lass Water Company, City of Dorchester, City of Tioga, City of Collinsville, Woodbine WSC, City of Whitesboro, Callisburg WSC; **Other Named Local Supply:** Big Mineral Creek, Mustang Creek Deaver Creek, Lake Texoma	Northwest Grayson Co WCID 1, City of Southmayd, City of Pottsboro, City of Denison, Lass Water Company, City of Dorchester, City of Tioga, City of Collinsville, Woodbine WSC, City of Whitesboro, Callisburg WSC	NO
VERONA SUD	COLLIN	2,648	266	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer	City of Blue Ridge, Frognot WSC, North Collin SUD, City of Princeton, North Farmersville WSC, Westminster WSC	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
VIRGINIA HILL WSC	HENDERSON (C), HENDERSON (I)	4,106	396	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Carrizo-Wilcox Aquifer, queen City Aquifer, Sparta Aquifer; **Emergency Interconnect:** CRC WSC, Aqua Texas Inc., Rick Brown, Bethel-Ash WSC, Leagueville WSC, Moore Station WSC, Monarch utilities LP, Poynor Community WSC, Brushy Creek WSC, BBS WSC; **Other Named Local Supply:** Caddo Creek	CRC WSC, Aqua Texas Inc., Rick Brown, Bethel-Ash WSC, Leagueville WSC, Moore Station WSC, Monarch utilities LP, Poynor Community WSC, Brushy Creek WSC, BBS WSC	NO
WHITESBORO	GRAYSON	3,839	469	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Two Way SUD; **Other Named Local Supply:** Big Mineral Creek	Two Way SUD	NO
WHITE SHED WSC	FANNIN	2,769	301	NO	NO	YES	NO	NO	NO	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Other Named Local Supply:** Red River	Bois D'arc MUD, City of Bonham, Ravenna Nunnelee WSC	NO
WHITEWRIGHT	FANNIN, GRAYSON	1,906	261	NO	NO	YES	NO	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Trinity Aquifer, Woodbine Aquifer; **Emergency Interconnect:** Southwest Fannin County SUD, Desert WSC, South Grayson WSC, Kentuckytown WSC; **Other Named Local Supply:** Bois D' Arc Creek	Southwest Fannin County SUD, Desert WSC, South Grayson WSC, Kentuckytown WSC; Other Named Local Supply: Bois D' Arc Creek	NO
WILLOW PARK	PARKER	5,500	856	YES	NO	YES	NO	NO	NO	YES	YES	**Release from Upstream Reservoir:** Conveyance and treatment facilities; **Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Release from Upstream Reservoir:** Lake Weatherford; **Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** City of Weatherford (in negotiations), Walnut Creek SUD, Aqua Texas Inc., New Progress WSC, Rolling Hills Estates WSC, City of Fort Worth, City of Aledo, Town of Annetta, Highland WSC, City of Hudson Oaks; **Other Named Local Supply:** Clear Fork Trinity River	City of Weatherford (in negotiations), Walnut Creek SUD, Aqua Texas Inc., New Progress WSC, Rolling Hills Estates WSC, City of Fort Worth, City of Aledo, Town of Annetta, Highland WSC, City of Hudson Oaks	YES
WOODBINE WSC	COOKE, GRAYSON	6,210	659	NO	NO	YES	NO	NO	NO	NO	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities,	**Local Groundwater Well:** Trinity Aquifer; **Emergency Interconnect:** R & N enterprises, Oak Ridge ventures Inc., Callisburg WSC, Two Way SUD, City of Collinsville, Mountain Springs WSC City of Gainesville; **Other**	R & N enterprises, Oak Ridge ventures Inc., Callisburg WSC, Two Way SUD, City of Collinsville, Mountain Springs WSC City of Gainesville	NO

Water User Group Name	County	2020 Population	2020 Demand (Ac Ft/Yr)	Release from upstream reservoir	Curtailment of upstream/downstream water rights	Local groundwater well	Brackish groundwater limited treatment	Brackish groundwater desalination	Emergency interconnect	Other named local supply	Trucked in water	Type of infrastructure required	Entity providing supply	Other local entities required to participate/coordinate	Emergency agreements/ Arrangements already in place?
												Treatment Facilities; **Trucked in Water:** None	**Named Local Supply:** Big Mineral Creek		
WORTHAM	FREESTONE	1,185	169	NO	NO	YES	YES	NO	YES	YES	YES	**Local Groundwater Well:** Conveyance facilities, Treatment Facilities; **Emergency Interconnect:** Conveyance facilities; **Other Named Local Supply:** Conveyance facilities, Treatment Facilities; **Trucked in Water:** None	**Local Groundwater Well:** Carrizo-Wilcox Aquifer; **Emergency Interconnect:** Corbet WSC, Pleasant Grove WSC, Point enterprise WSC, City of Mexia, White Rock WSC, Post Oak SUD; **Other Named Local Supply:** Tehuacana Creek	Corbet WSC, Pleasant Grove WSC, Point enterprise WSC, City of Mexia, White Rock WSC, Post Oak SUD	NO

Appendix N

Infrastructure Financing Information

Appendix N Infrastructure Financing

This appendix contains information related to Chapter 9, Infrastructure Funding Recommendations. An Infrastructure Financing Survey, developed by the TWDB, requested information from water suppliers regarding the amount of desired funding from TWDB financial assistance categories. A cover letter was provided with each survey to explain the intent of the survey. The capital cost of each water management strategy project was provided based information entered by consultants in TWDB’s online regional planning database (DB22). Recipients were asked to provide updated contact information, an amount of funding requested for each TWDB category, the first year that the funding would be needed for each category, and the percent state participation in excess capacity of the project that may be required.

This appendix includes information related to infrastructure financing. Specific items included are:

- Cover letter mailed with surveys
- Example of infrastructure financing survey sent to water suppliers (first 2 pages only)
- Summary of survey responses to questionnaires

REGION C WATER PLANNING GROUP

Senate Bill One Fourth Round of Regional Water Planning - Texas Water Development Board

April 20, 2020

Subject: Financing of Water Management Strategies in the Regional Water Plan

Dear Water Provider:

As you may know, the *2021 Initially Prepared Region C Water Plan* (IPP) is available for public review and comment. You were contacted earlier this year regarding the future water supply plans for your entity, and those future plans have been included in the IPP. A copy of the IPP can be found at www.regioncwater.org and clicking on the link at the top of the page. Information specific to your entity can be found in either Chapter 5D (Major and Regional Water Providers) or Chapter 5E (Wholesale Water Providers and Water User Groups by County).

As required by the Texas Water Development Board (TWDB), at this time we are soliciting input on the manner in which you will be financing the projects listed in the IPP for your entity, and in particular whether you intend to seek TWDB funding for these projects. This information will assist TWDB in financially preparing to meet the State's water needs through their State Water Infrastructure Implementation Fund for Texas (SWIFT) and other funding programs.

Attached is a brief questionnaire developed by TWDB using information from the IPP. The survey includes all the projects for which you are listed as a sponsor and asks how much, if any, of the cost you anticipate needing from TWDB funding programs and when (what year) the funds would be needed. **Please respond by email to the attached questions and return by May 22, 2020.** *If you do not intend to use TWDB funding for any of your projects, please indicate this on the survey in the comments section.*

Additionally, here's a few items to note when filling out the survey:

- The projects are in alphabetical order rather than the order in which you would construct them.
- The projects listed as "Conservation, Water Loss Control" represent our estimation of replacement cost for distribution pipelines that are currently a source of excessive water losses. (This does not represent your entire pipe replacement program).
- A breakdown of the cost estimate(s) shown within the surveys can be found in Appendix H of the IPP. Please refer to that appendix if you would like further details on the cost estimate.

If you have any questions or want additional information, please call Dario Sanchez at (214)589-6940 or Katie Stowers at (214)589-6935. Thank you for taking time to respond.

Sincerely,

J
Chair, Region C Water Planning Group

Infrastructure Financing Survey Report

Project Sponsor Name:	Example IFR sent to WUGs
Primary Planning Region:	C

Contact Information:

Name:	
Phone Number:	
Email:	
Comments:	

As part of the state water planning process, regional water planning groups recommend water supply projects for each of their respective regions. The Texas Water Development Board (TWDB) has several funding programs for water projects that support the planning, design, and construction of water supply projects with several financing options including low-interest loans and deferral of principal and interest. Texas Water Code Section 16.053 (q) requires the regional water planning groups to examine the financing needed to implement the water management strategies and projects recommended in their regional plan.

This Infrastructure Financing Survey is a tool to gather information regarding how you, as a project sponsor, anticipate financing the water supply projects recommended to meet your needs in the 2021 regional water plan, including whether you, as a sponsor, intend to use financial assistance programs offered by the State of Texas and administered by the TWDB.

More information on these financial assistance programs can be found at the TWDB website at:
http://www.twdb.texas.gov/financial/index.asp

Your cooperation and responses to these questions are crucial to assisting the state in providing ongoing funding opportunities to ensure that our communities and our citizens have adequate water supplies. Note that a response to this survey is required for any entity seeking SWIFT funding for state water plan projects.

Please enter only the share of total project costs that you wish to receive through a TWDB program in the "Share of Costs" fields and do not enter a specific portion of a project cost more than once.

Projects you are designated as sponsoring in the Regional Water Plan

For each of the project(s) listed below **for which you are designated as sponsor**, please enter only the funding amounts you anticipate requesting from TWDB categories in the '**Amount**' field; enter the earliest '**Year Needed**' date that you anticipate requiring these amounts; and, enter in the '**State Ownership**' field the percent share of the overall project capacity that you anticipate the state taking initial ownership of. Note that the total amount entered into the separate funding categories may not exceed the **Project Total Capital Cost**. **Only enter the amount of funding that you expect to request from state funding programs.**

Data descriptions:

1) Planning, Design, Permitting, and Acquisition Funding: Enter portion of total costs into the 'Planning and Acquisition' category for which you anticipate applying for a low interest loan from TWDB for development efforts leading up to construction. This option includes providing funding for all pre-construction stages of the project.

2) Construction Funding: Enter portion of total costs into the 'Construction' category for which you anticipate applying for state funding to construct your project using a low interest loan from TWDB.

3) Percent State Participation in Excess Capacity of the Project: Enter the percent share of the total project capacity that will not be needed within the first 10 years of the project life. For some larger projects that qualify, the state may acquire a temporary ownership interest in some percentage portion of the project which allows entities to optimally size a regional project with excess capacity that won't be needed until the future. The entity buys back the state's portion of the facility over time. Principal and interest are deferred on the state-owned portion of project.

Water Management Strategy- Project Name:		**Project Total Capital Cost:**	
1) Planning, Design, Permitting & Acquisition Funding	Amount: $	Year Needed:	
2) Construction Funding	Amount: $	Year Needed:	
Total Anticipated State Funding Assistance:	$ *sum above*		
3) Percent State Participation in Owning Excess Capacity		State Ownership:	%

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
ABLES SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - ABLES SPRINGS WSC	C	PLANNING, DESIGN, PERMIT	$0.00	N/A		155	832	1
ABLES SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - ABLES SPRINGS WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		155	832	2
ABLES SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - ABLES SPRINGS WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			155	832	3
ADDISON	C	CONSERVATION, IRRIGATION RESTRICTION - ADDISON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				157	3304	1
ADDISON	C	CONSERVATION, IRRIGATION RESTRICTION - ADDISON	C	CONSTRUCTION FUNDING				157	3304	2
ADDISON	C	CONSERVATION, IRRIGATION RESTRICTION - ADDISON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				157	3304	3
ADDISON	C	CONSERVATION, WATER LOSS CONTROL - ADDISON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				157	1279	1
ADDISON	C	CONSERVATION, WATER LOSS CONTROL - ADDISON	C	CONSTRUCTION FUNDING				157	1279	2
ADDISON	C	CONSERVATION, WATER LOSS CONTROL - ADDISON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				157	1279	3
ALEDO	C	ALEDO - PARALLEL PIPELINE & PUMP STATION EXPANSION FROM FO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		162	1099	1
ALEDO	C	ALEDO - PARALLEL PIPELINE & PUMP STATION EXPANSION FROM FO	C	CONSTRUCTION FUNDING	$0.00	N/A		162	1099	2
ALEDO	C	ALEDO - PARALLEL PIPELINE & PUMP STATION EXPANSION FROM FO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			162	1099	3
ALEDO	C	CONSERVATION, WATER LOSS CONTROL - ALEDO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		162	1280	1
ALEDO	C	CONSERVATION, WATER LOSS CONTROL - ALEDO	C	CONSTRUCTION FUNDING	$0.00	N/A		162	1280	2
ALEDO	C	CONSERVATION, WATER LOSS CONTROL - ALEDO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			162	1280	3
ALLEN	C	CONSERVATION, WATER LOSS CONTROL - ALLEN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		164	1281	1
ALLEN	C	CONSERVATION, WATER LOSS CONTROL - ALLEN	C	CONSTRUCTION FUNDING	$0.00	N/A		164	1281	2
ALLEN	C	CONSERVATION, WATER LOSS CONTROL - ALLEN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			164	1281	3
ALVORD	C	ALVORD - CONNECT TO WEST WISE SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				171	4082	1
ALVORD	C	ALVORD - CONNECT TO WEST WISE SUD	C	CONSTRUCTION FUNDING				171	4082	2
ALVORD	C	ALVORD - CONNECT TO WEST WISE SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				171	4082	3
ALVORD	C	CONSERVATION, WATER LOSS CONTROL - ALVORD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				171	1282	1
ALVORD	C	CONSERVATION, WATER LOSS CONTROL - ALVORD	C	CONSTRUCTION FUNDING				171	1282	2
ALVORD	C	CONSERVATION, WATER LOSS CONTROL - ALVORD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				171	1282	3
ANNA	C	ANNA - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		177	4012	1
ANNA	C	ANNA - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING	$0.00	N/A		177	4012	2
ANNA	C	ANNA - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			177	4012	3
ANNA	C	CONSERVATION – WASTE PROHIBITION, ANNA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		177	3426	1
ANNA	C	CONSERVATION – WASTE PROHIBITION, ANNA	C	CONSTRUCTION FUNDING	$0.00	N/A		177	3426	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
ANNA	C	CONSERVATION – WASTE PROHIBITION, ANNA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			177	3426	3
ANNA	C	CONSERVATION, IRRIGATION RESTRICTION - ANNA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		177	3303	1
ANNA	C	CONSERVATION, IRRIGATION RESTRICTION - ANNA	C	CONSTRUCTION FUNDING	$0.00	N/A		177	3303	2
ANNA	C	CONSERVATION, IRRIGATION RESTRICTION - ANNA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			177	3303	3
ANNA	C	CONSERVATION, WATER LOSS CONTROL - ANNA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		177	1283	1
ANNA	C	CONSERVATION, WATER LOSS CONTROL - ANNA	C	CONSTRUCTION FUNDING	$0.00	N/A		177	1283	2
ANNA	C	CONSERVATION, WATER LOSS CONTROL - ANNA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			177	1283	3
ANNETTA	C	ANNETTA - CONNECT TO WEATHERFORD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		178	1101	1
ANNETTA	C	ANNETTA - CONNECT TO WEATHERFORD	C	CONSTRUCTION FUNDING	$0.00	N/A		178	1101	2
ANNETTA	C	ANNETTA - CONNECT TO WEATHERFORD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			178	1101	3
ANNETTA	C	CONSERVATION, WATER LOSS CONTROL - ANNETTA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		178	1284	1
ANNETTA	C	CONSERVATION, WATER LOSS CONTROL - ANNETTA	C	CONSTRUCTION FUNDING	$0.00	N/A		178	1284	2
ANNETTA	C	CONSERVATION, WATER LOSS CONTROL - ANNETTA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			178	1284	3
ARGYLE WSC	C	ARGYLE WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$443,250.00	2024		189	4013	1
ARGYLE WSC	C	ARGYLE WSC - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING	$2,511,750.00	2025		189	4013	2
ARGYLE WSC	C	ARGYLE WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			189	4013	3
ARGYLE WSC	C	CONSERVATION – WASTE PROHIBITION, ARGYLE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		189	1564	1
ARGYLE WSC	C	CONSERVATION – WASTE PROHIBITION, ARGYLE WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		189	1564	2
ARGYLE WSC	C	CONSERVATION – WASTE PROHIBITION, ARGYLE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			189	1564	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
ARGYLE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - ARGYLE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		189	3305	1
ARGYLE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - ARGYLE WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		189	3305	2
ARGYLE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - ARGYLE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			189	3305	3
ARGYLE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARGYLE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$46,553.55	2025		189	1288	1
ARGYLE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARGYLE WSC	C	CONSTRUCTION FUNDING	$263,803.45	2026		189	1288	2
ARGYLE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARGYLE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			189	1288	3
ARLEDGE RIDGE WSC	C	ARLEDGE RIDGE WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12911	3820	1
ARLEDGE RIDGE WSC	C	ARLEDGE RIDGE WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING				12911	3820	2
ARLEDGE RIDGE WSC	C	ARLEDGE RIDGE WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12911	3820	3
ARLEDGE RIDGE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARLEDGE RIDGE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12911	2899	1
ARLEDGE RIDGE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARLEDGE RIDGE WSC	C	CONSTRUCTION FUNDING				12911	2899	2
ARLEDGE RIDGE WSC	C	CONSERVATION, WATER LOSS CONTROL - ARLEDGE RIDGE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12911	2899	3
ARLINGTON	C	CONSERVATION, IRRIGATION RESTRICTION - ARLINGTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				190	3306	1
ARLINGTON	C	CONSERVATION, IRRIGATION RESTRICTION - ARLINGTON	C	CONSTRUCTION FUNDING				190	3306	2
ARLINGTON	C	CONSERVATION, IRRIGATION RESTRICTION - ARLINGTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				190	3306	3
ARLINGTON	C	CONSERVATION, WATER LOSS CONTROL - ARLINGTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				190	1289	1
ARLINGTON	C	CONSERVATION, WATER LOSS CONTROL - ARLINGTON	C	CONSTRUCTION FUNDING				190	1289	2
ARLINGTON	C	CONSERVATION, WATER LOSS CONTROL - ARLINGTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				190	1289	3
ATHENS	C	CONSERVATION – WASTE PROHIBITION, ATHENS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				195	1565	1
ATHENS	C	CONSERVATION – WASTE PROHIBITION, ATHENS	C	CONSTRUCTION FUNDING				195	1565	2
ATHENS	C	CONSERVATION – WASTE PROHIBITION, ATHENS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				195	1565	3
ATHENS	C	CONSERVATION, IRRIGATION RESTRICTION - ATHENS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				195	3307	1
ATHENS	C	CONSERVATION, IRRIGATION RESTRICTION - ATHENS	C	CONSTRUCTION FUNDING				195	3307	2
ATHENS	C	CONSERVATION, IRRIGATION RESTRICTION - ATHENS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				195	3307	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
ATHENS	C	CONSERVATION, WATER LOSS CONTROL - ATHENS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				195	1290	1
ATHENS	C	CONSERVATION, WATER LOSS CONTROL - ATHENS	C	CONSTRUCTION FUNDING				195	1290	2
ATHENS	C	CONSERVATION, WATER LOSS CONTROL - ATHENS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				195	1290	3
AUBREY	C	CONSERVATION, WATER LOSS CONTROL - AUBREY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				197	1291	1
AUBREY	C	CONSERVATION, WATER LOSS CONTROL - AUBREY	C	CONSTRUCTION FUNDING				197	1291	2
AUBREY	C	CONSERVATION, WATER LOSS CONTROL - AUBREY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				197	1291	3
AVALON WATER SUPPLY & SE	C	CONSERVATION, WATER LOSS CONTROL - AVALON WATER SUPPLY A	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		12913	2900	1
AVALON WATER SUPPLY & SE	C	CONSERVATION, WATER LOSS CONTROL - AVALON WATER SUPPLY A	C	CONSTRUCTION FUNDING	$0.00	N/A		12913	2900	2
AVALON WATER SUPPLY & SE	C	CONSERVATION, WATER LOSS CONTROL - AVALON WATER SUPPLY A	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			12913	2900	3
AZLE	C	AZLE - 4 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		199	859	1
AZLE	C	AZLE - 4 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$25,410,000.00	2030		199	859	2
AZLE	C	AZLE - 4 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			199	859	3
AZLE	C	CONSERVATION, WATER LOSS CONTROL - AZLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$269,308.00	2025		199	1293	1
AZLE	C	CONSERVATION, WATER LOSS CONTROL - AZLE	C	CONSTRUCTION FUNDING	$0.00	N/A		199	1293	2
AZLE	C	CONSERVATION, WATER LOSS CONTROL - AZLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			199	1293	3
B AND B WSC	C	CONSERVATION, WATER LOSS CONTROL - B AND B WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12915	2901	1
B AND B WSC	C	CONSERVATION, WATER LOSS CONTROL - B AND B WSC	C	CONSTRUCTION FUNDING				12915	2901	2
B AND B WSC	C	CONSERVATION, WATER LOSS CONTROL - B AND B WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12915	2901	3
BALCH SPRINGS	C	CONSERVATION, WATER LOSS CONTROL - BALCH SPRINGS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		203	1294	1
BALCH SPRINGS	C	CONSERVATION, WATER LOSS CONTROL - BALCH SPRINGS	C	CONSTRUCTION FUNDING	$0.00	N/A		203	1294	2
BALCH SPRINGS	C	CONSERVATION, WATER LOSS CONTROL - BALCH SPRINGS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0%			203	1294	3
BEAR CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - BEAR CREEK SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2788	1418	1
BEAR CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - BEAR CREEK SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		2788	1418	2
BEAR CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - BEAR CREEK SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			2788	1418	3
BECKER JIBA WSC	C	CONSERVATION, WATER LOSS CONTROL - BECKER JIBA WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12928	2905	1
BECKER JIBA WSC	C	CONSERVATION, WATER LOSS CONTROL - BECKER JIBA WSC	C	CONSTRUCTION FUNDING				12928	2905	2
BECKER JIBA WSC	C	CONSERVATION, WATER LOSS CONTROL - BECKER JIBA WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12928	2905	3
BEDFORD	C	CONSERVATION, IRRIGATION RESTRICTION - BEDFORD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				221	3309	1
BEDFORD	C	CONSERVATION, IRRIGATION RESTRICTION - BEDFORD	C	CONSTRUCTION FUNDING				221	3309	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
BEDFORD	C	CONSERVATION, IRRIGATION RESTRICTION - BEDFORD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				221	3309	3
BEDFORD	C	CONSERVATION, WATER LOSS CONTROL - BEDFORD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				221	1297	1
BEDFORD	C	CONSERVATION, WATER LOSS CONTROL - BEDFORD	C	CONSTRUCTION FUNDING				221	1297	2
BEDFORD	C	CONSERVATION, WATER LOSS CONTROL - BEDFORD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				221	1297	3
BELLS	C	BELLS - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$128,000.00	2021		226	1066	1
BELLS	C	BELLS - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING	$694,000.00	2021		226	1066	2
BELLS	C	BELLS - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	100.00%			226	1066	3
BELLS	C	CONSERVATION, WATER LOSS CONTROL - BELLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$35,000.00	2021		226	1298	1
BELLS	C	CONSERVATION, WATER LOSS CONTROL - BELLS	C	CONSTRUCTION FUNDING	$257,347.00	2021		226	1298	2
BELLS	C	CONSERVATION, WATER LOSS CONTROL - BELLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	100.00%			226	1298	3
BENBROOK WATER AUTHORI	C	BENBROOK - 3 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$2,820,400.00	2024		230	860	1
BENBROOK WATER AUTHORI	C	BENBROOK - 3 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$11,281,600.00	2026		230	860	2
BENBROOK WATER AUTHORI	C	BENBROOK - 3 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	20.00%			230	860	3
BENBROOK WATER AUTHORI	C	CONSERVATION, IRRIGATION RESTRICTION - BENBROOK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		230	1577	1
BENBROOK WATER AUTHORI	C	CONSERVATION, IRRIGATION RESTRICTION - BENBROOK	C	CONSTRUCTION FUNDING	$0.00	N/A		230	1577	2
BENBROOK WATER AUTHORI	C	CONSERVATION, IRRIGATION RESTRICTION - BENBROOK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	20.00%			230	1577	3
BENBROOK WATER AUTHORI	C	CONSERVATION, WATER LOSS CONTROL - BENBROOK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		230	1299	1
BENBROOK WATER AUTHORI	C	CONSERVATION, WATER LOSS CONTROL - BENBROOK	C	CONSTRUCTION FUNDING	$0.00	N/A		230	1299	2
BENBROOK WATER AUTHORI	C	CONSERVATION, WATER LOSS CONTROL - BENBROOK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	20.00%			230	1299	3
BLACK ROCK WSC	C	BLACK ROCK WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12933	3819	1
BLACK ROCK WSC	C	BLACK ROCK WSC - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				12933	3819	2
BLACK ROCK WSC	C	BLACK ROCK WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12933	3819	3
BLACK ROCK WSC	C	CONSERVATION, IRRIGATION RESTRICTION - BLACK ROCK WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12933	3311	1
BLACK ROCK WSC	C	CONSERVATION, IRRIGATION RESTRICTION - BLACK ROCK WSC	C	CONSTRUCTION FUNDING				12933	3311	2
BLACK ROCK WSC	C	CONSERVATION, IRRIGATION RESTRICTION - BLACK ROCK WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12933	3311	3
BLACK ROCK WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACK ROCK WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12933	2906	1
BLACK ROCK WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACK ROCK WSC	C	CONSTRUCTION FUNDING				12933	2906	2
BLACK ROCK WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACK ROCK WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12933	2906	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
BLACKLAND WSC	C	BLACKLAND WSC - DIRECT CONNECTION TO NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$500,000.00	2021		246	1109	1
BLACKLAND WSC	C	BLACKLAND WSC - DIRECT CONNECTION TO NTWMD	C	CONSTRUCTION FUNDING	$6,304,000.00	2021		246	1109	2
BLACKLAND WSC	C	BLACKLAND WSC - DIRECT CONNECTION TO NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			246	1109	3
BLACKLAND WSC	C	CONSERVATION, IRRIGATION RESTRICTION - BLACKLAND WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$2,000.00	2021		246	3312	1
BLACKLAND WSC	C	CONSERVATION, IRRIGATION RESTRICTION - BLACKLAND WSC	C	CONSTRUCTION FUNDING	$6,000.00	2022		246	3312	2
BLACKLAND WSC	C	CONSERVATION, IRRIGATION RESTRICTION - BLACKLAND WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			246	3312	3
BLACKLAND WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACKLAND WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$80,000.00	2021		246	1302	1
BLACKLAND WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACKLAND WSC	C	CONSTRUCTION FUNDING	$212,347.00	2022		246	1302	2
BLACKLAND WSC	C	CONSERVATION, WATER LOSS CONTROL - BLACKLAND WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	0.00%			246	1302	3
BLOOMING GROVE	C	CONSERVATION, IRRIGATION RESTRICTION - BLOOMING GROVE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		248	3313	1
BLOOMING GROVE	C	CONSERVATION, IRRIGATION RESTRICTION - BLOOMING GROVE	C	CONSTRUCTION FUNDING	$0.00	N/A		248	3313	2
BLOOMING GROVE	C	CONSERVATION, IRRIGATION RESTRICTION - BLOOMING GROVE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			248	3313	3
BLOOMING GROVE	C	CONSERVATION, WATER LOSS CONTROL - BLOOMING GROVE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		248	1303	1
BLOOMING GROVE	C	CONSERVATION, WATER LOSS CONTROL - BLOOMING GROVE	C	CONSTRUCTION FUNDING	$0.00	N/A		248	1303	2
BLOOMING GROVE	C	CONSERVATION, WATER LOSS CONTROL - BLOOMING GROVE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			248	1303	3
BLUE RIDGE	C	BLUE RIDGE - CONNECT TO AND PURCHASE WATER FROM NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		252	999	1
BLUE RIDGE	C	BLUE RIDGE - CONNECT TO AND PURCHASE WATER FROM NTWMD	C	CONSTRUCTION FUNDING	$0.00	N/A		252	999	2
BLUE RIDGE	C	BLUE RIDGE - CONNECT TO AND PURCHASE WATER FROM NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			252	999	3
BLUE RIDGE	C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		252	1000	1
BLUE RIDGE	C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-	C	CONSTRUCTION FUNDING	$0.00	N/A		252	1000	2
BLUE RIDGE	C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			252	1000	3
BLUE RIDGE	C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		252	4074	1
BLUE RIDGE	C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-	C	CONSTRUCTION FUNDING	$0.00	N/A		252	4074	2
BLUE RIDGE	C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD-	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			252	4074	3
BLUE RIDGE	C	CONSERVATION, IRRIGATION RESTRICTION - BLUE RIDGE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		252	3314	1
BLUE RIDGE	C	CONSERVATION, IRRIGATION RESTRICTION - BLUE RIDGE	C	CONSTRUCTION FUNDING	$0.00	N/A		252	3314	2
BLUE RIDGE	C	CONSERVATION, IRRIGATION RESTRICTION - BLUE RIDGE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			252	3314	3
BLUE RIDGE	C	CONSERVATION, WATER LOSS CONTROL - BLUE RIDGE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		252	1305	1
BLUE RIDGE	C	CONSERVATION, WATER LOSS CONTROL - BLUE RIDGE	C	CONSTRUCTION FUNDING	$0.00	N/A		252	1305	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
BLUE RIDGE	C	CONSERVATION, WATER LOSS CONTROL - BLUE RIDGE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			252	1305	3
BOIS D ARC MUD	C	BOIS D'ARC MUD - CONNECT TO NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12937	4099	1
BOIS D ARC MUD	C	BOIS D'ARC MUD - CONNECT TO NTWMD	C	CONSTRUCTION FUNDING				12937	4099	2
BOIS D ARC MUD	C	BOIS D'ARC MUD - CONNECT TO NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12937	4099	3
BOIS D ARC MUD	C	CONSERVATION, WATER LOSS CONTROL - BOIS D ARC MUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12937	2907	1
BOIS D ARC MUD	C	CONSERVATION, WATER LOSS CONTROL - BOIS D ARC MUD	C	CONSTRUCTION FUNDING				12937	2907	2
BOIS D ARC MUD	C	CONSERVATION, WATER LOSS CONTROL - BOIS D ARC MUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12937	2907	3
BOLIVAR WSC	C	BOLIVAR WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		255	4015	1
BOLIVAR WSC	C	BOLIVAR WSC - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING	$0.00	N/A		255	4015	2
BOLIVAR WSC	C	BOLIVAR WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			255	4015	3
BOLIVAR WSC	C	CONSERVATION, WATER LOSS CONTROL - BOLIVAR WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		255	1306	1
BOLIVAR WSC	C	CONSERVATION, WATER LOSS CONTROL - BOLIVAR WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		255	1306	2
BOLIVAR WSC	C	CONSERVATION, WATER LOSS CONTROL - BOLIVAR WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			255	1306	3
BONHAM	C	CONSERVATION, WATER LOSS CONTROL - BONHAM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				256	1307	1
BONHAM	C	CONSERVATION, WATER LOSS CONTROL - BONHAM	C	CONSTRUCTION FUNDING				256	1307	2
BONHAM	C	CONSERVATION, WATER LOSS CONTROL - BONHAM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				256	1307	3
BOYD	C	CONSERVATION, IRRIGATION RESTRICTION - BOYD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				260	3315	1
BOYD	C	CONSERVATION, IRRIGATION RESTRICTION - BOYD	C	CONSTRUCTION FUNDING				260	3315	2
BOYD	C	CONSERVATION, IRRIGATION RESTRICTION - BOYD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				260	3315	3
BOYD	C	CONSERVATION, WATER LOSS CONTROL - BOYD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				260	1308	1
BOYD	C	CONSERVATION, WATER LOSS CONTROL - BOYD	C	CONSTRUCTION FUNDING				260	1308	2
BOYD	C	CONSERVATION, WATER LOSS CONTROL - BOYD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				260	1308	3
BRIDGEPORT	C	BRIDGEPORT - 1 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				272	862	1
BRIDGEPORT	C	BRIDGEPORT - 1 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				272	862	2
BRIDGEPORT	C	BRIDGEPORT - 1 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				272	862	3
BRIDGEPORT	C	BRIDGEPORT - 2 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				272	861	1
BRIDGEPORT	C	BRIDGEPORT - 2 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				272	861	2
BRIDGEPORT	C	BRIDGEPORT - 2 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				272	861	3

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BRIDGEPORT	C	BRIDGEPORT - EXPAND CAPACITY OF LAKE INTAKE AND PUMP STATI	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				272	1133	1
BRIDGEPORT	C	BRIDGEPORT - EXPAND CAPACITY OF LAKE INTAKE AND PUMP STATI	C	CONSTRUCTION FUNDING				272	1133	2
BRIDGEPORT	C	BRIDGEPORT - EXPAND CAPACITY OF LAKE INTAKE AND PUMP STATI	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				272	1133	3
BRIDGEPORT	C	CONSERVATION, IRRIGATION RESTRICTION - BRIDGEPORT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				272	3316	1
BRIDGEPORT	C	CONSERVATION, IRRIGATION RESTRICTION - BRIDGEPORT	C	CONSTRUCTION FUNDING				272	3316	2
BRIDGEPORT	C	CONSERVATION, IRRIGATION RESTRICTION - BRIDGEPORT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				272	3316	3
BRIDGEPORT	C	CONSERVATION, WATER LOSS CONTROL - BRIDGEPORT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				272	1310	1
BRIDGEPORT	C	CONSERVATION, WATER LOSS CONTROL - BRIDGEPORT	C	CONSTRUCTION FUNDING				272	1310	2
BRIDGEPORT	C	CONSERVATION, WATER LOSS CONTROL - BRIDGEPORT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				272	1310	3
BUENA VISTA-BETHEL SUD	C	CONSERVATION, IRRIGATION RESTRICTION - BUENA VISTA-BETHEL S	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		286	3317	1
BUENA VISTA-BETHEL SUD	C	CONSERVATION, IRRIGATION RESTRICTION - BUENA VISTA-BETHEL S	C	CONSTRUCTION FUNDING	$0.00	N/A		286	3317	2
BUENA VISTA-BETHEL SUD	C	CONSERVATION, IRRIGATION RESTRICTION - BUENA VISTA-BETHEL S	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			286	3317	3
BUENA VISTA-BETHEL SUD	C	CONSERVATION, WATER LOSS CONTROL - BUENA VISTA - BETHEL SU	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		286	1312	1
BUENA VISTA-BETHEL SUD	C	CONSERVATION, WATER LOSS CONTROL - BUENA VISTA - BETHEL SU	C	CONSTRUCTION FUNDING	$0.00	N/A		286	1312	2
BUENA VISTA-BETHEL SUD	C	CONSERVATION, WATER LOSS CONTROL - BUENA VISTA - BETHEL SU	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			286	1312	3
BUTLER WSC	C	CONSERVATION, WATER LOSS CONTROL - BUTLER WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2945	2908	1
BUTLER WSC	C	CONSERVATION, WATER LOSS CONTROL - BUTLER WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		2945	2908	2
BUTLER WSC	C	CONSERVATION, WATER LOSS CONTROL - BUTLER WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2945	2908	3
CALLISBURG WSC	C	CONSERVATION, WATER LOSS CONTROL - CALLISBURG WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12946	2910	1
CALLISBURG WSC	C	CONSERVATION, WATER LOSS CONTROL - CALLISBURG WSC	C	CONSTRUCTION FUNDING				12946	2910	2
CALLISBURG WSC	C	CONSERVATION, WATER LOSS CONTROL - CALLISBURG WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12946	2910	3
CARROLLTON	C	CONSERVATION, IRRIGATION RESTRICTION - CARROLLTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		305	3319	1
CARROLLTON	C	CONSERVATION, IRRIGATION RESTRICTION - CARROLLTON	C	CONSTRUCTION FUNDING	$0.00	N/A		305	3319	2
CARROLLTON	C	CONSERVATION, IRRIGATION RESTRICTION - CARROLLTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			305	3319	3
CARROLLTON	C	CONSERVATION, WATER LOSS CONTROL - CARROLLTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		305	1315	1
CARROLLTON	C	CONSERVATION, WATER LOSS CONTROL - CARROLLTON	C	CONSTRUCTION FUNDING	$0.00	N/A		305	1315	2
CARROLLTON	C	CONSERVATION, WATER LOSS CONTROL - CARROLLTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			305	1315	3
CEDAR HILL	C	CONSERVATION – WASTE PROHIBITION, CEDAR HILL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				23	1567	1
CEDAR HILL	C	CONSERVATION – WASTE PROHIBITION, CEDAR HILL	C	CONSTRUCTION FUNDING				23	1567	2

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CEDAR HILL	C	CONSERVATION – WASTE PROHIBITION, CEDAR HILL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				23	1567	3
CEDAR HILL	C	CONSERVATION, IRRIGATION RESTRICTION - CEDAR HILL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				23	3321	1
CEDAR HILL	C	CONSERVATION, IRRIGATION RESTRICTION - CEDAR HILL	C	CONSTRUCTION FUNDING				23	3321	2
CEDAR HILL	C	CONSERVATION, IRRIGATION RESTRICTION - CEDAR HILL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				23	3321	3
CEDAR HILL	C	CONSERVATION, WATER LOSS CONTROL - CEDAR HILL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				23	1317	1
CEDAR HILL	C	CONSERVATION, WATER LOSS CONTROL - CEDAR HILL	C	CONSTRUCTION FUNDING				23	1317	2
CEDAR HILL	C	CONSERVATION, WATER LOSS CONTROL - CEDAR HILL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				23	1317	3
CELINA	C	CELINA - CONNECT TO AND PURCHASE WATER FROM NTMWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				309	1001	1
CELINA	C	CELINA - CONNECT TO AND PURCHASE WATER FROM NTMWD	C	CONSTRUCTION FUNDING				309	1001	2
CELINA	C	CELINA - CONNECT TO AND PURCHASE WATER FROM NTMWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				309	1001	3
CELINA	C	CONSERVATION, IRRIGATION RESTRICTION - CELINA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				309	3322	1
CELINA	C	CONSERVATION, IRRIGATION RESTRICTION - CELINA	C	CONSTRUCTION FUNDING				309	3322	2
CELINA	C	CONSERVATION, IRRIGATION RESTRICTION - CELINA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				309	3322	3
CELINA	C	CONSERVATION, WATER LOSS CONTROL - CELINA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				309	1318	1
CELINA	C	CONSERVATION, WATER LOSS CONTROL - CELINA	C	CONSTRUCTION FUNDING				309	1318	2
CELINA	C	CONSERVATION, WATER LOSS CONTROL - CELINA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				309	1318	3
CHATFIELD WSC	C	CONSERVATION, WATER LOSS CONTROL - CHATFIELD WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		315	1319	1
CHATFIELD WSC	C	CONSERVATION, WATER LOSS CONTROL - CHATFIELD WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		315	1319	2
CHATFIELD WSC	C	CONSERVATION, WATER LOSS CONTROL - CHATFIELD WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			315	1319	3
CHICO	C	CHICO - ADDITIONAL DELIVERY INFRASTRUCTURE FROM WEST WISE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				316	1134	1
CHICO	C	CHICO - ADDITIONAL DELIVERY INFRASTRUCTURE FROM WEST WISE	C	CONSTRUCTION FUNDING				316	1134	2
CHICO	C	CHICO - ADDITIONAL DELIVERY INFRASTRUCTURE FROM WEST WISE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				316	1134	3
CHICO	C	CONSERVATION, IRRIGATION RESTRICTION - CHICO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				316	3323	1
CHICO	C	CONSERVATION, IRRIGATION RESTRICTION - CHICO	C	CONSTRUCTION FUNDING				316	3323	2
CHICO	C	CONSERVATION, IRRIGATION RESTRICTION - CHICO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				316	3323	3
CHICO	C	CONSERVATION, WATER LOSS CONTROL - CHICO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				316	1320	1
CHICO	C	CONSERVATION, WATER LOSS CONTROL - CHICO	C	CONSTRUCTION FUNDING				316	1320	2
CHICO	C	CONSERVATION, WATER LOSS CONTROL - CHICO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				316	1320	3

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COCKRELL HILL	C	CONSERVATION, WATER LOSS CONTROL - COCKRELL HILL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				339	1321	1
COCKRELL HILL	C	CONSERVATION, WATER LOSS CONTROL - COCKRELL HILL	C	CONSTRUCTION FUNDING				339	1321	2
COCKRELL HILL	C	CONSERVATION, WATER LOSS CONTROL - COCKRELL HILL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				339	1321	3
COLLEGE MOUND WSC	C	COLLEGE MOUND - ADDITIONAL DELIVERY INFRASTRUCTURE FROM T	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				342	1083	1
COLLEGE MOUND WSC	C	COLLEGE MOUND - ADDITIONAL DELIVERY INFRASTRUCTURE FROM T	C	CONSTRUCTION FUNDING				342	1083	2
COLLEGE MOUND WSC	C	COLLEGE MOUND - ADDITIONAL DELIVERY INFRASTRUCTURE FROM T	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				342	1083	3
COLLEGE MOUND WSC	C	CONSERVATION, WATER LOSS CONTROL - COLLEGE MOUND WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				342	1322	1
COLLEGE MOUND WSC	C	CONSERVATION, WATER LOSS CONTROL - COLLEGE MOUND WSC	C	CONSTRUCTION FUNDING				342	1322	2
COLLEGE MOUND WSC	C	CONSERVATION, WATER LOSS CONTROL - COLLEGE MOUND WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				342	1322	3
COLLEYVILLE	C	CONSERVATION, IRRIGATION RESTRICTION - COLLEYVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				344	3324	1
COLLEYVILLE	C	CONSERVATION, IRRIGATION RESTRICTION - COLLEYVILLE	C	CONSTRUCTION FUNDING				344	3324	2
COLLEYVILLE	C	CONSERVATION, IRRIGATION RESTRICTION - COLLEYVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				344	3324	3
COLLEYVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLEYVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				344	1323	1
COLLEYVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLEYVILLE	C	CONSTRUCTION FUNDING				344	1323	2
COLLEYVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLEYVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				344	1323	3
COLLINSVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLINSVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				345	1324	1
COLLINSVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLINSVILLE	C	CONSTRUCTION FUNDING				345	1324	2
COLLINSVILLE	C	CONSERVATION, WATER LOSS CONTROL - COLLINSVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				345	1324	3
COMBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - COMBINE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				351	2912	1
COMBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - COMBINE WSC	C	CONSTRUCTION FUNDING				351	2912	2
COMBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - COMBINE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				351	2912	3
COMMUNITY WSC	C	CONSERVATION, WATER LOSS CONTROL - COMMUNITY WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				353	1326	1
COMMUNITY WSC	C	CONSERVATION, WATER LOSS CONTROL - COMMUNITY WSC	C	CONSTRUCTION FUNDING				353	1326	2
COMMUNITY WSC	C	CONSERVATION, WATER LOSS CONTROL - COMMUNITY WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				353	1326	3
COPEVILLE SUD	C	CONSERVATION, WATER LOSS CONTROL - COPEVILLE SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2814	1327	1
COPEVILLE SUD	C	CONSERVATION, WATER LOSS CONTROL - COPEVILLE SUD	C	CONSTRUCTION FUNDING				2814	1327	2
COPEVILLE SUD	C	CONSERVATION, WATER LOSS CONTROL - COPEVILLE SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2814	1327	3
COPPELL	C	CONSERVATION, IRRIGATION RESTRICTION - COPPELL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				359	3325	1
COPPELL	C	CONSERVATION, IRRIGATION RESTRICTION - COPPELL	C	CONSTRUCTION FUNDING				359	3325	2

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COPPELL	C	CONSERVATION, IRRIGATION RESTRICTION - COPPELL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				359	3325	3
COPPELL	C	CONSERVATION, WATER LOSS CONTROL - COPPELL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				359	1328	1
COPPELL	C	CONSERVATION, WATER LOSS CONTROL - COPPELL	C	CONSTRUCTION FUNDING				359	1328	2
COPPELL	C	CONSERVATION, WATER LOSS CONTROL - COPPELL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				359	1328	3
CORBET WSC	C	CONSERVATION, WATER LOSS CONTROL - CORBET WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2815	1330	1
CORBET WSC	C	CONSERVATION, WATER LOSS CONTROL - CORBET WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		2815	1330	2
CORBET WSC	C	CONSERVATION, WATER LOSS CONTROL - CORBET WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2815	1330	3
CORINTH	C	CONSERVATION – WASTE PROHIBITION, CORINTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				362	3429	1
CORINTH	C	CONSERVATION – WASTE PROHIBITION, CORINTH	C	CONSTRUCTION FUNDING				362	3429	2
CORINTH	C	CONSERVATION – WASTE PROHIBITION, CORINTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				362	3429	3
CORINTH	C	CONSERVATION, IRRIGATION RESTRICTION - CORINTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				362	1578	1
CORINTH	C	CONSERVATION, IRRIGATION RESTRICTION - CORINTH	C	CONSTRUCTION FUNDING				362	1578	2
CORINTH	C	CONSERVATION, IRRIGATION RESTRICTION - CORINTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				362	1578	3
CORINTH	C	CONSERVATION, WATER LOSS CONTROL - CORINTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				362	1331	1
CORINTH	C	CONSERVATION, WATER LOSS CONTROL - CORINTH	C	CONSTRUCTION FUNDING				362	1331	2
CORINTH	C	CONSERVATION, WATER LOSS CONTROL - CORINTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				362	1331	3
CORSICANA	C	CONSERVATION, IRRIGATION RESTRICTION - CORSICANA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		33	3326	1
CORSICANA	C	CONSERVATION, IRRIGATION RESTRICTION - CORSICANA	C	CONSTRUCTION FUNDING	$0.00	N/A		33	3326	2
CORSICANA	C	CONSERVATION, IRRIGATION RESTRICTION - CORSICANA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			33	3326	3
CORSICANA	C	CONSERVATION, WATER LOSS CONTROL - CORSICANA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		33	1332	1
CORSICANA	C	CONSERVATION, WATER LOSS CONTROL - CORSICANA	C	CONSTRUCTION FUNDING	$0.00	N/A		33	1332	2
CORSICANA	C	CONSERVATION, WATER LOSS CONTROL - CORSICANA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			33	1332	3
CORSICANA	C	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBE	C	PLANNING, DESIGN,	$0.00	N/A		33	863	1
CORSICANA	C	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-1	C	CONSTRUCTION FUNDING	$27,697,000.00	2040		33	863	2
CORSICANA	C	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			33	863	3
CORSICANA	C	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		33	4026	1
CORSICANA	C	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-2	C	CONSTRUCTION FUNDING	$47,722,000.00	2070		33	4026	2
CORSICANA	C	CORSICANA - 8 MGD WTP EXPANSION, HALBERT-RICHLAND CHAMBERS-2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			33	4026	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
CORSICANA	C	CORSICANA - NEW 8 MGD WTP, HALBERT-RICHLAND CHAMBERS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		33	853	1
CORSICANA	C	CORSICANA - NEW 8 MGD WTP, HALBERT-RICHLAND CHAMBERS	C	CONSTRUCTION FUNDING	$27,697,000.00	2030		33	853	2
CORSICANA	C	CORSICANA - NEW 8 MGD WTP, HALBERT-RICHLAND CHAMBERS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			33	853	3
COUNTY-OTHER, COLLIN	C	CONSERVATION, WATER LOSS CONTROL - COLLIN COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				409	1548	1
COUNTY-OTHER, COLLIN	C	CONSERVATION, WATER LOSS CONTROL - COLLIN COUNTY	C	CONSTRUCTION FUNDING				409	1548	2
COUNTY-OTHER, COLLIN	C	CONSERVATION, WATER LOSS CONTROL - COLLIN COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				409	1548	3
COUNTY-OTHER, COOKE	C	CONSERVATION, WATER LOSS CONTROL - COOKE COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				415	1549	1
COUNTY-OTHER, COOKE	C	CONSERVATION, WATER LOSS CONTROL - COOKE COUNTY	C	CONSTRUCTION FUNDING				415	1549	2
COUNTY-OTHER, COOKE	C	CONSERVATION, WATER LOSS CONTROL - COOKE COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				415	1549	3
COUNTY-OTHER, DALLAS	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, DALLA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				423	3423	1
COUNTY-OTHER, DALLAS	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, DALLA	C	CONSTRUCTION FUNDING				423	3423	2
COUNTY-OTHER, DALLAS	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, DALLA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				423	3423	3
COUNTY-OTHER, DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				423	1550	1
COUNTY-OTHER, DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS COUNTY	C	CONSTRUCTION FUNDING				423	1550	2
COUNTY-OTHER, DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				423	1550	3
COUNTY-OTHER, DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				427	1551	1
COUNTY-OTHER, DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY	C	CONSTRUCTION FUNDING				427	1551	2
COUNTY-OTHER, DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				427	1551	3
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				427	1032	1
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				427	1032	2
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				427	1032	3
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				427	1031	1
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING				427	1031	2
COUNTY-OTHER, DENTON	C	COUNTY-OTHER, DENTON - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				427	1031	3
COUNTY-OTHER, ELLIS	C	CONSERVATION, WATER LOSS CONTROL - ELLIS COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				436	1552	1
COUNTY-OTHER, ELLIS	C	CONSERVATION, WATER LOSS CONTROL - ELLIS COUNTY	C	CONSTRUCTION FUNDING				436	1552	2
COUNTY-OTHER, ELLIS	C	CONSERVATION, WATER LOSS CONTROL - ELLIS COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				436	1552	3
COUNTY-OTHER, FANNIN	C	CONSERVATION, WATER LOSS CONTROL - FANNIN COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				440	1553	1
COUNTY-OTHER, FANNIN	C	CONSERVATION, WATER LOSS CONTROL - FANNIN COUNTY	C	CONSTRUCTION FUNDING				440	1553	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
COUNTY-OTHER, FANNIN	C	CONSERVATION, WATER LOSS CONTROL - FANNIN COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				440	1553	3
COUNTY-OTHER, FREESTONE	C	CONSERVATION, WATER LOSS CONTROL - FREESTONE COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				447	1554	1
COUNTY-OTHER, FREESTONE	C	CONSERVATION, WATER LOSS CONTROL - FREESTONE COUNTY	C	CONSTRUCTION FUNDING				447	1554	2
COUNTY-OTHER, FREESTONE	C	CONSERVATION, WATER LOSS CONTROL - FREESTONE COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				447	1554	3
COUNTY-OTHER, FREESTONE	C	COUNTY-OTHER, FREESTONE - ADDITIONAL DELIVERY INFRASTRUCTU	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				447	1063	1
COUNTY-OTHER, FREESTONE	C	COUNTY-OTHER, FREESTONE - ADDITIONAL DELIVERY INFRASTRUCTU	C	CONSTRUCTION FUNDING				447	1063	2
COUNTY-OTHER, FREESTONE	C	COUNTY-OTHER, FREESTONE - ADDITIONAL DELIVERY INFRASTRUCTU	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				447	1063	3
COUNTY-OTHER, FREESTONE	C	COUNTY-OTHER, FREESTONE - NEW DELIVERY AND TREATMENT FACI	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				447	1064	1
COUNTY-OTHER, FREESTONE	C	COUNTY-OTHER, FREESTONE - NEW DELIVERY AND TREATMENT FACI	C	CONSTRUCTION FUNDING				447	1064	2
COUNTY-OTHER, FREESTONE	C	COUNTY-OTHER, FREESTONE - NEW DELIVERY AND TREATMENT FACI	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				447	1064	3
COUNTY-OTHER, GRAYSON	C	CONSERVATION, WATER LOSS CONTROL - GRAYSON COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				457	1555	1
COUNTY-OTHER, GRAYSON	C	CONSERVATION, WATER LOSS CONTROL - GRAYSON COUNTY	C	CONSTRUCTION FUNDING				457	1555	2
COUNTY-OTHER, GRAYSON	C	CONSERVATION, WATER LOSS CONTROL - GRAYSON COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				457	1555	3
COUNTY-OTHER, JACK	C	CONSERVATION, WATER LOSS CONTROL - JACK COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				485	1557	1
COUNTY-OTHER, JACK	C	CONSERVATION, WATER LOSS CONTROL - JACK COUNTY	C	CONSTRUCTION FUNDING				485	1557	2
COUNTY-OTHER, JACK	C	CONSERVATION, WATER LOSS CONTROL - JACK COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				485	1557	3
COUNTY-OTHER, JACK	C	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO JACKSBO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				485	1081	1
COUNTY-OTHER, JACK	C	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO JACKSBO	C	CONSTRUCTION FUNDING				485	1081	2
COUNTY-OTHER, JACK	C	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO JACKSBO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				485	1081	3
COUNTY-OTHER, JACK	C	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO WALNUT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				485	1082	1
COUNTY-OTHER, JACK	C	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO WALNUT	C	CONSTRUCTION FUNDING				485	1082	2
COUNTY-OTHER, JACK	C	COUNTY OTHER, JACK - INFRASTRUCTURE TO CONNECT TO WALNUT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				485	1082	3
COUNTY-OTHER, KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				495	1558	1
COUNTY-OTHER, KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY	C	CONSTRUCTION FUNDING				495	1558	2
COUNTY-OTHER, KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				495	1558	3
COUNTY-OTHER, KAUFMAN	C	COUNTY OTHER, KAUFMAN - WTP AND CONNECT TO TRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				495	1079	1
COUNTY-OTHER, KAUFMAN	C	COUNTY OTHER, KAUFMAN - WTP AND CONNECT TO TRWD	C	CONSTRUCTION FUNDING				495	1079	2
COUNTY-OTHER, KAUFMAN	C	COUNTY OTHER, KAUFMAN - WTP AND CONNECT TO TRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				495	1079	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
COUNTY-OTHER, NAVARRO	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				541	1559	1
COUNTY-OTHER, NAVARRO	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO COUNTY	C	CONSTRUCTION FUNDING				541	1559	2
COUNTY-OTHER, NAVARRO	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				541	1559	3
COUNTY-OTHER, PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				550	1560	1
COUNTY-OTHER, PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY	C	CONSTRUCTION FUNDING				550	1560	2
COUNTY-OTHER, PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				550	1560	3
COUNTY-OTHER, PARKER	C	COUNTY OTHER, PARKER - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				550	1103	1
COUNTY-OTHER, PARKER	C	COUNTY OTHER, PARKER - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				550	1103	2
COUNTY-OTHER, PARKER	C	COUNTY OTHER, PARKER - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				550	1103	3
COUNTY-OTHER, PARKER	C	COUNTY-OTHER, PARKER-WTP AND TRANSMISSION FACILITIES TO TR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				550	1104	1
COUNTY-OTHER, PARKER	C	COUNTY-OTHER, PARKER-WTP AND TRANSMISSION FACILITIES TO TR	C	CONSTRUCTION FUNDING				550	1104	2
COUNTY-OTHER, PARKER	C	COUNTY-OTHER, PARKER-WTP AND TRANSMISSION FACILITIES TO TR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				550	1104	3
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, ROCKW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				565	3424	1
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, ROCKW	C	CONSTRUCTION FUNDING				565	3424	2
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, ROCKW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				565	3424	3
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				565	1561	1
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL COUNTY	C	CONSTRUCTION FUNDING				565	1561	2
COUNTY-OTHER, ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				565	1561	3
COUNTY-OTHER, TARRANT	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, TARRA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				586	3425	1
COUNTY-OTHER, TARRANT	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, TARRA	C	CONSTRUCTION FUNDING				586	3425	2
COUNTY-OTHER, TARRANT	C	CONSERVATION, IRRIGATION RESTRICTION - COUNTY-OTHER, TARRA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				586	3425	3
COUNTY-OTHER, TARRANT	C	CONSERVATION, WATER LOSS CONTROL - TARRANT COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				586	1562	1
COUNTY-OTHER, TARRANT	C	CONSERVATION, WATER LOSS CONTROL - TARRANT COUNTY	C	CONSTRUCTION FUNDING				586	1562	2
COUNTY-OTHER, TARRANT	C	CONSERVATION, WATER LOSS CONTROL - TARRANT COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				586	1562	3
COUNTY-OTHER, WISE	C	CONSERVATION, WATER LOSS CONTROL - WISE COUNTY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				615	1563	1
COUNTY-OTHER, WISE	C	CONSERVATION, WATER LOSS CONTROL - WISE COUNTY	C	CONSTRUCTION FUNDING				615	1563	2
COUNTY-OTHER, WISE	C	CONSERVATION, WATER LOSS CONTROL - WISE COUNTY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				615	1563	3
CRANDALL	C	CONSERVATION, IRRIGATION RESTRICTION - CRANDALL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				622	3327	1
CRANDALL	C	CONSERVATION, IRRIGATION RESTRICTION - CRANDALL	C	CONSTRUCTION FUNDING				622	3327	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
CRANDALL	C	CONSERVATION, IRRIGATION RESTRICTION - CRANDALL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				622	3327	3
CRANDALL	C	CONSERVATION, WATER LOSS CONTROL - CRANDALL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				622	1333	1
CRANDALL	C	CONSERVATION, WATER LOSS CONTROL - CRANDALL	C	CONSTRUCTION FUNDING				622	1333	2
CRANDALL	C	CONSERVATION, WATER LOSS CONTROL - CRANDALL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				622	1333	3
CRESCENT HEIGHTS WSC	C	CONSERVATION, WATER LOSS CONTROL - CRESCENT HEIGHTS WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12969	2914	1
CRESCENT HEIGHTS WSC	C	CONSERVATION, WATER LOSS CONTROL - CRESCENT HEIGHTS WSC	C	CONSTRUCTION FUNDING				12969	2914	2
CRESCENT HEIGHTS WSC	C	CONSERVATION, WATER LOSS CONTROL - CRESCENT HEIGHTS WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12969	2914	3
CROSS TIMBERS WSC	C	CONSERVATION, IRRIGATION RESTRICTION - CROSS TIMBERS WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		212	3328	1
CROSS TIMBERS WSC	C	CONSERVATION, IRRIGATION RESTRICTION - CROSS TIMBERS WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		212	3328	2
CROSS TIMBERS WSC	C	CONSERVATION, IRRIGATION RESTRICTION - CROSS TIMBERS WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			212	3328	3
CROSS TIMBERS WSC	C	CONSERVATION, WATER LOSS CONTROL - CROSS TIMBERS WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		212	2915	1
CROSS TIMBERS WSC	C	CONSERVATION, WATER LOSS CONTROL - CROSS TIMBERS WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		212	2915	2
CROSS TIMBERS WSC	C	CONSERVATION, WATER LOSS CONTROL - CROSS TIMBERS WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			212	2915	3
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - ADDITIONAL DELIVERY INFRASTRUCTURE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		212	1029	1
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - ADDITIONAL DELIVERY INFRASTRUCTURE	C	CONSTRUCTION FUNDING	$0.00	N/A		212	1029	2
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - ADDITIONAL DELIVERY INFRASTRUCTURE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			212	1029	3
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		212	4016	1
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING	$0.00	N/A		212	4016	2
CROSS TIMBERS WSC	C	CROSS TIMBERS WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			212	4016	3
CROWLEY	C	CONSERVATION, WATER LOSS CONTROL - CROWLEY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				634	1336	1
CROWLEY	C	CONSERVATION, WATER LOSS CONTROL - CROWLEY	C	CONSTRUCTION FUNDING				634	1336	2
CROWLEY	C	CONSERVATION, WATER LOSS CONTROL - CROWLEY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				634	1336	3
CROWLEY	C	CROWLEY - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				634	1117	1
CROWLEY	C	CROWLEY - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	C	CONSTRUCTION FUNDING				634	1117	2
CROWLEY	C	CROWLEY - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				634	1117	3
CULLEOKA WSC	C	CONSERVATION, WATER LOSS CONTROL - CULLEOKA WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		639	1337	1
CULLEOKA WSC	C	CONSERVATION, WATER LOSS CONTROL - CULLEOKA WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		639	1337	2
CULLEOKA WSC	C	CONSERVATION, WATER LOSS CONTROL - CULLEOKA WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			639	1337	3

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DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		34	1338	1
DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS	C	CONSTRUCTION FUNDING	$0.00	N/A		34	1338	2
DALLAS	C	CONSERVATION, WATER LOSS CONTROL - DALLAS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	1338	3
DALLAS	C	DWU - CONNECT IPL TO BACHMAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$143,476,200.00	2021		34	967	1
DALLAS	C	DWU - CONNECT IPL TO BACHMAN	C	CONSTRUCTION FUNDING	$573,904,800.00	2023		34	967	2
DALLAS	C	DWU - CONNECT IPL TO BACHMAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	967	3
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$48,692,600.00	2020		34	1156	1
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	CONSTRUCTION FUNDING	$194,770,400.00	2021		34	1156	2
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	1156	3
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$365,515,600.00	2024		34	1157	1
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	CONSTRUCTION FUNDING	$1,462,062,400.00	2026		34	1157	2
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	1157	3
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$35,878,800.00	2034		34	1158	1
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	CONSTRUCTION FUNDING	$143,515,200.00	2036		34	1158	2
DALLAS	C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 20	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	1158	3
DALLAS	C	DWU - LAKE COLUMBIA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$64,453,400.00	2055		34	969	1
DALLAS	C	DWU - LAKE COLUMBIA	C	CONSTRUCTION FUNDING	$257,813,600.00	2062		34	969	2
DALLAS	C	DWU - LAKE COLUMBIA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	969	3
DALLAS	C	DWU - MAIN STEM BALANCING RESERVOIR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$154,580,800.00	2035		34	834	1
DALLAS	C	DWU - MAIN STEM BALANCING RESERVOIR	C	CONSTRUCTION FUNDING	$618,323,200.00	2042		34	834	2
DALLAS	C	DWU - MAIN STEM BALANCING RESERVOIR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	834	3
DALLAS	C	DWU - NECHES RIVER RUN-OF-THE-RIVER DIVERSIONS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$52,323,200.00	2047		34	968	1
DALLAS	C	DWU - NECHES RIVER RUN-OF-THE-RIVER DIVERSIONS	C	CONSTRUCTION FUNDING	$209,292,800.00	2052		34	968	2
DALLAS	C	DWU - NECHES RIVER RUN-OF-THE-RIVER DIVERSIONS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	968	3
DALLAS	C	DWU - PARALLEL IPL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$159,047,200.00	2055		34	4102	1
DALLAS	C	DWU - PARALLEL IPL	C	CONSTRUCTION FUNDING	$636,188,800.00	2062		34	4102	2
DALLAS	C	DWU - PARALLEL IPL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			34	4102	3
DALWORTHINGTON GARDEN	C	CONSERVATION – WASTE PROHIBITION, DALWORTHINGTON GARDE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				646	3430	1
DALWORTHINGTON GARDEN	C	CONSERVATION – WASTE PROHIBITION, DALWORTHINGTON GARDE	C	CONSTRUCTION FUNDING				646	3430	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
DALWORTHINGTON GARDEN	C	CONSERVATION – WASTE PROHIBITION, DALWORTHINGTON GARDE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				646	3430	3
DALWORTHINGTON GARDEN	C	CONSERVATION, IRRIGATION RESTRICTION - DALWORTHINGTON GA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				646	3331	1
DALWORTHINGTON GARDEN	C	CONSERVATION, IRRIGATION RESTRICTION - DALWORTHINGTON GA	C	CONSTRUCTION FUNDING				646	3331	2
DALWORTHINGTON GARDEN	C	CONSERVATION, IRRIGATION RESTRICTION - DALWORTHINGTON GA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				646	3331	3
DALWORTHINGTON GARDEN	C	CONSERVATION, WATER LOSS CONTROL - DALWORTHINGTON GARD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				646	1339	1
DALWORTHINGTON GARDEN	C	CONSERVATION, WATER LOSS CONTROL - DALWORTHINGTON GARD	C	CONSTRUCTION FUNDING				646	1339	2
DALWORTHINGTON GARDEN	C	CONSERVATION, WATER LOSS CONTROL - DALWORTHINGTON GARD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				646	1339	3
DAWSON	C	CONSERVATION, WATER LOSS CONTROL - DAWSON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				648	1340	1
DAWSON	C	CONSERVATION, WATER LOSS CONTROL - DAWSON	C	CONSTRUCTION FUNDING				648	1340	2
DAWSON	C	CONSERVATION, WATER LOSS CONTROL - DAWSON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				648	1340	3
DECATUR	C	CONSERVATION, IRRIGATION RESTRICTION - DECATUR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		653	3332	1
DECATUR	C	CONSERVATION, IRRIGATION RESTRICTION - DECATUR	C	CONSTRUCTION FUNDING	$0.00	N/A		653	3332	2
DECATUR	C	CONSERVATION, IRRIGATION RESTRICTION - DECATUR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			653	3332	3
DECATUR	C	CONSERVATION, WATER LOSS CONTROL - DECATUR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		653	1341	1
DECATUR	C	CONSERVATION, WATER LOSS CONTROL - DECATUR	C	CONSTRUCTION FUNDING	$0.00	N/A		653	1341	2
DECATUR	C	CONSERVATION, WATER LOSS CONTROL - DECATUR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			653	1341	3
DENISON	C	CONSERVATION – WASTE PROHIBITION, DENISON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	3431	1
DENISON	C	CONSERVATION – WASTE PROHIBITION, DENISON	C	CONSTRUCTION FUNDING				655	3431	2
DENISON	C	CONSERVATION – WASTE PROHIBITION, DENISON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	3431	3
DENISON	C	CONSERVATION, IRRIGATION RESTRICTION - DENISON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	3333	1
DENISON	C	CONSERVATION, IRRIGATION RESTRICTION - DENISON	C	CONSTRUCTION FUNDING				655	3333	2
DENISON	C	CONSERVATION, IRRIGATION RESTRICTION - DENISON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	3333	3
DENISON	C	CONSERVATION, WATER LOSS CONTROL - DENISON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	1342	1
DENISON	C	CONSERVATION, WATER LOSS CONTROL - DENISON	C	CONSTRUCTION FUNDING				655	1342	2
DENISON	C	CONSERVATION, WATER LOSS CONTROL - DENISON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	1342	3
DENISON	C	DENISON - 10 MGD DESALINATION WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	865	1
DENISON	C	DENISON - 10 MGD DESALINATION WTP EXPANSION	C	CONSTRUCTION FUNDING				655	865	2
DENISON	C	DENISON - 10 MGD DESALINATION WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	865	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
DENISON	C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	1067	1
DENISON	C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PH	C	CONSTRUCTION FUNDING				655	1067	2
DENISON	C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	1067	3
DENISON	C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	4077	1
DENISON	C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PH	C	CONSTRUCTION FUNDING				655	4077	2
DENISON	C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA - PH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	4077	3
DENISON	C	DENISON - NEW 4 MGD DESALINATION WTP	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				655	854	1
DENISON	C	DENISON - NEW 4 MGD DESALINATION WTP	C	CONSTRUCTION FUNDING				655	854	2
DENISON	C	DENISON - NEW 4 MGD DESALINATION WTP	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				655	854	3
DENTON	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		38	3334	1
DENTON	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON	C	CONSTRUCTION FUNDING	$0.00	N/A		38	3334	2
DENTON	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00	N/A		38	3334	3
DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		38	1343	1
DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON	C	CONSTRUCTION FUNDING	$0.00	N/A		38	1343	2
DENTON	C	CONSERVATION, WATER LOSS CONTROL - DENTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			38	1343	3
DENTON	C	DENTON - 20 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$15,000,000.00	2068		38	871	1
DENTON	C	DENTON - 20 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$89,736,000.00	2070		38	871	2
DENTON	C	DENTON - 20 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			38	871	3
DENTON	C	DENTON - 20 MGD WTP EXPANSION- RAY ROBERTS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$15,000,000.00	2038		38	869	1
DENTON	C	DENTON - 20 MGD WTP EXPANSION- RAY ROBERTS	C	CONSTRUCTION FUNDING	$89,736,000.00	2040		38	869	2
DENTON	C	DENTON - 20 MGD WTP EXPANSION- RAY ROBERTS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			38	869	3
DENTON	C	DENTON - 25 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$20,000,000.00	2058		38	870	1
DENTON	C	DENTON - 25 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$107,652,000.00	2060		38	870	2
DENTON	C	DENTON - 25 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			38	870	3
DENTON	C	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$15,000,000.00	2027		38	867	1
DENTON	C	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-1	C	CONSTRUCTION FUNDING	$85,000,000.00	2029		38	867	2
DENTON	C	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			38	867	3
DENTON	C	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$20,000,000.00	2048		38	868	1
DENTON	C	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-2	C	CONSTRUCTION FUNDING	$130,569,000.00	2050		38	868	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
DENTON	C	DENTON - 30 MGD WTP EXPANSION- RAY ROBERTS-2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			38	868	3
DENTON COUNTY FWSD 1-A	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				656	1345	1
DENTON COUNTY FWSD 1-A	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	CONSTRUCTION FUNDING				656	1345	2
DENTON COUNTY FWSD 1-A	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				656	1345	3
DENTON COUNTY FWSD 10	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 10	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2869	3432	1
DENTON COUNTY FWSD 10	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 10	C	CONSTRUCTION FUNDING				2869	3432	2
DENTON COUNTY FWSD 10	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 10	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2869	3432	3
DENTON COUNTY FWSD 10	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2869	1579	1
DENTON COUNTY FWSD 10	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD	C	CONSTRUCTION FUNDING				2869	1579	2
DENTON COUNTY FWSD 10	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2869	1579	3
DENTON COUNTY FWSD 10	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2869	1344	1
DENTON COUNTY FWSD 10	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	CONSTRUCTION FUNDING				2869	1344	2
DENTON COUNTY FWSD 10	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2869	1344	3
DENTON COUNTY FWSD 7	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 7	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2867	3433	1
DENTON COUNTY FWSD 7	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 7	C	CONSTRUCTION FUNDING				2867	3433	2
DENTON COUNTY FWSD 7	C	CONSERVATION – WASTE PROHIBITION, DENTON COUNTY FWSD 7	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2867	3433	3
DENTON COUNTY FWSD 7	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2867	1580	1
DENTON COUNTY FWSD 7	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD	C	CONSTRUCTION FUNDING				2867	1580	2
DENTON COUNTY FWSD 7	C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2867	1580	3
DENTON COUNTY FWSD 7	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2867	1346	1
DENTON COUNTY FWSD 7	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	CONSTRUCTION FUNDING				2867	1346	2
DENTON COUNTY FWSD 7	C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2867	1346	3
DESERT WSC	C	CONSERVATION, WATER LOSS CONSERVATION - DESERT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$2,500.00	2021		12978	2917	1
DESERT WSC	C	CONSERVATION, WATER LOSS CONSERVATION - DESERT WSC	C	CONSTRUCTION FUNDING	$10,000.00	2021		12978	2917	2
DESERT WSC	C	CONSERVATION, WATER LOSS CONSERVATION - DESERT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			12978	2917	3
DESERT WSC	C	DESERT WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$375,000.00	2021		12978	3821	1
DESERT WSC	C	DESERT WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING	$1,125,000.00	2021		12978	3821	2
DESERT WSC	C	DESERT WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			12978	3821	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
DESOTO	C	CONSERVATION – WASTE PROHIBITION, DESOTO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2586	3434	1
DESOTO	C	CONSERVATION – WASTE PROHIBITION, DESOTO	C	CONSTRUCTION FUNDING				2586	3434	2
DESOTO	C	CONSERVATION – WASTE PROHIBITION, DESOTO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2586	3434	3
DESOTO	C	CONSERVATION, IRRIGATION RESTRICTION - DESOTO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2586	1581	1
DESOTO	C	CONSERVATION, IRRIGATION RESTRICTION - DESOTO	C	CONSTRUCTION FUNDING				2586	1581	2
DESOTO	C	CONSERVATION, IRRIGATION RESTRICTION - DESOTO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2586	1581	3
DESOTO	C	CONSERVATION, WATER LOSS CONTROL - DESOTO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2586	1347	1
DESOTO	C	CONSERVATION, WATER LOSS CONTROL - DESOTO	C	CONSTRUCTION FUNDING				2586	1347	2
DESOTO	C	CONSERVATION, WATER LOSS CONTROL - DESOTO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2586	1347	3
DOGWOOD ESTATES WATER	C	CONSERVATION, WATER LOSS CONSERVATION - DOGWOOD ESTATES	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12981	2919	1
DOGWOOD ESTATES WATER	C	CONSERVATION, WATER LOSS CONSERVATION - DOGWOOD ESTATES	C	CONSTRUCTION FUNDING				12981	2919	2
DOGWOOD ESTATES WATER	C	CONSERVATION, WATER LOSS CONSERVATION - DOGWOOD ESTATES	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12981	2919	3
DOGWOOD ESTATES WATER	C	DOGWOOD ESTATES WATER - NEW WELL(S) IN CARRIZO-WILCOX AQ	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12981	3829	1
DOGWOOD ESTATES WATER	C	DOGWOOD ESTATES WATER - NEW WELL(S) IN CARRIZO-WILCOX AQ	C	CONSTRUCTION FUNDING				12981	3829	2
DOGWOOD ESTATES WATER	C	DOGWOOD ESTATES WATER - NEW WELL(S) IN CARRIZO-WILCOX AQ	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12981	3829	3
DORCHESTER	C	CONSERVATION, WATER LOSS CONTROL - DORCHESTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$10,000.00	2020		12983	2920	1
DORCHESTER	C	CONSERVATION, WATER LOSS CONTROL - DORCHESTER	C	CONSTRUCTION FUNDING	$0.00	N/A		12983	2920	2
DORCHESTER	C	CONSERVATION, WATER LOSS CONTROL - DORCHESTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			12983	2920	3
DORCHESTER	C	DORCHESTER - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$755,000.00	2021		12983	4017	1
DORCHESTER	C	DORCHESTER - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING	$1,970,000.00	2021		12983	4017	2
DORCHESTER	C	DORCHESTER - NEW WELL(S) IN TRINITY AQUIFER	C	PARTICIPATION IN OWNING	$0.00			12983	4017	3
DUNCANVILLE	C	CONSERVATION, WATER LOSS CONTROL - DUNCANVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		672	1349	1
DUNCANVILLE	C	CONSERVATION, WATER LOSS CONTROL - DUNCANVILLE	C	CONSTRUCTION FUNDING	$0.00	N/A		672	1349	2
DUNCANVILLE	C	CONSERVATION, WATER LOSS CONTROL - DUNCANVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			672	1349	3
EAST CEDAR CREEK FWSD	C	CONSERVATION, WATER LOSS CONTROL - EAST CEDAR CREEK FWSD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				43	1350	1
EAST CEDAR CREEK FWSD	C	CONSERVATION, WATER LOSS CONTROL - EAST CEDAR CREEK FWSD	C	CONSTRUCTION FUNDING				43	1350	2
EAST CEDAR CREEK FWSD	C	CONSERVATION, WATER LOSS CONTROL - EAST CEDAR CREEK FWSD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				43	1350	3
EAST FORK SUD	C	CONSERVATION, WATER LOSS CONTROL - EAST FORK SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		676	1351	1
EAST FORK SUD	C	CONSERVATION, WATER LOSS CONTROL - EAST FORK SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		676	1351	2

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EAST FORK SUD	C	CONSERVATION, WATER LOSS CONTROL - EAST FORK SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			676	1351	3
EAST FORK SUD	C	EAST FORK SUD - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		676	1111	1
EAST FORK SUD	C	EAST FORK SUD - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NT	C	CONSTRUCTION FUNDING	$0.00	N/A		676	1111	2
EAST FORK SUD	C	EAST FORK SUD - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			676	1111	3
EAST GARRETT WSC	C	CONSERVATION – WASTE PROHIBITION, EAST GARRETT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2936	3435	1
EAST GARRETT WSC	C	CONSERVATION – WASTE PROHIBITION, EAST GARRETT WSC	C	CONSTRUCTION FUNDING				2936	3435	2
EAST GARRETT WSC	C	CONSERVATION – WASTE PROHIBITION, EAST GARRETT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2936	3435	3
EAST GARRETT WSC	C	CONSERVATION, IRRIGATION RESTRICTION - EAST GARRETT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2936	3337	1
EAST GARRETT WSC	C	CONSERVATION, IRRIGATION RESTRICTION - EAST GARRETT WSC	C	CONSTRUCTION FUNDING				2936	3337	2
EAST GARRETT WSC	C	CONSERVATION, IRRIGATION RESTRICTION - EAST GARRETT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2936	3337	3
EAST GARRETT WSC	C	CONSERVATION, WATER LOSS CONTROL - EAST GARRETT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2936	2922	1
EAST GARRETT WSC	C	CONSERVATION, WATER LOSS CONTROL - EAST GARRETT WSC	C	CONSTRUCTION FUNDING				2936	2922	2
EAST GARRETT WSC	C	CONSERVATION, WATER LOSS CONTROL - EAST GARRETT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2936	2922	3
EDGECLIFF	C	CONSERVATION – WASTE PROHIBITION, EDGECLIFF	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2587	3436	1
EDGECLIFF	C	CONSERVATION – WASTE PROHIBITION, EDGECLIFF	C	CONSTRUCTION FUNDING				2587	3436	2
EDGECLIFF	C	CONSERVATION – WASTE PROHIBITION, EDGECLIFF	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2587	3436	3
EDGECLIFF	C	CONSERVATION, IRRIGATION RESTRICTION - EDGECLIFF	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2587	3338	1
EDGECLIFF	C	CONSERVATION, IRRIGATION RESTRICTION - EDGECLIFF	C	CONSTRUCTION FUNDING				2587	3338	2
EDGECLIFF	C	CONSERVATION, IRRIGATION RESTRICTION - EDGECLIFF	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2587	3338	3
EDGECLIFF	C	CONSERVATION, WATER LOSS CONTROL - EDGECLIFF VILLAGE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2587	1353	1
EDGECLIFF	C	CONSERVATION, WATER LOSS CONTROL - EDGECLIFF VILLAGE	C	CONSTRUCTION FUNDING				2587	1353	2
EDGECLIFF	C	CONSERVATION, WATER LOSS CONTROL - EDGECLIFF VILLAGE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2587	1353	3
ELMO WSC	C	CONSERVATION, WATER LOSS CONTROL - ELMO WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				12993	2923	1
ELMO WSC	C	CONSERVATION, WATER LOSS CONTROL - ELMO WSC	C	CONSTRUCTION FUNDING				12993	2923	2
ELMO WSC	C	CONSERVATION, WATER LOSS CONTROL - ELMO WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				12993	2923	3
ENNIS	C	CONSERVATION – WASTE PROHIBITION, ENNIS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		49	1568	1
ENNIS	C	CONSERVATION – WASTE PROHIBITION, ENNIS	C	CONSTRUCTION FUNDING	$0.00	N/A		49	1568	2
ENNIS	C	CONSERVATION – WASTE PROHIBITION, ENNIS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	1568	3

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ENNIS	C	CONSERVATION, IRRIGATION RESTRICTION - ENNIS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		49	1582	1
ENNIS	C	CONSERVATION, IRRIGATION RESTRICTION - ENNIS	C	CONSTRUCTION FUNDING	$0.00	N/A		49	1582	2
ENNIS	C	CONSERVATION, IRRIGATION RESTRICTION - ENNIS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	1582	3
ENNIS	C	CONSERVATION, WATER LOSS CONTROL - ENNIS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		49	1354	1
ENNIS	C	CONSERVATION, WATER LOSS CONTROL - ENNIS	C	CONSTRUCTION FUNDING	$612,128.00	2024		49	1354	2
ENNIS	C	CONSERVATION, WATER LOSS CONTROL - ENNIS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	1354	3
ENNIS	C	ENNIS - 16 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$8,000,000.00	2055		49	875	1
ENNIS	C	ENNIS - 16 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$78,402,000.00	2060		49	875	2
ENNIS	C	ENNIS - 16 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	875	3
ENNIS	C	ENNIS - 6 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$4,000,000.00	2027		49	873	1
ENNIS	C	ENNIS - 6 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$18,264,000.00	2030		49	873	2
ENNIS	C	ENNIS - 6 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	873	3
ENNIS	C	ENNIS - 8 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$5,000,000.00	2035		49	874	1
ENNIS	C	ENNIS - 8 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$42,735,000.00	2040		49	874	2
ENNIS	C	ENNIS - 8 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	874	3
ENNIS	C	ENNIS - INDIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$7,000,000.00	2035		49	1038	1
ENNIS	C	ENNIS - INDIRECT REUSE	C	CONSTRUCTION FUNDING	$48,899,000.00	2040		49	1038	2
ENNIS	C	ENNIS - INDIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			49	1038	3
EULESS	C	CONSERVATION, IRRIGATION RESTRICTION - EULESS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		704	3339	1
EULESS	C	CONSERVATION, IRRIGATION RESTRICTION - EULESS	C	CONSTRUCTION FUNDING	$0.00	N/A		704	3339	2
EULESS	C	CONSERVATION, IRRIGATION RESTRICTION - EULESS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			704	3339	3
EULESS	C	CONSERVATION, WATER LOSS CONTROL - EULESS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		704	1355	1
EULESS	C	CONSERVATION, WATER LOSS CONTROL - EULESS	C	CONSTRUCTION FUNDING	$0.00	N/A		704	1355	2
EULESS	C	CONSERVATION, WATER LOSS CONTROL - EULESS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			704	1355	3
EUSTACE	C	CONSERVATION, WATER LOSS CONTROL - EUSTACE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				705	1356	1
EUSTACE	C	CONSERVATION, WATER LOSS CONTROL - EUSTACE	C	CONSTRUCTION FUNDING				705	1356	2
EUSTACE	C	CONSERVATION, WATER LOSS CONTROL - EUSTACE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				705	1356	3
EUSTACE	C	EUSTACE - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				705	1076	1
EUSTACE	C	EUSTACE - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C	CONSTRUCTION FUNDING				705	1076	2

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EUSTACE	C	EUSTACE - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				705	1076	3
EVERMAN	C	CONSERVATION, WATER LOSS CONTROL - EVERMAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		706	1357	1
EVERMAN	C	CONSERVATION, WATER LOSS CONTROL - EVERMAN	C	CONSTRUCTION FUNDING	$0.00	N/A		706	1357	2
EVERMAN	C	CONSERVATION, WATER LOSS CONTROL - EVERMAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			706	1357	3
FAIRFIELD	C	CONSERVATION, IRRIGATION RESTRICTION - FAIRFIELD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				708	3341	1
FAIRFIELD	C	CONSERVATION, IRRIGATION RESTRICTION - FAIRFIELD	C	CONSTRUCTION FUNDING				708	3341	2
FAIRFIELD	C	CONSERVATION, IRRIGATION RESTRICTION - FAIRFIELD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				708	3341	3
FAIRFIELD	C	CONSERVATION, WATER LOSS CONTROL - FAIRFIELD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				708	1358	1
FAIRFIELD	C	CONSERVATION, WATER LOSS CONTROL - FAIRFIELD	C	CONSTRUCTION FUNDING				708	1358	2
FAIRFIELD	C	CONSERVATION, WATER LOSS CONTROL - FAIRFIELD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				708	1358	3
FAIRFIELD	C	FAIRFIELD - NEW WTP AND TRANSMISSION SYSTEM FROM TRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				708	1062	1
FAIRFIELD	C	FAIRFIELD - NEW WTP AND TRANSMISSION SYSTEM FROM TRWD	C	CONSTRUCTION FUNDING				708	1062	2
FAIRFIELD	C	FAIRFIELD - NEW WTP AND TRANSMISSION SYSTEM FROM TRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				708	1062	3
FAIRVIEW	C	CONSERVATION, IRRIGATION RESTRICTION - FAIRVIEW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				709	3342	1
FAIRVIEW	C	CONSERVATION, IRRIGATION RESTRICTION - FAIRVIEW	C	CONSTRUCTION FUNDING				709	3342	2
FAIRVIEW	C	CONSERVATION, IRRIGATION RESTRICTION - FAIRVIEW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				709	3342	3
FAIRVIEW	C	CONSERVATION, WATER LOSS CONTROL - FAIRVIEW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				709	1359	1
FAIRVIEW	C	CONSERVATION, WATER LOSS CONTROL - FAIRVIEW	C	CONSTRUCTION FUNDING				709	1359	2
FAIRVIEW	C	CONSERVATION, WATER LOSS CONTROL - FAIRVIEW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				709	1359	3
FARMERS BRANCH	C	CONSERVATION, IRRIGATION RESTRICTION - FARMERS BRANCH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				712	1583	1
FARMERS BRANCH	C	CONSERVATION, IRRIGATION RESTRICTION - FARMERS BRANCH	C	CONSTRUCTION FUNDING				712	1583	2
FARMERS BRANCH	C	CONSERVATION, IRRIGATION RESTRICTION - FARMERS BRANCH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				712	1583	3
FARMERS BRANCH	C	CONSERVATION, WATER LOSS CONTROL - FARMERS BRANCH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				712	1360	1
FARMERS BRANCH	C	CONSERVATION, WATER LOSS CONTROL - FARMERS BRANCH	C	CONSTRUCTION FUNDING				712	1360	2
FARMERS BRANCH	C	CONSERVATION, WATER LOSS CONTROL - FARMERS BRANCH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				712	1360	3
FARMERSVILLE	C	CONSERVATION, WATER LOSS CONTROL - FARMERSVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				713	1361	1
FARMERSVILLE	C	CONSERVATION, WATER LOSS CONTROL - FARMERSVILLE	C	CONSTRUCTION FUNDING				713	1361	2
FARMERSVILLE	C	CONSERVATION, WATER LOSS CONTROL - FARMERSVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				713	1361	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
FATE	C	CONSERVATION – WASTE PROHIBITION, FATE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2499	3437	1
FATE	C	CONSERVATION – WASTE PROHIBITION, FATE	C	CONSTRUCTION FUNDING	$0.00	N/A		2499	3437	2
FATE	C	CONSERVATION – WASTE PROHIBITION, FATE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2499	3437	3
FATE	C	CONSERVATION, IRRIGATION RESTRICTION - FATE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2499	3343	1
FATE	C	CONSERVATION, IRRIGATION RESTRICTION - FATE	C	CONSTRUCTION FUNDING	$0.00	N/A		2499	3343	2
FATE	C	CONSERVATION, IRRIGATION RESTRICTION - FATE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2499	3343	3
FATE	C	CONSERVATION, WATER LOSS CONTROL - FATE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2499	1362	1
FATE	C	CONSERVATION, WATER LOSS CONTROL - FATE	C	CONSTRUCTION FUNDING	$0.00	N/A		2499	1362	2
FATE	C	CONSERVATION, WATER LOSS CONTROL - FATE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2499	1362	3
FATE	C	FATE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2499	1112	1
FATE	C	FATE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	CONSTRUCTION FUNDING	$0.00	N/A		2499	1112	2
FATE	C	FATE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2499	1112	3
FERRIS	C	CONSERVATION, WATER LOSS CONTROL - FERRIS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				717	1363	1
FERRIS	C	CONSERVATION, WATER LOSS CONTROL - FERRIS	C	CONSTRUCTION FUNDING				717	1363	2
FERRIS	C	CONSERVATION, WATER LOSS CONTROL - FERRIS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				717	1363	3
FERRIS	C	FERRIS - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				717	1039	1
FERRIS	C	FERRIS - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	C	CONSTRUCTION FUNDING				717	1039	2
FERRIS	C	FERRIS - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				717	1039	3
FLOWER MOUND	C	CONSERVATION, IRRIGATION RESTRICTION - FLOWER MOUND	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				723	3344	1
FLOWER MOUND	C	CONSERVATION, IRRIGATION RESTRICTION - FLOWER MOUND	C	CONSTRUCTION FUNDING				723	3344	2
FLOWER MOUND	C	CONSERVATION, IRRIGATION RESTRICTION - FLOWER MOUND	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				723	3344	3
FLOWER MOUND	C	CONSERVATION, WATER LOSS CONTROL - FLOWER MOUND	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				723	1366	1
FLOWER MOUND	C	CONSERVATION, WATER LOSS CONTROL - FLOWER MOUND	C	CONSTRUCTION FUNDING				723	1366	2
FLOWER MOUND	C	CONSERVATION, WATER LOSS CONTROL - FLOWER MOUND	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				723	1366	3
FLOWER MOUND	C	FLOWER MOUND - ALLIANCE DIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				723	4100	1
FLOWER MOUND	C	FLOWER MOUND - ALLIANCE DIRECT REUSE	C	CONSTRUCTION FUNDING				723	4100	2
FLOWER MOUND	C	FLOWER MOUND - ALLIANCE DIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				723	4100	3
FOREST HILL	C	CONSERVATION, WATER LOSS CONTROL - FOREST HILL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				725	1367	1
FOREST HILL	C	CONSERVATION, WATER LOSS CONTROL - FOREST HILL	C	CONSTRUCTION FUNDING				725	1367	2

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FOREST HILL	C	CONSERVATION, WATER LOSS CONTROL - FOREST HILL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				725	1367	3
FORNEY	C	CONSERVATION, WATER LOSS CONTROL - FORNEY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				50	1368	1
FORNEY	C	CONSERVATION, WATER LOSS CONTROL - FORNEY	C	CONSTRUCTION FUNDING				50	1368	2
FORNEY	C	CONSERVATION, WATER LOSS CONTROL - FORNEY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				50	1368	3
FORNEY	C	FORNEY - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				50	1084	1
FORNEY	C	FORNEY - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD	C	CONSTRUCTION FUNDING				50	1084	2
FORNEY	C	FORNEY - INCREASE DELIVERY INFRASTRUCTURE FROM NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				50	1084	3
FORNEY LAKE WSC	C	CONSERVATION – WASTE PROHIBITION, FORNEY LAKE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				726	3438	1
FORNEY LAKE WSC	C	CONSERVATION – WASTE PROHIBITION, FORNEY LAKE WSC	C	CONSTRUCTION FUNDING				726	3438	2
FORNEY LAKE WSC	C	CONSERVATION – WASTE PROHIBITION, FORNEY LAKE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				726	3438	3
FORNEY LAKE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - FORNEY LAKE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				726	3345	1
FORNEY LAKE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - FORNEY LAKE WSC	C	CONSTRUCTION FUNDING				726	3345	2
FORNEY LAKE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - FORNEY LAKE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				726	3345	3
FORNEY LAKE WSC	C	CONSERVATION, WATER LOSS CONTROL - FORNEY LAKE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				726	1369	1
FORNEY LAKE WSC	C	CONSERVATION, WATER LOSS CONTROL - FORNEY LAKE WSC	C	CONSTRUCTION FUNDING				726	1369	2
FORNEY LAKE WSC	C	CONSERVATION, WATER LOSS CONTROL - FORNEY LAKE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				726	1369	3
FORT WORTH	C	CONSERVATION, WATER LOSS CONTROL - FORT WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	1370	1
FORT WORTH	C	CONSERVATION, WATER LOSS CONTROL - FORT WORTH	C	CONSTRUCTION FUNDING				53	1370	2
FORT WORTH	C	CONSERVATION, WATER LOSS CONTROL - FORT WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	1370	3
FORT WORTH	C	FORT WORTH - 23 MGD WTP EXPANSION-WEST PLANT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	877	1
FORT WORTH	C	FORT WORTH - 23 MGD WTP EXPANSION-WEST PLANT	C	CONSTRUCTION FUNDING				53	877	2
FORT WORTH	C	FORT WORTH - 23 MGD WTP EXPANSION-WEST PLANT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	877	3
FORT WORTH	C	FORT WORTH - 30 MGD WTP EXPANSION-EAGLE MOUNTAIN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	880	1
FORT WORTH	C	FORT WORTH - 30 MGD WTP EXPANSION-EAGLE MOUNTAIN	C	CONSTRUCTION FUNDING				53	880	2
FORT WORTH	C	FORT WORTH - 30 MGD WTP EXPANSION-EAGLE MOUNTAIN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	880	3
FORT WORTH	C	FORT WORTH - 35 MGD WTP EXPANSION-EAGLE MOUNTAIN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	876	1
FORT WORTH	C	FORT WORTH - 35 MGD WTP EXPANSION-EAGLE MOUNTAIN	C	CONSTRUCTION FUNDING				53	876	2
FORT WORTH	C	FORT WORTH - 35 MGD WTP EXPANSION-EAGLE MOUNTAIN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	876	3

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FORT WORTH	C	FORT WORTH - 35 MGD WTP EXPANSION-WEST PLANT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	879	1
FORT WORTH	C	FORT WORTH - 35 MGD WTP EXPANSION-WEST PLANT	C	CONSTRUCTION FUNDING				53	879	2
FORT WORTH	C	FORT WORTH - 35 MGD WTP EXPANSION-WEST PLANT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	879	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	903	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 1	C	CONSTRUCTION FUNDING				53	903	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	903	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	905	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 2	C	CONSTRUCTION FUNDING				53	905	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	905	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 3	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	906	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 3	C	CONSTRUCTION FUNDING				53	906	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 3	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	906	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 4	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	907	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 4	C	CONSTRUCTION FUNDING				53	907	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 4	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	907	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 5	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	908	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 5	C	CONSTRUCTION FUNDING				53	908	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 5	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	908	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 6	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	4023	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 6	C	CONSTRUCTION FUNDING				53	4023	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-GENERAL 6	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	4023	3
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-ROLLING HILLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	878	1
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-ROLLING HILLS	C	CONSTRUCTION FUNDING				53	878	2
FORT WORTH	C	FORT WORTH - 50 MGD WTP EXPANSION-ROLLING HILLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	878	3
FORT WORTH	C	FORT WORTH DIRECT REUSE - ALLIANCE CORRIDOR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	998	1
FORT WORTH	C	FORT WORTH DIRECT REUSE - ALLIANCE CORRIDOR	C	CONSTRUCTION FUNDING				53	998	2
FORT WORTH	C	FORT WORTH DIRECT REUSE - ALLIANCE CORRIDOR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	998	3
FORT WORTH	C	FORT WORTH MARY'S CREEK WRF FUTURE DIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	4075	1
FORT WORTH	C	FORT WORTH MARY'S CREEK WRF FUTURE DIRECT REUSE	C	CONSTRUCTION FUNDING				53	4075	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
FORT WORTH	C	FORT WORTH MARY'S CREEK WRF FUTURE DIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	4075	3
FORT WORTH	C	FORT WORTH VILLAGE CREEK WRF FUTURE DIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				53	997	1
FORT WORTH	C	FORT WORTH VILLAGE CREEK WRF FUTURE DIRECT REUSE	C	CONSTRUCTION FUNDING				53	997	2
FORT WORTH	C	FORT WORTH VILLAGE CREEK WRF FUTURE DIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				53	997	3
FRISCO	C	CONSERVATION, WATER LOSS CONTROL - FRISCO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				743	1371	1
FRISCO	C	CONSERVATION, WATER LOSS CONTROL - FRISCO	C	CONSTRUCTION FUNDING				743	1371	2
FRISCO	C	CONSERVATION, WATER LOSS CONTROL - FRISCO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				743	1371	3
FRISCO	C	FRISCO - DIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				743	1004	1
FRISCO	C	FRISCO - DIRECT REUSE	C	CONSTRUCTION FUNDING				743	1004	2
FRISCO	C	FRISCO - DIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				743	1004	3
FROGNOT WSC	C	CONSERVATION, WATER LOSS CONTROL - FROGNOT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$2,218.00	2021		13030	2925	1
FROGNOT WSC	C	CONSERVATION, WATER LOSS CONTROL - FROGNOT WSC	C	CONSTRUCTION FUNDING	$6,000.00	2021		13030	2925	2
FROGNOT WSC	C	CONSERVATION, WATER LOSS CONTROL - FROGNOT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13030	2925	3
GAINESVILLE	C	CONSERVATION, WATER LOSS CONTROL - GAINESVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		55	1373	1
GAINESVILLE	C	CONSERVATION, WATER LOSS CONTROL - GAINESVILLE	C	CONSTRUCTION FUNDING	$0.00	N/A		55	1373	2
GAINESVILLE	C	CONSERVATION, WATER LOSS CONTROL - GAINESVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			55	1373	3
GAINESVILLE	C	GAINESVILLE - 5 MGD WTP EXPANSION 1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		55	910	1
GAINESVILLE	C	GAINESVILLE - 5 MGD WTP EXPANSION 1	C	CONSTRUCTION FUNDING	$0.00	N/A		55	910	2
GAINESVILLE	C	GAINESVILLE - 5 MGD WTP EXPANSION 1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			55	910	3
GAINESVILLE	C	GAINESVILLE - 5 MGD WTP EXPANSION 2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		55	911	1
GAINESVILLE	C	GAINESVILLE - 5 MGD WTP EXPANSION 2	C	CONSTRUCTION FUNDING	$0.00	N/A		55	911	2
GAINESVILLE	C	GAINESVILLE - 5 MGD WTP EXPANSION 2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			55	911	3
GAINESVILLE	C	GAINESVILLE - EXPAND DIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		55	1011	1
GAINESVILLE	C	GAINESVILLE - EXPAND DIRECT REUSE	C	CONSTRUCTION FUNDING	$0.00	N/A		55	1011	2
GAINESVILLE	C	GAINESVILLE - EXPAND DIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			55	1011	3
GAINESVILLE	C	GAINESVILLE - INFRASTRUCTURE TO DELIVER TO CUSTOMERS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		55	1012	1
GAINESVILLE	C	GAINESVILLE - INFRASTRUCTURE TO DELIVER TO CUSTOMERS	C	CONSTRUCTION FUNDING	$0.00	N/A		55	1012	2
GAINESVILLE	C	GAINESVILLE - INFRASTRUCTURE TO DELIVER TO CUSTOMERS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			55	1012	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
GARLAND	C	CONSERVATION, WATER LOSS CONTROL - GARLAND	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				58	1374	1
GARLAND	C	CONSERVATION, WATER LOSS CONTROL - GARLAND	C	CONSTRUCTION FUNDING				58	1374	2
GARLAND	C	CONSERVATION, WATER LOSS CONTROL - GARLAND	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				58	1374	3
GASTONIA SCURRY SUD	C	CONSERVATION, WATER LOSS CONTROL - GASTONIA-SCURRY SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				752	1376	1
GASTONIA SCURRY SUD	C	CONSERVATION, WATER LOSS CONTROL - GASTONIA-SCURRY SUD	C	CONSTRUCTION FUNDING				752	1376	2
GASTONIA SCURRY SUD	C	CONSERVATION, WATER LOSS CONTROL - GASTONIA-SCURRY SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				752	1376	3
GLENN HEIGHTS	C	CONSERVATION, WATER LOSS CONTROL - GLENN HEIGHTS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				762	1377	1
GLENN HEIGHTS	C	CONSERVATION, WATER LOSS CONTROL - GLENN HEIGHTS	C	CONSTRUCTION FUNDING				762	1377	2
GLENN HEIGHTS	C	CONSERVATION, WATER LOSS CONTROL - GLENN HEIGHTS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				762	1377	3
GLENN HEIGHTS	C	GLENN HEIGHTS ADDITIONAL DELIVERY INFRASTRUCTURE FROM DW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				762	1016	1
GLENN HEIGHTS	C	GLENN HEIGHTS ADDITIONAL DELIVERY INFRASTRUCTURE FROM DW	C	CONSTRUCTION FUNDING				762	1016	2
GLENN HEIGHTS	C	GLENN HEIGHTS ADDITIONAL DELIVERY INFRASTRUCTURE FROM DW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				762	1016	3
GRAND PRAIRIE	C	CONSERVATION, WATER LOSS CONTROL - GRAND PRAIRIE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		772	1378	1
GRAND PRAIRIE	C	CONSERVATION, WATER LOSS CONTROL - GRAND PRAIRIE	C	CONSTRUCTION FUNDING	$0.00	N/A		772	1378	2
GRAND PRAIRIE	C	CONSERVATION, WATER LOSS CONTROL - GRAND PRAIRIE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			772	1378	3
GRAND PRAIRIE	C	GRAND PRAIRIE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$8,000,000.00	2033		772	1018	1
GRAND PRAIRIE	C	GRAND PRAIRIE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DW	C	CONSTRUCTION FUNDING	$30,000,000.00	2033		772	1018	2
GRAND PRAIRIE	C	GRAND PRAIRIE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			772	1018	3
GRAND PRAIRIE	C	GRAND PRAIRIE - CONNECT TO ARLINGTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$1,700,000.00	2028		772	1017	1
GRAND PRAIRIE	C	GRAND PRAIRIE - CONNECT TO ARLINGTON	C	CONSTRUCTION FUNDING	$3,979,000.00	2030		772	1017	2
GRAND PRAIRIE	C	GRAND PRAIRIE - CONNECT TO ARLINGTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			772	1017	3
GRAPEVINE	C	CONSERVATION, WATER LOSS CONTROL - GRAPEVINE	C	PERMITTING &				778	1379	1
GRAPEVINE	C	CONSERVATION, WATER LOSS CONTROL - GRAPEVINE	C	CONSTRUCTION FUNDING				778	1379	2
GRAPEVINE	C	CONSERVATION, WATER LOSS CONTROL - GRAPEVINE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				778	1379	3
GREATER TEXOMA UTILITY AU	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C	PLANNING, DESIGN,	$1,000,000.00	2022		60	3851	1
GREATER TEXOMA UTILITY AU	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C	CONSTRUCTION FUNDING	$8,000,000.00	2022		60	3851	2
GREATER TEXOMA UTILITY AU	C	GTUA - CONNECTION FROM SHERMAN TO CGMA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			60	3851	3
GREATER TEXOMA UTILITY AU	C	GTUA - PARALLEL COLLIN-GRAYSON MUNICIPAL ALLIANCE PIPELINE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$1,400,000.00	2030		60	996	1
GREATER TEXOMA UTILITY AU	C	GTUA - PARALLEL COLLIN-GRAYSON MUNICIPAL ALLIANCE PIPELINE	C	CONSTRUCTION FUNDING	$89,989,000.00	2030		60	996	2
GREATER TEXOMA UTILITY AU	C	GTUA - PARALLEL COLLIN-GRAYSON MUNICIPAL ALLIANCE PIPELINE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			60	996	3

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GREATER TEXOMA UTILITY AU	C	GTUA - REGIONAL WATER SYSTEM PHASE I	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$84,000,000.00	N/A		60	3849	1
GREATER TEXOMA UTILITY AU	C	GTUA - REGIONAL WATER SYSTEM PHASE I	C	CONSTRUCTION FUNDING	$2,000,000.00	N/A		60	3849	2
GREATER TEXOMA UTILITY AU	C	GTUA - REGIONAL WATER SYSTEM PHASE I	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			60	3849	3
GREATER TEXOMA UTILITY AU	C	GTUA - REGIONAL WATER SYSTEM PHASE II	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		60	3850	1
GREATER TEXOMA UTILITY AU	C	GTUA - REGIONAL WATER SYSTEM PHASE II	C	CONSTRUCTION FUNDING	$0.00	N/A		60	3850	2
GREATER TEXOMA UTILITY AU	C	GTUA - REGIONAL WATER SYSTEM PHASE II	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			60	3850	3
GUNTER	C	CONSERVATION, IRRIGATION RESTRICTION - GUNTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				789	3351	1
GUNTER	C	CONSERVATION, IRRIGATION RESTRICTION - GUNTER	C	CONSTRUCTION FUNDING				789	3351	2
GUNTER	C	CONSERVATION, IRRIGATION RESTRICTION - GUNTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				789	3351	3
GUNTER	C	CONSERVATION, WATER LOSS CONTROL - GUNTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				789	1381	1
GUNTER	C	CONSERVATION, WATER LOSS CONTROL - GUNTER	C	CONSTRUCTION FUNDING				789	1381	2
GUNTER	C	CONSERVATION, WATER LOSS CONTROL - GUNTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				789	1381	3
GUNTER	C	GUNTER - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				789	1069	1
GUNTER	C	GUNTER - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				789	1069	2
GUNTER	C	GUNTER - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				789	1069	3
HACKBERRY	C	CONSERVATION – WASTE PROHIBITION, HACKBERRY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				791	3439	1
HACKBERRY	C	CONSERVATION – WASTE PROHIBITION, HACKBERRY	C	CONSTRUCTION FUNDING				791	3439	2
HACKBERRY	C	CONSERVATION – WASTE PROHIBITION, HACKBERRY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				791	3439	3
HACKBERRY	C	CONSERVATION, IRRIGATION RESTRICTION - HACKBERRY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				791	3352	1
HACKBERRY	C	CONSERVATION, IRRIGATION RESTRICTION - HACKBERRY	C	CONSTRUCTION FUNDING				791	3352	2
HACKBERRY	C	CONSERVATION, IRRIGATION RESTRICTION - HACKBERRY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				791	3352	3
HACKBERRY	C	CONSERVATION, WATER LOSS CONTROL - HACKBERRY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				791	1382	1
HACKBERRY	C	CONSERVATION, WATER LOSS CONTROL - HACKBERRY	C	CONSTRUCTION FUNDING				791	1382	2
HACKBERRY	C	CONSERVATION, WATER LOSS CONTROL - HACKBERRY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				791	1382	3
HACKBERRY	C	HACKBERRY - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				791	1033	1
HACKBERRY	C	HACKBERRY - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMW	C	CONSTRUCTION FUNDING				791	1033	2
HACKBERRY	C	HACKBERRY - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				791	1033	3
HALTOM CITY	C	CONSERVATION, WATER LOSS CONTROL - HALTOM CITY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				796	1383	1
HALTOM CITY	C	CONSERVATION, WATER LOSS CONTROL - HALTOM CITY	C	CONSTRUCTION FUNDING				796	1383	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
HALTOM CITY	C	CONSERVATION, WATER LOSS CONTROL - HALTOM CITY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				796	1383	3
HASLET	C	CONSERVATION – WASTE PROHIBITION, HASLET	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				824	1571	1
HASLET	C	CONSERVATION – WASTE PROHIBITION, HASLET	C	CONSTRUCTION FUNDING				824	1571	2
HASLET	C	CONSERVATION – WASTE PROHIBITION, HASLET	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				824	1571	3
HASLET	C	CONSERVATION, IRRIGATION RESTRICTION - HASLET	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				824	3354	1
HASLET	C	CONSERVATION, IRRIGATION RESTRICTION - HASLET	C	CONSTRUCTION FUNDING				824	3354	2
HASLET	C	CONSERVATION, IRRIGATION RESTRICTION - HASLET	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				824	3354	3
HASLET	C	CONSERVATION, WATER LOSS CONTROL - HASLET	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				824	1384	1
HASLET	C	CONSERVATION, WATER LOSS CONTROL - HASLET	C	CONSTRUCTION FUNDING				824	1384	2
HASLET	C	CONSERVATION, WATER LOSS CONTROL - HASLET	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				824	1384	3
HEATH	C	CONSERVATION, IRRIGATION RESTRICTION - HEATH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		829	1584	1
HEATH	C	CONSERVATION, IRRIGATION RESTRICTION - HEATH	C	CONSTRUCTION FUNDING	$0.00	N/A		829	1584	2
HEATH	C	CONSERVATION, IRRIGATION RESTRICTION - HEATH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			829	1584	3
HEATH	C	CONSERVATION, WATER LOSS CONTROL - HEATH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		829	1385	1
HEATH	C	CONSERVATION, WATER LOSS CONTROL - HEATH	C	CONSTRUCTION FUNDING	$0.00	N/A		829	1385	2
HEATH	C	CONSERVATION, WATER LOSS CONTROL - HEATH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			829	1385	3
HIGH POINT WSC	C	CONSERVATION, WATER LOSS CONTROL - HIGH POINT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				845	1388	1
HIGH POINT WSC	C	CONSERVATION, WATER LOSS CONTROL - HIGH POINT WSC	C	CONSTRUCTION FUNDING				845	1388	2
HIGH POINT WSC	C	CONSERVATION, WATER LOSS CONTROL - HIGH POINT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				845	1388	3
HIGHLAND PARK	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND PARK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		846	1389	1
HIGHLAND PARK	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND PARK	C	CONSTRUCTION FUNDING	$0.00	N/A		846	1389	2
HIGHLAND PARK	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND PARK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			846	1389	3
HIGHLAND VILLAGE	C	CONSERVATION, IRRIGATION RESTRICTION - HIGHLAND VILLAGE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		847	3356	1
HIGHLAND VILLAGE	C	CONSERVATION, IRRIGATION RESTRICTION - HIGHLAND VILLAGE	C	CONSTRUCTION FUNDING	$0.00	N/A		847	3356	2
HIGHLAND VILLAGE	C	CONSERVATION, IRRIGATION RESTRICTION - HIGHLAND VILLAGE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			847	3356	3
HIGHLAND VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND VILLAGE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		847	1390	1
HIGHLAND VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND VILLAGE	C	CONSTRUCTION FUNDING	$0.00	N/A		847	1390	2
HIGHLAND VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND VILLAGE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			847	1390	3

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HONEY GROVE	C	CONSERVATION, WATER LOSS CONTROL - HONEY GROVE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				858	1391	1
HONEY GROVE	C	CONSERVATION, WATER LOSS CONTROL - HONEY GROVE	C	CONSTRUCTION FUNDING				858	1391	2
HONEY GROVE	C	CONSERVATION, WATER LOSS CONTROL - HONEY GROVE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				858	1391	3
HORSESHOE BEND WATER SY	C	CONSERVATION, WATER LOSS CONTROL - HORSESHOE BEND WATER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13080	2927	1
HORSESHOE BEND WATER SY	C	CONSERVATION, WATER LOSS CONTROL - HORSESHOE BEND WATER	C	CONSTRUCTION FUNDING				13080	2927	2
HORSESHOE BEND WATER SY	C	CONSERVATION, WATER LOSS CONTROL - HORSESHOE BEND WATER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13080	2927	3
HOWE	C	CONSERVATION, WATER LOSS CONTROL - HOWE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				860	1392	1
HOWE	C	CONSERVATION, WATER LOSS CONTROL - HOWE	C	CONSTRUCTION FUNDING				860	1392	2
HOWE	C	CONSERVATION, WATER LOSS CONTROL - HOWE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				860	1392	3
HUDSON OAKS	C	CONSERVATION – WASTE PROHIBITION, HUDSON OAKS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		863	1572	1
HUDSON OAKS	C	CONSERVATION – WASTE PROHIBITION, HUDSON OAKS	C	CONSTRUCTION FUNDING	$0.00	N/A		863	1572	2
HUDSON OAKS	C	CONSERVATION – WASTE PROHIBITION, HUDSON OAKS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			863	1572	3
HUDSON OAKS	C	CONSERVATION, IRRIGATION RESTRICTION - HUDSON OAKS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		863	3357	1
HUDSON OAKS	C	CONSERVATION, IRRIGATION RESTRICTION - HUDSON OAKS	C	CONSTRUCTION FUNDING	$0.00	N/A		863	3357	2
HUDSON OAKS	C	CONSERVATION, IRRIGATION RESTRICTION - HUDSON OAKS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			863	3357	3
HUDSON OAKS	C	CONSERVATION, WATER LOSS CONTROL - HUDSON OAKS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		863	1393	1
HUDSON OAKS	C	CONSERVATION, WATER LOSS CONTROL - HUDSON OAKS	C	CONSTRUCTION FUNDING	$0.00	N/A		863	1393	2
HUDSON OAKS	C	CONSERVATION, WATER LOSS CONTROL - HUDSON OAKS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			863	1393	3
HUDSON OAKS	C	HUDSON OAKS - DIRECT CONNECTION TO FORT WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		863	4079	1
HUDSON OAKS	C	HUDSON OAKS - DIRECT CONNECTION TO FORT WORTH	C	CONSTRUCTION FUNDING	$0.00	N/A		863	4079	2
HUDSON OAKS	C	HUDSON OAKS - DIRECT CONNECTION TO FORT WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			863	4079	3
HURST	C	CONSERVATION, WATER LOSS CONTROL - HURST	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		869	1394	1
HURST	C	CONSERVATION, WATER LOSS CONTROL - HURST	C	CONSTRUCTION FUNDING	$0.00	N/A		869	1394	2
HURST	C	CONSERVATION, WATER LOSS CONTROL - HURST	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			869	1394	3
HUTCHINS	C	CONSERVATION – WASTE PROHIBITION, HUTCHINS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				870	3440	1
HUTCHINS	C	CONSERVATION – WASTE PROHIBITION, HUTCHINS	C	CONSTRUCTION FUNDING				870	3440	2
HUTCHINS	C	CONSERVATION – WASTE PROHIBITION, HUTCHINS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				870	3440	3
HUTCHINS	C	CONSERVATION, IRRIGATION RESTRICTION - HUTCHINS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				870	3359	1
HUTCHINS	C	CONSERVATION, IRRIGATION RESTRICTION - HUTCHINS	C	CONSTRUCTION FUNDING				870	3359	2

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HUTCHINS	C	CONSERVATION, IRRIGATION RESTRICTION - HUTCHINS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				870	3359	3
HUTCHINS	C	CONSERVATION, WATER LOSS CONTROL - HUTCHINS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				870	1395	1
HUTCHINS	C	CONSERVATION, WATER LOSS CONTROL - HUTCHINS	C	CONSTRUCTION FUNDING				870	1395	2
HUTCHINS	C	CONSERVATION, WATER LOSS CONTROL - HUTCHINS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				870	1395	3
IRRIGATION, FANNIN	C	IRRIGATION, FANNIN - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				950	3823	1
IRRIGATION, FANNIN	C	IRRIGATION, FANNIN - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				950	3823	2
IRRIGATION, FANNIN	C	IRRIGATION, FANNIN - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				950	3823	3
IRVING	C	CONSERVATION, WATER LOSS CONTROL - IRVING	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1119	1396	1
IRVING	C	CONSERVATION, WATER LOSS CONTROL - IRVING	C	CONSTRUCTION FUNDING	$0.00	N/A		1119	1396	2
IRVING	C	CONSERVATION, WATER LOSS CONTROL - IRVING	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1119	1396	3
IRVING	C	IRVING - TRA CENTRAL REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$5,000,000.00	2024		1119	1020	1
IRVING	C	IRVING - TRA CENTRAL REUSE	C	CONSTRUCTION FUNDING	$41,730,000.00	2025		1119	1020	2
IRVING	C	IRVING - TRA CENTRAL REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1119	1020	3
IRVING	C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$2,500,000.00	2025		1119	956	1
IRVING	C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	C	CONSTRUCTION FUNDING	$19,159,000.00	2026		1119	956	2
IRVING	C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1119	956	3
ITALY	C	CONSERVATION, WATER LOSS CONTROL - ITALY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1120	1397	1
ITALY	C	CONSERVATION, WATER LOSS CONTROL - ITALY	C	CONSTRUCTION FUNDING				1120	1397	2
ITALY	C	CONSERVATION, WATER LOSS CONTROL - ITALY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1120	1397	3
JACKSBORO	C	CONSERVATION, WATER LOSS CONTROL - JACKSBORO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$100,000.00	2021		1123	1398	1
JACKSBORO	C	CONSERVATION, WATER LOSS CONTROL - JACKSBORO	C	CONSTRUCTION FUNDING	$12,000,000.00	2022		1123	1398	2
JACKSBORO	C	CONSERVATION, WATER LOSS CONTROL - JACKSBORO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1123	1398	3
JOSEPHINE	C	CONSERVATION, IRRIGATION RESTRICTION - JOSEPHINE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1140	3361	1
JOSEPHINE	C	CONSERVATION, IRRIGATION RESTRICTION - JOSEPHINE	C	CONSTRUCTION FUNDING	$0.00	N/A		1140	3361	2
JOSEPHINE	C	CONSERVATION, IRRIGATION RESTRICTION - JOSEPHINE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1140	3361	3
JOSEPHINE	C	CONSERVATION, WATER LOSS CONTROL - JOSEPHINE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1140	1400	1
JOSEPHINE	C	CONSERVATION, WATER LOSS CONTROL - JOSEPHINE	C	CONSTRUCTION FUNDING	$0.00	N/A		1140	1400	2
JOSEPHINE	C	CONSERVATION, WATER LOSS CONTROL - JOSEPHINE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1140	1400	3

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JUSTIN	C	CONSERVATION, WATER LOSS CONTROL - JUSTIN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1144	1401	1
JUSTIN	C	CONSERVATION, WATER LOSS CONTROL - JUSTIN	C	CONSTRUCTION FUNDING				1144	1401	2
JUSTIN	C	CONSERVATION, WATER LOSS CONTROL - JUSTIN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1144	1401	3
JUSTIN	C	JUSTIN - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1144	1034	1
JUSTIN	C	JUSTIN - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				1144	1034	2
JUSTIN	C	JUSTIN - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1144	1034	3
KAUFMAN	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$500.00	2022		1147	3362	1
KAUFMAN	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN	C	CONSTRUCTION FUNDING	$8,076.00	2023		1147	3362	2
KAUFMAN	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1147	3362	3
KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$9,900.00	2022		1147	1402	1
KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN	C	CONSTRUCTION FUNDING	$61,062.00	2023		1147	1402	2
KAUFMAN	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1147	1402	3
KAUFMAN COUNTY DEVELOP	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN COUNTY DEV	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13086	3363	1
KAUFMAN COUNTY DEVELOP	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN COUNTY DEV	C	CONSTRUCTION FUNDING				13086	3363	2
KAUFMAN COUNTY DEVELOP	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN COUNTY DEV	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13086	3363	3
KAUFMAN COUNTY DEVELOP	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY DEVEL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13086	2916	1
KAUFMAN COUNTY DEVELOP	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY DEVEL	C	CONSTRUCTION FUNDING				13086	2916	2
KAUFMAN COUNTY DEVELOP	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY DEVEL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13086	2916	3
KAUFMAN COUNTY MUD 11	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN COUNTY MU	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13087	3364	1
KAUFMAN COUNTY MUD 11	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN COUNTY MU	C	CONSTRUCTION FUNDING				13087	3364	2
KAUFMAN COUNTY MUD 11	C	CONSERVATION, IRRIGATION RESTRICTION - KAUFMAN COUNTY MU	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13087	3364	3
KAUFMAN COUNTY MUD 11	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY MUD 1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13087	1309	1
KAUFMAN COUNTY MUD 11	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY MUD 1	C	CONSTRUCTION FUNDING				13087	1309	2
KAUFMAN COUNTY MUD 11	C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY MUD 1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13087	1309	3
KELLER	C	CONSERVATION, WATER LOSS CONTROL - KELLER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1149	1403	1
KELLER	C	CONSERVATION, WATER LOSS CONTROL - KELLER	C	CONSTRUCTION FUNDING	$0.00	N/A		1149	1403	2
KELLER	C	CONSERVATION, WATER LOSS CONTROL - KELLER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1149	1403	3
KELLER	C	KELLER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT WOR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1149	1119	1
KELLER	C	KELLER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT WOR	C	CONSTRUCTION FUNDING	$0.00	N/A		1149	1119	2

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KELLER	C	KELLER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT WOR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1149	1119	3
KEMP	C	CONSERVATION, IRRIGATION RESTRICTION - KEMP	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	2021		1151	3366	1
KEMP	C	CONSERVATION, IRRIGATION RESTRICTION - KEMP	C	CONSTRUCTION FUNDING	$0.00	2021		1151	3366	2
KEMP	C	CONSERVATION, IRRIGATION RESTRICTION - KEMP	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1151	3366	3
KEMP	C	CONSERVATION, WATER LOSS CONTROL - KEMP	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	2021		1151	1404	1
KEMP	C	CONSERVATION, WATER LOSS CONTROL - KEMP	C	CONSTRUCTION FUNDING	$0.00	2021		1151	1404	2
KEMP	C	CONSERVATION, WATER LOSS CONTROL - KEMP	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1151	1404	3
KENNEDALE	C	CONSERVATION – WASTE PROHIBITION, KENNEDALE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1156	3441	1
KENNEDALE	C	CONSERVATION – WASTE PROHIBITION, KENNEDALE	C	CONSTRUCTION FUNDING				1156	3441	2
KENNEDALE	C	CONSERVATION – WASTE PROHIBITION, KENNEDALE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1156	3441	3
KENNEDALE	C	CONSERVATION, IRRIGATION RESTRICTION - KENNEDALE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1156	3367	1
KENNEDALE	C	CONSERVATION, IRRIGATION RESTRICTION - KENNEDALE	C	CONSTRUCTION FUNDING				1156	3367	2
KENNEDALE	C	CONSERVATION, IRRIGATION RESTRICTION - KENNEDALE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1156	3367	3
KENNEDALE	C	CONSERVATION, WATER LOSS CONTROL - KENNEDALE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1156	1405	1
KENNEDALE	C	CONSERVATION, WATER LOSS CONTROL - KENNEDALE	C	CONSTRUCTION FUNDING				1156	1405	2
KENNEDALE	C	CONSERVATION, WATER LOSS CONTROL - KENNEDALE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1156	1405	3
KENNEDALE	C	KENNEDALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT W	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1156	1122	1
KENNEDALE	C	KENNEDALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT W	C	CONSTRUCTION FUNDING				1156	1122	2
KENNEDALE	C	KENNEDALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM FORT W	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1156	1122	3
KENNEDALE	C	KENNEDALE - CONNECT TO ARLINGTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1156	1121	1
KENNEDALE	C	KENNEDALE - CONNECT TO ARLINGTON	C	CONSTRUCTION FUNDING				1156	1121	2
KENNEDALE	C	KENNEDALE - CONNECT TO ARLINGTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1156	1121	3
KENTUCKYTOWN WSC	C	CONSERVATION, WATER LOSS CONTROL - KENTUCKY TOWN WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2830	1406	1
KENTUCKYTOWN WSC	C	CONSERVATION, WATER LOSS CONTROL - KENTUCKY TOWN WSC	C	CONSTRUCTION FUNDING				2830	1406	2
KENTUCKYTOWN WSC	C	CONSERVATION, WATER LOSS CONTROL - KENTUCKY TOWN WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2830	1406	3
KERENS	C	CONSERVATION, WATER LOSS CONTROL - KERENS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1157	1407	1
KERENS	C	CONSERVATION, WATER LOSS CONTROL - KERENS	C	CONSTRUCTION FUNDING	$0.00	N/A		1157	1407	2
KERENS	C	CONSERVATION, WATER LOSS CONTROL - KERENS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1157	1407	3

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KRUM	C	CONSERVATION, IRRIGATION RESTRICTION - KRUM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1170	3368	1
KRUM	C	CONSERVATION, IRRIGATION RESTRICTION - KRUM	C	CONSTRUCTION FUNDING				1170	3368	2
KRUM	C	CONSERVATION, IRRIGATION RESTRICTION - KRUM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1170	3368	3
KRUM	C	CONSERVATION, WATER LOSS CONTROL - KRUM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1170	1409	1
KRUM	C	CONSERVATION, WATER LOSS CONTROL - KRUM	C	CONSTRUCTION FUNDING				1170	1409	2
KRUM	C	CONSERVATION, WATER LOSS CONTROL - KRUM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1170	1409	3
KRUM	C	KRUM - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1170	1035	1
KRUM	C	KRUM - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				1170	1035	2
KRUM	C	KRUM - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1170	1035	3
LADONIA	C	CONSERVATION, WATER LOSS CONTROL - LADONIA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1183	1410	1
LADONIA	C	CONSERVATION, WATER LOSS CONTROL - LADONIA	C	CONSTRUCTION FUNDING				1183	1410	2
LADONIA	C	CONSERVATION, WATER LOSS CONTROL - LADONIA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1183	1410	3
LADONIA	C	LADONIA - INFRASTRUCTURE AND TREATMENT FROM WATER FROM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1183	1059	1
LADONIA	C	LADONIA - INFRASTRUCTURE AND TREATMENT FROM WATER FROM	C	CONSTRUCTION FUNDING				1183	1059	2
LADONIA	C	LADONIA - INFRASTRUCTURE AND TREATMENT FROM WATER FROM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1183	1059	3
LAKE CITIES MUNICIPAL UTILI	C	CONSERVATION, WATER LOSS CONTROL - LAKE CITIES MUA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				81	2929	1
LAKE CITIES MUNICIPAL UTILI	C	CONSERVATION, WATER LOSS CONTROL - LAKE CITIES MUA	C	CONSTRUCTION FUNDING				81	2929	2
LAKE CITIES MUNICIPAL UTILI	C	CONSERVATION, WATER LOSS CONTROL - LAKE CITIES MUA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				81	2929	3
LAKE KIOWA SUD	C	CONSERVATION, WATER LOSS CONTROL - LAKE KIOWA SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$442,000.00	2020		2787	1412	1
LAKE KIOWA SUD	C	CONSERVATION, WATER LOSS CONTROL - LAKE KIOWA SUD	C	CONSTRUCTION FUNDING	$4,604,538.00	2021		2787	1412	2
LAKE KIOWA SUD	C	CONSERVATION, WATER LOSS CONTROL - LAKE KIOWA SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2787	1412	3
LAKE WORTH	C	CONSERVATION – WASTE PROHIBITION, LAKE WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1191	3442	1
LAKE WORTH	C	CONSERVATION – WASTE PROHIBITION, LAKE WORTH	C	CONSTRUCTION FUNDING	$0.00	N/A		1191	3442	2
LAKE WORTH	C	CONSERVATION – WASTE PROHIBITION, LAKE WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1191	3442	3
LAKE WORTH	C	CONSERVATION, IRRIGATION RESTRICTION - LAKE WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1191	3369	1
LAKE WORTH	C	CONSERVATION, IRRIGATION RESTRICTION - LAKE WORTH	C	CONSTRUCTION FUNDING	$0.00	N/A		1191	3369	2
LAKE WORTH	C	CONSERVATION, IRRIGATION RESTRICTION - LAKE WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1191	3369	3
LAKE WORTH	C	CONSERVATION, WATER LOSS CONTROL - LAKE WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1191	1413	1
LAKE WORTH	C	CONSERVATION, WATER LOSS CONTROL - LAKE WORTH	C	CONSTRUCTION FUNDING	$0.00	N/A		1191	1413	2

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LAKE WORTH	C	CONSERVATION, WATER LOSS CONTROL - LAKE WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1191	1413	3
LAKESIDE	C	CONSERVATION – WASTE PROHIBITION, LAKESIDE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1193	3443	1
LAKESIDE	C	CONSERVATION – WASTE PROHIBITION, LAKESIDE	C	CONSTRUCTION FUNDING				1193	3443	2
LAKESIDE	C	CONSERVATION – WASTE PROHIBITION, LAKESIDE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1193	3443	3
LAKESIDE	C	CONSERVATION, IRRIGATION RESTRICTION - LAKESIDE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1193	3370	1
LAKESIDE	C	CONSERVATION, IRRIGATION RESTRICTION - LAKESIDE	C	CONSTRUCTION FUNDING				1193	3370	2
LAKESIDE	C	CONSERVATION, IRRIGATION RESTRICTION - LAKESIDE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1193	3370	3
LAKESIDE	C	CONSERVATION, WATER LOSS CONTROL - LAKESIDE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1193	1414	1
LAKESIDE	C	CONSERVATION, WATER LOSS CONTROL - LAKESIDE	C	CONSTRUCTION FUNDING				1193	1414	2
LAKESIDE	C	CONSERVATION, WATER LOSS CONTROL - LAKESIDE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1193	1414	3
LAKESIDE	C	LAKESIDE - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1193	3831	1
LAKESIDE	C	LAKESIDE - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				1193	3831	2
LAKESIDE	C	LAKESIDE - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1193	3831	3
LANCASTER	C	CONSERVATION, IRRIGATION RESTRICTION - LANCASTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1198	1585	1
LANCASTER	C	CONSERVATION, IRRIGATION RESTRICTION - LANCASTER	C	CONSTRUCTION FUNDING				1198	1585	2
LANCASTER	C	CONSERVATION, IRRIGATION RESTRICTION - LANCASTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1198	1585	3
LANCASTER	C	CONSERVATION, WATER LOSS CONTROL - LANCASTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1198	1416	1
LANCASTER	C	CONSERVATION, WATER LOSS CONTROL - LANCASTER	C	CONSTRUCTION FUNDING				1198	1416	2
LANCASTER	C	CONSERVATION, WATER LOSS CONTROL - LANCASTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1198	1416	3
LEONARD	C	CONSERVATION, WATER LOSS CONTROL - LEONARD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1205	1420	1
LEONARD	C	CONSERVATION, WATER LOSS CONTROL - LEONARD	C	CONSTRUCTION FUNDING				1205	1420	2
LEONARD	C	CONSERVATION, WATER LOSS CONTROL - LEONARD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1205	1420	3
LEONARD	C	LEONARD - WATER SYSTEM IMPROVEMENTS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1205	1140	1
LEONARD	C	LEONARD - WATER SYSTEM IMPROVEMENTS	C	CONSTRUCTION FUNDING				1205	1140	2
LEONARD	C	LEONARD - WATER SYSTEM IMPROVEMENTS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1205	1140	3
LEWISVILLE	C	CONSERVATION, IRRIGATION RESTRICTION - LEWISVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1207	1586	1
LEWISVILLE	C	CONSERVATION, IRRIGATION RESTRICTION - LEWISVILLE	C	CONSTRUCTION FUNDING	$0.00	N/A		1207	1586	2
LEWISVILLE	C	CONSERVATION, IRRIGATION RESTRICTION - LEWISVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1207	1586	3

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LEWISVILLE	C	CONSERVATION, WATER LOSS CONTROL - LEWISVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1207	1421	1
LEWISVILLE	C	CONSERVATION, WATER LOSS CONTROL - LEWISVILLE	C	CONSTRUCTION FUNDING	$0.00	N/A		1207	1421	2
LEWISVILLE	C	CONSERVATION, WATER LOSS CONTROL - LEWISVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1207	1421	3
LEWISVILLE	C	LEWISVILLE - 6 MGD WTP EXPANSION-1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1207	913	1
LEWISVILLE	C	LEWISVILLE - 6 MGD WTP EXPANSION-1	C	CONSTRUCTION FUNDING	$0.00	N/A		1207	913	2
LEWISVILLE	C	LEWISVILLE - 6 MGD WTP EXPANSION-1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1207	913	3
LEWISVILLE	C	LEWISVILLE - 6 MGD WTP EXPANSION-2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1207	914	1
LEWISVILLE	C	LEWISVILLE - 6 MGD WTP EXPANSION-2	C	CONSTRUCTION FUNDING	$0.00	N/A		1207	914	2
LEWISVILLE	C	LEWISVILLE - 6 MGD WTP EXPANSION-2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1207	914	3
LEWISVILLE	C	LEWISVILLE - 6.5 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1207	915	1
LEWISVILLE	C	LEWISVILLE - 6.5 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$0.00	N/A		1207	915	2
LEWISVILLE	C	LEWISVILLE - 6.5 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1207	915	3
LINDSAY	C	CONSERVATION, WATER LOSS CONTROL - LINDSAY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1216	1422	1
LINDSAY	C	CONSERVATION, WATER LOSS CONTROL - LINDSAY	C	CONSTRUCTION FUNDING	$0.00	N/A		1216	1422	2
LINDSAY	C	CONSERVATION, WATER LOSS CONTROL - LINDSAY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1216	1422	3
LITTLE ELM	C	CONSERVATION, WATER LOSS CONTROL - LITTLE ELM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1217	1423	1
LITTLE ELM	C	CONSERVATION, WATER LOSS CONTROL - LITTLE ELM	C	CONSTRUCTION FUNDING	$0.00	N/A		1217	1423	2
LITTLE ELM	C	CONSERVATION, WATER LOSS CONTROL - LITTLE ELM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1217	1423	3
LIVESTOCK, HENDERSON	C	LIVESTOCK, HENDERSON - NEW WELL(S) IN CARRIZO-WILCOX AQUIF	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1327	3830	1
LIVESTOCK, HENDERSON	C	LIVESTOCK, HENDERSON - NEW WELL(S) IN CARRIZO-WILCOX AQUIF	C	CONSTRUCTION FUNDING				1327	3830	2
LIVESTOCK, HENDERSON	C	LIVESTOCK, HENDERSON - NEW WELL(S) IN CARRIZO-WILCOX AQUIF	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1327	3830	3
LIVESTOCK, TARRANT	C	LIVESTOCK, TARRANT - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1440	3832	1
LIVESTOCK, TARRANT	C	LIVESTOCK, TARRANT - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				1440	3832	2
LIVESTOCK, TARRANT	C	LIVESTOCK, TARRANT - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1440	3832	3
LUCAS	C	CONSERVATION – WASTE PROHIBITION, LUCAS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1494	3445	1
LUCAS	C	CONSERVATION – WASTE PROHIBITION, LUCAS	C	CONSTRUCTION FUNDING				1494	3445	2
LUCAS	C	CONSERVATION – WASTE PROHIBITION, LUCAS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1494	3445	3
LUCAS	C	CONSERVATION, IRRIGATION RESTRICTION - LUCAS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1494	1587	1
LUCAS	C	CONSERVATION, IRRIGATION RESTRICTION - LUCAS	C	CONSTRUCTION FUNDING				1494	1587	2

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LUCAS	C	CONSERVATION, IRRIGATION RESTRICTION - LUCAS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1494	1587	3
LUCAS	C	CONSERVATION, WATER LOSS CONTROL - LUCAS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1494	1426	1
LUCAS	C	CONSERVATION, WATER LOSS CONTROL - LUCAS	C	CONSTRUCTION FUNDING				1494	1426	2
LUCAS	C	CONSERVATION, WATER LOSS CONTROL - LUCAS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1494	1426	3
LUELLA SUD	C	CONSERVATION, WATER LOSS CONTROL - LUELLA SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2789	1427	1
LUELLA SUD	C	CONSERVATION, WATER LOSS CONTROL - LUELLA SUD	C	CONSTRUCTION FUNDING				2789	1427	2
LUELLA SUD	C	CONSERVATION, WATER LOSS CONTROL - LUELLA SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2789	1427	3
M E N WSC	C	CONSERVATION, WATER LOSS CONTROL - M-E-N WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2790	1437	1
M E N WSC	C	CONSERVATION, WATER LOSS CONTROL - M-E-N WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		2790	1437	2
M E N WSC	C	CONSERVATION, WATER LOSS CONTROL - M-E-N WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2790	1437	3
M E N WSC	C	M E N WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSIC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2790	1096	1
M E N WSC	C	M E N WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSIC	C	CONSTRUCTION FUNDING	$0.00	N/A		2790	1096	2
M E N WSC	C	M E N WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSIC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2790	1096	3
MABANK	C	CONSERVATION – WASTE PROHIBITION, MABANK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1500	3446	1
MABANK	C	CONSERVATION – WASTE PROHIBITION, MABANK	C	CONSTRUCTION FUNDING				1500	3446	2
MABANK	C	CONSERVATION – WASTE PROHIBITION, MABANK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1500	3446	3
MABANK	C	CONSERVATION, IRRIGATION RESTRICTION - MABANK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1500	3372	1
MABANK	C	CONSERVATION, IRRIGATION RESTRICTION - MABANK	C	CONSTRUCTION FUNDING				1500	3372	2
MABANK	C	CONSERVATION, IRRIGATION RESTRICTION - MABANK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1500	3372	3
MABANK	C	CONSERVATION, WATER LOSS CONTROL - MABANK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1500	1428	1
MABANK	C	CONSERVATION, WATER LOSS CONTROL - MABANK	C	CONSTRUCTION FUNDING				1500	1428	2
MABANK	C	CONSERVATION, WATER LOSS CONTROL - MABANK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1500	1428	3
MABANK	C	MABANK - 3 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1500	917	1
MABANK	C	MABANK - 3 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				1500	917	2
MABANK	C	MABANK - 3 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1500	917	3
MABANK	C	MABANK - 5 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1500	919	1
MABANK	C	MABANK - 5 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				1500	919	2
MABANK	C	MABANK - 5 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1500	919	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
MABANK	C	MABANK - ADDITIONAL DELIVERY INFRASTRUCTURE FROM TRWD (C	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1500	1073	1
MABANK	C	MABANK - ADDITIONAL DELIVERY INFRASTRUCTURE FROM TRWD (C	C	CONSTRUCTION FUNDING				1500	1073	2
MABANK	C	MABANK - ADDITIONAL DELIVERY INFRASTRUCTURE FROM TRWD (C	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1500	1073	3
MALAKOFF	C	CONSERVATION, WATER LOSS CONTROL - MALAKOFF	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1506	1430	1
MALAKOFF	C	CONSERVATION, WATER LOSS CONTROL - MALAKOFF	C	CONSTRUCTION FUNDING				1506	1430	2
MALAKOFF	C	CONSERVATION, WATER LOSS CONTROL - MALAKOFF	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1506	1430	3
MANSFIELD	C	CONSERVATION, IRRIGATION RESTRICTION - MANSFIELD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		91	3373	1
MANSFIELD	C	CONSERVATION, IRRIGATION RESTRICTION - MANSFIELD	C	CONSTRUCTION FUNDING	$0.00	N/A		91	3373	2
MANSFIELD	C	CONSERVATION, IRRIGATION RESTRICTION - MANSFIELD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			91	3373	3
MANSFIELD	C	CONSERVATION, WATER LOSS CONTROL - MANSFIELD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		91	1431	1
MANSFIELD	C	CONSERVATION, WATER LOSS CONTROL - MANSFIELD	C	CONSTRUCTION FUNDING	$0.00	N/A		91	1431	2
MANSFIELD	C	CONSERVATION, WATER LOSS CONTROL - MANSFIELD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			91	1431	3
MANSFIELD	C	MANSFIELD - 15 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		91	920	1
MANSFIELD	C	MANSFIELD - 15 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$0.00	N/A		91	920	2
MANSFIELD	C	MANSFIELD - 15 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			91	920	3
MANSFIELD	C	MANSFIELD - 20 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		91	922	1
MANSFIELD	C	MANSFIELD - 20 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$0.00	N/A		91	922	2
MANSFIELD	C	MANSFIELD - 20 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			91	922	3
MANSFIELD	C	MANSFIELD - 35 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		91	921	1
MANSFIELD	C	MANSFIELD - 35 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$0.00	N/A		91	921	2
MANSFIELD	C	MANSFIELD - 35 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			91	921	3
MANSFIELD	C	MUNICIPAL WATER CONSERVATION - MANSFIELD	G	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		91	3891	1
MANSFIELD	C	MUNICIPAL WATER CONSERVATION - MANSFIELD	G	CONSTRUCTION FUNDING	$0.00	N/A		91	3891	2
MANSFIELD	C	MUNICIPAL WATER CONSERVATION - MANSFIELD	G	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			91	3891	3
MANUFACTURING, COLLIN	C	MANUFACTURING, COLLIN - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1536	1002	1
MANUFACTURING, COLLIN	C	MANUFACTURING, COLLIN - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING				1536	1002	2
MANUFACTURING, COLLIN	C	MANUFACTURING, COLLIN - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1536	1002	3
MANUFACTURING, WISE	C	MANUFACTURING, WISE COUNTY - NEW WELL(S) IN TRINITY AQUIFE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1678	1138	1
MANUFACTURING, WISE	C	MANUFACTURING, WISE COUNTY - NEW WELL(S) IN TRINITY AQUIFE	C	CONSTRUCTION FUNDING				1678	1138	2

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MANUFACTURING, WISE	C	MANUFACTURING, WISE COUNTY - NEW WELL(S) IN TRINITY AQUIFE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1678	1138	3
MARILEE SUD	C	CONSERVATION, WATER LOSS CONTROL - MARILEE SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$350,000.00	2021		790	1432	1
MARILEE SUD	C	CONSERVATION, WATER LOSS CONTROL - MARILEE SUD	C	CONSTRUCTION FUNDING	$820,000.00	2022		790	1432	2
MARILEE SUD	C	CONSERVATION, WATER LOSS CONTROL - MARILEE SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$1.00			790	1432	3
MARKOUT WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MARKOUT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13120	3374	1
MARKOUT WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MARKOUT WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		13120	3374	2
MARKOUT WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MARKOUT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13120	3374	3
MARKOUT WSC	C	CONSERVATION, WATER LOSS CONTROL - MARKOUT WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13120	2930	1
MARKOUT WSC	C	CONSERVATION, WATER LOSS CONTROL - MARKOUT WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		13120	2930	2
MARKOUT WSC	C	CONSERVATION, WATER LOSS CONTROL - MARKOUT WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13120	2930	3
MCKINNEY	C	CONSERVATION, WATER LOSS CONTROL - MCKINNEY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1702	1434	1
MCKINNEY	C	CONSERVATION, WATER LOSS CONTROL - MCKINNEY	C	CONSTRUCTION FUNDING	$0.00	N/A		1702	1434	2
MCKINNEY	C	CONSERVATION, WATER LOSS CONTROL - MCKINNEY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1702	1434	3
MELISSA	C	CONSERVATION, WATER LOSS CONTROL - MELISSA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1708	1436	1
MELISSA	C	CONSERVATION, WATER LOSS CONTROL - MELISSA	C	CONSTRUCTION FUNDING				1708	1436	2
MELISSA	C	CONSERVATION, WATER LOSS CONTROL - MELISSA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1708	1436	3
MELISSA	C	MELISSA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1708	1005	1
MELISSA	C	MELISSA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	C	CONSTRUCTION FUNDING				1708	1005	2
MELISSA	C	MELISSA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1708	1005	3
MESQUITE	C	CONSERVATION, WATER LOSS CONTROL - MESQUITE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1715	1438	1
MESQUITE	C	CONSERVATION, WATER LOSS CONTROL - MESQUITE	C	CONSTRUCTION FUNDING	$0.00	N/A		1715	1438	2
MESQUITE	C	CONSERVATION, WATER LOSS CONTROL - MESQUITE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1715	1438	3
MIDLOTHIAN	C	CONSERVATION, IRRIGATION RESTRICTION - MIDLOTHIAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	1588	1
MIDLOTHIAN	C	CONSERVATION, IRRIGATION RESTRICTION - MIDLOTHIAN	C	CONSTRUCTION FUNDING	$0.00	N/A		94	1588	2
MIDLOTHIAN	C	CONSERVATION, IRRIGATION RESTRICTION - MIDLOTHIAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	1588	3
MIDLOTHIAN	C	CONSERVATION, WATER LOSS CONTROL - MIDLOTHIAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	1439	1
MIDLOTHIAN	C	CONSERVATION, WATER LOSS CONTROL - MIDLOTHIAN	C	CONSTRUCTION FUNDING	$0.00	N/A		94	1439	2
MIDLOTHIAN	C	CONSERVATION, WATER LOSS CONTROL - MIDLOTHIAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	1439	3

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MIDLOTHIAN	C	MIDLOTHIAN - ALTERNATIVE - PURCHASE DUNCANVILLE'S JOE POOL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	1041	1
MIDLOTHIAN	C	MIDLOTHIAN - ALTERNATIVE - PURCHASE DUNCANVILLE'S JOE POOL	C	CONSTRUCTION FUNDING	$0.00	N/A		94	1041	2
MIDLOTHIAN	C	MIDLOTHIAN - ALTERNATIVE - PURCHASE DUNCANVILLE'S JOE POOL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	1041	3
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 16 MGD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	924	1
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 16 MGD	C	CONSTRUCTION FUNDING	$0.00	N/A		94	924	2
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 16 MGD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	924	3
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 24 MGD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	925	1
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 24 MGD	C	CONSTRUCTION FUNDING	$21,000,000.00	2022		94	925	2
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 24 MGD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	925	3
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 32 MGD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	926	1
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 32 MGD	C	CONSTRUCTION FUNDING	$0.00	N/A		94	926	2
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND AUGER WTP TO 32 MGD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	926	3
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND TAYMAN WTP TO 20 MGD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		94	4025	1
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND TAYMAN WTP TO 20 MGD	C	CONSTRUCTION FUNDING	$0.00	N/A		94	4025	2
MIDLOTHIAN	C	MIDLOTHIAN - EXPAND TAYMAN WTP TO 20 MGD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			94	4025	3
MILLIGAN WSC	C	CONSERVATION, WATER LOSS CONTROL - MILLIGAN WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$20,000.00	2021		13133	2931	1
MILLIGAN WSC	C	CONSERVATION, WATER LOSS CONTROL - MILLIGAN WSC	C	CONSTRUCTION FUNDING	$230,850.00	2021		13133	2931	2
MILLIGAN WSC	C	CONSERVATION, WATER LOSS CONTROL - MILLIGAN WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13133	2931	3
MINING, GRAYSON	C	MINING, GRAYSON COUNTY - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1805	1068	1
MINING, GRAYSON	C	MINING, GRAYSON COUNTY - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				1805	1068	2
MINING, GRAYSON	C	MINING, GRAYSON COUNTY - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1805	1068	3
MINING, HENDERSON	C	HDSN - MINING - NEW GROUNDWATER WELLS INFRASTRUCTURE	I	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1818	3931	1
MINING, HENDERSON	C	HDSN - MINING - NEW GROUNDWATER WELLS INFRASTRUCTURE	I	CONSTRUCTION FUNDING				1818	3931	2
MINING, HENDERSON	C	HDSN - MINING - NEW GROUNDWATER WELLS INFRASTRUCTURE	I	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1818	3931	3
MINING, KAUFMAN	C	MINING, KAUFMAN COUNTY - NEW WELL(S) IN NACATOCH AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1839	2760	1
MINING, KAUFMAN	C	MINING, KAUFMAN COUNTY - NEW WELL(S) IN NACATOCH AQUIFER	C	CONSTRUCTION FUNDING				1839	2760	2
MINING, KAUFMAN	C	MINING, KAUFMAN COUNTY - NEW WELL(S) IN NACATOCH AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1839	2760	3
MINING, KAUFMAN	C	MINING, PARKER COUNTY - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1839	3852	1
MINING, KAUFMAN	C	MINING, PARKER COUNTY - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				1839	3852	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
MINING, KAUFMAN	C	MINING, PARKER COUNTY - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1839	3852	3
MOUNT ZION WSC	C	CONSERVATION – WASTE PROHIBITION, MOUNT ZION WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2791	3447	1
MOUNT ZION WSC	C	CONSERVATION – WASTE PROHIBITION, MOUNT ZION WSC	C	CONSTRUCTION FUNDING				2791	3447	2
MOUNT ZION WSC	C	CONSERVATION – WASTE PROHIBITION, MOUNT ZION WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2791	3447	3
MOUNT ZION WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNT ZION WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2791	3379	1
MOUNT ZION WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNT ZION WSC	C	CONSTRUCTION FUNDING				2791	3379	2
MOUNT ZION WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNT ZION WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2791	3379	3
MOUNT ZION WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNT ZION WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2791	1442	1
MOUNT ZION WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNT ZION WSC	C	CONSTRUCTION FUNDING				2791	1442	2
MOUNT ZION WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNT ZION WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2791	1442	3
MOUNTAIN PEAK SUD	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNTAIN PEAK SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1970	3380	1
MOUNTAIN PEAK SUD	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNTAIN PEAK SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		1970	3380	2
MOUNTAIN PEAK SUD	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNTAIN PEAK SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1970	3380	3
MOUNTAIN PEAK SUD	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN PEAK SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		1970	1443	1
MOUNTAIN PEAK SUD	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN PEAK SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		1970	1443	2
MOUNTAIN PEAK SUD	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN PEAK SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			1970	1443	3
MOUNTAIN SPRINGS WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNTAIN SPRINGS W	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2839	3381	1
MOUNTAIN SPRINGS WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNTAIN SPRINGS W	C	CONSTRUCTION FUNDING				2839	3381	2
MOUNTAIN SPRINGS WSC	C	CONSERVATION, IRRIGATION RESTRICTION - MOUNTAIN SPRINGS W	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2839	3381	3
MOUNTAIN SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN SPRING WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2839	1444	1
MOUNTAIN SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN SPRING WSC	C	CONSTRUCTION FUNDING				2839	1444	2
MOUNTAIN SPRINGS WSC	C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN SPRING WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2839	1444	3
MUENSTER	C	CONSERVATION, WATER LOSS CONTROL - MUENSTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1971	1445	1
MUENSTER	C	CONSERVATION, WATER LOSS CONTROL - MUENSTER	C	CONSTRUCTION FUNDING				1971	1445	2
MUENSTER	C	CONSERVATION, WATER LOSS CONTROL - MUENSTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1971	1445	3
MUENSTER	C	MUENSTER - DEVELOP LAKE MUENSTER SUPPLY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1971	1015	1
MUENSTER	C	MUENSTER - DEVELOP LAKE MUENSTER SUPPLY	C	CONSTRUCTION FUNDING				1971	1015	2
MUENSTER	C	MUENSTER - DEVELOP LAKE MUENSTER SUPPLY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1971	1015	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
MURPHY	C	CONSERVATION – WASTE PROHIBITION, MURPHY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1975	1574	1
MURPHY	C	CONSERVATION – WASTE PROHIBITION, MURPHY	C	CONSTRUCTION FUNDING				1975	1574	2
MURPHY	C	CONSERVATION – WASTE PROHIBITION, MURPHY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1975	1574	3
MURPHY	C	CONSERVATION, IRRIGATION RESTRICTION - MURPHY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1975	3382	1
MURPHY	C	CONSERVATION, IRRIGATION RESTRICTION - MURPHY	C	CONSTRUCTION FUNDING				1975	3382	2
MURPHY	C	CONSERVATION, IRRIGATION RESTRICTION - MURPHY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1975	3382	3
MURPHY	C	CONSERVATION, WATER LOSS CONTROL - MURPHY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1975	1446	1
MURPHY	C	CONSERVATION, WATER LOSS CONTROL - MURPHY	C	CONSTRUCTION FUNDING				1975	1446	2
MURPHY	C	CONSERVATION, WATER LOSS CONTROL - MURPHY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1975	1446	3
MUSTANG SUD	C	CONSERVATION, WATER LOSS CONTROL - MUSTANG SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				96	1447	1
MUSTANG SUD	C	CONSERVATION, WATER LOSS CONTROL - MUSTANG SUD	C	CONSTRUCTION FUNDING				96	1447	2
MUSTANG SUD	C	CONSERVATION, WATER LOSS CONTROL - MUSTANG SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				96	1447	3
NAVARRO MILLS WSC	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO MILLS WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1981	1448	1
NAVARRO MILLS WSC	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO MILLS WSC	C	CONSTRUCTION FUNDING				1981	1448	2
NAVARRO MILLS WSC	C	CONSERVATION, WATER LOSS CONTROL - NAVARRO MILLS WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1981	1448	3
NAVARRO MILLS WSC	C	NAVARRO MILLS WSC - NEW WELL IN WOODBINE AQUIFER Q-168	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1981	1098	1
NAVARRO MILLS WSC	C	NAVARRO MILLS WSC - NEW WELL IN WOODBINE AQUIFER Q-168	C	CONSTRUCTION FUNDING				1981	1098	2
NAVARRO MILLS WSC	C	NAVARRO MILLS WSC - NEW WELL IN WOODBINE AQUIFER Q-168	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1981	1098	3
NEVADA SUD	C	CONSERVATION, WATER LOSS CONTROL - NEVADA SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1985	2934	1
NEVADA SUD	C	CONSERVATION, WATER LOSS CONTROL - NEVADA SUD	C	CONSTRUCTION FUNDING				1985	2934	2
NEVADA SUD	C	CONSERVATION, WATER LOSS CONTROL - NEVADA SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1985	2934	3
NEWARK	C	CONSERVATION, WATER LOSS CONTROL - NEWARK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1996	1452	1
NEWARK	C	CONSERVATION, WATER LOSS CONTROL - NEWARK	C	CONSTRUCTION FUNDING				1996	1452	2
NEWARK	C	CONSERVATION, WATER LOSS CONTROL - NEWARK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1996	1452	3
NEWARK	C	NEWARK - CONNECT TO RHOME	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				1996	1136	1
NEWARK	C	NEWARK - CONNECT TO RHOME	C	CONSTRUCTION FUNDING				1996	1136	2
NEWARK	C	NEWARK - CONNECT TO RHOME	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				1996	1136	3
NORTH COLLIN SUD	C	CONSERVATION, WATER LOSS CONTROL - NORTH COLLIN WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2011	1453	1
NORTH COLLIN SUD	C	CONSERVATION, WATER LOSS CONTROL - NORTH COLLIN WSC	C	CONSTRUCTION FUNDING				2011	1453	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
NORTH COLLIN SUD	C	CONSERVATION, WATER LOSS CONTROL - NORTH COLLIN WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2011	1453	3
NORTH FARMERSVILLE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - NORTH FARMERSVILLE V	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13162	3384	1
NORTH FARMERSVILLE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - NORTH FARMERSVILLE V	C	CONSTRUCTION FUNDING	$0.00	N/A		13162	3384	2
NORTH FARMERSVILLE WSC	C	CONSERVATION, IRRIGATION RESTRICTION - NORTH FARMERSVILLE V	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13162	3384	3
NORTH FARMERSVILLE WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH FARMERSVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13162	2939	1
NORTH FARMERSVILLE WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH FARMERSVILLE	C	CONSTRUCTION FUNDING	$0.00	N/A		13162	2939	2
NORTH FARMERSVILLE WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH FARMERSVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13162	2939	3
NORTH KAUFMAN WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH KAUFMAN WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13165	2940	1
NORTH KAUFMAN WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH KAUFMAN WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		13165	2940	2
NORTH KAUFMAN WSC	C	CONSERVATION, WATER LOSS CONTROL - NORTH KAUFMAN WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13165	2940	3
NORTH RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - NORTH RICHLAND HILLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				101	1454	1
NORTH RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - NORTH RICHLAND HILLS	C	CONSTRUCTION FUNDING				101	1454	2
NORTH RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - NORTH RICHLAND HILLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				101	1454	3
NORTH RICHLAND HILLS	C	WATAUGA & N RICHLAND HILLS - INCREASE DELIVERY INFRASTRUCT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				101	1132	1
NORTH RICHLAND HILLS	C	WATAUGA & N RICHLAND HILLS - INCREASE DELIVERY INFRASTRUCT	C	CONSTRUCTION FUNDING				101	1132	2
NORTH RICHLAND HILLS	C	WATAUGA & N RICHLAND HILLS - INCREASE DELIVERY INFRASTRUCT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				101	1132	3
NORTH TEXAS MWD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$612,017,259.00	2030		102	835	1
NORTH TEXAS MWD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	CONSTRUCTION FUNDING	$1,748,620,741.00	2040		102	835	2
NORTH TEXAS MWD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	835	3
NORTH TEXAS MWD	C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$3,000,000.00	2026		102	956	1
NORTH TEXAS MWD	C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	C	CONSTRUCTION FUNDING	$18,000,000.00	2027		102	956	2
NORTH TEXAS MWD	C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	956	3
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE I	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$30,000,000.00	2043		102	958	1
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE I	C	CONSTRUCTION FUNDING	$200,000,000.00	2044		102	958	2
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE I	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	958	3
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE II	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$38,000,000.00	2064		102	957	1
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE II	C	CONSTRUCTION FUNDING	$315,000,000.00	2065		102	957	2
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND PHASE II	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	957	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$30,000.00	2052		102	3845	1
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C	CONSTRUCTION FUNDING	$270,000.00	2053		102	3845	2
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL LAVON WATERSHED REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	3845	3
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL MEASURE TO ACCESS FULL LAKE LAVON YIEL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$5,000,000.00	2033		102	953	1
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL MEASURE TO ACCESS FULL LAKE LAVON YIEL	C	CONSTRUCTION FUNDING	$27,753,000.00	2034		102	953	2
NORTH TEXAS MWD	C	NTMWD - ADDITIONAL MEASURE TO ACCESS FULL LAKE LAVON YIEL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	953	3
NORTH TEXAS MWD	C	NTMWD - BOIS D'ARC LAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$641,000,000.00	2020		102	955	1
NORTH TEXAS MWD	C	NTMWD - BOIS D'ARC LAKE	C	CONSTRUCTION FUNDING	$1,024,000.00	2022		102	955	2
NORTH TEXAS MWD	C	NTMWD - BOIS D'ARC LAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	955	3
NORTH TEXAS MWD	C	NTMWD - EXPANDED WETLAND REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$75,000,000.00	2033		102	4108	1
NORTH TEXAS MWD	C	NTMWD - EXPANDED WETLAND REUSE	C	CONSTRUCTION FUNDING	$550,000,000.00	2035		102	4108	2
NORTH TEXAS MWD	C	NTMWD - EXPANDED WETLAND REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	4108	3
NORTH TEXAS MWD	C	NTMWD - OKLAHOMA WATER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$40,000,000.00	2071		102	959	1
NORTH TEXAS MWD	C	NTMWD - OKLAHOMA WATER	C	CONSTRUCTION FUNDING	$220,000,000.00	2073		102	959	2
NORTH TEXAS MWD	C	NTMWD - OKLAHOMA WATER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	959	3
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$100,000,000.00	2027		102	1145	1
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	CONSTRUCTION FUNDING	$1,500,000,000.00	2028		102	1145	2
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	1145	3
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$100,000,000.00	2031		102	1146	1
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	CONSTRUCTION FUNDING	$921,000,000.00	2033		102	1146	2
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	1146	3
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$110,000,000.00	2041		102	1147	1
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	CONSTRUCTION FUNDING	$900,000,000.00	2043		102	1147	2
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	1147	3
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$100,000,000.00	2053		102	1148	1
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	CONSTRUCTION FUNDING	$857,348,000.00	2055		102	1148	2
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	1148	3
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$25,000,000.00	2064		102	1149	1
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	CONSTRUCTION FUNDING	$227,000,000.00	2066		102	1149	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
NORTH TEXAS MWD	C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	1149	3
NORTH TEXAS MWD	C	NTWMD - FANNIN COUNTY WATER SUPPLY PROJECT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$14,000,000.00	2035		102	1080	1
NORTH TEXAS MWD	C	NTWMD - FANNIN COUNTY WATER SUPPLY PROJECT	C	CONSTRUCTION FUNDING	$117,000,000.00	2037		102	1080	2
NORTH TEXAS MWD	C	NTWMD - FANNIN COUNTY WATER SUPPLY PROJECT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	1080	3
NORTH TEXAS MWD	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$75,000,000.00	2073		102	3862	1
NORTH TEXAS MWD	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	CONSTRUCTION FUNDING	$655,000,000.00	2076		102	3862	2
NORTH TEXAS MWD	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			102	3862	3
NORTHLAKE	C	CONSERVATION, IRRIGATION RESTRICTION - NORTHLAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2015	3386	1
NORTHLAKE	C	CONSERVATION, IRRIGATION RESTRICTION - NORTHLAKE	C	CONSTRUCTION FUNDING	$0.00	N/A		2015	3386	2
NORTHLAKE	C	CONSERVATION, IRRIGATION RESTRICTION - NORTHLAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2015	3386	3
NORTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - NORTHLAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2015	1455	1
NORTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - NORTHLAKE	C	CONSTRUCTION FUNDING	$0.00	N/A		2015	1455	2
NORTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - NORTHLAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2015	1455	3
NORTHWEST GRAYSON COUN	C	CONSERVATION, WATER LOSS CONTROL - NORTHWEST GRAYSON CO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13171	1365	1
NORTHWEST GRAYSON COUN	C	CONSERVATION, WATER LOSS CONTROL - NORTHWEST GRAYSON CO	C	CONSTRUCTION FUNDING				13171	1365	2
NORTHWEST GRAYSON COUN	C	CONSERVATION, WATER LOSS CONTROL - NORTHWEST GRAYSON CO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13171	1365	3
NORTHWEST GRAYSON COUN	C	NORTHWEST GRAYSON COUNTY WCID 1 - NEW WELL(S) IN TRINITY A	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13171	3826	1
NORTHWEST GRAYSON COUN	C	NORTHWEST GRAYSON COUNTY WCID 1 - NEW WELL(S) IN TRINITY A	C	CONSTRUCTION FUNDING				13171	3826	2
NORTHWEST GRAYSON COUN	C	NORTHWEST GRAYSON COUNTY WCID 1 - NEW WELL(S) IN TRINITY A	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13171	3826	3
OAK RIDGE SOUTH GALE WSC	C	CONSERVATION, WATER LOSS CONTROL - OAK RIDGE SOUTH GALE W	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13175	2942	1
OAK RIDGE SOUTH GALE WSC	C	CONSERVATION, WATER LOSS CONTROL - OAK RIDGE SOUTH GALE W	C	CONSTRUCTION FUNDING				13175	2942	2
OAK RIDGE SOUTH GALE WSC	C	CONSERVATION, WATER LOSS CONTROL - OAK RIDGE SOUTH GALE W	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13175	2942	3
OVILLA	C	CONSERVATION – WASTE PROHIBITION, OVILLA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2036	3448	1
OVILLA	C	CONSERVATION – WASTE PROHIBITION, OVILLA	C	CONSTRUCTION FUNDING				2036	3448	2
OVILLA	C	CONSERVATION – WASTE PROHIBITION, OVILLA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2036	3448	3
OVILLA	C	CONSERVATION, IRRIGATION RESTRICTION - OVILLA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2036	3387	1
OVILLA	C	CONSERVATION, IRRIGATION RESTRICTION - OVILLA	C	CONSTRUCTION FUNDING				2036	3387	2
OVILLA	C	CONSERVATION, IRRIGATION RESTRICTION - OVILLA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2036	3387	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
OVILLA	C	CONSERVATION, WATER LOSS CONTROL - OVILLA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2036	1461	1
OVILLA	C	CONSERVATION, WATER LOSS CONTROL - OVILLA	C	CONSTRUCTION FUNDING				2036	1461	2
OVILLA	C	CONSERVATION, WATER LOSS CONTROL - OVILLA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2036	1461	3
OVILLA	C	OVILLA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DWU	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2036	1022	1
OVILLA	C	OVILLA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DWU	C	CONSTRUCTION FUNDING				2036	1022	2
OVILLA	C	OVILLA - ADDITIONAL DELIVERY INFRASTRUCTURE FROM DWU	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2036	1022	3
PALMER	C	CONSERVATION, WATER LOSS CONTROL - PALMER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2042	1462	1
PALMER	C	CONSERVATION, WATER LOSS CONTROL - PALMER	C	CONSTRUCTION FUNDING				2042	1462	2
PALMER	C	CONSERVATION, WATER LOSS CONTROL - PALMER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2042	1462	3
PALMER	C	PALMER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2042	1043	1
PALMER	C	PALMER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	C	CONSTRUCTION FUNDING				2042	1043	2
PALMER	C	PALMER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM ROCKETT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2042	1043	3
PALOMA CREEK NORTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK NORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2891	3449	1
PALOMA CREEK NORTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK NORTH	C	CONSTRUCTION FUNDING				2891	3449	2
PALOMA CREEK NORTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK NORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2891	3449	3
PALOMA CREEK NORTH	C	CONSERVATION, IRRIGATION RESTRICTION - PALOMA CREEK NORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2891	3388	1
PALOMA CREEK NORTH	C	CONSERVATION, IRRIGATION RESTRICTION - PALOMA CREEK NORTH	C	CONSTRUCTION FUNDING				2891	3388	2
PALOMA CREEK NORTH	C	CONSERVATION, IRRIGATION RESTRICTION - PALOMA CREEK NORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2891	3388	3
PALOMA CREEK NORTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK NORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2891	1463	1
PALOMA CREEK NORTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK NORTH	C	CONSTRUCTION FUNDING				2891	1463	2
PALOMA CREEK NORTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK NORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2891	1463	3
PALOMA CREEK SOUTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK SOUTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13328	3450	1
PALOMA CREEK SOUTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK SOUTH	C	CONSTRUCTION FUNDING				13328	3450	2
PALOMA CREEK SOUTH	C	CONSERVATION – WASTE PROHIBITION, PALOMA CREEK SOUTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13328	3450	3
PALOMA CREEK SOUTH	C	CONSERVATION, IRRIGATION RESTRICTION - PALOMA CREEK SOUTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13328	3389	1
PALOMA CREEK SOUTH	C	CONSERVATION, IRRIGATION RESTRICTION - PALOMA CREEK SOUTH	C	CONSTRUCTION FUNDING				13328	3389	2
PALOMA CREEK SOUTH	C	CONSERVATION, IRRIGATION RESTRICTION - PALOMA CREEK SOUTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13328	3389	3
PALOMA CREEK SOUTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK SOUTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13328	1429	1
PALOMA CREEK SOUTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK SOUTH	C	CONSTRUCTION FUNDING				13328	1429	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
PALOMA CREEK SOUTH	C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK SOUTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13328	1429	3
PANTEGO	C	CONSERVATION, WATER LOSS CONTROL - PANTEGO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2048	1464	1
PANTEGO	C	CONSERVATION, WATER LOSS CONTROL - PANTEGO	C	CONSTRUCTION FUNDING	$0.00	N/A		2048	1464	2
PANTEGO	C	CONSERVATION, WATER LOSS CONTROL - PANTEGO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2048	1464	3
PANTEGO	C	PANTEGO - CONNECT TO ARLINGTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$150,000.00	2020		2048	1123	1
PANTEGO	C	PANTEGO - CONNECT TO ARLINGTON	C	CONSTRUCTION FUNDING	$600,000.00	2021		2048	1123	2
PANTEGO	C	PANTEGO - CONNECT TO ARLINGTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2048	1123	3
PANTEGO	C	PANTEGO - CONNECT TO FORT WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2048	1124	1
PANTEGO	C	PANTEGO - CONNECT TO FORT WORTH	C	CONSTRUCTION FUNDING	$0.00	N/A		2048	1124	2
PANTEGO	C	PANTEGO - CONNECT TO FORT WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2048	1124	3
PARKER	C	CONSERVATION – WASTE PROHIBITION, PARKER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2049	3451	1
PARKER	C	CONSERVATION – WASTE PROHIBITION, PARKER	C	CONSTRUCTION FUNDING				2049	3451	2
PARKER	C	CONSERVATION – WASTE PROHIBITION, PARKER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2049	3451	3
PARKER	C	CONSERVATION, IRRIGATION RESTRICTION - PARKER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2049	3390	1
PARKER	C	CONSERVATION, IRRIGATION RESTRICTION - PARKER	C	CONSTRUCTION FUNDING				2049	3390	2
PARKER	C	CONSERVATION, IRRIGATION RESTRICTION - PARKER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2049	3390	3
PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2049	1465	1
PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER	C	CONSTRUCTION FUNDING				2049	1465	2
PARKER	C	CONSERVATION, WATER LOSS CONTROL - PARKER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2049	1465	3
PARKER	C	PARKER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2049	1006	1
PARKER	C	PARKER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	CONSTRUCTION FUNDING				2049	1006	2
PARKER	C	PARKER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2049	1006	3
PARKER COUNTY SUD	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$5,000.00	2020		2844	1466	1
PARKER COUNTY SUD	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY SUD	C	CONSTRUCTION FUNDING	$43,090.00	2020		2844	1466	2
PARKER COUNTY SUD	C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2844	1466	3
PARKER COUNTY SUD	C	PARKER COUNTY SUD - 3.5 MGD WTP DESAL EXPANSION-BRA SUPPL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$3,652,000.00	2020		2844	927	1
PARKER COUNTY SUD	C	PARKER COUNTY SUD - 3.5 MGD WTP DESAL EXPANSION-BRA SUPPL	C	CONSTRUCTION FUNDING	$28,656,000.00	2020		2844	927	2
PARKER COUNTY SUD	C	PARKER COUNTY SUD - 3.5 MGD WTP DESAL EXPANSION-BRA SUPPL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2844	927	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
PELICAN BAY	C	CONSERVATION, WATER LOSS CONTROL - PELICAN BAY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2060	1469	1
PELICAN BAY	C	CONSERVATION, WATER LOSS CONTROL - PELICAN BAY	C	CONSTRUCTION FUNDING				2060	1469	2
PELICAN BAY	C	CONSERVATION, WATER LOSS CONTROL - PELICAN BAY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2060	1469	3
PELICAN BAY	C	PELICAN BAY - CONNECT TO AZLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2060	1125	1
PELICAN BAY	C	PELICAN BAY - CONNECT TO AZLE	C	CONSTRUCTION FUNDING				2060	1125	2
PELICAN BAY	C	PELICAN BAY - CONNECT TO AZLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2060	1125	3
PELICAN BAY	C	PELICAN BAY - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2060	4018	1
PELICAN BAY	C	PELICAN BAY - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				2060	4018	2
PELICAN BAY	C	PELICAN BAY - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2060	4018	3
PILOT POINT	C	CONSERVATION, WATER LOSS CONTROL - PILOT POINT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2068	1470	1
PILOT POINT	C	CONSERVATION, WATER LOSS CONTROL - PILOT POINT	C	CONSTRUCTION FUNDING				2068	1470	2
PILOT POINT	C	CONSERVATION, WATER LOSS CONTROL - PILOT POINT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2068	1470	3
PILOT POINT	C	PILOT POINT - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2068	1036	1
PILOT POINT	C	PILOT POINT - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING				2068	1036	2
PILOT POINT	C	PILOT POINT - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2068	1036	3
PINK HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - PINK HILL WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13196	2943	1
PINK HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - PINK HILL WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		13196	2943	2
PINK HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - PINK HILL WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13196	2943	3
PINK HILL WSC	C	PINK HILL WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13196	3828	1
PINK HILL WSC	C	PINK HILL WSC - NEW WELL(S) IN TRINITY AQUIFER	C	CONSTRUCTION FUNDING	$0.00	N/A		13196	3828	2
PINK HILL WSC	C	PINK HILL WSC - NEW WELL(S) IN TRINITY AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13196	3828	3
PINK HILL WSC	C	PINK HILL WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13196	3827	1
PINK HILL WSC	C	PINK HILL WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING	$0.00	N/A		13196	3827	2
PINK HILL WSC	C	PINK HILL WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13196	3827	3
PLANO	C	CONSERVATION, WATER LOSS CONTROL - PLANO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2076	1471	1
PLANO	C	CONSERVATION, WATER LOSS CONTROL - PLANO	C	CONSTRUCTION FUNDING				2076	1471	2
PLANO	C	CONSERVATION, WATER LOSS CONTROL - PLANO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2076	1471	3
PLEASANT GROVE WSC	C	CONSERVATION, WATER LOSS CONTROL - PLEASANT GROVE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13197	2944	1
PLEASANT GROVE WSC	C	CONSERVATION, WATER LOSS CONTROL - PLEASANT GROVE WSC	C	CONSTRUCTION FUNDING				13197	2944	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
PLEASANT GROVE WSC	C	CONSERVATION, WATER LOSS CONTROL - PLEASANT GROVE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13197	2944	3
PLEASANT GROVE WSC	C	PLEASANT GROVE WSC - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13197	3824	1
PLEASANT GROVE WSC	C	PLEASANT GROVE WSC - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C	CONSTRUCTION FUNDING				13197	3824	2
PLEASANT GROVE WSC	C	PLEASANT GROVE WSC - NEW WELL(S) IN CARRIZO-WILCOX AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13197	3824	3
PONDER	C	CONSERVATION, WATER LOSS CONTROL - PONDER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2087	1472	1
PONDER	C	CONSERVATION, WATER LOSS CONTROL - PONDER	C	CONSTRUCTION FUNDING	$0.00	N/A		2087	1472	2
PONDER	C	CONSERVATION, WATER LOSS CONTROL - PONDER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2087	1472	3
POTTSBORO	C	CONSERVATION, IRRIGATION RESTRICTION - POTTSBORO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2098	3392	1
POTTSBORO	C	CONSERVATION, IRRIGATION RESTRICTION - POTTSBORO	C	CONSTRUCTION FUNDING				2098	3392	2
POTTSBORO	C	CONSERVATION, IRRIGATION RESTRICTION - POTTSBORO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2098	3392	3
POTTSBORO	C	CONSERVATION, WATER LOSS CONTROL - POTTSBORO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2098	1474	1
POTTSBORO	C	CONSERVATION, WATER LOSS CONTROL - POTTSBORO	C	CONSTRUCTION FUNDING				2098	1474	2
POTTSBORO	C	CONSERVATION, WATER LOSS CONTROL - POTTSBORO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2098	1474	3
PRINCETON	C	CONSERVATION, WATER LOSS CONTROL - PRINCETON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2103	1475	1
PRINCETON	C	CONSERVATION, WATER LOSS CONTROL - PRINCETON	C	CONSTRUCTION FUNDING				2103	1475	2
PRINCETON	C	CONSERVATION, WATER LOSS CONTROL - PRINCETON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2103	1475	3
PROSPER	C	CONSERVATION, WATER LOSS CONTROL - PROSPER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2106	1476	1
PROSPER	C	CONSERVATION, WATER LOSS CONTROL - PROSPER	C	CONSTRUCTION FUNDING				2106	1476	2
PROSPER	C	CONSERVATION, WATER LOSS CONTROL - PROSPER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2106	1476	3
PROSPER	C	PROSPER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2106	1007	1
PROSPER	C	PROSPER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	C	CONSTRUCTION FUNDING				2106	1007	2
PROSPER	C	PROSPER - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2106	1007	3
PROVIDENCE VILLAGE WCID	C	CONSERVATION, WATER LOSS CONTROL - PROVIDENCE VILLAGE WCI	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2868	1477	1
PROVIDENCE VILLAGE WCID	C	CONSERVATION, WATER LOSS CONTROL - PROVIDENCE VILLAGE WCI	C	CONSTRUCTION FUNDING				2868	1477	2
PROVIDENCE VILLAGE WCID	C	CONSERVATION, WATER LOSS CONTROL - PROVIDENCE VILLAGE WCI	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2868	1477	3
R C H WSC	C	CONSERVATION – WASTE PROHIBITION, R C H WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13212	3452	1
R C H WSC	C	CONSERVATION – WASTE PROHIBITION, R C H WSC	C	CONSTRUCTION FUNDING				13212	3452	2
R C H WSC	C	CONSERVATION – WASTE PROHIBITION, R C H WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13212	3452	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
R C H WSC	C	CONSERVATION, IRRIGATION RESTRICTION - R C H WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13212	3394	1
R C H WSC	C	CONSERVATION, IRRIGATION RESTRICTION - R C H WSC	C	CONSTRUCTION FUNDING				13212	3394	2
R C H WSC	C	CONSERVATION, IRRIGATION RESTRICTION - R C H WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13212	3394	3
R C H WSC	C	CONSERVATION, WATER LOSS CONTROL - R C H WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13212	2948	1
R C H WSC	C	CONSERVATION, WATER LOSS CONTROL - R C H WSC	C	CONSTRUCTION FUNDING				13212	2948	2
R C H WSC	C	CONSERVATION, WATER LOSS CONTROL - R C H WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13212	2948	3
RED OAK	C	CONSERVATION, WATER LOSS CONTROL - RED OAK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2120	1478	1
RED OAK	C	CONSERVATION, WATER LOSS CONTROL - RED OAK	C	CONSTRUCTION FUNDING				2120	1478	2
RED OAK	C	CONSERVATION, WATER LOSS CONTROL - RED OAK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2120	1478	3
RENO (Parker)	C	CONSERVATION, WATER LOSS CONTROL - RENO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2486	1479	1
RENO (Parker)	C	CONSERVATION, WATER LOSS CONTROL - RENO	C	CONSTRUCTION FUNDING				2486	1479	2
RENO (Parker)	C	CONSERVATION, WATER LOSS CONTROL - RENO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2486	1479	3
RHOME	C	CONSERVATION, IRRIGATION RESTRICTION - RHOME	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2125	3395	1
RHOME	C	CONSERVATION, IRRIGATION RESTRICTION - RHOME	C	CONSTRUCTION FUNDING	$0.00	N/A		2125	3395	2
RHOME	C	CONSERVATION, IRRIGATION RESTRICTION - RHOME	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2125	3395	3
RHOME	C	CONSERVATION, WATER LOSS CONTROL - RHOME	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2125	1480	1
RHOME	C	CONSERVATION, WATER LOSS CONTROL - RHOME	C	CONSTRUCTION FUNDING	$0.00	N/A		2125	1480	2
RHOME	C	CONSERVATION, WATER LOSS CONTROL - RHOME	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2125	1480	3
RICE WATER SUPPLY AND SEV	C	CONSERVATION, WATER LOSS CONTROL - RICE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2128	1482	1
RICE WATER SUPPLY AND SEV	C	CONSERVATION, WATER LOSS CONTROL - RICE WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		2128	1482	2
RICE WATER SUPPLY AND SEV	C	CONSERVATION, WATER LOSS CONTROL - RICE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2128	1482	3
RICE WATER SUPPLY AND SEV	C	RICE WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSICA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2128	1044	1
RICE WATER SUPPLY AND SEV	C	RICE WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSICA	C	CONSTRUCTION FUNDING	$0.00	N/A		2128	1044	2
RICE WATER SUPPLY AND SEV	C	RICE WSC - ADDITIONAL DELIVERY INFRASTRUCTURE FROM CORSICA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2128	1044	3
RICHARDSON	C	CONSERVATION, WATER LOSS CONTROL - RICHARDSON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2129	1483	1
RICHARDSON	C	CONSERVATION, WATER LOSS CONTROL - RICHARDSON	C	CONSTRUCTION FUNDING				2129	1483	2
RICHARDSON	C	CONSERVATION, WATER LOSS CONTROL - RICHARDSON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2129	1483	3
RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - RICHLAND HILLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$20,000.00	2024		2130	1484	1
RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - RICHLAND HILLS	C	CONSTRUCTION FUNDING	$42,079.00	2028		2130	1484	2

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RICHLAND HILLS	C	CONSERVATION, WATER LOSS CONTROL - RICHLAND HILLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2130	1484	3
RIVER OAKS	C	CONSERVATION, WATER LOSS CONTROL - RIVER OAKS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2142	1485	1
RIVER OAKS	C	CONSERVATION, WATER LOSS CONTROL - RIVER OAKS	C	CONSTRUCTION FUNDING				2142	1485	2
RIVER OAKS	C	CONSERVATION, WATER LOSS CONTROL - RIVER OAKS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2142	1485	3
ROANOKE	C	CONSERVATION – WASTE PROHIBITION, ROANOKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2145	3453	1
ROANOKE	C	CONSERVATION – WASTE PROHIBITION, ROANOKE	C	CONSTRUCTION FUNDING				2145	3453	2
ROANOKE	C	CONSERVATION – WASTE PROHIBITION, ROANOKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2145	3453	3
ROANOKE	C	CONSERVATION, IRRIGATION RESTRICTION - ROANOKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2145	1589	1
ROANOKE	C	CONSERVATION, IRRIGATION RESTRICTION - ROANOKE	C	CONSTRUCTION FUNDING				2145	1589	2
ROANOKE	C	CONSERVATION, IRRIGATION RESTRICTION - ROANOKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2145	1589	3
ROANOKE	C	CONSERVATION, WATER LOSS CONTROL - ROANOKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2145	1486	1
ROANOKE	C	CONSERVATION, WATER LOSS CONTROL - ROANOKE	C	CONSTRUCTION FUNDING				2145	1486	2
ROANOKE	C	CONSERVATION, WATER LOSS CONTROL - ROANOKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2145	1486	3
ROCKETT SUD	C	CONSERVATION, WATER LOSS CONTROL - ROCKETT SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		112	1487	1
ROCKETT SUD	C	CONSERVATION, WATER LOSS CONTROL - ROCKETT SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		112	1487	2
ROCKETT SUD	C	CONSERVATION, WATER LOSS CONTROL - ROCKETT SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			112	1487	3
ROCKETT SUD	C	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		112	928	1
ROCKETT SUD	C	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-1	C	CONSTRUCTION FUNDING	$0.00	N/A		112	928	2
ROCKETT SUD	C	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			112	928	3
ROCKETT SUD	C	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		112	929	1
ROCKETT SUD	C	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-2	C	CONSTRUCTION FUNDING	$0.00	N/A		112	929	2
ROCKETT SUD	C	ROCKETT SUD - 10 MGD WTP EXPANSION AT SOKOLL-2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			112	929	3
ROCKETT SUD	C	ROCKETT SUD - 4 MGD WTP EXPANSION AT SOKOLL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		112	930	1
ROCKETT SUD	C	ROCKETT SUD - 4 MGD WTP EXPANSION AT SOKOLL	C	CONSTRUCTION FUNDING	$0.00	N/A		112	930	2
ROCKETT SUD	C	ROCKETT SUD - 4 MGD WTP EXPANSION AT SOKOLL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			112	930	3
ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		113	1488	1
ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL	C	CONSTRUCTION FUNDING	$0.00	N/A		113	1488	2
ROCKWALL	C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			113	1488	3

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ROCKWALL	C	ROCKWALL - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		113	1113	1
ROCKWALL	C	ROCKWALL - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWM	C	CONSTRUCTION FUNDING	$0.00	N/A		113	1113	2
ROCKWALL	C	ROCKWALL - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			113	1113	3
ROSE HILL SUD	C	CONSERVATION, WATER LOSS CONTROL - ROSE HILL SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2847	1489	1
ROSE HILL SUD	C	CONSERVATION, WATER LOSS CONTROL - ROSE HILL SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		2847	1489	2
ROSE HILL SUD	C	CONSERVATION, WATER LOSS CONTROL - ROSE HILL SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2847	1489	3
ROWLETT	C	CONSERVATION, WATER LOSS CONTROL - ROWLETT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2162	1490	1
ROWLETT	C	CONSERVATION, WATER LOSS CONTROL - ROWLETT	C	CONSTRUCTION FUNDING				2162	1490	2
ROWLETT	C	CONSERVATION, WATER LOSS CONTROL - ROWLETT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2162	1490	3
ROWLETT	C	ROWLETT - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2162	2757	1
ROWLETT	C	ROWLETT - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	CONSTRUCTION FUNDING				2162	2757	2
ROWLETT	C	ROWLETT - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2162	2757	3
ROYSE CITY	C	CONSERVATION, WATER LOSS CONTROL - ROYSE CITY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2164	1491	1
ROYSE CITY	C	CONSERVATION, WATER LOSS CONTROL - ROYSE CITY	C	CONSTRUCTION FUNDING				2164	1491	2
ROYSE CITY	C	CONSERVATION, WATER LOSS CONTROL - ROYSE CITY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2164	1491	3
RUNAWAY BAY	C	CONSERVATION, IRRIGATION RESTRICTION - RUNAWAY BAY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2166	3399	1
RUNAWAY BAY	C	CONSERVATION, IRRIGATION RESTRICTION - RUNAWAY BAY	C	CONSTRUCTION FUNDING				2166	3399	2
RUNAWAY BAY	C	CONSERVATION, IRRIGATION RESTRICTION - RUNAWAY BAY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2166	3399	3
RUNAWAY BAY	C	CONSERVATION, WATER LOSS CONTROL - RUNAWAY BAY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2166	1492	1
RUNAWAY BAY	C	CONSERVATION, WATER LOSS CONTROL - RUNAWAY BAY	C	CONSTRUCTION FUNDING				2166	1492	2
RUNAWAY BAY	C	CONSERVATION, WATER LOSS CONTROL - RUNAWAY BAY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2166	1492	3
RUNAWAY BAY	C	RUNAWAY BAY - 3 MGD WTP EXPANSION-1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2166	932	1
RUNAWAY BAY	C	RUNAWAY BAY - 3 MGD WTP EXPANSION-1	C	CONSTRUCTION FUNDING				2166	932	2
RUNAWAY BAY	C	RUNAWAY BAY - 3 MGD WTP EXPANSION-1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2166	932	3
RUNAWAY BAY	C	RUNAWAY BAY - 3 MGD WTP EXPANSION-2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2166	4024	1
RUNAWAY BAY	C	RUNAWAY BAY - 3 MGD WTP EXPANSION-2	C	CONSTRUCTION FUNDING				2166	4024	2
RUNAWAY BAY	C	RUNAWAY BAY - 3 MGD WTP EXPANSION-2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2166	4024	3
RUNAWAY BAY	C	RUNAWAY BAY - INCREASE CAPACITY OF LAKE INTAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2166	1137	1
RUNAWAY BAY	C	RUNAWAY BAY - INCREASE CAPACITY OF LAKE INTAKE	C	CONSTRUCTION FUNDING				2166	1137	2

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RUNAWAY BAY	C	RUNAWAY BAY - INCREASE CAPACITY OF LAKE INTAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2166	1137	3
SACHSE	C	CONSERVATION, WATER LOSS CONTROL - SACHSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2171	1493	1
SACHSE	C	CONSERVATION, WATER LOSS CONTROL - SACHSE	C	CONSTRUCTION FUNDING				2171	1493	2
SACHSE	C	CONSERVATION, WATER LOSS CONTROL - SACHSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2171	1493	3
SAGINAW	C	CONSERVATION, WATER LOSS CONTROL - SAGINAW	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2172	1494	1
SAGINAW	C	CONSERVATION, WATER LOSS CONTROL - SAGINAW	C	CONSTRUCTION FUNDING	$0.00	N/A		2172	1494	2
SAGINAW	C	CONSERVATION, WATER LOSS CONTROL - SAGINAW	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2172	1494	3
SANGER	C	CONSERVATION, WATER LOSS CONTROL - SANGER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2184	1495	1
SANGER	C	CONSERVATION, WATER LOSS CONTROL - SANGER	C	CONSTRUCTION FUNDING	$0.00	N/A		2184	1495	2
SANGER	C	CONSERVATION, WATER LOSS CONTROL - SANGER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2184	1495	3
SANSOM PARK	C	CONSERVATION, WATER LOSS CONTROL - SANSOM PARK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2591	1496	1
SANSOM PARK	C	CONSERVATION, WATER LOSS CONTROL - SANSOM PARK	C	CONSTRUCTION FUNDING	$0.00	N/A		2591	1496	2
SANSOM PARK	C	CONSERVATION, WATER LOSS CONTROL - SANSOM PARK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2591	1496	3
SARDIS LONE ELM WSC	C	CONSERVATION, IRRIGATION RESTRICTION - SARDIS LONE ELM WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2189	3403	1
SARDIS LONE ELM WSC	C	CONSERVATION, IRRIGATION RESTRICTION - SARDIS LONE ELM WSC	C	CONSTRUCTION FUNDING				2189	3403	2
SARDIS LONE ELM WSC	C	CONSERVATION, IRRIGATION RESTRICTION - SARDIS LONE ELM WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2189	3403	3
SARDIS LONE ELM WSC	C	CONSERVATION, WATER LOSS CONTROL - SARDIS LONE ELM WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2189	1497	1
SARDIS LONE ELM WSC	C	CONSERVATION, WATER LOSS CONTROL - SARDIS LONE ELM WSC	C	CONSTRUCTION FUNDING				2189	1497	2
SARDIS LONE ELM WSC	C	CONSERVATION, WATER LOSS CONTROL - SARDIS LONE ELM WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2189	1497	3
SARDIS LONE ELM WSC	C	SARDIS LONE ELM - CONNECT TO TRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2189	1047	1
SARDIS LONE ELM WSC	C	SARDIS LONE ELM - CONNECT TO TRWD	C	CONSTRUCTION FUNDING				2189	1047	2
SARDIS LONE ELM WSC	C	SARDIS LONE ELM - CONNECT TO TRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2189	1047	3
SEAGOVILLE	C	CONSERVATION, WATER LOSS CONTROL - SEAGOVILLE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				121	1500	1
SEAGOVILLE	C	CONSERVATION, WATER LOSS CONTROL - SEAGOVILLE	C	CONSTRUCTION FUNDING				121	1500	2
SEAGOVILLE	C	CONSERVATION, WATER LOSS CONTROL - SEAGOVILLE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				121	1500	3
SEIS LAGOS UD	C	CONSERVATION, IRRIGATION RESTRICTION - SEIS LAGOS UD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2872	3404	1
SEIS LAGOS UD	C	CONSERVATION, IRRIGATION RESTRICTION - SEIS LAGOS UD	C	CONSTRUCTION FUNDING				2872	3404	2
SEIS LAGOS UD	C	CONSERVATION, IRRIGATION RESTRICTION - SEIS LAGOS UD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2872	3404	3

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SEIS LAGOS UD	C	CONSERVATION, WATER LOSS CONTROL - SEIS LAGOS UD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2872	1501	1
SEIS LAGOS UD	C	CONSERVATION, WATER LOSS CONTROL - SEIS LAGOS UD	C	CONSTRUCTION FUNDING				2872	1501	2
SEIS LAGOS UD	C	CONSERVATION, WATER LOSS CONTROL - SEIS LAGOS UD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2872	1501	3
SHERMAN	C	CONSERVATION, IRRIGATION RESTRICTION - SHERMAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2210	3405	1
SHERMAN	C	CONSERVATION, IRRIGATION RESTRICTION - SHERMAN	C	CONSTRUCTION FUNDING	$0.00	N/A		2210	3405	2
SHERMAN	C	CONSERVATION, IRRIGATION RESTRICTION - SHERMAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2210	3405	3
SHERMAN	C	CONSERVATION, WATER LOSS CONTROL - SHERMAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2210	1504	1
SHERMAN	C	CONSERVATION, WATER LOSS CONTROL - SHERMAN	C	CONSTRUCTION FUNDING	$0.00	N/A		2210	1504	2
SHERMAN	C	CONSERVATION, WATER LOSS CONTROL - SHERMAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2210	1504	3
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-1	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2210	933	1
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-1	C	CONSTRUCTION FUNDING	$0.00	N/A		2210	933	2
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-1	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2210	933	3
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-2	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2210	934	1
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-2	C	CONSTRUCTION FUNDING	$0.00	N/A		2210	934	2
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-2	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2210	934	3
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-3	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2210	855	1
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-3	C	CONSTRUCTION FUNDING	$0.00	N/A		2210	855	2
SHERMAN	C	SHERMAN - 10 MGD WTP EXPANSION (DESAL)-3	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2210	855	3
SHERMAN	C	SHERMAN - 20 MGD WTP EXPANSION (DESAL)	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2210	4078	1
SHERMAN	C	SHERMAN - 20 MGD WTP EXPANSION (DESAL)	C	CONSTRUCTION FUNDING	$0.00	N/A		2210	4078	2
SHERMAN	C	SHERMAN - 20 MGD WTP EXPANSION (DESAL)	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2210	4078	3
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, IRRIGATION RESTRICTION - SOUTH ELLIS COUNTY W	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13243	3406	1
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, IRRIGATION RESTRICTION - SOUTH ELLIS COUNTY W	C	CONSTRUCTION FUNDING	$0.00	N/A		13243	3406	2
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, IRRIGATION RESTRICTION - SOUTH ELLIS COUNTY W	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13243	3406	3
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, WATER LOSS CONSERVATION - SOUTH ELLIS COUNT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13243	2951	1
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, WATER LOSS CONSERVATION - SOUTH ELLIS COUNT	C	CONSTRUCTION FUNDING	$0.00	N/A		13243	2951	2
SOUTH ELLIS COUNTY WSC	C	CONSERVATION, WATER LOSS CONSERVATION - SOUTH ELLIS COUNT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13243	2951	3
SOUTH FREESTONE COUNTY \	C	CONSERVATION, WATER LOSS CONTROL - SOUTH FREESTONE COUNT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13244	2952	1
SOUTH FREESTONE COUNTY \	C	CONSERVATION, WATER LOSS CONTROL - SOUTH FREESTONE COUNT	C	CONSTRUCTION FUNDING	$0.00	N/A		13244	2952	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
SOUTH FREESTONE COUNTY \	C	CONSERVATION, WATER LOSS CONTROL - SOUTH FREESTONE COUNT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13244	2952	3
SOUTH FREESTONE COUNTY \	C	SOUTH FREESTONE COUNTY WSC - NEW WELL(S) IN CARRIZO-WILCO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13244	3825	1
SOUTH FREESTONE COUNTY \	C	SOUTH FREESTONE COUNTY WSC - NEW WELL(S) IN CARRIZO-WILCO	C	CONSTRUCTION FUNDING	$0.00	N/A		13244	3825	2
SOUTH FREESTONE COUNTY \	C	SOUTH FREESTONE COUNTY WSC - NEW WELL(S) IN CARRIZO-WILCO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13244	3825	3
SOUTH GRAYSON SUD	C	CONSERVATION, WATER LOSS CONTROL - SOUTH GRAYSON WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2227	1505	1
SOUTH GRAYSON SUD	C	CONSERVATION, WATER LOSS CONTROL - SOUTH GRAYSON WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		2227	1505	2
SOUTH GRAYSON SUD	C	CONSERVATION, WATER LOSS CONTROL - SOUTH GRAYSON WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2227	1505	3
SOUTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - SOUTHLAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2234	1506	1
SOUTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - SOUTHLAKE	C	CONSTRUCTION FUNDING	$0.00	N/A		2234	1506	2
SOUTHLAKE	C	CONSERVATION, WATER LOSS CONTROL - SOUTHLAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2234	1506	3
SOUTHLAKE	C	SOUTHLAKE - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2234	1126	1
SOUTHLAKE	C	SOUTHLAKE - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	C	CONSTRUCTION FUNDING	$0.00	N/A		2234	1126	2
SOUTHLAKE	C	SOUTHLAKE - ADDITIONAL DELIVERY INFRASTRUCTURE FORT WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2234	1126	3
SOUTHMAYD	C	CONSERVATION, WATER LOSS CONTROL - SOUTHMAYD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2235	1507	1
SOUTHMAYD	C	CONSERVATION, WATER LOSS CONTROL - SOUTHMAYD	C	CONSTRUCTION FUNDING				2235	1507	2
SOUTHMAYD	C	CONSERVATION, WATER LOSS CONTROL - SOUTHMAYD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2235	1507	3
SOUTHWEST FANNIN COUNT	C	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COU	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2237	1508	1
SOUTHWEST FANNIN COUNT	C	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COU	C	CONSTRUCTION FUNDING	$0.00	N/A		2237	1508	2
SOUTHWEST FANNIN COUNT	C	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COU	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2237	1508	3
SOUTHWEST FANNIN COUNT	C	SOUTHWEST FANNIN CO SUD - NEW WELL(S) IN WOODBINE AQUIFE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2237	1060	1
SOUTHWEST FANNIN COUNT	C	SOUTHWEST FANNIN CO SUD - NEW WELL(S) IN WOODBINE AQUIFE	C	CONSTRUCTION FUNDING	$0.00	N/A		2237	1060	2
SOUTHWEST FANNIN COUNT	C	SOUTHWEST FANNIN CO SUD - NEW WELL(S) IN WOODBINE AQUIFE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2237	1060	3
SPRINGTOWN	C	CONSERVATION, IRRIGATION RESTRICTION - SPRINGTOWN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2243	3408	1
SPRINGTOWN	C	CONSERVATION, IRRIGATION RESTRICTION - SPRINGTOWN	C	CONSTRUCTION FUNDING				2243	3408	2
SPRINGTOWN	C	CONSERVATION, IRRIGATION RESTRICTION - SPRINGTOWN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2243	3408	3
SPRINGTOWN	C	CONSERVATION, WATER LOSS CONTROL - SPRINGTOWN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2243	1509	1
SPRINGTOWN	C	CONSERVATION, WATER LOSS CONTROL - SPRINGTOWN	C	CONSTRUCTION FUNDING				2243	1509	2
SPRINGTOWN	C	CONSERVATION, WATER LOSS CONTROL - SPRINGTOWN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2243	1509	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
SPRINGTOWN	C	SPRINGTOWN - INFRASTRUCTURE IMPROVEMENTS- SURFACE WATE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2243	1105	1
SPRINGTOWN	C	SPRINGTOWN - INFRASTRUCTURE IMPROVEMENTS- SURFACE WATE	C	CONSTRUCTION FUNDING				2243	1105	2
SPRINGTOWN	C	SPRINGTOWN - INFRASTRUCTURE IMPROVEMENTS- SURFACE WATE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2243	1105	3
STARR WSC	C	CONSERVATION, WATER LOSS CONTROL - STARR WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13257	2953	1
STARR WSC	C	CONSERVATION, WATER LOSS CONTROL - STARR WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		13257	2953	2
STARR WSC	C	CONSERVATION, WATER LOSS CONTROL - STARR WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13257	2953	3
STEAM ELECTRIC POWER, TAR	C	SEP, TARRANT - REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2318	1127	1
STEAM ELECTRIC POWER, TAR	C	SEP, TARRANT - REUSE	C	CONSTRUCTION FUNDING				2318	1127	2
STEAM ELECTRIC POWER, TAR	C	SEP, TARRANT - REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2318	1127	3
SUNNYVALE	C	CONSERVATION, IRRIGATION RESTRICTION - SUNNYVALE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2344	3409	1
SUNNYVALE	C	CONSERVATION, IRRIGATION RESTRICTION - SUNNYVALE	C	CONSTRUCTION FUNDING				2344	3409	2
SUNNYVALE	C	CONSERVATION, IRRIGATION RESTRICTION - SUNNYVALE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2344	3409	3
SUNNYVALE	C	CONSERVATION, WATER LOSS CONTROL - SUNNYVALE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2344	1511	1
SUNNYVALE	C	CONSERVATION, WATER LOSS CONTROL - SUNNYVALE	C	CONSTRUCTION FUNDING				2344	1511	2
SUNNYVALE	C	CONSERVATION, WATER LOSS CONTROL - SUNNYVALE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2344	1511	3
SUNNYVALE	C	SUNNYVALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMV	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2344	1023	1
SUNNYVALE	C	SUNNYVALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMV	C	CONSTRUCTION FUNDING				2344	1023	2
SUNNYVALE	C	SUNNYVALE - ADDITIONAL DELIVERY INFRASTRUCTURE FROM NTMV	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2344	1023	3
TALTY SUD	C	CONSERVATION, IRRIGATION RESTRICTION - TALTY SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2853	3410	1
TALTY SUD	C	CONSERVATION, IRRIGATION RESTRICTION - TALTY SUD	C	CONSTRUCTION FUNDING				2853	3410	2
TALTY SUD	C	CONSERVATION, IRRIGATION RESTRICTION - TALTY SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2853	3410	3
TALTY SUD	C	CONSERVATION, WATER LOSS CONTROL - TALTY WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2853	1513	1
TALTY SUD	C	CONSERVATION, WATER LOSS CONTROL - TALTY WSC	C	CONSTRUCTION FUNDING				2853	1513	2
TALTY SUD	C	CONSERVATION, WATER LOSS CONTROL - TALTY WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2853	1513	3
TARRANT REGIONAL WD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$612,017,259.00	2030		129	835	1
TARRANT REGIONAL WD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	CONSTRUCTION FUNDING	$1,748,620,741.00	2040		129	835	2
TARRANT REGIONAL WD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	835	3
TARRANT REGIONAL WD	C	TRWD - ADDITIONAL CAPACITY TO CONVEY RICHLAND CHAMBERS R	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	2020		129	4107	1
TARRANT REGIONAL WD	C	TRWD - ADDITIONAL CAPACITY TO CONVEY RICHLAND CHAMBERS R	C	CONSTRUCTION FUNDING	$507,733,000.00	2030		129	4107	2

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TARRANT REGIONAL WD	C	TRWD - ADDITIONAL CAPACITY TO CONVEY RICHLAND CHAMBERS RE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	4107	3
TARRANT REGIONAL WD	C	TRWD - ADDITIONAL TRANSMISSION PIPELINE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$407,424,231.00	2045		129	978	1
TARRANT REGIONAL WD	C	TRWD - ADDITIONAL TRANSMISSION PIPELINE	C	CONSTRUCTION FUNDING	$1,358,080,769.00	2050		129	978	2
TARRANT REGIONAL WD	C	TRWD - ADDITIONAL TRANSMISSION PIPELINE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	978	3
TARRANT REGIONAL WD	C	TRWD - ASR PILOT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$3,291,692.00	In Progress		129	3841	1
TARRANT REGIONAL WD	C	TRWD - ASR PILOT	C	CONSTRUCTION FUNDING	$10,972,308.00	2025		129	3841	2
TARRANT REGIONAL WD	C	TRWD - ASR PILOT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	3841	3
TARRANT REGIONAL WD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$44,185,154.00	2030		129	3842	1
TARRANT REGIONAL WD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C	CONSTRUCTION FUNDING	$147,283,846.00	2035		129	3842	2
TARRANT REGIONAL WD	C	TRWD - CARRIZO-WILCOX GROUNDWATER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	3842	3
TARRANT REGIONAL WD	C	TRWD - CEDAR CREEK WETLANDS REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$52,227,231.00	2023		129	979	1
TARRANT REGIONAL WD	C	TRWD - CEDAR CREEK WETLANDS REUSE	C	CONSTRUCTION FUNDING	$174,090,769.00	2026		129	979	2
TARRANT REGIONAL WD	C	TRWD - CEDAR CREEK WETLANDS REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	979	3
TARRANT REGIONAL WD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	2030		129	3843	1
TARRANT REGIONAL WD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C	CONSTRUCTION FUNDING	$154,205,000.00	2040		129	3843	2
TARRANT REGIONAL WD	C	TRWD - REUSE FROM TRA CENTRAL WWTP	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	3843	3
TARRANT REGIONAL WD	C	TRWD - TEHUACANA RESERVOIR	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$84,380,593.00	2025		129	980	1
TARRANT REGIONAL WD	C	TRWD - TEHUACANA RESERVOIR	C	CONSTRUCTION FUNDING	$241,087,407.00	2030		129	980	2
TARRANT REGIONAL WD	C	TRWD - TEHUACANA RESERVOIR	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	980	3
TARRANT REGIONAL WD	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$250,000,000.00	2040		129	3862	1
TARRANT REGIONAL WD	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	CONSTRUCTION FUNDING	$515,040,000.00	2060		129	3862	2
TARRANT REGIONAL WD	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			129	3862	3
TEAGUE	C	CONSERVATION, IRRIGATION RESTRICTION - TEAGUE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2357	3411	1
TEAGUE	C	CONSERVATION, IRRIGATION RESTRICTION - TEAGUE	C	CONSTRUCTION FUNDING				2357	3411	2
TEAGUE	C	CONSERVATION, IRRIGATION RESTRICTION - TEAGUE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2357	3411	3
TEAGUE	C	CONSERVATION, WATER LOSS CONTROL - TEAGUE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2357	1514	1
TEAGUE	C	CONSERVATION, WATER LOSS CONTROL - TEAGUE	C	CONSTRUCTION FUNDING				2357	1514	2
TEAGUE	C	CONSERVATION, WATER LOSS CONTROL - TEAGUE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2357	1514	3

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TEAGUE	C	TEAGUE - NEW WELLS IN CARRIZO-WILCOX AQUIFER Q-135	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2357	1065	1
TEAGUE	C	TEAGUE - NEW WELLS IN CARRIZO-WILCOX AQUIFER Q-135	C	CONSTRUCTION FUNDING				2357	1065	2
TEAGUE	C	TEAGUE - NEW WELLS IN CARRIZO-WILCOX AQUIFER Q-135	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2357	1065	3
TERRELL	C	CONSERVATION, IRRIGATION RESTRICTION - TERRELL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		130	3412	1
TERRELL	C	CONSERVATION, IRRIGATION RESTRICTION - TERRELL	C	CONSTRUCTION FUNDING	$0.00	N/A		130	3412	2
TERRELL	C	CONSERVATION, IRRIGATION RESTRICTION - TERRELL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			130	3412	3
TERRELL	C	CONSERVATION, WATER LOSS CONTROL - TERRELL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		130	1515	1
TERRELL	C	CONSERVATION, WATER LOSS CONTROL - TERRELL	C	CONSTRUCTION FUNDING	$0.00	N/A		130	1515	2
TERRELL	C	CONSERVATION, WATER LOSS CONTROL - TERRELL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			130	1515	3
TERRELL	C	TERRELL - GROUND STORAGE TANK AND PUMP STATION AT NTWMD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$500,000.00	2021		130	1087	1
TERRELL	C	TERRELL - GROUND STORAGE TANK AND PUMP STATION AT NTWMD	C	CONSTRUCTION FUNDING	$3,000,000.00	2022		130	1087	2
TERRELL	C	TERRELL - GROUND STORAGE TANK AND PUMP STATION AT NTWMD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			130	1087	3
TERRELL	C	TERRELL - INFRASTRUCTURE IMPROVEMENTS TO WHOLESALE CUSTO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		130	1088	1
TERRELL	C	TERRELL - INFRASTRUCTURE IMPROVEMENTS TO WHOLESALE CUSTO	C	CONSTRUCTION FUNDING	$0.00	N/A		130	1088	2
TERRELL	C	TERRELL - INFRASTRUCTURE IMPROVEMENTS TO WHOLESALE CUSTO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			130	1088	3
THE COLONY	C	CONSERVATION, WATER LOSS CONTROL - THE COLONY	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2363	1516	1
THE COLONY	C	CONSERVATION, WATER LOSS CONTROL - THE COLONY	C	CONSTRUCTION FUNDING				2363	1516	2
THE COLONY	C	CONSERVATION, WATER LOSS CONTROL - THE COLONY	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2363	1516	3
TIOGA	C	CONSERVATION, WATER LOSS CONTROL - TIOGA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2373	1517	1
TIOGA	C	CONSERVATION, WATER LOSS CONTROL - TIOGA	C	CONSTRUCTION FUNDING				2373	1517	2
TIOGA	C	CONSERVATION, WATER LOSS CONTROL - TIOGA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2373	1517	3
TOM BEAN	C	CONSERVATION, IRRIGATION RESTRICTION - TOM BEAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2375	3413	1
TOM BEAN	C	CONSERVATION, IRRIGATION RESTRICTION - TOM BEAN	C	CONSTRUCTION FUNDING	$0.00	N/A		2375	3413	2
TOM BEAN	C	CONSERVATION, IRRIGATION RESTRICTION - TOM BEAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2375	3413	3
TOM BEAN	C	CONSERVATION, WATER LOSS CONTROL - TOM BEAN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2375	1518	1
TOM BEAN	C	CONSERVATION, WATER LOSS CONTROL - TOM BEAN	C	CONSTRUCTION FUNDING	$0.00	N/A		2375	1518	2
TOM BEAN	C	CONSERVATION, WATER LOSS CONTROL - TOM BEAN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2375	1518	3
TRENTON	C	CONSERVATION, IRRIGATION RESTRICTION - TRENTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2383	3414	1
TRENTON	C	CONSERVATION, IRRIGATION RESTRICTION - TRENTON	C	CONSTRUCTION FUNDING				2383	3414	2

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TRENTON	C	CONSERVATION, IRRIGATION RESTRICTION - TRENTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2383	3414	3
TRENTON	C	CONSERVATION, WATER LOSS CONTROL - TRENTON	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2383	1520	1
TRENTON	C	CONSERVATION, WATER LOSS CONTROL - TRENTON	C	CONSTRUCTION FUNDING				2383	1520	2
TRENTON	C	CONSERVATION, WATER LOSS CONTROL - TRENTON	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2383	1520	3
TRENTON	C	TRENTON - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2383	1061	1
TRENTON	C	TRENTON - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING				2383	1061	2
TRENTON	C	TRENTON - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2383	1061	3
TRINIDAD	C	CONSERVATION, WATER LOSS CONTROL - TRINIDAD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2385	1521	1
TRINIDAD	C	CONSERVATION, WATER LOSS CONTROL - TRINIDAD	C	CONSTRUCTION FUNDING	$0.00	N/A		2385	1521	2
TRINIDAD	C	CONSERVATION, WATER LOSS CONTROL - TRINIDAD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2385	1521	3
TROPHY CLUB MUD 1	C	CONSERVATION, WATER LOSS CONTROL - TROPHY CLUB	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2389	1522	1
TROPHY CLUB MUD 1	C	CONSERVATION, WATER LOSS CONTROL - TROPHY CLUB	C	CONSTRUCTION FUNDING				2389	1522	2
TROPHY CLUB MUD 1	C	CONSERVATION, WATER LOSS CONTROL - TROPHY CLUB	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2389	1522	3
TWO WAY SUD	C	CONSERVATION, WATER LOSS CONTROL - TWO WAY SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2394	1523	1
TWO WAY SUD	C	CONSERVATION, WATER LOSS CONTROL - TWO WAY SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		2394	1523	2
TWO WAY SUD	C	CONSERVATION, WATER LOSS CONTROL - TWO WAY SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2394	1523	3
UNIVERSITY PARK	C	CONSERVATION, WATER LOSS CONTROL - UNIVERSITY PARK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2398	1524	1
UNIVERSITY PARK	C	CONSERVATION, WATER LOSS CONTROL - UNIVERSITY PARK	C	CONSTRUCTION FUNDING	$0.00	N/A		2398	1524	2
UNIVERSITY PARK	C	CONSERVATION, WATER LOSS CONTROL - UNIVERSITY PARK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2398	1524	3
UPPER TRINITY REGIONAL WD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$130,680,000.00	2025		141	835	1
UPPER TRINITY REGIONAL WD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	CONSTRUCTION FUNDING	$251,551,000.00	2040		141	835	2
UPPER TRINITY REGIONAL WD	C	MARVIN NICHOLS (328) - TRWD, NTMWD, UTRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.50			141	835	3
UPPER TRINITY REGIONAL WD	C	UTRWD - ADDITIONAL DIRECT REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$409,000.00	2025		141	983	1
UPPER TRINITY REGIONAL WD	C	UTRWD - ADDITIONAL DIRECT REUSE	C	CONSTRUCTION FUNDING	$1,169,000.00	2030		141	983	2
UPPER TRINITY REGIONAL WD	C	UTRWD - ADDITIONAL DIRECT REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			141	983	3
UPPER TRINITY REGIONAL WD	C	UTRWD - LAKE RALPH HALL AND REUSE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$30,000,000.00	2020		141	982	1
UPPER TRINITY REGIONAL WD	C	UTRWD - LAKE RALPH HALL AND REUSE	C	CONSTRUCTION FUNDING	$398,000,000.00	2020		141	982	2
UPPER TRINITY REGIONAL WD	C	UTRWD - LAKE RALPH HALL AND REUSE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.80			141	982	3

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UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$42,273,850.00	2020		141	1150	1
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	CONSTRUCTION FUNDING	$129,363,000.00	2025		141	1150	2
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			141	1150	3
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$28,231,500.00	2030		141	1151	1
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	CONSTRUCTION FUNDING	$83,382,000.00	2035		141	1151	2
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			141	1151	3
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$42,144,000.00	2040		141	1152	1
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	CONSTRUCTION FUNDING	$123,269,664.00	2045		141	1152	2
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			141	1152	3
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$32,459,000.00	2050		141	1153	1
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	CONSTRUCTION FUNDING	$95,597,664.00	2055		141	1153	2
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			141	1153	3
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$32,459,000.00	2060		141	1154	1
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	CONSTRUCTION FUNDING	$95,597,664.00	2065		141	1154	2
UPPER TRINITY REGIONAL W	C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER N	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			141	1154	3
UPPER TRINITY REGIONAL W	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$32,587,000.00	2045		141	3862	1
UPPER TRINITY REGIONAL W	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	CONSTRUCTION FUNDING	$110,062,000.00	2060		141	3862	2
UPPER TRINITY REGIONAL W	C	WRIGHT PATMAN REALLOCATION NTMWD, TRWD, AND UTRWD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.50			141	3862	3
VAN ALSTYNE	C	CONSERVATION, WATER LOSS CONTROL - VAN ALSTYNE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2403	1526	1
VAN ALSTYNE	C	CONSERVATION, WATER LOSS CONTROL - VAN ALSTYNE	C	CONSTRUCTION FUNDING				2403	1526	2
VAN ALSTYNE	C	CONSERVATION, WATER LOSS CONTROL - VAN ALSTYNE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2403	1526	3
VAN ALSTYNE	C	VAN ALSTYNE - WATER SYSTEM IMPROVEMENTS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2403	1072	1
VAN ALSTYNE	C	VAN ALSTYNE - WATER SYSTEM IMPROVEMENTS	C	CONSTRUCTION FUNDING				2403	1072	2
VAN ALSTYNE	C	VAN ALSTYNE - WATER SYSTEM IMPROVEMENTS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2403	1072	3
VERONA SUD	C	CONSERVATION, WATER LOSS CONTROL - VERONA SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13291	2954	1
VERONA SUD	C	CONSERVATION, WATER LOSS CONTROL - VERONA SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		13291	2954	2
VERONA SUD	C	CONSERVATION, WATER LOSS CONTROL - VERONA SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13291	2954	3
VERONA SUD	C	VERONA SUD - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13291	3818	1
VERONA SUD	C	VERONA SUD - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING	$0.00	N/A		13291	3818	2

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VERONA SUD	C	VERONA SUD - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			13291	3818	3
VIRGINIA HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - VIRGINIA HILL WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2412	1528	1
VIRGINIA HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - VIRGINIA HILL WSC	C	CONSTRUCTION FUNDING				2412	1528	2
VIRGINIA HILL WSC	C	CONSERVATION, WATER LOSS CONTROL - VIRGINIA HILL WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2412	1528	3
WALNUT CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - WALNUT CREEK SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				144	1529	1
WALNUT CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - WALNUT CREEK SUD	C	CONSTRUCTION FUNDING				144	1529	2
WALNUT CREEK SUD	C	CONSERVATION, WATER LOSS CONTROL - WALNUT CREEK SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				144	1529	3
WALNUT CREEK SUD	C	WALNUT CREEK SUD - 6 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				144	856	1
WALNUT CREEK SUD	C	WALNUT CREEK SUD - 6 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				144	856	2
WALNUT CREEK SUD	C	WALNUT CREEK SUD - 6 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				144	856	3
WALNUT CREEK SUD	C	WALNUT CREEK SUD - NEW 7 MGD WTP-EAGLE MOUNTAIN	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				144	857	1
WALNUT CREEK SUD	C	WALNUT CREEK SUD - NEW 7 MGD WTP-EAGLE MOUNTAIN	C	CONSTRUCTION FUNDING				144	857	2
WALNUT CREEK SUD	C	WALNUT CREEK SUD - NEW 7 MGD WTP-EAGLE MOUNTAIN	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				144	857	3
WATAUGA	C	CONSERVATION, WATER LOSS CONTROL - WATAUGA	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2420	1530	1
WATAUGA	C	CONSERVATION, WATER LOSS CONTROL - WATAUGA	C	CONSTRUCTION FUNDING				2420	1530	2
WATAUGA	C	CONSERVATION, WATER LOSS CONTROL - WATAUGA	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2420	1530	3
WATAUGA	C	WATAUGA - ADDITIONAL DELIVERY INFRASTRUCTURE NORTH RICHL	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2420	4080	1
WATAUGA	C	WATAUGA - ADDITIONAL DELIVERY INFRASTRUCTURE NORTH RICHL	C	CONSTRUCTION FUNDING				2420	4080	2
WATAUGA	C	WATAUGA - ADDITIONAL DELIVERY INFRASTRUCTURE NORTH RICHL	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2420	4080	3
WAXAHACHIE	C	CONSERVATION, IRRIGATION RESTRICTION - WAXAHACHIE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1590	1
WAXAHACHIE	C	CONSERVATION, IRRIGATION RESTRICTION - WAXAHACHIE	C	CONSTRUCTION FUNDING				145	1590	2
WAXAHACHIE	C	CONSERVATION, IRRIGATION RESTRICTION - WAXAHACHIE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1590	3
WAXAHACHIE	C	CONSERVATION, WATER LOSS CONTROL - WAXAHACHIE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1531	1
WAXAHACHIE	C	CONSERVATION, WATER LOSS CONTROL - WAXAHACHIE	C	CONSTRUCTION FUNDING				145	1531	2
WAXAHACHIE	C	CONSERVATION, WATER LOSS CONTROL - WAXAHACHIE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1531	3
WAXAHACHIE	C	WAXAHACHIE - 12 MGD WTP EXPANSION-HOWARD ROAD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	936	1
WAXAHACHIE	C	WAXAHACHIE - 12 MGD WTP EXPANSION-HOWARD ROAD	C	CONSTRUCTION FUNDING				145	936	2
WAXAHACHIE	C	WAXAHACHIE - 12 MGD WTP EXPANSION-HOWARD ROAD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	936	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
WAXAHACHIE	C	WAXAHACHIE - 30" RAW WATER LINE FROM IPL TO HOWARD ROAD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1049	1
WAXAHACHIE	C	WAXAHACHIE - 30" RAW WATER LINE FROM IPL TO HOWARD ROAD	C	CONSTRUCTION FUNDING				145	1049	2
WAXAHACHIE	C	WAXAHACHIE - 30" RAW WATER LINE FROM IPL TO HOWARD ROAD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1049	3
WAXAHACHIE	C	WAXAHACHIE - 36" RAW WATER LINE FROM IPL TO LAKE WAXAHACI	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1050	1
WAXAHACHIE	C	WAXAHACHIE - 36" RAW WATER LINE FROM IPL TO LAKE WAXAHACI	C	CONSTRUCTION FUNDING				145	1050	2
WAXAHACHIE	C	WAXAHACHIE - 36" RAW WATER LINE FROM IPL TO LAKE WAXAHACI	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1050	3
WAXAHACHIE	C	WAXAHACHIE - 36" RAW WATER LINE FROM LAKE WAXAHACHIE TO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1051	1
WAXAHACHIE	C	WAXAHACHIE - 36" RAW WATER LINE FROM LAKE WAXAHACHIE TO	C	CONSTRUCTION FUNDING				145	1051	2
WAXAHACHIE	C	WAXAHACHIE - 36" RAW WATER LINE FROM LAKE WAXAHACHIE TO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1051	3
WAXAHACHIE	C	WAXAHACHIE - 48" TRWD PARALLEL SUPPLY LINE TO SOKOLL WTP	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1052	1
WAXAHACHIE	C	WAXAHACHIE - 48" TRWD PARALLEL SUPPLY LINE TO SOKOLL WTP	C	CONSTRUCTION FUNDING				145	1052	2
WAXAHACHIE	C	WAXAHACHIE - 48" TRWD PARALLEL SUPPLY LINE TO SOKOLL WTP	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1052	3
WAXAHACHIE	C	WAXAHACHIE - 8 MGD WTP EXPANSION-HOWARD ROAD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	935	1
WAXAHACHIE	C	WAXAHACHIE - 8 MGD WTP EXPANSION-HOWARD ROAD	C	CONSTRUCTION FUNDING				145	935	2
WAXAHACHIE	C	WAXAHACHIE - 8 MGD WTP EXPANSION-HOWARD ROAD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	935	3
WAXAHACHIE	C	WAXAHACHIE - DREDGE LAKE WAXAHACHIE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1053	1
WAXAHACHIE	C	WAXAHACHIE - DREDGE LAKE WAXAHACHIE	C	CONSTRUCTION FUNDING				145	1053	2
WAXAHACHIE	C	WAXAHACHIE - DREDGE LAKE WAXAHACHIE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1053	3
WAXAHACHIE	C	WAXAHACHIE - INCREASE DELIVERY INFRASTRUCTURE TO ROCKETT S	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1054	1
WAXAHACHIE	C	WAXAHACHIE - INCREASE DELIVERY INFRASTRUCTURE TO ROCKETT S	C	CONSTRUCTION FUNDING				145	1054	2
WAXAHACHIE	C	WAXAHACHIE - INCREASE DELIVERY INFRASTRUCTURE TO ROCKETT S	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1054	3
WAXAHACHIE	C	WAXAHACHIE - PHASE I DELIVERY INFRASTRUCTURE TO CUSTOMERS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1055	1
WAXAHACHIE	C	WAXAHACHIE - PHASE I DELIVERY INFRASTRUCTURE TO CUSTOMERS	C	CONSTRUCTION FUNDING				145	1055	2
WAXAHACHIE	C	WAXAHACHIE - PHASE I DELIVERY INFRASTRUCTURE TO CUSTOMERS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1055	3
WAXAHACHIE	C	WAXAHACHIE - PHASE II DELIVERY INFRASTRUCTURE TO CUSTOMER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1056	1
WAXAHACHIE	C	WAXAHACHIE - PHASE II DELIVERY INFRASTRUCTURE TO CUSTOMER	C	CONSTRUCTION FUNDING				145	1056	2
WAXAHACHIE	C	WAXAHACHIE - PHASE II DELIVERY INFRASTRUCTURE TO CUSTOMER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1056	3
WAXAHACHIE	C	WAXAHACHIE - RAW WATER INTAKE IMPROVEMENTS AT LAKE BARD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				145	1057	1
WAXAHACHIE	C	WAXAHACHIE - RAW WATER INTAKE IMPROVEMENTS AT LAKE BARD	C	CONSTRUCTION FUNDING				145	1057	2

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WAXAHACHIE	C	WAXAHACHIE - RAW WATER INTAKE IMPROVEMENTS AT LAKE BARD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				145	1057	3
WEATHERFORD	C	CONSERVATION, WATER LOSS CONTROL - WEATHERFORD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	1532	1
WEATHERFORD	C	CONSERVATION, WATER LOSS CONTROL - WEATHERFORD	C	CONSTRUCTION FUNDING				146	1532	2
WEATHERFORD	C	CONSERVATION, WATER LOSS CONTROL - WEATHERFORD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	1532	3
WEATHERFORD	C	WEATHERFORD - 14 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	858	1
WEATHERFORD	C	WEATHERFORD - 14 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				146	858	2
WEATHERFORD	C	WEATHERFORD - 14 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	858	3
WEATHERFORD	C	WEATHERFORD - 18 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	939	1
WEATHERFORD	C	WEATHERFORD - 18 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				146	939	2
WEATHERFORD	C	WEATHERFORD - 18 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	939	3
WEATHERFORD	C	WEATHERFORD - 8 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	938	1
WEATHERFORD	C	WEATHERFORD - 8 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING				146	938	2
WEATHERFORD	C	WEATHERFORD - 8 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	938	3
WEATHERFORD	C	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE I	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	4086	1
WEATHERFORD	C	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE I	C	CONSTRUCTION FUNDING				146	4086	2
WEATHERFORD	C	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE I	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	4086	3
WEATHERFORD	C	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE II	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	4098	1
WEATHERFORD	C	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE II	C	CONSTRUCTION FUNDING				146	4098	2
WEATHERFORD	C	WEATHERFORD - ADDITIONAL INDIRECT REUSE PHASE II	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	4098	3
WEATHERFORD	C	WEATHERFORD - EXPAND LAKE BENBROOK PUMP STATION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				146	1108	1
WEATHERFORD	C	WEATHERFORD - EXPAND LAKE BENBROOK PUMP STATION	C	CONSTRUCTION FUNDING				146	1108	2
WEATHERFORD	C	WEATHERFORD - EXPAND LAKE BENBROOK PUMP STATION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				146	1108	3
WEST CEDAR CREEK MUD	C	CONSERVATION, WATER LOSS CONTROL - WEST CEDAR CREEK MUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				147	1533	1
WEST CEDAR CREEK MUD	C	CONSERVATION, WATER LOSS CONTROL - WEST CEDAR CREEK MUD	C	CONSTRUCTION FUNDING				147	1533	2
WEST CEDAR CREEK MUD	C	CONSERVATION, WATER LOSS CONTROL - WEST CEDAR CREEK MUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				147	1533	3
WEST LEONARD WSC	C	CONSERVATION, WATER LOSS CONTROL - WEST LEONARD WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13301	2955	1
WEST LEONARD WSC	C	CONSERVATION, WATER LOSS CONTROL - WEST LEONARD WSC	C	CONSTRUCTION FUNDING				13301	2955	2
WEST LEONARD WSC	C	CONSERVATION, WATER LOSS CONTROL - WEST LEONARD WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13301	2955	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
WEST WISE SUD	C	CONSERVATION, WATER LOSS CONTROL - WEST WISE SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$250,000.00	2025		2805	1534	1
WEST WISE SUD	C	CONSERVATION, WATER LOSS CONTROL - WEST WISE SUD	C	CONSTRUCTION FUNDING	$2,500,000.00	2026		2805	1534	2
WEST WISE SUD	C	CONSERVATION, WATER LOSS CONTROL - WEST WISE SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2805	1534	3
WEST WISE SUD	C	WEST WISE SUD - 1.5 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$1,000,000.00	2030		2805	941	1
WEST WISE SUD	C	WEST WISE SUD - 1.5 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$10,000,000.00	2035		2805	941	2
WEST WISE SUD	C	WEST WISE SUD - 1.5 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2805	941	3
WESTLAKE	C	CONSERVATION – WASTE PROHIBITION, WESTLAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2954	3454	1
WESTLAKE	C	CONSERVATION – WASTE PROHIBITION, WESTLAKE	C	CONSTRUCTION FUNDING				2954	3454	2
WESTLAKE	C	CONSERVATION – WASTE PROHIBITION, WESTLAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2954	3454	3
WESTLAKE	C	CONSERVATION, IRRIGATION RESTRICTION - WESTLAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2954	3420	1
WESTLAKE	C	CONSERVATION, IRRIGATION RESTRICTION - WESTLAKE	C	CONSTRUCTION FUNDING				2954	3420	2
WESTLAKE	C	CONSERVATION, IRRIGATION RESTRICTION - WESTLAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2954	3420	3
WESTLAKE	C	CONSERVATION, WATER LOSS CONTROL - WESTLAKE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2954	1535	1
WESTLAKE	C	CONSERVATION, WATER LOSS CONTROL - WESTLAKE	C	CONSTRUCTION FUNDING				2954	1535	2
WESTLAKE	C	CONSERVATION, WATER LOSS CONTROL - WESTLAKE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2954	1535	3
WESTMINSTER WSC	C	CONSERVATION, WATER LOSS CONTROL - WESTMINSTER WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				13304	2956	1
WESTMINSTER WSC	C	CONSERVATION, WATER LOSS CONTROL - WESTMINSTER WSC	C	CONSTRUCTION FUNDING				13304	2956	2
WESTMINSTER WSC	C	CONSERVATION, WATER LOSS CONTROL - WESTMINSTER WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				13304	2956	3
WESTOVER HILLS	C	CONSERVATION – WASTE PROHIBITION, WESTOVER HILLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2442	1576	1
WESTOVER HILLS	C	CONSERVATION – WASTE PROHIBITION, WESTOVER HILLS	C	CONSTRUCTION FUNDING				2442	1576	2
WESTOVER HILLS	C	CONSERVATION – WASTE PROHIBITION, WESTOVER HILLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2442	1576	3
WESTOVER HILLS	C	CONSERVATION, IRRIGATION RESTRICTION - WESTOVER HILLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2442	3421	1
WESTOVER HILLS	C	CONSERVATION, IRRIGATION RESTRICTION - WESTOVER HILLS	C	CONSTRUCTION FUNDING				2442	3421	2
WESTOVER HILLS	C	CONSERVATION, IRRIGATION RESTRICTION - WESTOVER HILLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2442	3421	3
WESTOVER HILLS	C	CONSERVATION, WATER LOSS CONTROL - WESTOVER HILLS	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2442	1537	1
WESTOVER HILLS	C	CONSERVATION, WATER LOSS CONTROL - WESTOVER HILLS	C	CONSTRUCTION FUNDING				2442	1537	2
WESTOVER HILLS	C	CONSERVATION, WATER LOSS CONTROL - WESTOVER HILLS	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2442	1537	3
WESTWORTH VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - WESTWORTH VILLAGE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2443	1538	1
WESTWORTH VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - WESTWORTH VILLAGE	C	CONSTRUCTION FUNDING	$0.00	N/A		2443	1538	2

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
WESTWORTH VILLAGE	C	CONSERVATION, WATER LOSS CONTROL - WESTWORTH VILLAGE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2443	1538	3
WHITE SETTLEMENT	C	CONSERVATION, WATER LOSS CONTROL - WHITE SETTLEMENT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2449	1539	1
WHITE SETTLEMENT	C	CONSERVATION, WATER LOSS CONTROL - WHITE SETTLEMENT	C	CONSTRUCTION FUNDING				2449	1539	2
WHITE SETTLEMENT	C	CONSERVATION, WATER LOSS CONTROL - WHITE SETTLEMENT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2449	1539	3
WHITE SHED WSC	C	CONSERVATION, WATER LOSS CONTROL - WHITE SHED WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		13310	2957	1
WHITE SHED WSC	C	CONSERVATION, WATER LOSS CONTROL - WHITE SHED WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		13310	2957	2
WHITE SHED WSC	C	CONSERVATION, WATER LOSS CONTROL - WHITE SHED WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$1.00			13310	2957	3
WHITE SHED WSC	C	WHITE SHED WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$200,000.00	2020		13310	3822	1
WHITE SHED WSC	C	WHITE SHED WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	CONSTRUCTION FUNDING	$2,100,000.00	2021		13310	3822	2
WHITE SHED WSC	C	WHITE SHED WSC - NEW WELL(S) IN WOODBINE AQUIFER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$1.00			13310	3822	3
WHITESBORO	C	CONSERVATION, WATER LOSS CONTROL - WHITESBORO	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	2020		2451	1540	1
WHITESBORO	C	CONSERVATION, WATER LOSS CONTROL - WHITESBORO	C	CONSTRUCTION FUNDING	$0.00	2020		2451	1540	2
WHITESBORO	C	CONSERVATION, WATER LOSS CONTROL - WHITESBORO	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2451	1540	3
WHITEWRIGHT	C	CONSERVATION, WATER LOSS CONTROL - WHITEWRIGHT	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2452	1541	1
WHITEWRIGHT	C	CONSERVATION, WATER LOSS CONTROL - WHITEWRIGHT	C	CONSTRUCTION FUNDING				2452	1541	2
WHITEWRIGHT	C	CONSERVATION, WATER LOSS CONTROL - WHITEWRIGHT	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2452	1541	3
WILLOW PARK	C	CONSERVATION, WATER LOSS CONTROL - WILLOW PARK	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2458	1542	1
WILLOW PARK	C	CONSERVATION, WATER LOSS CONTROL - WILLOW PARK	C	CONSTRUCTION FUNDING				2458	1542	2
WILLOW PARK	C	CONSERVATION, WATER LOSS CONTROL - WILLOW PARK	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2458	1542	3
WILLOW PARK	C	WILLOW PARK - CONNECT TO FORT WORTH	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2458	1139	1
WILLOW PARK	C	WILLOW PARK - CONNECT TO FORT WORTH	C	CONSTRUCTION FUNDING				2458	1139	2
WILLOW PARK	C	WILLOW PARK - CONNECT TO FORT WORTH	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2458	1139	3
WILMER	C	CONSERVATION, WATER LOSS CONTROL - WILMER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$50,000.00	2022		2460	1543	1
WILMER	C	CONSERVATION, WATER LOSS CONTROL - WILMER	C	CONSTRUCTION FUNDING	$75,000.00	2023		2460	1543	2
WILMER	C	CONSERVATION, WATER LOSS CONTROL - WILMER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2460	1543	3
WILMER	C	WILMER - DIRECT CONNECTION TO DALLAS (36" TRANSMISSION LINE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$300,000.00	2023		2460	1024	1
WILMER	C	WILMER - DIRECT CONNECTION TO DALLAS (36" TRANSMISSION LINE	C	CONSTRUCTION FUNDING	$35,000,000.00	2024		2460	1024	2
WILMER	C	WILMER - DIRECT CONNECTION TO DALLAS (36" TRANSMISSION LINE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2460	1024	3

SponsorEntityName	SponsorEntityPrimaryRegion	ProjectName	WMSProjectSponsorRegion	IFRElementName	IFRElementValue	YearOfNeed	IFRProjectDataId	EntityRwpId	WMSProjectId	IFRProjectElementsId
WILMER	C	WILMER - INCREASE CAPACITY OF CONNECTION WITH LANCASTER	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$220,000.00	2025		2460	1025	1
WILMER	C	WILMER - INCREASE CAPACITY OF CONNECTION WITH LANCASTER	C	CONSTRUCTION FUNDING	$15,000,000.00	2027		2460	1025	2
WILMER	C	WILMER - INCREASE CAPACITY OF CONNECTION WITH LANCASTER	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2460	1025	3
WISE COUNTY WSD	C	WISE COUNTY WSD - 9 MGD WTP EXPANSION	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		152	943	1
WISE COUNTY WSD	C	WISE COUNTY WSD - 9 MGD WTP EXPANSION	C	CONSTRUCTION FUNDING	$0.00	N/A		152	943	2
WISE COUNTY WSD	C	WISE COUNTY WSD - 9 MGD WTP EXPANSION	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			152	943	3
WOODBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - WOODBINE WSC	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2471	1544	1
WOODBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - WOODBINE WSC	C	CONSTRUCTION FUNDING	$0.00	N/A		2471	1544	2
WOODBINE WSC	C	CONSERVATION, WATER LOSS CONTROL - WOODBINE WSC	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2471	1544	3
WORTHAM	C	CONSERVATION, WATER LOSS CONTROL - WORTHAM	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2479	1545	1
WORTHAM	C	CONSERVATION, WATER LOSS CONTROL - WORTHAM	C	CONSTRUCTION FUNDING				2479	1545	2
WORTHAM	C	CONSERVATION, WATER LOSS CONTROL - WORTHAM	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2479	1545	3
WYLIE	C	CONSERVATION, WATER LOSS CONTROL - WYLIE	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING				2480	1546	1
WYLIE	C	CONSERVATION, WATER LOSS CONTROL - WYLIE	C	CONSTRUCTION FUNDING				2480	1546	2
WYLIE	C	CONSERVATION, WATER LOSS CONTROL - WYLIE	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY				2480	1546	3
WYLIE NORTHEAST SUD	C	CONSERVATION, WATER LOSS CONTROL - WYLIE NORTHEAST SUD	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2870	1547	1
WYLIE NORTHEAST SUD	C	CONSERVATION, WATER LOSS CONTROL - WYLIE NORTHEAST SUD	C	CONSTRUCTION FUNDING	$0.00	N/A		2870	1547	2
WYLIE NORTHEAST SUD	C	CONSERVATION, WATER LOSS CONTROL - WYLIE NORTHEAST SUD	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2870	1547	3
WYLIE NORTHEAST SUD	C	WYLIE NORTHEAST SUD - ADDITIONAL DELIVERY INFRASTRUCTURE F	C	PLANNING, DESIGN, PERMITTING & ACQUISITION FUNDING	$0.00	N/A		2870	1010	1
WYLIE NORTHEAST SUD	C	WYLIE NORTHEAST SUD - ADDITIONAL DELIVERY INFRASTRUCTURE F	C	CONSTRUCTION FUNDING	$0.00	N/A		2870	1010	2
WYLIE NORTHEAST SUD	C	WYLIE NORTHEAST SUD - ADDITIONAL DELIVERY INFRASTRUCTURE F	C	PERCENT STATE PARTICIPATION IN OWNING EXCESS CAPACITY	$0.00			2870	1010	3

Appendix O

2021 Interregional Coordination

JOINT MEETING of
REGION C and REGION D
COORDINATION SUBCOMMITTEES

OPEN PUBLIC MEETING

MONDAY, NOVEMBER 4, 2019 AT 9:00 A.M.

THE MEETING WILL BE HELD AT
Harvey Hall Convention Center, Hall 3
2000 West Front Street
Tyler, 75702
(903) 534-1349

AGENDA

1. Introductions of participants and discussion of the meeting goal and purpose.

2. Public Comment:

   Any person wishing to make an oral presentation to the Coordination Subcommittee must complete a registration form with the speaker's name, address and other relevant information. Speakers who have not completed a registration form will not be recognized. Each speaker shall be limited to three minutes. Speakers may not trade or donate time to other speakers.

3. Identify and share mutually beneficial information and strategies.

4. Identify and consider potential resolutions to issues that could impact the review and approval of the 2021 Initially Prepared Regional Water Plans.

5. Discuss next steps by Coordination Subcommittees and the Texas Water Development Board prior to the submission of the Regions C and D Initially Prepared Plans, and schedule next meeting of the parties, if warranted.

JOINT MEETING of
REGION C and REGION D
COORDINATION SUBCOMMITTEES

OPEN PUBLIC MEETING

MONDAY, DECEMBER 9, 2019 AT 9:00 A.M.

THE MEETING WILL BE HELD AT
Rose Garden Center
Rose Room
420 Rose Park Drive
Tyler, Texas 75702
(903) 597-3130

AGENDA

1. Introductions of participants and discussion of the meeting goal and purpose.

2. Public Comment:

   Any person wishing to make an oral presentation to the Coordination Subcommittee must complete a registration form with the speaker's name, address and other relevant information. Speakers who have not completed a registration form will not be recognized. Each speaker shall be limited to three minutes. Speakers may not trade or donate time to other speakers.

3. Presentation of and discussion regarding the Region C Coordination Subcommittee's proposal regarding the Initially Prepared Plans of the Regions C and D Regional Water Planning Groups.

4. Facilitated discussion of potential resolutions to issues that could impact the review and approval of the 2021 Initially Prepared Regional Water Plans.

5. Discuss next steps by Coordination Subcommittees and the Texas Water Development Board prior to the submission of the Regions C and D Initially Prepared Plans, and schedule next meeting of the parties, if warranted.

JOINT MEETING of
REGION C and REGION D
COORDINATION SUBCOMMITTEES

OPEN PUBLIC MEETING

TUESDAY, JANUARY 14, 2020 AT 9:00 A.M.

THE MEETING WILL BE HELD AT
Hopkins County Regional Civic Center
1200 Houston Street
Sulphur Springs, Texas 75482
(903) 885-8071

AGENDA

1. Call to order by the Chairman.

2. Presentation by Robert Gulley, Mediator for the Texas Water Development Board, regarding a proposal for possibly reaching agreement on the Initially Prepared Plans of the Regions C and D Water Planning Groups.

3. Public Comment:

   Any person wishing to make an oral presentation to the Coordination Subcommittee must complete a registration form with the speaker's name, address and other relevant information. Speakers who have not completed a registration form will not be recognized. Each speaker shall be limited to three minutes. Speakers may not trade or donate time to other speakers.

4. Facilitated discussions chaired by Robert Gulley between the Coordination Subcommittees of Regions C and D.

5. Discussion of future actions of the Region C and Region D Coordination Subcommittees.

Appendix P

Water Management Strategy Implementation Survey

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	ARLINGTON UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: ARLINGTON; WMS SUPPLY RECIPIENT: GRAND PRAIRIE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	34422	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	ARLINGTON UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: ARLINGTON; WMS SUPPLY RECIPIENT: KENNEDALE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	19621	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	ARLINGTON UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: GRAND PRAIRIE; WMS SUPPLY RECIPIENT: MANUFACTURING, DALLAS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	29021	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	ARLINGTON UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: GRAND PRAIRIE; WMS SUPPLY RECIPIENT: MANUFACTURING, TARRANT	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	29030	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	ATHENS MWA WTP INFRASTRUCTURE IMPROVEMENTS Q-145	2020	PROJECT SPONSOR(S): ATHENS MUNICIPAL WATER AUTHORITY	RECOMMENDED WMS PROJECT	1075	Yes	2019	2019	Feasibility study ongoing	Too soon	Meeting w/ Athens on 7/1			$2,900,000						TWDB - Other		Yes		
C	AZLE - WATER TREATMENT PLANT EXPANSION Q-13	2020	PROJECT SPONSOR(S): AZLE	RECOMMENDED WMS PROJECT	859	Yes	2019	2019	Feasibility study ongoing	Contractual limit on current water purchases				$11,046,000								Yes		
C	BEDFORD - MUNICIPAL CONSERVATION - WATER DISTRIBUTION SYSTEM CONSERVATION Q-208	2020	PROJECT SPONSOR(S): BEDFORD	RECOMMENDED WMS PROJECT	1141	Yes	Ongoing	Ongoing	Under construction			Not measured	$ 45,000,000	$ 90,000,000.00								No		
C	BETHESDA WSC - CONNECT TO AND PURCHASE WATER FROM ARLINGTON Q-184	2020	PROJECT SPONSOR(S): BETHESDA WSC	RECOMMENDED WMS PROJECT	1114	Yes	2018	2018	All phases fully implemented			5600	$18,698,000	$18,698,000	2018	No				Market		No		
C	BLACKLAND WSC - DIRECT CONNECT TO NTMWD AND PURCHASE ADDITIONAL WATER FROM NTMWD Q-179	2020	PROJECT SPONSOR(S): BLACKLAND WSC	RECOMMENDED WMS PROJECT	1109	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030.			$3,295,550								Yes		
C	BLOOMING GROVE - NEW WELL IN TRINITY AQUIFER Q-164	2020	PROJECT SPONSOR(S): BLOOMING GROVE	RECOMMENDED WMS PROJECT	1094	No			Not implemented	Blooming Grove requested this WMS Project be removed from the 2021 Region C Water Plan				$1,669,300								No		
C	CARRIZO AQUIFER DEVELOPMENT	2020	WMS SELLER: MEXIA; WMS SUPPLY RECIPIENT: WORTHAM	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	45852	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0								Yes		
C	CASH WSC - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-180	2020	PROJECT SPONSOR(S): CASH SUD	RECOMMENDED WMS PROJECT	1110	Yes	2019	2019	Feasibility study ongoing	Contractual limit on current water purchases				$6,654,700								Yes		
C	CONSERVATION - ADDISON	2020	WUG REDUCING DEMAND: ADDISON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	141	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ALEDO	2020	WUG REDUCING DEMAND: ALEDO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3749	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ALLEN	2020	WUG REDUCING DEMAND: ALLEN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3753	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ANNA	2020	WUG REDUCING DEMAND: ANNA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3761	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ANNETTA	2020	WUG REDUCING DEMAND: ANNETTA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3767	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ARGYLE	2020	WUG REDUCING DEMAND: ARGYLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3779	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ARGYLE WSC	2020	WUG REDUCING DEMAND: ARGYLE WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3783	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ARLINGTON	2020	WUG REDUCING DEMAND: ARLINGTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3787	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ATHENS	2020	WUG REDUCING DEMAND: ATHENS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3791	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - AUBREY	2020	WUG REDUCING DEMAND: AUBREY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3797	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - AZLE	2020	WUG REDUCING DEMAND: AZLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3805	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BALCH SPRINGS	2020	WUG REDUCING DEMAND: BALCH SPRINGS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3811	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BARDWELL	2020	WUG REDUCING DEMAND: BARDWELL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3815	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BARTONVILLE	2020	WUG REDUCING DEMAND: BARTONVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3819	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BEDFORD	2020	WUG REDUCING DEMAND: BEDFORD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3823	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BELLS	2020	WUG REDUCING DEMAND: BELLS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3827	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BENBROOK	2020	WUG REDUCING DEMAND: BENBROOK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3831	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BLACKLAND WSC	2020	WUG REDUCING DEMAND: BLACKLAND WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3853	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BLOOMING GROVE	2020	WUG REDUCING DEMAND: BLOOMING GROVE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3861	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BLUE MOUND	2020	WUG REDUCING DEMAND: BLUE MOUND	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3865	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BOLIVAR WSC	2020	WUG REDUCING DEMAND: BOLIVAR WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3995	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BONHAM	2020	WUG REDUCING DEMAND: BONHAM	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4003	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BOYD	2020	WUG REDUCING DEMAND: BOYD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4007	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BRIDGEPORT	2020	WUG REDUCING DEMAND: BRIDGEPORT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4021	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BUENA VISTA - BETHEL SUD	2020	WUG REDUCING DEMAND: BUENA VISTA - BETHEL SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4029	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CARROLLTON	2020	WUG REDUCING DEMAND: CARROLLTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4049	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CEDAR HILL	2020	WUG REDUCING DEMAND: CEDAR HILL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4069	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CELINA	2020	WUG REDUCING DEMAND: CELINA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4075	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CHATFIELD WSC	2020	WUG REDUCING DEMAND: CHATFIELD WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4081	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - CHICO	2020	WUG REDUCING DEMAND: CHICO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4085	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COCKRELL HILL	2020	WUG REDUCING DEMAND: COCKRELL HILL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4089	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COLLEGE MOUND WSC	2020	WUG REDUCING DEMAND: COLLEGE MOUND WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4093	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COLLEYVILLE	2020	WUG REDUCING DEMAND: COLLEYVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4097	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COLLIN COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, COLLIN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4101	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COLLINSVILLE	2020	WUG REDUCING DEMAND: COLLINSVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4107	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COMBINE	2020	WUG REDUCING DEMAND: COMBINE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4111	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COMMUNITY WSC	2020	WUG REDUCING DEMAND: COMMUNITY WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4117	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COOKE COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, COOKE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4121	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COPEVILLE SUD	2020	WUG REDUCING DEMAND: COPEVILLE SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4127	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COPPELL	2020	WUG REDUCING DEMAND: COPPELL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4131	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - COPPER CANYON	2020	WUG REDUCING DEMAND: COPPER CANYON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4137	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CORBET WSC	2020	WUG REDUCING DEMAND: CORBET WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4141	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CORINTH	2020	WUG REDUCING DEMAND: CORINTH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4145	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CORSICANA	2020	WUG REDUCING DEMAND: CORSICANA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4149	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CRANDALL	2020	WUG REDUCING DEMAND: CRANDALL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4153	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CROSS ROADS	2020	WUG REDUCING DEMAND: CROSS ROADS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4169	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CROWLEY	2020	WUG REDUCING DEMAND: CROWLEY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4173	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - CULLEOKA WSC	2020	WUG REDUCING DEMAND: CULLEOKA WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4179	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

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C	CONSERVATION - DALLAS	2020	WUG REDUCING DEMAND: DALLAS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4183	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DALLAS COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, DALLAS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4193	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DALWORTHINGTON GARDENS	2020	WUG REDUCING DEMAND: DALWORTHINGTON GARDENS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4197	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DECATUR	2020	WUG REDUCING DEMAND: DECATUR	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4205	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DENISON	2020	WUG REDUCING DEMAND: DENISON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4209	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DENTON	2020	WUG REDUCING DEMAND: DENTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4213	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DENTON COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, DENTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4229	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DENTON COUNTY FWSD #10	2020	WUG REDUCING DEMAND: DENTON COUNTY FWSD #10	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4217	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DENTON COUNTY FWSD #1A	2020	WUG REDUCING DEMAND: DENTON COUNTY FWSD #1A	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4225	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DENTON COUNTY FWSD #7	2020	WUG REDUCING DEMAND: DENTON COUNTY FWSD #7	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4221	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DESOTO	2020	WUG REDUCING DEMAND: DESOTO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4233	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DOUBLE OAK	2020	WUG REDUCING DEMAND: DOUBLE OAK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4237	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DUNCANVILLE	2020	WUG REDUCING DEMAND: DUNCANVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4241	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - EAST CEDAR CREEK FWSD	2020	WUG REDUCING DEMAND: EAST CEDAR CREEK FWSD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4245	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - EAST FORK SUD	2020	WUG REDUCING DEMAND: EAST FORK SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4249	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - EDGECLIFF VILLAGE	2020	WUG REDUCING DEMAND: EDGECLIFF VILLAGE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4257	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ELLIS COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, ELLIS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4261	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ENNIS	2020	WUG REDUCING DEMAND: ENNIS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4265	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - EULESS	2020	WUG REDUCING DEMAND: EULESS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4269	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - EVERMAN	2020	WUG REDUCING DEMAND: EVERMAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4277	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FAIRFIELD	2020	WUG REDUCING DEMAND: FAIRFIELD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4281	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FAIRVIEW	2020	WUG REDUCING DEMAND: FAIRVIEW	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4285	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FANNIN COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, FANNIN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4289	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FARMERS BRANCH	2020	WUG REDUCING DEMAND: FARMERS BRANCH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4297	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FARMERSVILLE	2020	WUG REDUCING DEMAND: FARMERSVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4309	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FATE	2020	WUG REDUCING DEMAND: FATE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4315	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FERRIS	2020	WUG REDUCING DEMAND: FERRIS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4321	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FLOWER MOUND	2020	WUG REDUCING DEMAND: FLOWER MOUND	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4341	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FOREST HILL	2020	WUG REDUCING DEMAND: FOREST HILL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4347	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FORNEY	2020	WUG REDUCING DEMAND: FORNEY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4351	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FORNEY LAKE WSC	2020	WUG REDUCING DEMAND: FORNEY LAKE WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4355	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FORT WORTH	2020	WUG REDUCING DEMAND: FORT WORTH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4361	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FREESTONE COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, FREESTONE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4373	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - FRISCO	2020	WUG REDUCING DEMAND: FRISCO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4379	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GAINESVILLE	2020	WUG REDUCING DEMAND: GAINESVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4389	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GARLAND	2020	WUG REDUCING DEMAND: GARLAND	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4395	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GARRETT	2020	WUG REDUCING DEMAND: GARRETT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4403	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GASTONIA-SCURRY SUD	2020	WUG REDUCING DEMAND: GASTONIA-SCURRY SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4407	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - GLENN HEIGHTS	2020	WUG REDUCING DEMAND: GLENN HEIGHTS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4411	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GRAND PRARIE	2020	WUG REDUCING DEMAND: GRAND PRAIRIE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4417	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GRAPEVINE	2020	WUG REDUCING DEMAND: GRAPEVINE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4425	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GRAYSON COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, GRAYSON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4429	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GUN BARREL CITY	2020	WUG REDUCING DEMAND: GUN BARREL CITY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4435	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - GUNTER	2020	WUG REDUCING DEMAND: GUNTER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4439	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HACKBERRY	2020	WUG REDUCING DEMAND: HACKBERRY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4443	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HALTOM CITY	2020	WUG REDUCING DEMAND: HALTOM CITY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4447	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HASLET	2020	WUG REDUCING DEMAND: HASLET	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4451	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HEATH	2020	WUG REDUCING DEMAND: HEATH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4455	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HICKORY CREEK	2020	WUG REDUCING DEMAND: HICKORY CREEK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4465	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HIGH POINT WSC	2020	WUG REDUCING DEMAND: HIGH POINT WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4483	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HIGHLAND PARK	2020	WUG REDUCING DEMAND: HIGHLAND PARK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4489	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HIGHLAND VILLAGE	2020	WUG REDUCING DEMAND: HIGHLAND VILLAGE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4493	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HONEY GROVE	2020	WUG REDUCING DEMAND: HONEY GROVE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4497	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HOWE	2020	WUG REDUCING DEMAND: HOWE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4503	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HUDSON OAKS	2020	WUG REDUCING DEMAND: HUDSON OAKS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4509	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HURST	2020	WUG REDUCING DEMAND: HURST	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5385	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - HUTCHINS	2020	WUG REDUCING DEMAND: HUTCHINS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5389	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - IRVING	2020	WUG REDUCING DEMAND: IRVING	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5393	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ITALY	2020	WUG REDUCING DEMAND: ITALY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5397	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - JACK COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, JACK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5401	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - JACKSBORO	2020	WUG REDUCING DEMAND: JACKSBORO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5407	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - JOSEPHINE	2020	WUG REDUCING DEMAND: JOSEPHINE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5425	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - JUSTIN	2020	WUG REDUCING DEMAND: JUSTIN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5431	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KAUFMAN	2020	WUG REDUCING DEMAND: KAUFMAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5435	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KAUFMAN COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, KAUFMAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5439	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KELLER	2020	WUG REDUCING DEMAND: KELLER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5445	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KEMP	2020	WUG REDUCING DEMAND: KEMP	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5449	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KENNEDALE	2020	WUG REDUCING DEMAND: KENNEDALE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5453	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KENTUCKY TOWN WSC	2020	WUG REDUCING DEMAND: KENTUCKY TOWN WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5457	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KERENS	2020	WUG REDUCING DEMAND: KERENS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5463	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KRUGERVILLE	2020	WUG REDUCING DEMAND: KRUGERVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5467	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - KRUM	2020	WUG REDUCING DEMAND: KRUM	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5471	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LAKE DALLAS	2020	WUG REDUCING DEMAND: LAKE DALLAS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5479	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LAKE KIOWA SUD	2020	WUG REDUCING DEMAND: LAKE KIOWA SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5483	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LAKE WORTH	2020	WUG REDUCING DEMAND: LAKE WORTH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5487	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LAKESIDE	2020	WUG REDUCING DEMAND: LAKESIDE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5491	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - LANCASTER	2020	WUG REDUCING DEMAND: LANCASTER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5499	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LAVON	2020	WUG REDUCING DEMAND: LAVON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5504	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LAVON SUD	2020	WUG REDUCING DEMAND: LAVON SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5508	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LEONARD	2020	WUG REDUCING DEMAND: LEONARD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5516	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LEWISVILLE	2020	WUG REDUCING DEMAND: LEWISVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5524	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LITTLE ELM	2020	WUG REDUCING DEMAND: LITTLE ELM	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5534	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LOWRY CROSSING	2020	WUG REDUCING DEMAND: LOWRY CROSSING	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5543	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LUCAS	2020	WUG REDUCING DEMAND: LUCAS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5547	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LUELLA SUD	2020	WUG REDUCING DEMAND: LUELLA SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5551	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - M-E-N WSC	2020	WUG REDUCING DEMAND: M-E-N WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5647	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MABANK	2020	WUG REDUCING DEMAND: MABANK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5557	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MALAKOFF	2020	WUG REDUCING DEMAND: MALAKOFF	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5575	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MANSFIELD	2020	WUG REDUCING DEMAND: MANSFIELD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5579	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MARILEE SUD	2020	WUG REDUCING DEMAND: MARILEE SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5625	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MCKINNEY	2020	WUG REDUCING DEMAND: MCKINNEY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5635	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MCLENDON-CHISOLM	2020	WUG REDUCING DEMAND: MCLENDON-CHISHOLM	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5639	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MELISSA	2020	WUG REDUCING DEMAND: MELISSA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5643	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MESQUITE	2020	WUG REDUCING DEMAND: MESQUITE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5651	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MIDLOTHIAN	2020	WUG REDUCING DEMAND: MIDLOTHIAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5657	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - MOUNT ZION WSC	2020	WUG REDUCING DEMAND: MOUNT ZION WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5671	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MOUNTAIN PEAK SUD	2020	WUG REDUCING DEMAND: MOUNTAIN PEAK SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5675	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MOUNTAIN SPRING WSC	2020	WUG REDUCING DEMAND: MOUNTAIN SPRING WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5681	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MUENSTER	2020	WUG REDUCING DEMAND: MUENSTER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5687	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MURPHY	2020	WUG REDUCING DEMAND: MURPHY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5691	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MUSTANG SUD	2020	WUG REDUCING DEMAND: MUSTANG SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5695	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NAVARRO COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, NAVARRO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5699	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NAVARRO MILLS WSC	2020	WUG REDUCING DEMAND: NAVARRO MILLS WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5703	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NEW FAIRVIEW	2020	WUG REDUCING DEMAND: NEW FAIRVIEW	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5713	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NEWARK	2020	WUG REDUCING DEMAND: NEWARK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5721	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NORTH COLLIN WSC	2020	WUG REDUCING DEMAND: NORTH COLLIN WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5725	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NORTH RICHLAND HILLS	2020	WUG REDUCING DEMAND: NORTH RICHLAND HILLS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5737	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NORTHLAKE	2020	WUG REDUCING DEMAND: NORTHLAKE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5741	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - OAK LEAF	2020	WUG REDUCING DEMAND: OAK LEAF	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5749	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - OAK POINT	2020	WUG REDUCING DEMAND: OAK POINT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5753	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - OVILLA	2020	WUG REDUCING DEMAND: OVILLA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5763	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PALMER	2020	WUG REDUCING DEMAND: PALMER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5769	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PALOMA CREEK	2020	WUG REDUCING DEMAND: PALOMA CREEK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5773	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PANTEGO	2020	WUG REDUCING DEMAND: PANTEGO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5777	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - PARKER	2020	WUG REDUCING DEMAND: PARKER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5781	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PARKER COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, PARKER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5789	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PARKER COUNTY SUD	2020	WUG REDUCING DEMAND: PARKER COUNTY SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5785	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PILOT POINT	2020	WUG REDUCING DEMAND: PILOT POINT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5882	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PLANO	2020	WUG REDUCING DEMAND: PLANO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5886	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PONDER	2020	WUG REDUCING DEMAND: PONDER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5892	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - POTTSBORO	2020	WUG REDUCING DEMAND: POTTSBORO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5900	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PRINCETON	2020	WUG REDUCING DEMAND: PRINCETON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5904	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PROSPER	2020	WUG REDUCING DEMAND: PROSPER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5908	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PROVIDNECE VILLAGE WCID	2020	WUG REDUCING DEMAND: PROVIDENCE VILLAGE WCID	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5914	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RED OAK	2020	WUG REDUCING DEMAND: RED OAK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5918	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RENO	2020	WUG REDUCING DEMAND: RENO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5922	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RHOME	2020	WUG REDUCING DEMAND: RHOME	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5928	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RICE	2020	WUG REDUCING DEMAND: RICE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5932	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RICE WSC	2020	WUG REDUCING DEMAND: RICE WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5936	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RICHARDSON	2020	WUG REDUCING DEMAND: RICHARDSON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5942	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RICHLAND HILLS	2020	WUG REDUCING DEMAND: RICHLAND HILLS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5948	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RIVER OAKS	2020	WUG REDUCING DEMAND: RIVER OAKS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5952	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ROANOKE	2020	WUG REDUCING DEMAND: ROANOKE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5956	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - ROCKETT SUD	2020	WUG REDUCING DEMAND: ROCKETT SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5960	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ROCKWALL	2020	WUG REDUCING DEMAND: ROCKWALL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5966	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ROCKWALL COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, ROCKWALL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5970	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ROSE HILL SUD	2020	WUG REDUCING DEMAND: ROSE HILL SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5976	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ROWLETT	2020	WUG REDUCING DEMAND: ROWLETT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5980	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ROYSE CITY	2020	WUG REDUCING DEMAND: ROYSE CITY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5986	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - RUNAWAY BAY	2020	WUG REDUCING DEMAND: RUNAWAY BAY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5994	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SACHSE	2020	WUG REDUCING DEMAND: SACHSE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5998	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SAGINAW	2020	WUG REDUCING DEMAND: SAGINAW	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6042	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SANGER	2020	WUG REDUCING DEMAND: SANGER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6046	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SANSOM PARK	2020	WUG REDUCING DEMAND: SANSOM PARK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6050	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SARDIS-LONE ELM WSC	2020	WUG REDUCING DEMAND: SARDIS-LONE ELM WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6054	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SEAGOVILLE	2020	WUG REDUCING DEMAND: SEAGOVILLE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6070	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SEIS LAGOS UD	2020	WUG REDUCING DEMAND: SEIS LAGOS UD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6076	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SEVEN POINTS	2020	WUG REDUCING DEMAND: SEVEN POINTS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6080	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SHADY SHORES	2020	WUG REDUCING DEMAND: SHADY SHORES	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6086	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SHERMAN	2020	WUG REDUCING DEMAND: SHERMAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6090	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SOUTH GRAYSON WSC	2020	WUG REDUCING DEMAND: SOUTH GRAYSON WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6094	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SOUTHLAKE	2020	WUG REDUCING DEMAND: SOUTHLAKE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6100	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - SOUTHWEST FANNIN COUNTY SUD	2020	WUG REDUCING DEMAND: SOUTHWEST FANNIN COUNTY SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6110	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SPRINGTOWN	2020	WUG REDUCING DEMAND: SPRINGTOWN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6118	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ST PAUL	2020	WUG REDUCING DEMAND: ST. PAUL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6122	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SUNNYVALE	2020	WUG REDUCING DEMAND: SUNNYVALE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6126	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TALTY	2020	WUG REDUCING DEMAND: TALTY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6130	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TALTY WSC	2020	WUG REDUCING DEMAND: TALTY WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6134	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TARRANT COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, TARRANT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6138	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TEAGUE	2020	WUG REDUCING DEMAND: TEAGUE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6142	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TERRELL	2020	WUG REDUCING DEMAND: TERRELL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6148	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - THE COLONY	2020	WUG REDUCING DEMAND: THE COLONY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6152	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TOM BEAN	2020	WUG REDUCING DEMAND: TOM BEAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6004	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TOOL	2020	WUG REDUCING DEMAND: TOOL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6010	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TROPHY CLUB	2020	WUG REDUCING DEMAND: TROPHY CLUB	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6024	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TWO WAY SUD	2020	WUG REDUCING DEMAND: TWO WAY SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6030	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - UNIVERSITY PARK	2020	WUG REDUCING DEMAND: UNIVERSITY PARK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6038	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - VAN ALSTYNE	2020	WUG REDUCING DEMAND: VAN ALSTYNE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3987	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - VIRGINIA HILL WSC	2020	WUG REDUCING DEMAND: VIRGINIA HILL WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3975	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WALNUT CREEK SUD	2020	WUG REDUCING DEMAND: WALNUT CREEK SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3873	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WATAUGA	2020	WUG REDUCING DEMAND: WATAUGA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3879	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

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C	CONSERVATION - WAXAHACHIE	2020	WUG REDUCING DEMAND: WAXAHACHIE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3883	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WEATHERFORD	2020	WUG REDUCING DEMAND: WEATHERFORD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3887	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WEST CEDAR CREEK MUD	2020	WUG REDUCING DEMAND: WEST CEDAR CREEK MUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3893	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WEST WISE SUD	2020	WUG REDUCING DEMAND: WEST WISE SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3899	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WESTLAKE	2020	WUG REDUCING DEMAND: WESTLAKE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3903	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WESTON	2020	WUG REDUCING DEMAND: WESTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3909	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WESTOVER HILLS	2020	WUG REDUCING DEMAND: WESTOVER HILLS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3913	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WESTWORTH VILLAGE	2020	WUG REDUCING DEMAND: WESTWORTH VILLAGE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3917	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WHITE SETTLEMENT	2020	WUG REDUCING DEMAND: WHITE SETTLEMENT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3921	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WHITESBORO	2020	WUG REDUCING DEMAND: WHITESBORO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3925	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WHITEWRIGHT	2020	WUG REDUCING DEMAND: WHITEWRIGHT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3931	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WILLOW PARK	2020	WUG REDUCING DEMAND: WILLOW PARK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3939	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WILMER	2020	WUG REDUCING DEMAND: WILMER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3943	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WISE COUNTY	2020	WUG REDUCING DEMAND: COUNTY-OTHER, WISE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3947	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WOODBINE WSC	2020	WUG REDUCING DEMAND: WOODBINE WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3951	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WORTHAM	2020	WUG REDUCING DEMAND: WORTHAM	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3959	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WYLIE	2020	WUG REDUCING DEMAND: WYLIE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3963	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - WYLIE NORTHEAST SUD	2020	WUG REDUCING DEMAND: WYLIE NORTHEAST SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3971	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - COLLIN COUNTY	2020	WUG REDUCING DEMAND: IRRIGATION, COLLIN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15309	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, IRRIGATION - DALLAS COUNTY	2020	WUG REDUCING DEMAND: IRRIGATION, DALLAS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15321	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - DENTON COUNTY	2020	WUG REDUCING DEMAND: IRRIGATION, DENTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15325	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - ROCKWALL COUNTY	2020	WUG REDUCING DEMAND: IRRIGATION, ROCKWALL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15382	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - TARRANT COUNTY	2020	WUG REDUCING DEMAND: IRRIGATION, TARRANT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15388	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - BENBROOK	2020	PROJECT SPONSOR(S): BENBROOK	RECOMMENDED WMS PROJECT	1577	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - CORINTH	2020	PROJECT SPONSOR(S): CORINTH	RECOMMENDED WMS PROJECT	1578	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD #10	2020	PROJECT SPONSOR(S): DENTON COUNTY FWSD #10	RECOMMENDED WMS PROJECT	1579	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - DENTON COUNTY FWSD #7	2020	PROJECT SPONSOR(S): DENTON COUNTY FWSD #7	RECOMMENDED WMS PROJECT	1580	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - DESOTO	2020	PROJECT SPONSOR(S): DESOTO	RECOMMENDED WMS PROJECT	1581	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 14,389.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - ENNIS	2020	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	1582	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - FARMERS BRANCH	2020	PROJECT SPONSOR(S): FARMERS BRANCH	RECOMMENDED WMS PROJECT	1583	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,395.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - HEATH	2020	PROJECT SPONSOR(S): HEATH	RECOMMENDED WMS PROJECT	1584	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - LANCASTER	2020	PROJECT SPONSOR(S): LANCASTER	RECOMMENDED WMS PROJECT	1585	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 10,667.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - LEWISVILLE	2020	PROJECT SPONSOR(S): LEWISVILLE	RECOMMENDED WMS PROJECT	1586	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 14,668.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - LUCAS	2020	PROJECT SPONSOR(S): LUCAS	RECOMMENDED WMS PROJECT	1587	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - MIDLOTHIAN	2020	PROJECT SPONSOR(S): MIDLOTHIAN	RECOMMENDED WMS PROJECT	1588	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - ROANOKE	2020	PROJECT SPONSOR(S): ROANOKE	RECOMMENDED WMS PROJECT	1589	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION RESTRICTION - WAXAHACHIE	2020	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1590	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,690.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ABLES SPRINGS WSC	2020	PROJECT SPONSOR(S): ABLES SPRINGS WSC	RECOMMENDED WMS PROJECT	832	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,856.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ADDISON	2020	PROJECT SPONSOR(S): ADDISON	RECOMMENDED WMS PROJECT	1279	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,086,563.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ALEDO	2020	PROJECT SPONSOR(S): ALEDO	RECOMMENDED WMS PROJECT	1280	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,877.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ALLEN	2020	PROJECT SPONSOR(S): ALLEN	RECOMMENDED WMS PROJECT	1281	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,192,200.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ALVORD	2020	PROJECT SPONSOR(S): ALVORD	RECOMMENDED WMS PROJECT	1282	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,611.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ANNA	2020	PROJECT SPONSOR(S): ANNA	RECOMMENDED WMS PROJECT	1283	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 71,750.00	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - ANNETTA	2020	PROJECT SPONSOR(S): ANNETTA	RECOMMENDED WMS PROJECT	1284	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,716.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ANNETTA NORTH	2020	PROJECT SPONSOR(S): ANNETTA NORTH	RECOMMENDED WMS PROJECT	1285	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,136.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ANNETTA SOUTH	2020	PROJECT SPONSOR(S): ANNETTA SOUTH	RECOMMENDED WMS PROJECT	1286	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,026.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ARGYLE	2020	PROJECT SPONSOR(S): ARGYLE	RECOMMENDED WMS PROJECT	1287	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 111,288.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ARGYLE WSC	2020	PROJECT SPONSOR(S): ARGYLE WSC	RECOMMENDED WMS PROJECT	1288	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 70,513.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ARLINGTON	2020	PROJECT SPONSOR(S): ARLINGTON	RECOMMENDED WMS PROJECT	1289	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,066,441.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ATHENS	2020	PROJECT SPONSOR(S): ATHENS	RECOMMENDED WMS PROJECT	1290	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 235,228.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - AUBREY	2020	PROJECT SPONSOR(S): AUBREY	RECOMMENDED WMS PROJECT	1291	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,559.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - AURORA	2020	PROJECT SPONSOR(S): AURORA	RECOMMENDED WMS PROJECT	1292	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,325.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - AZLE	2020	PROJECT SPONSOR(S): AZLE	RECOMMENDED WMS PROJECT	1293	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 217,081.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BALCH SPRINGS	2020	PROJECT SPONSOR(S): BALCH SPRINGS	RECOMMENDED WMS PROJECT	1294	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 84,625.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BARDWELL	2020	PROJECT SPONSOR(S): BARDWELL	RECOMMENDED WMS PROJECT	1295	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,157.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BARTONVILLE	2020	PROJECT SPONSOR(S): BARTONVILLE	RECOMMENDED WMS PROJECT	1296	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 34,394.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BEDFORD	2020	PROJECT SPONSOR(S): BEDFORD	RECOMMENDED WMS PROJECT	1297	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,493,519.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BELLS	2020	PROJECT SPONSOR(S): BELLS	RECOMMENDED WMS PROJECT	1298	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 250,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BENBROOK	2020	PROJECT SPONSOR(S): BENBROOK	RECOMMENDED WMS PROJECT	1299	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 204,001.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BETHEL-ASH WSC	2020	PROJECT SPONSOR(S): BETHEL-ASH WSC	RECOMMENDED WMS PROJECT	1300	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,744.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BETHESDA WSC	2020	PROJECT SPONSOR(S): BETHESDA WSC	RECOMMENDED WMS PROJECT	1301	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 139,100.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BLACKLAND WSC	2020	PROJECT SPONSOR(S): BLACKLAND WSC	RECOMMENDED WMS PROJECT	1302	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 257,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BLOOMING GROVE	2020	PROJECT SPONSOR(S): BLOOMING GROVE	RECOMMENDED WMS PROJECT	1303	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 10,087.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BLUE MOUND	2020	PROJECT SPONSOR(S): BLUE MOUND	RECOMMENDED WMS PROJECT	1304	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,100.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BLUE RIDGE	2020	PROJECT SPONSOR(S): BLUE RIDGE	RECOMMENDED WMS PROJECT	1305	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,541.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BOLIVAR WSC	2020	PROJECT SPONSOR(S): BOLIVAR WSC	RECOMMENDED WMS PROJECT	1306	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 22,380.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BONHAM	2020	PROJECT SPONSOR(S): BONHAM	RECOMMENDED WMS PROJECT	1307	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 98,964.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BOYD	2020	PROJECT SPONSOR(S): BOYD	RECOMMENDED WMS PROJECT	1308	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,674.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BRANDON-IRENE WSC	2020	PROJECT SPONSOR(S): BRANDON-IRENE WSC	RECOMMENDED WMS PROJECT	1309	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 98.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - BRIDGEPORT	2020	PROJECT SPONSOR(S): BRIDGEPORT	RECOMMENDED WMS PROJECT	1310	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 84,181.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BRYSON	2020	PROJECT SPONSOR(S): BRYSON	RECOMMENDED WMS PROJECT	1311	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,352.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BUENA VISTA - BETHEL SUD	2020	PROJECT SPONSOR(S): BUENA VISTA - BETHEL SUD	RECOMMENDED WMS PROJECT	1312	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 58,210.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - BURLESON	2020	PROJECT SPONSOR(S): BURLESON	RECOMMENDED WMS PROJECT	1313	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 37,638.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CADDO BASIN SUD	2020	PROJECT SPONSOR(S): CADDO BASIN SUD	RECOMMENDED WMS PROJECT	1314	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 5,212.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CARROLLTON	2020	PROJECT SPONSOR(S): CARROLLTON	RECOMMENDED WMS PROJECT	1315	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,580,390.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CASH SUD	2020	PROJECT SPONSOR(S): CASH SUD	RECOMMENDED WMS PROJECT	1316	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,928.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CEDAR HILL	2020	PROJECT SPONSOR(S): CEDAR HILL	RECOMMENDED WMS PROJECT	1317	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,461,366.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CELINA	2020	PROJECT SPONSOR(S): CELINA	RECOMMENDED WMS PROJECT	1318	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 800,520.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CHATFIELD WSC	2020	PROJECT SPONSOR(S): CHATFIELD WSC	RECOMMENDED WMS PROJECT	1319	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,778.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CHICO	2020	PROJECT SPONSOR(S): CHICO	RECOMMENDED WMS PROJECT	1320	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,423.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COCKRELL HILL	2020	PROJECT SPONSOR(S): COCKRELL HILL	RECOMMENDED WMS PROJECT	1321	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 26,094.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COLLEGE MOUND WSC	2020	PROJECT SPONSOR(S): COLLEGE MOUND WSC	RECOMMENDED WMS PROJECT	1322	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 15,432.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COLLEYVILLE	2020	PROJECT SPONSOR(S): COLLEYVILLE	RECOMMENDED WMS PROJECT	1323	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 421,926.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COLLIN COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (COLLIN)	RECOMMENDED WMS PROJECT	1548	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 38,848.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COLLINSVILLE	2020	PROJECT SPONSOR(S): COLLINSVILLE	RECOMMENDED WMS PROJECT	1324	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,551.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COMBINE	2020	PROJECT SPONSOR(S): COMBINE	RECOMMENDED WMS PROJECT	1325	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,983.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COMMUNITY WSC	2020	PROJECT SPONSOR(S): COMMUNITY WSC	RECOMMENDED WMS PROJECT	1326	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,353.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COOKE COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (COOKE)	RECOMMENDED WMS PROJECT	1549	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 24,421.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COPEVILLE SUD	2020	PROJECT SPONSOR(S): COPEVILLE SUD	RECOMMENDED WMS PROJECT	1327	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 16,214.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COPPELL	2020	PROJECT SPONSOR(S): COPPELL	RECOMMENDED WMS PROJECT	1328	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,812,438.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - COPPER CANYON	2020	PROJECT SPONSOR(S): COPPER CANYON	RECOMMENDED WMS PROJECT	1329	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,738.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CORBET WSC	2020	PROJECT SPONSOR(S): CORBET WSC	RECOMMENDED WMS PROJECT	1330	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,009.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CORINTH	2020	PROJECT SPONSOR(S): CORINTH	RECOMMENDED WMS PROJECT	1331	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 609,100.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CORSICANA	2020	PROJECT SPONSOR(S): CORSICANA	RECOMMENDED WMS PROJECT	1332	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 248,252.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CRANDALL	2020	PROJECT SPONSOR(S): CRANDALL	RECOMMENDED WMS PROJECT	1333	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 20,209.00	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - CRESSON	2020	PROJECT SPONSOR(S): CRESSON	RECOMMENDED WMS PROJECT	1334	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 5,210.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CROSS ROADS	2020	PROJECT SPONSOR(S): CROSS ROADS	RECOMMENDED WMS PROJECT	1335	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 16,218.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CROWLEY	2020	PROJECT SPONSOR(S): CROWLEY	RECOMMENDED WMS PROJECT	1336	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 342,055.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - CULLEOKA WSC	2020	PROJECT SPONSOR(S): CULLEOKA WSC	RECOMMENDED WMS PROJECT	1337	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 15,924.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DALLAS	2020	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	1338	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,124,457.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DALLAS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (DALLAS)	RECOMMENDED WMS PROJECT	1550	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 48,123.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DALWORTHINGTON GARDENS	2020	PROJECT SPONSOR(S): DALWORTHINGTON GARDENS	RECOMMENDED WMS PROJECT	1339	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 35,744.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DAWSON	2020	PROJECT SPONSOR(S): DAWSON	RECOMMENDED WMS PROJECT	1340	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,995.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DECATUR	2020	PROJECT SPONSOR(S): DECATUR	RECOMMENDED WMS PROJECT	1341	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 238,239.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DENISON	2020	PROJECT SPONSOR(S): DENISON	RECOMMENDED WMS PROJECT	1342	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 322,613.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DENTON	2020	PROJECT SPONSOR(S): DENTON	RECOMMENDED WMS PROJECT	1343	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,938,438.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (DENTON)	RECOMMENDED WMS PROJECT	1551	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 92,932.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #10	2020	PROJECT SPONSOR(S): DENTON COUNTY FWSD #10	RECOMMENDED WMS PROJECT	1344	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 43,942.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #1A	2020	PROJECT SPONSOR(S): DENTON COUNTY FWSD #1A	RECOMMENDED WMS PROJECT	1345	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 163,972.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DENTON COUNTY FWSD #7	2020	PROJECT SPONSOR(S): DENTON COUNTY FWSD #7	RECOMMENDED WMS PROJECT	1346	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 675,975.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DESOTO	2020	PROJECT SPONSOR(S): DESOTO	RECOMMENDED WMS PROJECT	1347	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 220,487.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DOUBLE OAK	2020	PROJECT SPONSOR(S): DOUBLE OAK	RECOMMENDED WMS PROJECT	1348	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 17,324.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - DUNCANVILLE	2020	PROJECT SPONSOR(S): DUNCANVILLE	RECOMMENDED WMS PROJECT	1349	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 821,033.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - EAST CEDAR CREEK FWSD	2020	PROJECT SPONSOR(S): EAST CEDAR CREEK FWSD	RECOMMENDED WMS PROJECT	1350	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 28,785.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - EAST FORK SUD	2020	PROJECT SPONSOR(S): EAST FORK SUD	RECOMMENDED WMS PROJECT	1351	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 450,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ECTOR	2020	PROJECT SPONSOR(S): ECTOR	RECOMMENDED WMS PROJECT	1352	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 5,171.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - EDGECLIFF VILLAGE	2020	PROJECT SPONSOR(S): EDGECLIFF VILLAGE	RECOMMENDED WMS PROJECT	1353	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 69,007.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ELLIS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (ELLIS)	RECOMMENDED WMS PROJECT	1552	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 15,199.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ENNIS	2020	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	1354	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 105,170.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - EULESS	2020	PROJECT SPONSOR(S): EULESS	RECOMMENDED WMS PROJECT	1355	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,284,690.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - EUSTACE	2020	PROJECT SPONSOR(S): EUSTACE	RECOMMENDED WMS PROJECT	1356	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 5,043.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - EVERMAN	2020	PROJECT SPONSOR(S): EVERMAN	RECOMMENDED WMS PROJECT	1357	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 62,329.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FAIRFIELD	2020	PROJECT SPONSOR(S): FAIRFIELD	RECOMMENDED WMS PROJECT	1358	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 56,204.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FAIRVIEW	2020	PROJECT SPONSOR(S): FAIRVIEW	RECOMMENDED WMS PROJECT	1359	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 221,824.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FANNIN COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FANNIN)	RECOMMENDED WMS PROJECT	1553	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 29,907.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FARMERS BRANCH	2020	PROJECT SPONSOR(S): FARMERS BRANCH	RECOMMENDED WMS PROJECT	1360	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 298,626.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FARMERSVILLE	2020	PROJECT SPONSOR(S): FARMERSVILLE	RECOMMENDED WMS PROJECT	1361	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 25,355.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FATE	2020	PROJECT SPONSOR(S): FATE	RECOMMENDED WMS PROJECT	1362	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 116,210.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FERRIS	2020	PROJECT SPONSOR(S): FERRIS	RECOMMENDED WMS PROJECT	1363	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 42,703.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FILES VALLEY WSC	2020	PROJECT SPONSOR(S): FILES VALLEY WSC	RECOMMENDED WMS PROJECT	1364	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,010.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FLO COMMUNITY WSC	2020	PROJECT SPONSOR(S): FLO COMMUNITY WSC	RECOMMENDED WMS PROJECT	1365	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 539.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FLOWER MOUND	2020	PROJECT SPONSOR(S): FLOWER MOUND	RECOMMENDED WMS PROJECT	1366	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,062,719.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FOREST HILL	2020	PROJECT SPONSOR(S): FOREST HILL	RECOMMENDED WMS PROJECT	1367	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 159,491.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FORNEY	2020	PROJECT SPONSOR(S): FORNEY	RECOMMENDED WMS PROJECT	1368	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 308,348.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FORNEY LAKE WSC	2020	PROJECT SPONSOR(S): FORNEY LAKE WSC	RECOMMENDED WMS PROJECT	1369	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 44,705.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FORT WORTH	2020	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	1370	Yes	Ongoing	Ongoing	Under construction			Not measured		$ 162,000,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FREESTONE COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FREESTONE)	RECOMMENDED WMS PROJECT	1554	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 24,466.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FRISCO	2020	PROJECT SPONSOR(S): FRISCO	RECOMMENDED WMS PROJECT	1371	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,829,608.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - FROST	2020	PROJECT SPONSOR(S): FROST	RECOMMENDED WMS PROJECT	1372	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,559.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GAINESVILLE	2020	PROJECT SPONSOR(S): GAINESVILLE	RECOMMENDED WMS PROJECT	1373	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 225,921.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GARLAND	2020	PROJECT SPONSOR(S): GARLAND	RECOMMENDED WMS PROJECT	1374	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,352,502.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GARRETT	2020	PROJECT SPONSOR(S): GARRETT	RECOMMENDED WMS PROJECT	1375	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 9,298.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GASTONIA-SCURRY SUD	2020	PROJECT SPONSOR(S): GASTONIA-SCURRY SUD	RECOMMENDED WMS PROJECT	1376	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,199.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GLENN HEIGHTS	2020	PROJECT SPONSOR(S): GLENN HEIGHTS	RECOMMENDED WMS PROJECT	1377	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 72,376.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GRAND PRAIRIE	2020	PROJECT SPONSOR(S): GRAND PRAIRIE	RECOMMENDED WMS PROJECT	1378	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,060,148.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GRAPEVINE	2020	PROJECT SPONSOR(S): GRAPEVINE	RECOMMENDED WMS PROJECT	1379	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,237,778.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GRAYSON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GRAYSON)	RECOMMENDED WMS PROJECT	1555	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 61,207.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - GUN BARREL CITY	2020	PROJECT SPONSOR(S): GUN BARREL CITY	RECOMMENDED WMS PROJECT	1380	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 28,375.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - GUNTER	2020	PROJECT SPONSOR(S): GUNTER	RECOMMENDED WMS PROJECT	1381	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 20,228.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HACKBERRY	2020	PROJECT SPONSOR(S): HACKBERRY	RECOMMENDED WMS PROJECT	1382	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 10,906.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HALTOM CITY	2020	PROJECT SPONSOR(S): HALTOM CITY	RECOMMENDED WMS PROJECT	1383	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 659,284.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HASLET	2020	PROJECT SPONSOR(S): HASLET	RECOMMENDED WMS PROJECT	1384	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 19,711.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HEATH	2020	PROJECT SPONSOR(S): HEATH	RECOMMENDED WMS PROJECT	1385	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 680,172.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HENDERSON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HENDERSON)	RECOMMENDED WMS PROJECT	1556	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 5,449.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HICKORY CREEK	2020	PROJECT SPONSOR(S): HICKORY CREEK	RECOMMENDED WMS PROJECT	1386	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 17,941.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HICKORY CREEK SUD	2020	PROJECT SPONSOR(S): HICKORY CREEK SUD	RECOMMENDED WMS PROJECT	1387	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 555.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HIGH POINT WSC	2020	PROJECT SPONSOR(S): HIGH POINT WSC	RECOMMENDED WMS PROJECT	1388	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 9,661.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND PARK	2020	PROJECT SPONSOR(S): HIGHLAND PARK	RECOMMENDED WMS PROJECT	1389	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 87,810.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HIGHLAND VILLAGE	2020	PROJECT SPONSOR(S): HIGHLAND VILLAGE	RECOMMENDED WMS PROJECT	1390	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 544,339.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HONEY GROVE	2020	PROJECT SPONSOR(S): HONEY GROVE	RECOMMENDED WMS PROJECT	1391	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,829.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HOWE	2020	PROJECT SPONSOR(S): HOWE	RECOMMENDED WMS PROJECT	1392	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,436.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HUDSON OAKS	2020	PROJECT SPONSOR(S): HUDSON OAKS	RECOMMENDED WMS PROJECT	1393	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 11,573.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HURST	2020	PROJECT SPONSOR(S): HURST	RECOMMENDED WMS PROJECT	1394	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 936,745.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - HUTCHINS	2020	PROJECT SPONSOR(S): HUTCHINS	RECOMMENDED WMS PROJECT	1395	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 129,514.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - IRVING	2020	PROJECT SPONSOR(S): IRVING	RECOMMENDED WMS PROJECT	1396	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,904,869.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ITALY	2020	PROJECT SPONSOR(S): ITALY	RECOMMENDED WMS PROJECT	1397	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,406.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - JACK COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (JACK)	RECOMMENDED WMS PROJECT	1557	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 9,485.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - JACKSBORO	2020	PROJECT SPONSOR(S): JACKSBORO	RECOMMENDED WMS PROJECT	1398	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 16,571.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - JOHNSON COUNTY SUD	2020	PROJECT SPONSOR(S): JOHNSON COUNTY SUD	RECOMMENDED WMS PROJECT	1399	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,470.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - JOSEPHINE	2020	PROJECT SPONSOR(S): JOSEPHINE	RECOMMENDED WMS PROJECT	1400	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,573.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - JUSTIN	2020	PROJECT SPONSOR(S): JUSTIN	RECOMMENDED WMS PROJECT	1401	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 17,064.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN	2020	PROJECT SPONSOR(S): KAUFMAN	RECOMMENDED WMS PROJECT	1402	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,755.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KAUFMAN COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (KAUFMAN)	RECOMMENDED WMS PROJECT	1558	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 37,415.00	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - KELLER	2020	PROJECT SPONSOR(S): KELLER	RECOMMENDED WMS PROJECT	1403	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,810,304.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KEMP	2020	PROJECT SPONSOR(S): KEMP	RECOMMENDED WMS PROJECT	1404	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 31,428.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KENNEDALE	2020	PROJECT SPONSOR(S): KENNEDALE	RECOMMENDED WMS PROJECT	1405	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 50,144.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KENTUCKY TOWN WSC	2020	PROJECT SPONSOR(S): KENTUCKY TOWN WSC	RECOMMENDED WMS PROJECT	1406	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,487.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KERENS	2020	PROJECT SPONSOR(S): KERENS	RECOMMENDED WMS PROJECT	1407	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,823.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KRUGERVILLE	2020	PROJECT SPONSOR(S): KRUGERVILLE	RECOMMENDED WMS PROJECT	1408	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,419.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - KRUM	2020	PROJECT SPONSOR(S): KRUM	RECOMMENDED WMS PROJECT	1409	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 30,634.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LADONIA	2020	PROJECT SPONSOR(S): LADONIA	RECOMMENDED WMS PROJECT	1410	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,099.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAKE DALLAS	2020	PROJECT SPONSOR(S): LAKE DALLAS	RECOMMENDED WMS PROJECT	1411	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 34,026.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAKE KIOWA SUD	2020	PROJECT SPONSOR(S): LAKE KIOWA SUD	RECOMMENDED WMS PROJECT	1412	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 107,958.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAKE WORTH	2020	PROJECT SPONSOR(S): LAKE WORTH	RECOMMENDED WMS PROJECT	1413	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,039,240.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAKESIDE	2020	PROJECT SPONSOR(S): LAKESIDE	RECOMMENDED WMS PROJECT	1414	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 22,567.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAKEWOOD VILLAGE	2020	PROJECT SPONSOR(S): LAKEWOOD VILLAGE	RECOMMENDED WMS PROJECT	1415	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,105.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LANCASTER	2020	PROJECT SPONSOR(S): LANCASTER	RECOMMENDED WMS PROJECT	1416	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,039,386.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAVON	2020	PROJECT SPONSOR(S): LAVON	RECOMMENDED WMS PROJECT	1417	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,820.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LAVON SUD	2020	PROJECT SPONSOR(S): LAVON SUD	RECOMMENDED WMS PROJECT	1418	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 14,354.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LEONARD	2020	PROJECT SPONSOR(S): LEONARD	RECOMMENDED WMS PROJECT	1420	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 16,497.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LEWISVILLE	2020	PROJECT SPONSOR(S): LEWISVILLE	RECOMMENDED WMS PROJECT	1421	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,160,420.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LINDSAY	2020	PROJECT SPONSOR(S): LINDSAY	RECOMMENDED WMS PROJECT	1422	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 10,685.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LITTLE ELM	2020	PROJECT SPONSOR(S): LITTLE ELM	RECOMMENDED WMS PROJECT	1423	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 311,279.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LOG CABIN	2020	PROJECT SPONSOR(S): LOG CABIN	RECOMMENDED WMS PROJECT	1424	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,340.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LOWRY CROSSING	2020	PROJECT SPONSOR(S): LOWRY CROSSING	RECOMMENDED WMS PROJECT	1425	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,120.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LUCAS	2020	PROJECT SPONSOR(S): LUCAS	RECOMMENDED WMS PROJECT	1426	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 55,245.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - LUELLA SUD	2020	PROJECT SPONSOR(S): LUELLA SUD	RECOMMENDED WMS PROJECT	1427	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,603.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - M-E-N WSC	2020	PROJECT SPONSOR(S): M-E-N WSC	RECOMMENDED WMS PROJECT	1437	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 9,629.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MABANK	2020	PROJECT SPONSOR(S): MABANK	RECOMMENDED WMS PROJECT	1428	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 48,679.00	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - MACBEE SUD	2020	PROJECT SPONSOR(S): MACBEE SUD	RECOMMENDED WMS PROJECT	1429	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 243.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MALAKOFF	2020	PROJECT SPONSOR(S): MALAKOFF	RECOMMENDED WMS PROJECT	1430	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 18,817.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MANSFIELD	2020	PROJECT SPONSOR(S): MANSFIELD	RECOMMENDED WMS PROJECT	1431	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,320,683.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MARILEE SUD	2020	PROJECT SPONSOR(S): MARILEE SUD	RECOMMENDED WMS PROJECT	1432	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,000,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MAYPEARL	2020	PROJECT SPONSOR(S): MAYPEARL	RECOMMENDED WMS PROJECT	1433	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,030.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MCKINNEY	2020	PROJECT SPONSOR(S): MCKINNEY	RECOMMENDED WMS PROJECT	1434	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,138,094.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MCLENDON-CHISHOLM	2020	PROJECT SPONSOR(S): MCLENDON-CHISHOLM	RECOMMENDED WMS PROJECT	1435	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 11,013.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MELISSA	2020	PROJECT SPONSOR(S): MELISSA	RECOMMENDED WMS PROJECT	1436	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 56,132.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MESQUITE	2020	PROJECT SPONSOR(S): MESQUITE	RECOMMENDED WMS PROJECT	1438	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,173,984.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MIDLOTHIAN	2020	PROJECT SPONSOR(S): MIDLOTHIAN	RECOMMENDED WMS PROJECT	1439	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 517,036.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MILFORD	2020	PROJECT SPONSOR(S): MILFORD	RECOMMENDED WMS PROJECT	1440	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,460.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MINERAL WELLS	2020	PROJECT SPONSOR(S): MINERAL WELLS	RECOMMENDED WMS PROJECT	1441	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,723.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MOUNT ZION WSC	2020	PROJECT SPONSOR(S): MOUNT ZION WSC	RECOMMENDED WMS PROJECT	1442	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 38,667.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN PEAK SUD	2020	PROJECT SPONSOR(S): MOUNTAIN PEAK SUD	RECOMMENDED WMS PROJECT	1443	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 43,492.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MOUNTAIN SPRING WSC	2020	PROJECT SPONSOR(S): MOUNTAIN SPRING WSC	RECOMMENDED WMS PROJECT	1444	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 11,183.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MUENSTER	2020	PROJECT SPONSOR(S): MUENSTER	RECOMMENDED WMS PROJECT	1445	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,182.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MURPHY	2020	PROJECT SPONSOR(S): MURPHY	RECOMMENDED WMS PROJECT	1446	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 209,452.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - MUSTANG SUD	2020	PROJECT SPONSOR(S): MUSTANG SUD	RECOMMENDED WMS PROJECT	1447	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 186,398.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NAVARRO COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (NAVARRO)	RECOMMENDED WMS PROJECT	1559	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,260.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NAVARRO MILLS WSC	2020	PROJECT SPONSOR(S): NAVARRO MILLS WSC	RECOMMENDED WMS PROJECT	1448	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 10,706.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NEVADA	2020	PROJECT SPONSOR(S): NEVADA	RECOMMENDED WMS PROJECT	1449	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,628.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NEW FAIRVIEW	2020	PROJECT SPONSOR(S): NEW FAIRVIEW	RECOMMENDED WMS PROJECT	1450	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,968.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NEW HOPE	2020	PROJECT SPONSOR(S): NEW HOPE	RECOMMENDED WMS PROJECT	1451	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,332.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NEWARK	2020	PROJECT SPONSOR(S): NEWARK	RECOMMENDED WMS PROJECT	1452	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,978.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NORTH COLLIN WSC	2020	PROJECT SPONSOR(S): NORTH COLLIN WSC	RECOMMENDED WMS PROJECT	1453	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 17,277.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NORTH HUNT SUD	2020	PROJECT SPONSOR(S): NORTH HUNT SUD	RECOMMENDED WMS PROJECT	1456	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 432.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - NORTH RICHLAND HILLS	2020	PROJECT SPONSOR(S): NORTH RICHLAND HILLS	RECOMMENDED WMS PROJECT	1454	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,781,337.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - NORTHLAKE	2020	PROJECT SPONSOR(S): NORTHLAKE	RECOMMENDED WMS PROJECT	1455	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 171,715.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - OAK GROVE	2020	PROJECT SPONSOR(S): OAK GROVE	RECOMMENDED WMS PROJECT	1457	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,272.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - OAK LEAF	2020	PROJECT SPONSOR(S): OAK LEAF	RECOMMENDED WMS PROJECT	1458	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,857.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - OAK POINT	2020	PROJECT SPONSOR(S): OAK POINT	RECOMMENDED WMS PROJECT	1459	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 41,117.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - OAKWOOD	2020	PROJECT SPONSOR(S): OAKWOOD	RECOMMENDED WMS PROJECT	1460	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 108.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - OVILLA	2020	PROJECT SPONSOR(S): OVILLA	RECOMMENDED WMS PROJECT	1461	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 40,424.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PALMER	2020	PROJECT SPONSOR(S): PALMER	RECOMMENDED WMS PROJECT	1462	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 30,952.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PALOMA CREEK	2020	PROJECT SPONSOR(S): PALOMA CREEK	RECOMMENDED WMS PROJECT	1463	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 110,011.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PANTEGO	2020	PROJECT SPONSOR(S): PANTEGO	RECOMMENDED WMS PROJECT	1464	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,919.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PARKER	2020	PROJECT SPONSOR(S): PARKER	RECOMMENDED WMS PROJECT	1465	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 119,273.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (PARKER)	RECOMMENDED WMS PROJECT	1560	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 179,036.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PARKER COUNTY SUD	2020	PROJECT SPONSOR(S): PARKER COUNTY SUD	RECOMMENDED WMS PROJECT	1466	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 35,633.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PAYNE SPRINGS	2020	PROJECT SPONSOR(S): PAYNE SPRINGS	RECOMMENDED WMS PROJECT	1467	No			Not implemented	Entity no longer a WUG.	Not applicable	0	$ -	$ 2,203.00								No		
C	CONSERVATION, WATER LOSS CONTROL - PECAN HILL	2020	PROJECT SPONSOR(S): PECAN HILL	RECOMMENDED WMS PROJECT	1468	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,168.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PELICAN BAY	2020	PROJECT SPONSOR(S): PELICAN BAY	RECOMMENDED WMS PROJECT	1469	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 10,113.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PILOT POINT	2020	PROJECT SPONSOR(S): PILOT POINT	RECOMMENDED WMS PROJECT	1470	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 37,796.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PLANO	2020	PROJECT SPONSOR(S): PLANO	RECOMMENDED WMS PROJECT	1471	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,689,481.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PONDER	2020	PROJECT SPONSOR(S): PONDER	RECOMMENDED WMS PROJECT	1472	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,028.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - POST OAK BEND CITY	2020	PROJECT SPONSOR(S): POST OAK BEND CITY	RECOMMENDED WMS PROJECT	1473	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,726.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - POTTSBORO	2020	PROJECT SPONSOR(S): POTTSBORO	RECOMMENDED WMS PROJECT	1474	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 50,227.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PRINCETON	2020	PROJECT SPONSOR(S): PRINCETON	RECOMMENDED WMS PROJECT	1475	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 21,181.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PROSPER	2020	PROJECT SPONSOR(S): PROSPER	RECOMMENDED WMS PROJECT	1476	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 245,098.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - PROVIDENCE VILLAGE WCID	2020	PROJECT SPONSOR(S): PROVIDENCE VILLAGE WCID	RECOMMENDED WMS PROJECT	1477	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 31,785.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RED OAK	2020	PROJECT SPONSOR(S): RED OAK	RECOMMENDED WMS PROJECT	1478	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 63,535.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RENO	2020	PROJECT SPONSOR(S): RENO	RECOMMENDED WMS PROJECT	1479	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,404.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - RHOME	2020	PROJECT SPONSOR(S): RHOME	RECOMMENDED WMS PROJECT	1480	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,921.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RICE	2020	PROJECT SPONSOR(S): RICE	RECOMMENDED WMS PROJECT	1481	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 2,533.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RICE WSC	2020	PROJECT SPONSOR(S): RICE WSC	RECOMMENDED WMS PROJECT	1482	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 28,765.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RICHARDSON	2020	PROJECT SPONSOR(S): RICHARDSON	RECOMMENDED WMS PROJECT	1483	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 792,858.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RICHLAND HILLS	2020	PROJECT SPONSOR(S): RICHLAND HILLS	RECOMMENDED WMS PROJECT	1484	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 143,796.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RIVER OAKS	2020	PROJECT SPONSOR(S): RIVER OAKS	RECOMMENDED WMS PROJECT	1485	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 100,337.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROANOKE	2020	PROJECT SPONSOR(S): ROANOKE	RECOMMENDED WMS PROJECT	1486	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 92,645.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROCKETT SUD	2020	PROJECT SPONSOR(S): ROCKETT SUD	RECOMMENDED WMS PROJECT	1487	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 500,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL	2020	PROJECT SPONSOR(S): ROCKWALL	RECOMMENDED WMS PROJECT	1488	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 409,483.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROCKWALL COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (ROCKWALL)	RECOMMENDED WMS PROJECT	1561	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,200.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROSE HILL SUD	2020	PROJECT SPONSOR(S): ROSE HILL SUD	RECOMMENDED WMS PROJECT	1489	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 22,139.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROWLETT	2020	PROJECT SPONSOR(S): ROWLETT	RECOMMENDED WMS PROJECT	1490	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,471,425.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ROYSE CITY	2020	PROJECT SPONSOR(S): ROYSE CITY	RECOMMENDED WMS PROJECT	1491	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 26,487.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - RUNAWAY BAY	2020	PROJECT SPONSOR(S): RUNAWAY BAY	RECOMMENDED WMS PROJECT	1492	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,539.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SACHSE	2020	PROJECT SPONSOR(S): SACHSE	RECOMMENDED WMS PROJECT	1493	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 516,882.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SAGINAW	2020	PROJECT SPONSOR(S): SAGINAW	RECOMMENDED WMS PROJECT	1494	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,000,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SANGER	2020	PROJECT SPONSOR(S): SANGER	RECOMMENDED WMS PROJECT	1495	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 28,949.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SANSOM PARK	2020	PROJECT SPONSOR(S): SANSOM PARK	RECOMMENDED WMS PROJECT	1496	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 14,529.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SARDIS-LONE ELM WSC	2020	PROJECT SPONSOR(S): SARDIS-LONE ELM WSC	RECOMMENDED WMS PROJECT	1497	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 126,220.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SAVOY	2020	PROJECT SPONSOR(S): SAVOY	RECOMMENDED WMS PROJECT	1498	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,433.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SCURRY	2020	PROJECT SPONSOR(S): SCURRY	RECOMMENDED WMS PROJECT	1499	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 864.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SEAGOVILLE	2020	PROJECT SPONSOR(S): SEAGOVILLE	RECOMMENDED WMS PROJECT	1500	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 76,397.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SEIS LAGOS UD	2020	PROJECT SPONSOR(S): SEIS LAGOS UD	RECOMMENDED WMS PROJECT	1501	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 150,585.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SEVEN POINTS	2020	PROJECT SPONSOR(S): SEVEN POINTS	RECOMMENDED WMS PROJECT	1502	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,550.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SHADY SHORES	2020	PROJECT SPONSOR(S): SHADY SHORES	RECOMMENDED WMS PROJECT	1503	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,964.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SHERMAN	2020	PROJECT SPONSOR(S): SHERMAN	RECOMMENDED WMS PROJECT	1504	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,044,775.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - SOUTH GRAYSON WSC	2020	PROJECT SPONSOR(S): SOUTH GRAYSON WSC	RECOMMENDED WMS PROJECT	1505	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 32,462.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SOUTHLAKE	2020	PROJECT SPONSOR(S): SOUTHLAKE	RECOMMENDED WMS PROJECT	1506	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,698,028.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SOUTHMAYD	2020	PROJECT SPONSOR(S): SOUTHMAYD	RECOMMENDED WMS PROJECT	1507	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 5,277.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COUNTY SUD	2020	PROJECT SPONSOR(S): SOUTHWEST FANNIN COUNTY SUD	RECOMMENDED WMS PROJECT	1508	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,165.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SOUTHWEST FANNIN COUNTY SUD	2020	WUG REDUCING DEMAND: SOUTHWEST FANNIN COUNTY SUD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	7419	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SPRINGTOWN	2020	PROJECT SPONSOR(S): SPRINGTOWN	RECOMMENDED WMS PROJECT	1509	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,872.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - ST. PAUL	2020	PROJECT SPONSOR(S): ST. PAUL	RECOMMENDED WMS PROJECT	1510	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,349.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - SUNNYVALE	2020	PROJECT SPONSOR(S): SUNNYVALE	RECOMMENDED WMS PROJECT	1511	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 169,489.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TALTY	2020	PROJECT SPONSOR(S): TALTY	RECOMMENDED WMS PROJECT	1512	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,079.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TALTY WSC	2020	PROJECT SPONSOR(S): TALTY WSC	RECOMMENDED WMS PROJECT	1513	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 27,225.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TARRANT COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (TARRANT)	RECOMMENDED WMS PROJECT	1562	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 158,141.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TEAGUE	2020	PROJECT SPONSOR(S): TEAGUE	RECOMMENDED WMS PROJECT	1514	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,053.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TERRELL	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1515	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 132,163.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - THE COLONY	2020	PROJECT SPONSOR(S): THE COLONY	RECOMMENDED WMS PROJECT	1516	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 317,769.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TIOGA	2020	PROJECT SPONSOR(S): TIOGA	RECOMMENDED WMS PROJECT	1517	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,424.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TOM BEAN	2020	PROJECT SPONSOR(S): TOM BEAN	RECOMMENDED WMS PROJECT	1518	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 16,765.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TOOL	2020	PROJECT SPONSOR(S): TOOL	RECOMMENDED WMS PROJECT	1519	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,672.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TRENTON	2020	PROJECT SPONSOR(S): TRENTON	RECOMMENDED WMS PROJECT	1520	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,658.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TRINIDAD	2020	PROJECT SPONSOR(S): TRINIDAD	RECOMMENDED WMS PROJECT	1521	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,211.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TROPHY CLUB	2020	PROJECT SPONSOR(S): TROPHY CLUB	RECOMMENDED WMS PROJECT	1522	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 338,556.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - TWO WAY SUD	2020	PROJECT SPONSOR(S): TWO WAY SUD	RECOMMENDED WMS PROJECT	1523	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 34,470.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - UNIVERSITY PARK	2020	PROJECT SPONSOR(S): UNIVERSITY PARK	RECOMMENDED WMS PROJECT	1524	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,000,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - VALLEY VIEW	2020	PROJECT SPONSOR(S): VALLEY VIEW	RECOMMENDED WMS PROJECT	1525	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 755.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - VAN ALSTYNE	2020	PROJECT SPONSOR(S): VAN ALSTYNE	RECOMMENDED WMS PROJECT	1526	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 35,411.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - VENUS	2020	PROJECT SPONSOR(S): VENUS	RECOMMENDED WMS PROJECT	1527	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 740.00	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, WATER LOSS CONTROL - VIRGINIA HILL WSC	2020	PROJECT SPONSOR(S): VIRGINIA HILL WSC	RECOMMENDED WMS PROJECT	1528	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 4,442.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WALNUT CREEK SUD	2020	PROJECT SPONSOR(S): WALNUT CREEK SUD	RECOMMENDED WMS PROJECT	1529	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 75,798.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WATAUGA	2020	PROJECT SPONSOR(S): WATAUGA	RECOMMENDED WMS PROJECT	1530	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 396,643.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WAXAHACHIE	2020	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1531	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,491,310.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WEATHERFORD	2020	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	1532	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 3,287,593.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WEST CEDAR CREEK MUD	2020	PROJECT SPONSOR(S): WEST CEDAR CREEK MUD	RECOMMENDED WMS PROJECT	1533	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 54,495.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WEST WISE SUD	2020	PROJECT SPONSOR(S): WEST WISE SUD	RECOMMENDED WMS PROJECT	1534	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 23,121.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WESTLAKE	2020	PROJECT SPONSOR(S): WESTLAKE	RECOMMENDED WMS PROJECT	1535	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 40,661.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WESTON	2020	PROJECT SPONSOR(S): WESTON	RECOMMENDED WMS PROJECT	1536	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 38,948.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WESTOVER HILLS	2020	PROJECT SPONSOR(S): WESTOVER HILLS	RECOMMENDED WMS PROJECT	1537	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 9,899.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WESTWORTH VILLAGE	2020	PROJECT SPONSOR(S): WESTWORTH VILLAGE	RECOMMENDED WMS PROJECT	1538	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 11,224.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WHITE SETTLEMENT	2020	PROJECT SPONSOR(S): WHITE SETTLEMENT	RECOMMENDED WMS PROJECT	1539	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 64,606.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WHITESBORO	2020	PROJECT SPONSOR(S): WHITESBORO	RECOMMENDED WMS PROJECT	1540	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 12,279.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WHITEWRIGHT	2020	PROJECT SPONSOR(S): WHITEWRIGHT	RECOMMENDED WMS PROJECT	1541	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 11,395.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WILLOW PARK	2020	PROJECT SPONSOR(S): WILLOW PARK	RECOMMENDED WMS PROJECT	1542	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 40,117.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WILMER	2020	PROJECT SPONSOR(S): WILMER	RECOMMENDED WMS PROJECT	1543	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 11,495.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WISE COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WISE)	RECOMMENDED WMS PROJECT	1563	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 87,859.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WOODBINE WSC	2020	PROJECT SPONSOR(S): WOODBINE WSC	RECOMMENDED WMS PROJECT	1544	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 23,732.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WORTHAM	2020	PROJECT SPONSOR(S): WORTHAM	RECOMMENDED WMS PROJECT	1545	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 6,800.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WYLIE	2020	PROJECT SPONSOR(S): WYLIE	RECOMMENDED WMS PROJECT	1546	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 1,130,695.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER LOSS CONTROL - WYLIE NORTHEAST SUD	2020	PROJECT SPONSOR(S): WYLIE NORTHEAST SUD	RECOMMENDED WMS PROJECT	1547	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 150,000.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - ARGYLE WSC	2020	PROJECT SPONSOR(S): ARGYLE WSC	RECOMMENDED WMS PROJECT	1564	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - ATHENS	2020	PROJECT SPONSOR(S): ATHENS	RECOMMENDED WMS PROJECT	1565	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - BENBROOK	2020	PROJECT SPONSOR(S): BENBROOK	RECOMMENDED WMS PROJECT	1566	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - CEDAR HILL	2020	PROJECT SPONSOR(S): CEDAR HILL	RECOMMENDED WMS PROJECT	1567	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 13,210.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - ENNIS	2020	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	1568	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		

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C	CONSERVATION, WATER WASTE PROHIBITION - EULESS	2020	PROJECT SPONSOR(S): EULESS	RECOMMENDED WMS PROJECT	1569	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 14,668.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - FARMERS BRANCH	2020	PROJECT SPONSOR(S): FARMERS BRANCH	RECOMMENDED WMS PROJECT	1570	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 8,395.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - HASLET	2020	PROJECT SPONSOR(S): HASLET	RECOMMENDED WMS PROJECT	1571	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - HUDSON OAKS	2020	PROJECT SPONSOR(S): HUDSON OAKS	RECOMMENDED WMS PROJECT	1572	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - MIDLOTHIAN	2020	PROJECT SPONSOR(S): MIDLOTHIAN	RECOMMENDED WMS PROJECT	1573	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - MURPHY	2020	PROJECT SPONSOR(S): MURPHY	RECOMMENDED WMS PROJECT	1574	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - WEATHERFORD	2020	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	1575	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,407.00	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, WATER WASTE PROHIBITION - WESTOVER HILLS	2020	PROJECT SPONSOR(S): WESTOVER HILLS	RECOMMENDED WMS PROJECT	1576	Yes	Ongoing	Ongoing	Currently operating			Not measured		$ 7,334.00	2020	Yes	Not measured		2070			Yes		
C	CORINTH - NEW WELL IN TRINITY AQUIFER (2020) Q-96	2020	PROJECT SPONSOR(S): CORINTH	RECOMMENDED WMS PROJECT	1026	No			Not implemented	Sponsor only using groundwater for emergency supply.		0	$ -	$1,634,600								No		
C	CORINTH - UPGRADE EXISTING WELL Q-98	2020	PROJECT SPONSOR(S): CORINTH	RECOMMENDED WMS PROJECT	1028	No			Not implemented	Sponsor only using groundwater for emergency supply.		0	$ -	$2,372,900								No		
C	CORSICANA - NEW 8 MGD WATER TREATMENT PLANT Q-12	2020	PROJECT SPONSOR(S): CORSICANA	RECOMMENDED WMS PROJECT	853	Yes	2019	2019; Meeting 7/12	Acquisition and design phase	Too soon				$37,370,000		No				TWDB - SWIFT	TWDB - Other	Yes		
C	CRESSON - NEW WELL IN TRINITY AQUIFER Q-170	2020	PROJECT SPONSOR(S): CRESSON	RECOMMENDED WMS PROJECT	1100	No			Not implemented	Entity no longer a WUG.	Not applicable	0	$ -	$917,300								No		
C	DENTON - 30 MGD RAY ROBERTS PLANT EXPANSION 1 Q-13	2020	PROJECT SPONSOR(S): DENTON	RECOMMENDED WMS PROJECT	867	Yes	2019	2019; Meeting 9/1	Feasibility study ongoing	Too soon				$59,881,000						TWDB - SWIFT	TWDB - Other	Yes		
C	DENTON COUNTY MANUFACTURING - NEW WELL IN WOODBINE AQUIFER Q-100	2020	PROJECT SPONSOR(S): MANUFACTURING (DENTON)	RECOMMENDED WMS PROJECT	1030	No			Not implemented	TWDB Historical Water Use Survey shows no groundwater use for Manufacturing Denton Co.	Not applicable	0	$ -	$777,700								No		
C	DENTON COUNTY OTHER - NEW WELL IN TRINITY AQUIFER Q-102	2020	PROJECT SPONSOR(S): COUNTY-OTHER (DENTON)	RECOMMENDED WMS PROJECT	1032	No			Not implemented	No specific sponsor identified for this project				$2,772,023								Yes		
C	DENTON COUNTY OTHER - NEW WELL IN WOODBINE AQUIFER Q-101	2020	PROJECT SPONSOR(S): COUNTY-OTHER (DENTON)	RECOMMENDED WMS PROJECT	1031	No			Not implemented	No specific sponsor identified for this project				$11,691,860								Yes		
C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2020 NEW WATER PLANT Q-40	2020	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	1155	Yes	2019	2019	Under construction					$368,187,000						Market		Yes		
C	DWU - MAIN STEM PUMP STATION Q-34	2020	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	833	No			Currently operating			102000		$44,481,000	2020	No				Market		No		
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: COUNTY-OTHER, KAUFMAN; WMS SUPPLY RECIPIENT: COMBINE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33233	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: COUNTY-OTHER, KAUFMAN; WMS SUPPLY RECIPIENT: COMBINE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33237	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: COUNTY-OTHER, KAUFMAN; WMS SUPPLY RECIPIENT: COMBINE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33241	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: COUNTY-OTHER, KAUFMAN; WMS SUPPLY RECIPIENT: COMBINE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33245	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: COUNTY-OTHER, KAUFMAN; WMS SUPPLY RECIPIENT: COMBINE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33249	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: FLOWER MOUND	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25502	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: FLOWER MOUND	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25505	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: FLOWER MOUND	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25508	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: FLOWER MOUND	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25511	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: FLOWER MOUND	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25514	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: SEAGOVILLE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25482	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: SEAGOVILLE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25485	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: SEAGOVILLE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25488	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: SEAGOVILLE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25491	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: DALLAS; WMS SUPPLY RECIPIENT: SEAGOVILLE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25494	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: COUNTY-OTHER, KAUFMAN	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33253	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: COUNTY-OTHER, KAUFMAN	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33257	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: COUNTY-OTHER, KAUFMAN	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33261	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: COUNTY-OTHER, KAUFMAN	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33265	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: COUNTY-OTHER, KAUFMAN	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33269	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: GASTONIA-SCURRY SUD	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33273	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: GASTONIA-SCURRY SUD	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33276	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: GASTONIA-SCURRY SUD	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33279	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: GASTONIA-SCURRY SUD	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33282	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: SEAGOVILLE; WMS SUPPLY RECIPIENT: GASTONIA-SCURRY SUD	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33285	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2020	WMS SUPPLY RECIPIENT: DALLAS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25432	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	EAST FORK SUD- INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-181	2020	PROJECT SPONSOR(S): EAST FORK SUD	RECOMMENDED WMS PROJECT	1111	Yes	2019	2030	Not implemented	Too soon	Lower demand, so not needed until 2030			$3,500,000		No						Yes		
C	EUSTACE - NEW WELL IN CARRIZO-WILCOX Q-146	2020	PROJECT SPONSOR(S): EUSTACE	RECOMMENDED WMS PROJECT	1076	No			Not implemented	Too soon				$912,400		No						Yes		
C	FORT WORTH - MUNICIPAL CONSERVATION - ADVANCED METER INFRASTRUCTURE PROGRAM Q-209	2020	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	1142	Yes	Ongoing	Ongoing	Under construction			Not measured	$ 10,705,376	$ 76,000,000.00	2020	Yes	Not measured		2070			Yes		
C	FORT WORTH DIRECT REUSE	2020	WMS SUPPLY RECIPIENT: FORT WORTH	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	43482	Yes	2019	2019	Feasibility study ongoing				$ -	$0		No				TWDB - SWIFT	TWDB - Other	Yes		
C	FORT WORTH DIRECT REUSE - ALLIANCE CORRIDOR Q-68	2020	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	998	Yes	2019	2030	Feasibility study ongoing	Too soon				$16,083,000		No				TWDB - SWIFT	TWDB - Other	Yes		
C	FORT WORTH FUTURE DIRECT REUSE Q-67	2020	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	997	Yes	2018	2030	Feasibility study ongoing	Too soon				$129,976,000		Yes	14500	$129,976,000	2040			Yes		
C	FREESTONE COUNTY OTHER - CONNECT TO AND PURCHASE WATER FROM TRWD Q-134	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FREESTONE)	RECOMMENDED WMS PROJECT	1064	No			Not implemented	Too soon				$39,845,900		No						Yes		
C	FRISCO - DEVELOP DIRECT REUSE Q-74	2020	PROJECT SPONSOR(S): FRISCO	RECOMMENDED WMS PROJECT	1004	Yes	2019	2019	Currently operating		First phase implemented	1401		$34,882,048	2019	Yes	2780	$77,241,000	2060			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	GAINESVILLE - DIRECT REUSE Q-81	2020	PROJECT SPONSOR(S): GAINESVILLE	RECOMMENDED WMS PROJECT	1011	Yes	2019	2019	Sponsor has taken official action to initiate project	Too soon				$1,669,000		No						Yes		
C	GASTONIA-SCURRY SUD - CONNECT TO SEAGOVILLE (DWU) Q-155	2020	PROJECT SPONSOR(S): GASTONIA-SCURRY SUD	RECOMMENDED WMS PROJECT	1085	Yes	2019	2019	Not implemented	Water Provider has not agreed to sell water				$4,577,500		No						No		
C	GRAND PRAIRIE - CONNECT TO AND PURCHASE WATER FROM ARLINGTON Q-87	2020	PROJECT SPONSOR(S): GRAND PRAIRIE	RECOMMENDED WMS PROJECT	1017	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2030 due to low			$4,950,500		No				TWDB - SWIFT	TWDB - Other	Yes		
C	GRAND PRAIRIE - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM DWU Q-88	2020	PROJECT SPONSOR(S): GRAND PRAIRIE	RECOMMENDED WMS PROJECT	1018	Yes	2019	2019	Feasibility study ongoing	Too soon				$34,306,000		No				TWDB - SWIFT	TWDB - Other	Yes		
C	GTUA - GRAYSON COUNTY WATER SUPPLY PROJECT Q-64	2020	PROJECT SPONSOR(S): GREATER TEXOMA UTILITY AUTHORITY	RECOMMENDED WMS PROJECT	994	Yes	2019	2019	Feasibility study ongoing					$92,840,000		Yes	35872	$468,000,000	2030			Yes		
C	GUNTER - NEW WELL IN TRINITY AQUIFER (2020) Q-139	2020	PROJECT SPONSOR(S): GUNTER	RECOMMENDED WMS PROJECT	1069	Yes	2019	2019	Feasibility study ongoing					$1,040,300								Yes		
C	HENDERSON COUNTY SEP - TRANSMISSION FACILITIES FROM CEDAR CREEK LAKE Q-147	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HENDERSON)	RECOMMENDED WMS PROJECT	1077	No			Not implemented	Project no longer needed due to reduced SE				$19,951,000								No		
C	JACK COUNTY MINING INDIRECT REUSE (JACKSBORO)	2020	WMS SELLER: JACKSBORO; WMS SUPPLY RECIPIENT: MINING, JACK	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	4686	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0								Yes		
C	JACK COUNTY OTHER - CONNECT TO AND PURCHASE WATER FROM JACKSBORO Q-151	2020	PROJECT SPONSOR(S): COUNTY-OTHER (JACK)	RECOMMENDED WMS PROJECT	1081	No			Not implemented	No specific project sponsor identified yet.				$1,893,000								Yes		
C	JACK COUNTY OTHER - CONNECT TO AND PURCHASE WATER FROM WALNUT CREEK SUD Q-152	2020	PROJECT SPONSOR(S): COUNTY-OTHER (JACK)	RECOMMENDED WMS PROJECT	1082	No			Not implemented	No specific project sponsor identified yet.				$2,713,000								Yes		
C	JOHNSON COUNTY SUD - CONNECT TO PURCHASE WATER FROM GRAND PRAIRIE Q-188	2020	PROJECT SPONSOR(S): JOHNSON COUNTY SUD	RECOMMENDED WMS PROJECT	1118	No			Not implemented	WUG decided not to purchase from Grand P				$86,140,000								No		
C	JUSTIN - NEW WELL IN TRINITY AQUIFER Q-104	2020	PROJECT SPONSOR(S): JUSTIN	RECOMMENDED WMS PROJECT	1034	Yes	2019	2019	Feasibility study ongoing	Too soon				$2,115,500								Yes		
C	KAUFMAN COUNTY OTHER - CONNECT TO AND PURCHASE WATER FROM TRWD Q-149	2020	PROJECT SPONSOR(S): COUNTY-OTHER (KAUFMAN)	RECOMMENDED WMS PROJECT	1079	No			Not implemented	No specific project sponsor identified yet.				$11,922,000								Yes		
C	KELLER - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM FORT WORTH Q-189	2020	PROJECT SPONSOR(S): KELLER	RECOMMENDED WMS PROJECT	1119	Yes	2019	2019	All phases fully implemented					$17,535,000								No		
C	KENNEDALE - CONNECT TO AND PURCHASE WATER FROM ARLINGTON Q-190	2020	PROJECT SPONSOR(S): KENNEDALE	RECOMMENDED WMS PROJECT	1121	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030.			$1,720,000								Yes		
C	KRUM - NEW WELL IN TRINITY AQUIFER Q-105	2020	PROJECT SPONSOR(S): KRUM	RECOMMENDED WMS PROJECT	1035	Yes	2019	2019	Under construction					$1,533,200	2023					TWDB - Other		Yes		
C	MANSFIELD - WATER TREATMENT PLANT EXPANSION 1 Q-13	2020	PROJECT SPONSOR(S): MANSFIELD	RECOMMENDED WMS PROJECT	920	Yes	2019	2019	Feasibility study ongoing					$42,984,000										
C	MANSFIELD - WATER TREATMENT PLANT EXPANSION 2 Q-13	2020	PROJECT SPONSOR(S): MANSFIELD	RECOMMENDED WMS PROJECT	921	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030.			$42,984,000										
C	MANSFIELD UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: GRAND PRAIRIE; WMS SUPPLY RECIPIENT: MANUFACTURING, DALLAS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	29159	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	MANSFIELD UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: GRAND PRAIRIE; WMS SUPPLY RECIPIENT: MANUFACTURING, TARRANT	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	29165	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	MANSFIELD UNALLOCATED SUPPLY UTILIZATION	2020	WMS SELLER: MANSFIELD; WMS SUPPLY RECIPIENT: GRAND PRAIRIE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	29143	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	MANSFIELD UNALLOCATED SUPPLY UTILIZATION	2020	WMS SUPPLY RECIPIENT: MANSFIELD	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	43644	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	MELISSA - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-75	2020	PROJECT SPONSOR(S): MELISSA	RECOMMENDED WMS PROJECT	1005	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030.			$2,124,324								Yes		
C	MIDLOTHIAN - WATER TREATMENT PLANT EXPANSION 1 Q-13	2020	PROJECT SPONSOR(S): MIDLOTHIAN	RECOMMENDED WMS PROJECT	924	Yes	2019	2019	Feasibility study ongoing					$17,433,000						TWDB - SWIFT	TWDB - Other	Yes		
C	MOUNTAIN PEAK SUD - NEW WELL IN WOODBINE AQUIFER Q-112	2020	PROJECT SPONSOR(S): MOUNTAIN PEAK SUD	RECOMMENDED WMS PROJECT	1042	No			Not implemented	Sponsor has decided not to pursue new well				$1,812,605								No		
C	MUENSTER - DEVELOP MUENSTER LAKE SUPPLY Q-85	2020	PROJECT SPONSOR(S): MUENSTER	RECOMMENDED WMS PROJECT	1015	Yes	2019	2019	Feasibility study ongoing					$8,504,000								Yes		
C	NTMWD & IRVING - LAKE CHAPMAN PUMP STATION EXPANSION Q-24	2020	PROJECT SPONSOR(S): IRVING; NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	956	Yes	2019	2019	Feasibility study ongoing					$34,184,000								Yes		
C	NTMWD - ADDITIONAL MEASURES TO ACCESS FULL LAKE LAVON YIELD Q-21	2020	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	953	Yes	2019	2019	Feasibility study ongoing	Sponsor is reserving the implementation of t				$20,823,000								Yes		
C	NTMWD - DREDGE LAKE LAVON Q-20	2020	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	952	Yes	2015	2017	Currently operating			7959	$ 1,967,000	$1,967,000	2017	No						No		
C	NTMWD - LOWER BOIS D'ARC CREEK RESERVOIR SITE Q-23	2020	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	955	Yes	2018	2020	Under construction			120200	$ 625,610,000	$625,610,000	2020	No	120200		2030	TWDB - SWIFT		Yes		

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C	NTMWD - MAIN STEM PUMP STATION Q-22	2020	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	954	Yes	2015	2018	Currently operating			90800	$ 71,743,000	$71,743,000	2018	No						No		
C	NTMWD - REMOVAL OF CHAPMAN SILT BARRIER Q-19	2020	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	951	Yes	2015	2018	Currently operating			8036	$ 1,793,000	$1,793,000	2017	No						No		
C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2010-2020 Q-28	2020	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	960	Yes	2019	2019	Under construction				$ 1,015,469,000	$1,015,469,000			95943			Market		Yes		
C	PALMER - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM ROCKETT SUD Q-113	2020	PROJECT SPONSOR(S): PALMER	RECOMMENDED WMS PROJECT	1043	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2050.			$6,628,000								Yes		
C	PARKER COUNTY OTHER - NEW WELLS IN TRINITY AQUIFER Q-173	2020	PROJECT SPONSOR(S): COUNTY-OTHER (PARKER)	RECOMMENDED WMS PROJECT	1103	No			Not implemented	No specific sponsor identified for this projec				$1,448,000								Yes		
C	PARKER COUNTY SUD - ADDITIONAL BRA WITH TREATMENT PLANT Q-13	2020	PROJECT SPONSOR(S): PARKER COUNTY SUD	RECOMMENDED WMS PROJECT	927	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030.			$6,776,000								Yes		
C	PAYNE SPRINGS - NEW WELL IN CARRIZO-WILCOX AQUIFER Q-148	2020	PROJECT SPONSOR(S): PAYNE SPRINGS	RECOMMENDED WMS PROJECT	1078	No			Not implemented	Entity no longer a WUG.	Not applicable	0	$ -	$892,000								No		
C	PILOT POINT - NEW WELL IN TRINITY AQUIFER Q-106	2020	PROJECT SPONSOR(S): PILOT POINT	RECOMMENDED WMS PROJECT	1036	Yes	2019	2019	Feasibility study ongoing					$865,605								Yes		
C	Q-90 IRVING - TRA CENTRAL REUSE	2020	PROJECT SPONSOR(S): IRVING	RECOMMENDED WMS PROJECT	1020	Yes	2019	2019	Feasibility study ongoing					$39,960,000								Yes		
C	ROCKETT SUD - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM MIDLOTHIAN Q-115	2020	PROJECT SPONSOR(S): ROCKETT SUD	RECOMMENDED WMS PROJECT	1045	Yes	2019	2019	Currently operating			2242	$11,874,000	$11,874,000	2020	No						No		
C	ROCKETT SUD - WATER TREATMENT PLANT EXPANSION 1 Q-13	2020	PROJECT SPONSOR(S): ROCKETT SUD	RECOMMENDED WMS PROJECT	928	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030 du			$25,961,000								Yes		
C	ROWLETT - WATER SYSTEM IMPROVEMENTS Q-214	2020	PROJECT SPONSOR(S): ROWLETT	RECOMMENDED WMS PROJECT	2757	Yes	2019	2019	Feasibility study ongoing	Too soon	Project moved to 2030.			$3,519,000								Yes		
C	SARDIS LONE-ELM - CONNECT TO AND PURCHASE WATER FROM MIDLOTHIAN Q-117	2020	PROJECT SPONSOR(S): SARDIS-LONE ELM WSC	RECOMMENDED WMS PROJECT	1047	Yes	2019	2019	Currently operating			3360	$255,200	$255,200								No		
C	SHERMAN - DESALINATION WATER TREATMENT PLANT EXPANSION 1 Q-13	2020	PROJECT SPONSOR(S): SHERMAN	RECOMMENDED WMS PROJECT	933	Yes	2019	2019	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,328,500								Yes		
C	SPRINGTOWN - LAKE INTAKE MODIFICATIONS Q-175	2020	PROJECT SPONSOR(S): SPRINGTOWN	RECOMMENDED WMS PROJECT	1105	Yes	2019	2019	Acquisition and design phase	This project is now part of what is called "Su				$280,200								Yes		
C	SPRINGTOWN - NEW WELL IN TRINITY AQUIFER Q-176	2020	PROJECT SPONSOR(S): SPRINGTOWN	RECOMMENDED WMS PROJECT	1106	No			Not implemented	Sponsor opted to get additional supply from				$998,400								No		
C	SUNNYVALE - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-93	2020	PROJECT SPONSOR(S): SUNNYVALE	RECOMMENDED WMS PROJECT	1023	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2030 due to low			$22,408,000								Yes		
C	TERRELL - GROUND STORAGE TANK AND PUMP STATION EXPANSION AT WEST SIDE PUMP STATION Q-157	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1087	Yes	2019	2019	Acquisition and design phase					$3,714,000								Yes		
C	TERRELL - LINE TO FEED WHOLE CUSTOMER (KAUFMAN CO WCID) Q-158	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1088	Yes	2019	2019	Acquisition and design phase					$1,569,100								Yes		
C	TERRELL - LINE TO FEED WHOLESALE CUSTOMER (FAIRFIELD DEVELOPMENT EXTENSION) Q-160	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1090	Yes	2019	2019	Acquisition and design phase					$4,418,700								Yes		
C	TERRELL - LINE TO FEED WHOLESALE CUSTOMER (FAIRFIELD DEVELOPMENT) Q-159	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1089	Yes	2019	2019	Acquisition and design phase					$1,514,500								Yes		
C	TERRELL - LINE TO FEED WHOLESALE CUSTOMERS (LAS LOMAS MUD AND KAUFMAN CO WCID) Q-161	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1091	Yes	2019	2019	Acquisition and design phase					$1,395,100								Yes		
C	TERRELL - LINES ALONG I-20 TO COMPLETE LOOPING IN SOUTHERN SYSTEM FOR WHOLESALE CUSTOMERS Q-162	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1092	Yes	2019	2019	Acquisition and design phase					$5,688,500								Yes		
C	TERRELL - NEW DELIVERY POINT CONNECTION FROM NTMWD (WATERLINES, PUMP STATION, & GROUND STORAGE Q-163	2020	PROJECT SPONSOR(S): TERRELL	RECOMMENDED WMS PROJECT	1093	Yes	2019	2019	Acquisition and design phase					$25,559,100								Yes		
C	TRINITY RIVER AUTHORITY KAUFMAN COUNTY REUSE FOR STEAM ELECTRIC POWER Q-62	2020	PROJECT SPONSOR(S): TRINITY RIVER AUTHORITY	RECOMMENDED WMS PROJECT	992	No			Not implemented	WMS Removed at request of sponsor		0	$ -	$8,763,000		No						No		
C	TRINITY RIVER AUTHORITY LAS COLINAS REUSE (DALLAS COUNTY IRRIGATION) Q-58	2020	PROJECT SPONSOR(S): TRINITY RIVER AUTHORITY	RECOMMENDED WMS PROJECT	988	No			Not implemented	WMS Removed at request of sponsor	Not applicable	0	$ -	$15,017,000		No						No		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	TROPHY CLUB - PHASE II: INCREASE DELIVERY INFRASTRUCTURE FROM FT WORTH Q-198	2020	PROJECT SPONSOR(S): TROPHY CLUB	RECOMMENDED WMS PROJECT	1130	Yes	2016	2018	Currently operating			2560	$ 7,292,600	$7,292,600	2019	Yes						No		
C	TROPHY CLUB, WESTLAKE, FORT WORTH - PHASE I: JOINT 36" WATER DELIVERY LINE Q-197	2020	PROJECT SPONSOR(S): FORT WORTH; WESTLAKE; TROPHY CLUB	RECOMMENDED WMS PROJECT	1129	Yes	2016	2018	Currently operating			5895	$ 10,467,000	$10,467,000	2019	Yes						No		
C	UNALLOCATED SUPPLY - LAKE ATHENS	2020	WMS SELLER: ATHENS MUNICIPAL WATER AUTHORITY; WMS SUPPLY RECIPIENT: MANUFACTURING, HENDERSON	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	45812	No			Not implemented	This is only a WMS, not a project. No sponsc			$ -	$0								Yes		
C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2015-2019 Q-54	2020	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	984	Yes	2018	2020	Acquisition and design phase	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$52,596,000	2020	Yes	2817	$52,596,000	2020	Market		Yes		
C	WATAUGA & N RICHLAND HILLS - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER Q-199	2020	PROJECT SPONSOR(S): NORTH RICHLAND HILLS	RECOMMENDED WMS PROJECT	1132	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2030.			$9,931,000								Yes		
C	WEATHERFORD - DEVELOP LAKE WEATHERFORD REUSE PROJECT Q-177	2020	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	1107	Yes	2018	2018	Currently operating			2240	$ 13,089,000	$13,089,000	2018	No			2018	Market		No	No	No
C	WESTON - NEW WELL IN WOODBINE AQUIFER Q-215	2020	PROJECT SPONSOR(S): WESTON	RECOMMENDED WMS PROJECT	2759	No			Not implemented	No longer a WUG, moved to Collin County O				$824,000								No		
C	WILMER - NEW CONNECTION TO DALLAS (VIA LANCASTER) Q-95	2020	PROJECT SPONSOR(S): WILMER	RECOMMENDED WMS PROJECT	1025	Yes	2019	2019	Currently operating			800	$4,504,300	$4,504,300	2020	No						No		
C	WISE COUNTY MANUFACTURING - NEW WELLS IN TRINITY AQUIFER Q-205	2020	PROJECT SPONSOR(S): MANUFACTURING (WISE)	RECOMMENDED WMS PROJECT	1138	No			Not implemented	No specific sponsor identified for this project				$1,636,600								Yes		
C	WISE COUNTY WSD - WATER TREATMENT PLANT EXPANSION 1 Q-13	2020	PROJECT SPONSOR(S): WISE COUNTY WSD	RECOMMENDED WMS PROJECT	943	Yes	2019	2019	Feasibility study ongoing					$25,992,000		No						Yes		
C	WYLIE NE SUD - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-80	2020	PROJECT SPONSOR(S): WYLIE NORTHEAST SUD	RECOMMENDED WMS PROJECT	1010	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2030			$4,250,000								Yes		
C	BELLS - NEW WELL IN WOODBINE AQUIFER Q-136	2030	PROJECT SPONSOR(S): BELLS	RECOMMENDED WMS PROJECT	1066	Yes	2019	2019	Feasibility study ongoing	Too soon				$1,200,000								Yes		
C	BLUE RIDGE - CONNECT TO AND PURCHASE WATER FROM NTMWD Q-69	2030	PROJECT SPONSOR(S): BLUE RIDGE	RECOMMENDED WMS PROJECT	999	Yes	2019	2019	Feasibility study ongoing	Too soon				$2,403,656								Yes		
C	CELINA - CONNECT TO AND PURCHASE WATER FROM NTMWD Q-71	2030	PROJECT SPONSOR(S): CELINA	RECOMMENDED WMS PROJECT	1001	Yes	2019	2019	Feasibility study ongoing	Too soon				$16,314,000								Yes		
C	CHATFIELD WSC - WATER SYSTEM IMPROVEMENTS Q-165	2030	PROJECT SPONSOR(S): CHATFIELD WSC	RECOMMENDED WMS PROJECT	1095	No			Not implemented	Entity no longer a WUG		0	$ -	$1,000,000								No		
C	COLLIN COUNTY MANUFACTURING - NEW WELL IN WOODBINE AQUIFER Q-72	2030	PROJECT SPONSOR(S): MANUFACTURING (COLLIN)	RECOMMENDED WMS PROJECT	1002	No			Not implemented	Too soon	No specific sponsor identif			$402,800								Yes		
C	CONSERVATION - ALVORD	2030	WUG REDUCING DEMAND: ALVORD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3757	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - AURORA	2030	WUG REDUCING DEMAND: AURORA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3801	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BLUE RIDGE	2030	WUG REDUCING DEMAND: BLUE RIDGE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3869	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - BRYSON	2030	WUG REDUCING DEMAND: BRYSON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4025	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - DAWSON	2030	WUG REDUCING DEMAND: DAWSON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4201	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - ECTOR	2030	WUG REDUCING DEMAND: ECTOR	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4301	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - EUSTACE	2030	WUG REDUCING DEMAND: EUSTACE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4273	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LADONIA	2030	WUG REDUCING DEMAND: LADONIA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5475	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION - LAKEWOOD VILLAGE	2030	WUG REDUCING DEMAND: LAKEWOOD VILLAGE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5495	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LINDSAY	2030	WUG REDUCING DEMAND: LINDSAY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5530	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - LOG CABIN	2030	WUG REDUCING DEMAND: LOG CABIN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5539	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - MAYPEARL	2030	WUG REDUCING DEMAND: MAYPEARL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5631	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NEVADA	2030	WUG REDUCING DEMAND: NEVADA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5707	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - NEW HOPE	2030	WUG REDUCING DEMAND: NEW HOPE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5717	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - OAK GROVE	2030	WUG REDUCING DEMAND: OAK GROVE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5745	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - PAYNE SPRINGS	2030	WUG REDUCING DEMAND: PAYNE SPRINGS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5870	No			Not implemented	Entity no longer a WUG.	Not applicable	0	$ -	$ -								No		
C	CONSERVATION - PECAN HILL	2030	WUG REDUCING DEMAND: PECAN HILL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5874	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -										
C	CONSERVATION - PELICAN BAY	2030	WUG REDUCING DEMAND: PELICAN BAY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5878	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - POST OAK BEND CITY	2030	WUG REDUCING DEMAND: POST OAK BEND CITY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5896	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SAVOY	2030	WUG REDUCING DEMAND: SAVOY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6062	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - SOUTHMAYD	2030	WUG REDUCING DEMAND: SOUTHMAYD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6106	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TIOGA	2030	WUG REDUCING DEMAND: TIOGA	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6156	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TRENTON	2030	WUG REDUCING DEMAND: TRENTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6014	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION - TRINIDAD	2030	WUG REDUCING DEMAND: TRINIDAD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6020	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - GRAYSON COUNTY	2030	WUG REDUCING DEMAND: IRRIGATION, GRAYSON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15347	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - JACK COUNTY	2030	WUG REDUCING DEMAND: IRRIGATION, JACK	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15357	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CONSERVATION, IRRIGATION - NAVARRO COUNTY	2030	WUG REDUCING DEMAND: IRRIGATION, NAVARRO	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15372	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CONSERVATION, MANUFACTURING - COLLIN COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, COLLIN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15396								$ -	$ -										
C	CONSERVATION, MANUFACTURING - DALLAS COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, DALLAS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15408								$ -	$ -										
C	CONSERVATION, MANUFACTURING - DENTON COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, DENTON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15412								$ -	$ -										
C	CONSERVATION, MANUFACTURING - ELLIS COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, ELLIS	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15416								$ -	$ -										
C	CONSERVATION, MANUFACTURING - GRAYSON COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, GRAYSON	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15428								$ -	$ -										
C	CONSERVATION, MANUFACTURING - KAUFMAN COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, KAUFMAN	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15444								$ -	$ -										
C	CONSERVATION, MANUFACTURING - PARKER COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, PARKER	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15452								$ -	$ -										
C	CONSERVATION, MANUFACTURING - TARRANT COUNTY	2030	WUG REDUCING DEMAND: MANUFACTURING, TARRANT	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15462								$ -	$ -										
C	CONSERVATION, WATER WASTE PROHIBITION - BLACKLAND WSC	2030	WUG REDUCING DEMAND: BLACKLAND WSC	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	14968	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measured		2070			Yes		
C	CORINTH - NEW WELL IN TRINITY AQUIFER (2030) Q-97	2030	PROJECT SPONSOR(S): CORINTH	RECOMMENDED WMS PROJECT	1027	No			Not implemented	Sponsor only using groundwater for emergency supply.		0	$ -	$1,634,600								No		
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: BLOOMING GROVE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33422	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: CHATFIELD WSC	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33423	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: CORBET WSC	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33437	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: COUNTY-OTHER, NAVARRO	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33427	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: DAWSON	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33428	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: FROST	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33429	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: KERENS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33431	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: MANUFACTURING, NAVARRO	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33432	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: M-E-N WSC	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33436	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: NAVARRO MILLS WSC	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33433	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: CORSICANA; WMS SUPPLY RECIPIENT: RICE WSC	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33434	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: RICE WSC; WMS SUPPLY RECIPIENT: RICE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33508	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	CORSICANA UNALLOCATED SUPPLY UTILIZATION	2030	WMS SUPPLY RECIPIENT: CORSICANA	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	33502	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	CROSS TIMBERS WSC - INFRASTRUCTURE IMPROVEMENTS Q-99	2030	PROJECT SPONSOR(S): CROSS TIMBERS WSC	RECOMMENDED WMS PROJECT	1029	Yes	2019	2019	Feasibility study ongoing	Too soon				$5,858,000								Yes		
C	CROWLEY - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM FORT WORTH Q-187	2030	PROJECT SPONSOR(S): CROWLEY	RECOMMENDED WMS PROJECT	1117	Yes	2019	2019	Feasibility study ongoing	Too soon				$11,558,000								Yes		
C	DENISON - EXPAND RAW WATER DELIVERY FROM LAKE TEXOMA Q-137	2030	PROJECT SPONSOR(S): DENISON	RECOMMENDED WMS PROJECT	1067	Yes	2019	2019	Feasibility study ongoing	Too soon				$21,629,700								Yes		
C	DENISON - WATER TREATMENT PLANT EXPANSION 1 Q-13	2030	PROJECT SPONSOR(S): DENISON	RECOMMENDED WMS PROJECT	865	Yes	2019	2019	Feasibility study ongoing	Too soon				$13,168,000								Yes		
C	DWU - CONNECT LAKE PALESTINE Q-36	2030	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	966	Yes	2019	2019	Acquisition and design phase					$465,491,000			110670	$465,491,000	2030	TWDB - SWIFT		Yes		
C	DWU - CONNECT TO BACHMAN Q-37	2030	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	967	Yes	2019	2019	Feasibility study ongoing	Too soon				$48,574,000								Yes		
C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2025 WTP EXPANSIONS Q-40	2030	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	1156	Yes	2019	2019	Acquisition and design phase					$346,680,000			145421			Market		Yes		
C	DWU UNALLOCATED SUPPLY UTILIZATION	2030	WMS SELLER: LEWISVILLE; WMS SUPPLY RECIPIENT: DENTON COUNTY FWSD #1A	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25469	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	EAST PARKER COUNTY - PIPELINE FROM WEATHERFORD TO ANNETTA, ANNETTA NORTH, ANNETTA SOUTH, AND W Q-171	2030	PROJECT SPONSOR(S): ANNETTA NORTH; WILLOW PARK; ANNETTA; ANNETTA SOUTH	RECOMMENDED WMS PROJECT	1101	Yes	2019	2019	Feasibility study ongoing	Too soon	Willow Park no longer part			$3,908,400								Yes		
C	FANNIN COUNTY SEP - CONNECT TO AND PURCHASE WATER FROM LAKE TEXOMA Q-128	2030	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (FANNIN)	RECOMMENDED WMS PROJECT	1058	No			Not implemented	No longer a Steam Electric Demand in Fannin Co.	Not applicable	0	$ -	$25,026,000		No						No		
C	FORT WORTH - EAGLE MOUNTAIN 35 MGD EXPANSION Q-13	2030	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	876	Yes	2018	Sponsor indicated project should be retained for 2021 Regional Plan; project included in entity's Master Plan	Not implemented	Too soon	Not applicable			$68,472,000						TWDB - SWIFT		Yes		
C	FORT WORTH - ROLLING HILLS 50 MGD EXPANSION Q-13	2030	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	878	Yes	2018	Sponsor indicated project should be retained for 2021 Regional Plan; project included in entity's Master Plan	Not implemented	Too soon	Not applicable			$93,960,000						TWDB - SWIFT		Yes		
C	FORT WORTH - WEST PLANT 23 MGD EXPANSION Q-13	2030	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	877	Yes	2018	Sponsor indicated project should be retained for 2021 Regional Plan; project included in entity's Master Plan	Not implemented	Too soon	Not applicable			$48,082,000						TWDB - SWIFT		Yes		
C	FREESTONE COUNTY OTHER - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM CO Q-133	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FREESTONE)	RECOMMENDED WMS PROJECT	1063	No			Not implemented	Too soon	No specific sponsor identif			$5,550,000								Yes		
C	GAINESVILLE - INFRASTRUCTURE TO DELIVER TO CUSTOMERS Q-82	2030	PROJECT SPONSOR(S): GAINESVILLE	RECOMMENDED WMS PROJECT	1012	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2050 in 2021 Pla			$26,296,000								Yes		
C	GTUA - REUSE FOR GRAYSON COUNTY STEAM ELECTRIC POWER Q-63	2030	PROJECT SPONSOR(S): GREATER TEXOMA UTILITY AUTHORITY	RECOMMENDED WMS PROJECT	993	No			Not implemented	No new demands projected for SEP; no long				$24,356,000								No		
C	GUNTER - NEW WELL IN TRINITY AQUIFER (2030) Q-140	2030	PROJECT SPONSOR(S): GUNTER	RECOMMENDED WMS PROJECT	1070	Yes	2019	2019	Feasibility study ongoing					$1,040,300								Yes		
C	LADONIA - CONNECT TO AND PURCHASE WATER FROM UTRWD (LAKE RALPH HALL) Q-129	2030	PROJECT SPONSOR(S): LADONIA	RECOMMENDED WMS PROJECT	1059	Yes	2019	2019	Feasibility study ongoing	Too soon				$12,134,600								Yes		
C	LEONARD - WATER SYSTEM IMPROVEMENTS Q-207	2030	PROJECT SPONSOR(S): LEONARD	RECOMMENDED WMS PROJECT	1140	Yes	2019	2019	Feasibility study ongoing	Too soon				$2,567,600								Yes		
C	LEWISVILLE - WATER TREATMENT PLANT EXPANSION 1 Q-13	2030	PROJECT SPONSOR(S): LEWISVILLE	RECOMMENDED WMS PROJECT	913	Yes	2019	2019	Feasibility study ongoing	Too soon				$17,433,000								Yes		
C	M E N WSC - UPSIZE LAKE HALBERT CONNECTION Q-166	2030	PROJECT SPONSOR(S): M-E-N WSC	RECOMMENDED WMS PROJECT	1096	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2050 in 2021 Pla			$2,521,800								Yes		
C	MABANK - INCREASE DELIVERY INFRASTRUCTURE FROM CEDAR CREEK LAKE Q-143	2030	PROJECT SPONSOR(S): MABANK	RECOMMENDED WMS PROJECT	1073	Yes	2019	2019	Feasibility study ongoing	Too soon				$262,000								Yes		
C	MABANK - WATER TREATMENT PLANT EXPANSION 1 Q-13	2030	PROJECT SPONSOR(S): MABANK	RECOMMENDED WMS PROJECT	917	Yes	2019	2019	Feasibility study ongoing					$8,905,000								Yes		
C	NAVARRO COUNTY SEP - PURCHASE WATER FROM CORSICANA Q-167	2030	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (NAVARRO)	RECOMMENDED WMS PROJECT	1097	No			Not implemented	No longer a demand for this WUG	Not applicable	0	$ -	$16,331,000		no						No		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	NEW FAIRVIEW - CONNECT TO AND PURCHASE WATER FROM RHOME Q-202	2030	PROJECT SPONSOR(S): NEW FAIRVIEW	RECOMMENDED WMS PROJECT	1135	No			Not implemented	New Fairview no longer a WUG; Now include				$3,662,000								No		
C	NEWARK - CONNECT TO AND PURCHASE WATER FROM RHOME Q-203	2030	PROJECT SPONSOR(S): NEWARK	RECOMMENDED WMS PROJECT	1136	Yes	2019	2019	Feasibility study ongoing					$2,548,000								Yes		
C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2020-2030 Q-28	2030	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	1145	Yes	2019	2019	Acquisition and design phase				$ 400,078,500	$1,099,314,000			182876			Market		Yes		
C	PANTEGO - CONNECT TO AND PURCHASE WATER FROM ARLINGTON Q-192	2030	PROJECT SPONSOR(S): PANTEGO	RECOMMENDED WMS PROJECT	1123	Yes	2019	2019	Feasibility study ongoing	Too soon				$778,000								Yes		
C	PANTEGO - CONNECT TO AND PURCHASE WATER FROM FORT WORTH Q-193	2030	PROJECT SPONSOR(S): PANTEGO	RECOMMENDED WMS PROJECT	1124	Yes	2019	2019	Feasibility study ongoing	Too soon				$831,000								Yes		
C	PARKER - INCREASE PUMP STATION CAPACITY Q-76	2030	PROJECT SPONSOR(S): PARKER	RECOMMENDED WMS PROJECT	1006	Yes	2019	2019	Feasibility study ongoing					$1,651,000								Yes		
C	PELICAN BAY - CONNECT TO AND PURCHASE WATER FROM AZLE (TRWD) Q-194	2030	PROJECT SPONSOR(S): PELICAN BAY	RECOMMENDED WMS PROJECT	1125	Yes	2019	2019	Feasibility study ongoing					$956,000								Yes		
C	PROSPER - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD (PHASE I) Q-77	2030	PROJECT SPONSOR(S): PROSPER	RECOMMENDED WMS PROJECT	1007	Yes	2019	2019	Feasibility study ongoing					$1,878,004								Yes		
C	PROSPER - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD (PHASE II) Q-78	2030	PROJECT SPONSOR(S): PROSPER	RECOMMENDED WMS PROJECT	1008	Yes	2019	2019	Feasibility study ongoing	This project combined into only one phase n				$1,908,104								No		
C	Q-150 FANNIN COUNTY WATER SUPPLY PROJECT	2030	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	1080	Yes	2019	2019	Under construction				Unknown	$45,753,900						TWDB - SWIFT	Market	Yes		
C	ROCKETT SUD - WATER TREATMENT PLANT EXPANSION 2 Q-13	2030	PROJECT SPONSOR(S): ROCKETT SUD	RECOMMENDED WMS PROJECT	929	Yes	2019	2019	Feasibility study ongoing					$25,961,000								Yes		
C	ROCKWALL - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-183	2030	PROJECT SPONSOR(S): ROCKWALL	RECOMMENDED WMS PROJECT	1113	Yes	2019	2019	Feasibility study ongoing					$22,551,000								Yes		
C	SOUTHLAKE - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM FORT WORTH Q-195	2030	PROJECT SPONSOR(S): SOUTHLAKE	RECOMMENDED WMS PROJECT	1126	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$43,035,000								Yes		
C	SOUTHWEST FANNIN CO SUD - NEW WELL IN WOODBINE AQUIFER Q-130	2030	PROJECT SPONSOR(S): SOUTHWEST FANNIN COUNTY SUD	RECOMMENDED WMS PROJECT	1060	Yes	2019	2019	Feasibility study ongoing					$2,348,823								Yes		
C	TARRANT COUNTY SEP - DIRECT REUSE Q-196	2030	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (TARRANT)	RECOMMENDED WMS PROJECT	1127	No			Not implemented	No specific sponsor identified for this project				$13,080,000								Yes		
C	TRENTON - NEW WELLS IN WOODBINE AQUIFER Q-131	2030	PROJECT SPONSOR(S): TRENTON	RECOMMENDED WMS PROJECT	1061	Yes	2019	2019	Feasibility study ongoing					$971,785								Yes		
C	TRINITY RIVER AUTHORITY DALLAS COUNTY REUSE FOR STEAM ELECTRIC POWER Q-59	2030	PROJECT SPONSOR(S): TRINITY RIVER AUTHORITY	RECOMMENDED WMS PROJECT	989	No			Not implemented	WMS Removed at request of sponsor		0	$ -	$8,661,000		No						No		
C	TRWD & DWU INTEGRATED PIPELINE Q-48	2030	PROJECT SPONSOR(S): TARRANT REGIONAL WD; DALLAS	RECOMMENDED WMS PROJECT	978	Yes	2019	2019	Acquisition and design phase				$ 1,908,600,000	$2,120,666,000	2023		135400	$2,120,666,000	2050	TWDB - SWIFT		Yes		
C	TRWD - CEDAR CREEK WETLANDS REUSE Q-49	2030	PROJECT SPONSOR(S): TARRANT REGIONAL WD	RECOMMENDED WMS PROJECT	979	Yes	2019	2019	Acquisition and design phase					$139,078,000								Yes		
C	UTRWD - DIRECT REUSE Q-53	2030	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	983	Yes	2018	2030	Feasibility study ongoing	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$13,213,000		Yes	2240	$13,213,000	2050			Yes		
C	UTRWD - LAKE RALPH HALL AND REUSE Q-52	2030	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	982	Yes	2019	2019	Acquisition and design phase	On schedule for Implementation by 2030.			$ 64,300,000	$316,160,000		No	54300		2070	TWDB - SWIFT		Yes		
C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2020-2029 Q-54	2030	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	1150	Yes	2019	2019	Acquisition and design phase	Sponsor has indicated this project should co				$159,420,000		Yes	51520	$159,420,000	2030	Market		Yes		
C	VAN ALSTYNE - WATER SYSTEM IMPROVEMENTS Q-142	2030	PROJECT SPONSOR(S): VAN ALSTYNE	RECOMMENDED WMS PROJECT	1072	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$2,180,800								Yes		
C	WALNUT CREEK SUD - NEW 6 MGD WATER TREATMENT PLANT Q-12	2030	PROJECT SPONSOR(S): WALNUT CREEK SUD	RECOMMENDED WMS PROJECT	856	Yes	2019	2019	Feasibility study ongoing					$9,245,000								Yes		
C	WAXAHACHIE - 27" RAW WATER LINE FROM IPL TO HOWARD ROAD WATER TREATMENT PLANT Q-119	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1049	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$3,176,400								Yes		
C	WAXAHACHIE - 36" RAW WATER LINE FROM IPL TO LAKE WAXAHACHIE Q-120	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1050	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$1,073,400								Yes		
C	WAXAHACHIE - 36" RAW WATER LINE FROM LAKE WAXAHACHIE TO HOWARD RD WTP Q-121	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1051	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$5,465,000								Yes		
C	WAXAHACHIE - 48" TRWD PARALLEL SUPPLY LINE TO SOKOLL WTP Q-122	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1052	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$3,510,500								Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	WAXAHACHIE - DREDGE LAKE WAXAHACHIE Q-123	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1053	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$31,973,500								Yes		
C	WAXAHACHIE - HOWARD RD. WATER TREATMENT PLANT EXPANSION 1 Q-13	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	935	Yes	2019	2019	Feasibility study ongoing					$21,697,000								Yes		
C	WAXAHACHIE - INCREASE DELIVERY INFRASTRUCTURE TO ROCKETT SUD (30" RAW WATER LINE) Q-124	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1054	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$11,894,900								Yes		
C	WAXAHACHIE - PHASE I DELIVERY INFRASTRUCTURE TO CUSTOMERS IN SOUTH ELLIS COUNTY Q-125	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1055	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$15,220,700								Yes		
C	WAXAHACHIE - RAW WATER INTAKE IMPROVEMENTS AT LAKE BARDWELL Q-127	2030	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1057	Yes	2019	2019	Feasibility study ongoing	Too soon	Moved to 2040.			$5,168,200								Yes		
C	WEATHERFORD - INCREASE BENBROOK PUMP STATION CAPACITY Q-178	2030	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	1108	Yes	2019	2019	Acquisition and design phase					$2,301,800								Yes		
C	WESTON - CONNECT TO AND PURCHASE WATER FROM NTMWD Q-79	2030	PROJECT SPONSOR(S): WESTON	RECOMMENDED WMS PROJECT	1009	No			Not implemented	Sponsor no longer a WUG	Not applicable	0	$ -	$27,130,000								No		
C	ALEDO - PARALLEL PIPELINE & PUMP STATION EXPANSION TO PURCHASE ADDITIONAL WATER FROM FORT WORT Q-169	2040	PROJECT SPONSOR(S): ALEDO	RECOMMENDED WMS PROJECT	1099	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$7,710,500								Yes		
C	BURLESON - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM FORT WORTH Q-186	2040	PROJECT SPONSOR(S): BURLESON	RECOMMENDED WMS PROJECT	1116	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$21,780,000								Yes		
C	CONSERVATION - ANNETTA NORTH	2040	WUG REDUCING DEMAND: ANNETTA NORTH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3771	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measure d		2070			Yes		
C	CONSERVATION - ANNETTA SOUTH	2040	WUG REDUCING DEMAND: ANNETTA SOUTH	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3775	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measure d		2070			Yes		
C	CONSERVATION - FROST	2040	WUG REDUCING DEMAND: FROST	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	4385	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measure d		2070			Yes		
C	CONSERVATION - MILFORD	2040	WUG REDUCING DEMAND: MILFORD	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	5661	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measure d		2070			Yes		
C	CONSERVATION - SCURRY	2040	WUG REDUCING DEMAND: SCURRY	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	6066	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measure d		2070			Yes		
C	CONSERVATION - VALLEY VIEW	2040	WUG REDUCING DEMAND: VALLEY VIEW	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	3991	Yes	Ongoing	Ongoing	Currently operating			Not measured	$ -	$ -	2020	Yes	Not measure d		2070			Yes		
C	CONSERVATION, IRRIGATION - WISE COUNTY	2040	WUG REDUCING DEMAND: IRRIGATION, WISE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15392								$ -	$ -										
C	CONSERVATION, MANUFACTURING - COOKE COUNTY	2040	WUG REDUCING DEMAND: MANUFACTURING, COOKE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15404								$ -	$ -										
C	CONSERVATION, MANUFACTURING - ROCKWALL COUNTY	2040	WUG REDUCING DEMAND: MANUFACTURING, ROCKWALL	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15458								$ -	$ -										
C	CONSERVATION, MANUFACTURING - WISE COUNTY	2040	WUG REDUCING DEMAND: MANUFACTURING, WISE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15466								$ -	$ -										

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	DENTON - 20 MGD RAY ROBERTS PLANT EXPANSION Q-13	2040	PROJECT SPONSOR(S): DENTON	RECOMMENDED WMS PROJECT	869	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$42,922,000								Yes		
C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2035 WTP EXPANSIONS Q-40	2040	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	1157	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,211,133,000								Yes		
C	DWU UNALLOCATED SUPPLY UTILIZATION	2040	WMS SUPPLY RECIPIENT: DALLAS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25417	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2040	WMS SUPPLY RECIPIENT: DALLAS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25427	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	DWU UNALLOCATED SUPPLY UTILIZATION	2040	WMS SUPPLY RECIPIENT: DALLAS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	25437	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	ELLIS COUNTY SEP - PURCHASE WATER FROM WAXAHACHIE Q-107	2040	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (ELLIS)	RECOMMENDED WMS PROJECT	1037	No			Not implemented	No longer a Steam Electric demand on Sponsor	Not applicable	0	$ -	$15,009,000		No						No		
C	ENNIS - WATER TREATMENT PLANT EXPANSION 1 Q-13	2040	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	873	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,433,000								Yes		
C	ENNIS INDIRECT REUSE Q-108	2040	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	1038	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$39,456,900								Yes		
C	FORT WORTH - EAGLE MOUNTAIN 30 MGD EXPANSION Q-13	2040	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	880	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$59,977,000								Yes		
C	FORT WORTH - WEST PLANT 35 MGD EXPANSION Q-13	2040	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	879	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$68,472,000								Yes		
C	KAUFMAN COUNTY MINING - NEW WELLS IN TRINITY AQUIFER Q-216	2040	PROJECT SPONSOR(S): MINING (KAUFMAN)	RECOMMENDED WMS PROJECT	2760	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$484,000								Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	KENNEDALE - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM FORT WORT Q-191	2040	PROJECT SPONSOR(S): KENNEDALE	RECOMMENDED WMS PROJECT	1122	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$3,685,000								Yes		
C	LEWISVILLE - WATER TREATMENT PLANT EXPANSION 2 Q-13	2040	PROJECT SPONSOR(S): LEWISVILLE	RECOMMENDED WMS PROJECT	914	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,433,000								Yes		
C	MIDLOTHIAN - WATER TREATMENT PLANT EXPANSION 2 Q-13	2040	PROJECT SPONSOR(S): MIDLOTHIAN	RECOMMENDED WMS PROJECT	925	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,433,000								Yes		
C	NTMWD - ADDITIONAL LAKE TEXOMA SUPPLY BLEND WITH LOWER BOIS D'ARC Q-25	2040	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	957	Yes	2018	2035	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$174,179,000								Yes		
C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2030-2040 Q-28	2040	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	1146	Yes	2018	2035	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$663,032,000								Yes		
C	RICE WSC - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM CORSICANA Q-114	2040	PROJECT SPONSOR(S): RICE WSC	RECOMMENDED WMS PROJECT	1044	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$6,983,000								Yes		
C	SARDIS-LONE ELM WSC - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM ROCKE Q-118	2040	PROJECT SPONSOR(S): SARDIS-LONE ELM WSC	RECOMMENDED WMS PROJECT	1048	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,992,000								Yes		
C	TRWD - LAKE TEHUACANA Q-50	2040	PROJECT SPONSOR(S): TARRANT REGIONAL WD	RECOMMENDED WMS PROJECT	980	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$742,730,000						TWDB - SWIFT		Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2030-2040 Q-54	2040	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	1151	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$139,322,721		Yes	51520	$139,322,721	2040	Market		Yes		
C	WAXAHACHIE UNALLOCATED SUPPLY UTILIZATION	2040	WMS SELLER: WAXAHACHIE; WMS SUPPLY RECIPIENT: MANUFACTURING, ELLIS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	32600	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	WAXAHACHIE UNALLOCATED SUPPLY UTILIZATION	2040	WMS SELLER: WAXAHACHIE; WMS SUPPLY RECIPIENT: STEAM ELECTRIC POWER, ELLIS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	32615	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	WAXAHACHIE UNALLOCATED SUPPLY UTILIZATION	2040	WMS SELLER: WAXAHACHIE; WMS SUPPLY RECIPIENT: STEAM ELECTRIC POWER, ELLIS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	32621	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0										
C	WEATHERFORD - WATER TREATMENT PLANT EXPANSION 1 Q-13	2040	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	938	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$36,408,000								Yes		
C	WILMER - DIRECT CONNECTION TO DALLAS Q-94	2040	PROJECT SPONSOR(S): WILMER	RECOMMENDED WMS PROJECT	1024	Yes	2018	2035	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$15,999,500								Yes		
C	WISE COUNTY MINING REUSE	2040	WMS SUPPLY RECIPIENT: MINING, WISE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	45805	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0								Yes		
C	BRIDGEPORT - EXPAND CAPACITY OF LAKE INTAKE AND PUMP STATION Q-200	2050	PROJECT SPONSOR(S): BRIDGEPORT	RECOMMENDED WMS PROJECT	1133	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$766,100								Yes		
C	BRIDGEPORT - WATER TREATMENT PLANT EXPANSION 1 Q-13	2050	PROJECT SPONSOR(S): BRIDGEPORT	RECOMMENDED WMS PROJECT	861	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$8,911,000								Yes		
C	CHICO - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM WEST WISE SUD Q-201	2050	PROJECT SPONSOR(S): CHICO	RECOMMENDED WMS PROJECT	1134	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$3,610,000								Yes		
C	CORSICANA - WATER TREATMENT PLANT EXPANSION Q-13	2050	PROJECT SPONSOR(S): CORSICANA	RECOMMENDED WMS PROJECT	863	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$21,689,000								Yes		

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C	DENTON - 30 MGD RAY ROBERTS PLANT EXPANSION 2 Q-13	2050	PROJECT SPONSOR(S): DENTON	RECOMMENDED WMS PROJECT	868	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$59,881,000								Yes		
C	DWU - INFRASTRUCTURE TO TREAT AND DELIVER TO CUSTOMERS 2045 WTP EXPANSIONS Q-40	2050	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	1158	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$161,784,000								Yes		
C	DWU - MAIN STEM BALANCING RESERVOIR Q-35	2050	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	834	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$674,463,000								Yes		
C	FAIRFIELD - CONNECT TO AND PURCHASE WATER FROM TRWD (RICHLAND-CHAMBERS) Q-132	2050	PROJECT SPONSOR(S): FAIRFIELD	RECOMMENDED WMS PROJECT	1062	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$7,283,000								Yes		
C	FORNEY - INCREASE PUMP STATION CAPACITY Q-154	2050	PROJECT SPONSOR(S): FORNEY	RECOMMENDED WMS PROJECT	1084	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$11,162,800								Yes		
C	FORT WORTH - 50 MGD EXPANSION 1 Q-13	2050	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	903	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$93,960,000								Yes		
C	FORT WORTH - 50 MGD EXPANSION 2 Q-13	2050	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	905	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$93,960,000								Yes		
C	GRAYSON COUNTY MINING - NEW WELL IN TRINITY AQUIFER Q-138	2050	PROJECT SPONSOR(S): MINING (GRAYSON)	RECOMMENDED WMS PROJECT	1068	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$161,000								Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	GTUA - COLLIN-GRAYSON MUNICIPAL ALLIANCE EAST-WEST WATER LINE Q-65	2050	PROJECT SPONSOR(S): GREATER TEXOMA UTILITY AUTHORITY	RECOMMENDED WMS PROJECT	995	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$3,672,000								Yes		
C	HACKBERRY - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-103	2050	PROJECT SPONSOR(S): HACKBERRY	RECOMMENDED WMS PROJECT	1033	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,731,000								Yes		
C	LEWISVILLE - WATER TREATMENT PLANT EXPANSION 3 Q-13	2050	PROJECT SPONSOR(S): LEWISVILLE	RECOMMENDED WMS PROJECT	915	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$19,565,000								Yes		
C	MANSFIELD - WATER TREATMENT PLANT EXPANSION 3 Q-13	2050	PROJECT SPONSOR(S): MANSFIELD	RECOMMENDED WMS PROJECT	922	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$34,489,000								Yes		
C	NAVARRO MILLS WSC - NEW WELL IN WOODBINE AQUIFER Q-168	2050	PROJECT SPONSOR(S): NAVARRO MILLS WSC	RECOMMENDED WMS PROJECT	1098	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,339,500								Yes		
C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2040-2050 Q-28	2050	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	1147	Yes	2018	2045	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$704,883,000								Yes		
C	ROCKETT SUD - WATER TREATMENT PLANT EXPANSION 3 Q-13	2050	PROJECT SPONSOR(S): ROCKETT SUD	RECOMMENDED WMS PROJECT	930	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$25,961,000								Yes		
C	SHERMAN - NEW 10 MGD DESALINATION PLANT Q-12	2050	PROJECT SPONSOR(S): SHERMAN	RECOMMENDED WMS PROJECT	855	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$34,657,000								Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	SULPHUR BASIN SUPPLIES - TRWD, NTWMD, UTRWD Q-18	2050	PROJECT SPONSOR(S): NORTH TEXAS MWD; TARRANT REGIONAL WD; UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	835	Yes	2011-2019	Expended funds each year 2011 through 2019, total of $8M	Feasibility study ongoing	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan	Ongoing conflict resolution.		$ 8,000,000	$4,516,546,000		Yes	502360	$4,516,546,000	2070	TWDB - SWIFT		Yes	Yes	No
C	TEAGUE - NEW WELLS IN CARRIZO-WILCOX AQUIFER Q-135	2050	PROJECT SPONSOR(S): TEAGUE	RECOMMENDED WMS PROJECT	1065	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,145,600								Yes		
C	TRINITY RIVER AUTHORITY FREESTONE COUNTY REUSE FOR STEAM ELECTRIC POWER Q-61	2050	PROJECT SPONSOR(S): TRINITY RIVER AUTHORITY	RECOMMENDED WMS PROJECT	991	No			Not implemented	WMS Removed at request of sponsor		0	$ -	$30,593,000		No						No		
C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2040-2050 Q-54	2050	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	1152	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$117,667,000		Yes	66372	$117,667,000	2050	Market		Yes		
C	WAXAHACHIE - HOWARD RD. WATER TREATMENT PLANT EXPANSION 2 Q-13	2050	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	936	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$25,961,000								Yes		
C	WAXAHACHIE - PHASE II DELIVERY INFRASTRUCTURE TO CUSTOMERS IN SOUTH ELLIS COUNTY Q-126	2050	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	1056	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$23,452,433								Yes		
C	WEST CEDAR CREEK - WATER TREATMENT PLANT EXPANSION Q-13	2050	PROJECT SPONSOR(S): WEST CEDAR CREEK MUD	RECOMMENDED WMS PROJECT	940	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,429,000								Yes		
C	WEST WISE SUD - WATER TREATMENT PLANT EXPANSION Q-13	2050	PROJECT SPONSOR(S): WEST WISE SUD	RECOMMENDED WMS PROJECT	941	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$5,697,000								Yes		
C	WISE COUNTY WSD - WATER TREATMENT PLANT EXPANSION 2 Q-13	2050	PROJECT SPONSOR(S): WISE COUNTY WSD	RECOMMENDED WMS PROJECT	944	Yes	2018	2045	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$25,992,000								Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	BENBROOK - WATER TREATMENT PLANT EXPANSION Q-13	2060	PROJECT SPONSOR(S): BENBROOK	RECOMMENDED WMS PROJECT	860	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$13,715,000								Yes		
C	BLUE RIDGE - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-70	2060	PROJECT SPONSOR(S): BLUE RIDGE	RECOMMENDED WMS PROJECT	1000	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,036,000								Yes		
C	COLLEGE MOUND - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM TERRELL Q-153	2060	PROJECT SPONSOR(S): COLLEGE MOUND WSC	RECOMMENDED WMS PROJECT	1083	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$5,348,000								Yes		
C	CONSERVATION, IRRIGATION - FREESTONE COUNTY	2060	WUG REDUCING DEMAND: IRRIGATION, FREESTONE	RECOMMENDED DEMAND REDUCTION STRATEGY WITHOUT WMS PROJECT	15341								$ -	$ -										
C	DENISON - NEW 4 MGD WATER TREATMENT PLANT Q-12	2060	PROJECT SPONSOR(S): DENISON	RECOMMENDED WMS PROJECT	854	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$19,888,000								Yes		
C	DENTON - WATER TREATMENT PLANT EXPANSION 1 Q-13	2060	PROJECT SPONSOR(S): DENTON	RECOMMENDED WMS PROJECT	870	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$51,402,000								Yes		
C	DREDGE LAKE WAXAHACHIE	2060	WMS SELLER: WAXAHACHIE; WMS SUPPLY RECIPIENT: MANUFACTURING, ELLIS	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	32631	No			Not implemented	This is only a WMS, not a project. No sponso			$ -	$0								Yes		
C	DWU - NECHES RIVER RUN-OF-THE-RIVER DIVERSIONS PROJECT Q-38	2060	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	968	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$226,790,000								Yes		
C	ENNIS - WATER TREATMENT PLANT EXPANSION 2 Q-13	2060	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	874	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$21,697,000								Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	FATE - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM NTMWD Q-182	2060	PROJECT SPONSOR(S): FATE	RECOMMENDED WMS PROJECT	1112	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$15,075,000								Yes		
C	FERRIS - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM ROCKETT SUD Q-109	2060	PROJECT SPONSOR(S): FERRIS	RECOMMENDED WMS PROJECT	1039	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$2,578,000								Yes		
C	FORT WORTH - 50 MGD EXPANSION 3 Q-13	2060	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	906	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$93,960,000								Yes		
C	GAINESVILLE - WATER TREATMENT PLANT EXPANSION 1 Q-13	2060	PROJECT SPONSOR(S): GAINESVILLE	RECOMMENDED WMS PROJECT	910	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$9,970,000								Yes		
C	GLENN HEIGHTS - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM DWU Q-86	2060	PROJECT SPONSOR(S): GLENN HEIGHTS	RECOMMENDED WMS PROJECT	1016	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$2,374,000								Yes		
C	GTUA - COLLIN-GRAYSON MUNICIPAL ALLIANCE WATER TRANSMISSION SYSTEM - PHASE 2 Q-66	2060	PROJECT SPONSOR(S): GREATER TEXOMA UTILITY AUTHORITY	RECOMMENDED WMS PROJECT	996	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$59,492,000								Yes		
C	KAUFMAN COUNTY MINING - CONNECT TO AND PURCHASE WATER FROM NTMWD Q-156	2060	PROJECT SPONSOR(S): MINING (KAUFMAN)	RECOMMENDED WMS PROJECT	1086	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$4,098,000								Yes		
C	MABANK - WATER TREATMENT PLANT EXPANSION 2 Q-13	2060	PROJECT SPONSOR(S): MABANK	RECOMMENDED WMS PROJECT	919	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$11,037,000								Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	MANSFIELD - WATER TREATMENT PLANT EXPANSION 4 Q-13	2060	PROJECT SPONSOR(S): MANSFIELD	RECOMMENDED WMS PROJECT	923	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$36,188,000								Yes		
C	MIDLOTHIAN - WATER TREATMENT PLANT EXPANSION 3 Q-13	2060	PROJECT SPONSOR(S): MIDLOTHIAN	RECOMMENDED WMS PROJECT	926	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,433,000								Yes		
C	NTMWD - ADDITIONAL LAKE TEXOMA BLEND WITH SULPHUR BASIN WATER Q-26	2060	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	958	Yes	2018	2055	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$347,596,000								Yes		
C	NTMWD - TOLEDO BEND Q-57	2060	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	987	Yes	2018	2055	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,248,461,000								Yes		
C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2050-2060 Q-28	2060	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	1148	Yes	2018	2055	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$621,467,000								Yes		
C	PARKER COUNTY OTHER - CONNECT TO AND PURCHASE WATER FROM TRWD Q-174	2060	PROJECT SPONSOR(S): COUNTY-OTHER (PARKER)	RECOMMENDED WMS PROJECT	1104	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$116,775,000								Yes		
C	PARKER COUNTY SUD - NEW WELLS IN TRINITY AQUIFER Q-172	2060	PROJECT SPONSOR(S): PARKER COUNTY SUD	RECOMMENDED WMS PROJECT	1102	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$3,860,000								Yes		
C	TRINITY RIVER AUTHORITY ELLIS COUNTY REUSE FOR STEAM ELECTRIC POWER Q-60	2060	PROJECT SPONSOR(S): TRINITY RIVER AUTHORITY	RECOMMENDED WMS PROJECT	990	No			Not implemented	WMS Removed at request of sponsor		0	$ -	$17,958,000		No						No		
C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2050-2060 Q-54	2060	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	1153	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$110,774,000		Yes	76526	$110,774,000	2060	Market		Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impediments presented to implementation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	WEATHERFORD - NEW 14 MGD WATER TREATMENT PLANT Q-12	2060	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	858	Yes	2018	2055	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$60,521,000								Yes		
C	BRIDGEPORT - WATER TREATMENT PLANT EXPANSION 2 Q-13	2070	PROJECT SPONSOR(S): BRIDGEPORT	RECOMMENDED WMS PROJECT	862	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$7,844,000								Yes		
C	DENISON - WATER TREATMENT PLANT EXPANSION 2 Q-13	2070	PROJECT SPONSOR(S): DENISON	RECOMMENDED WMS PROJECT	866	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$13,168,000								Yes		
C	DENTON - WATER TREATMENT PLANT EXPANSION 2 Q-13	2070	PROJECT SPONSOR(S): DENTON	RECOMMENDED WMS PROJECT	871	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$51,402,000								Yes		
C	DWU - LAKE COLUMBIA Q-39	2070	PROJECT SPONSOR(S): DALLAS	RECOMMENDED WMS PROJECT	969	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$327,187,000						TWDB - SWIFT		Yes		
C	EAST CEDAR CREEK - WATER TREATMENT PLANT EXPANSION Q-13	2070	PROJECT SPONSOR(S): EAST CEDAR CREEK FWSD	RECOMMENDED WMS PROJECT	872	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$8,904,000								Yes		
C	ENNIS - WATER TREATMENT PLANT EXPANSION 3 Q-13	2070	PROJECT SPONSOR(S): ENNIS	RECOMMENDED WMS PROJECT	875	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$36,138,000								Yes		
C	FORT WORTH - 50 MGD EXPANSION 4 Q-13	2070	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	907	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$93,960,000								Yes		

IMPLEMENTATION SURVEY

Planning Region	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	FORT WORTH - 50 MGD EXPANSION 5 Q-13	2070	PROJECT SPONSOR(S): FORT WORTH	RECOMMENDED WMS PROJECT	908	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$93,960,000								Yes		
C	GAINESVILLE - WATER TREATMENT PLANT EXPANSION 2 Q-13	2070	PROJECT SPONSOR(S): GAINESVILLE	RECOMMENDED WMS PROJECT	911	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$17,431,000								Yes		
C	NTMWD - OKLAHOMA WATER Q-27	2070	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	959	Yes	2018	2065	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$167,541,000								Yes		
C	NTMWD TREATMENT & TREATED WATER DISTRIBUTION IMPROVEMENTS 2060-2070 Q-28	2070	PROJECT SPONSOR(S): NORTH TEXAS MWD	RECOMMENDED WMS PROJECT	1149	Yes	2018	2065	Sponsor has taken official action to initiate project	Too Soon, but Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$166,833,000								Yes		
C	OVILLA - INCREASE DELIVERY INFRASTRUCTURE TO PURCHASE ADDITIONAL WATER FROM DWU Q-92	2070	PROJECT SPONSOR(S): OVILLA	RECOMMENDED WMS PROJECT	1022	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$8,136,000								Yes		
C	ROCKETT SUD - WATER TREATMENT PLANT EXPANSION 4 Q-13	2070	PROJECT SPONSOR(S): ROCKETT SUD	RECOMMENDED WMS PROJECT	931	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$25,961,000								Yes		
C	RUNAWAY BAY - INCREASE CAPACITY OF LAKE INTAKE Q-204	2070	PROJECT SPONSOR(S): RUNAWAY BAY	RECOMMENDED WMS PROJECT	1137	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$52,500								Yes		
C	RUNAWAY BAY - WATER TREATMENT PLANT EXPANSION Q-13	2070	PROJECT SPONSOR(S): RUNAWAY BAY	RECOMMENDED WMS PROJECT	932	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$4,078,000								Yes		

Planning Region	IMPLEMENTATION SURVEY WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Implementation Survey Record Type	Database ID	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*	What impedi-ments presented to imple-mentation?*	Current water supply project yield (ac-ft/yr)	Funds expended to date ($)	Project Cost ($)	Year the project is online? *	Is this a phased project?*	(Phased) Ultimate volume (ac-ft/yr)	(Phased) Ultimate project cost ($)	Year project reaches maximum capacity?*	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*
C	SHERMAN - DESALINATION WATER TREATMENT PLANT EXPANSION 2 Q-13	2070	PROJECT SPONSOR(S): SHERMAN	RECOMMENDED WMS PROJECT	934	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$29,478,000								Yes		
C	SOUTHMAYD - NEW WELLS IN WOODBINE AQUIFER Q-141	2070	PROJECT SPONSOR(S): SOUTHMAYD	RECOMMENDED WMS PROJECT	1071	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$1,068,000								Yes		
C	UTRWD WTP AND TREATED WATER DISTRIBUTION SYSTEM WATER MANAGEMENT STRATEGIES 2060-2070 Q-54	2070	PROJECT SPONSOR(S): UPPER TRINITY REGIONAL WD	RECOMMENDED WMS PROJECT	1154	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$110,774,000		Yes	93921	$110,774,000	2070	Market		Yes		
C	WALNUT CREEK SUD - NEW 12 MGD WATER TREATMENT PLANT Q-12	2070	PROJECT SPONSOR(S): WALNUT CREEK SUD	RECOMMENDED WMS PROJECT	857	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$53,337,000								Yes		
C	WAXAHACHIE - HOWARD RD. WATER TREATMENT PLANT EXPANSION 3 Q-13	2070	PROJECT SPONSOR(S): WAXAHACHIE	RECOMMENDED WMS PROJECT	937	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$29,353,000								Yes		
C	WAXAHACHIE UNALLOCATED SUPPLY UTILIZATION	2070	WMS SUPPLY RECIPIENT: WAXAHACHIE	RECOMMENDED WMS SUPPLY WITHOUT WMS PROJECT	32481	No			Not implemented	This is only a WMS, not a project. No sponsc			$ -	$0										
C	WEATHERFORD - WATER TREATMENT PLANT EXPANSION 2 Q-13	2070	PROJECT SPONSOR(S): WEATHERFORD	RECOMMENDED WMS PROJECT	939	Yes	2018	2065	Sponsor has taken official action to initiate project	Sponsor has indicated this project should continue to be in Regional Plan. Sponsor retains this project in their master plan				$49,781,000								Yes		

Appendix Q

Comments on Initially Prepared Plan

Appendix Q Responses to Comments on IPP

Section Outline

Section Q.1 – Introduction

Section Q.2 – Agency Comments

Section Q.3 – Public Comments

Section Q.4 – Other Changes

Related Documents

Attachment Q-1 – Copies of original comments

Q.1 Introduction

This appendix contains comments on the *2021 Initially Prepared 2021 Region C Water Plan (IPP)* received by the Region C Water Planning Group (RCWPG) with corresponding responses.

After the submittal of the IPP to the TWDB, copies of the IPP were distributed to the required locations, including county clerk offices in all 16 Region C Counties and at least one public library in each of the 16 Region C counties. These copies were made available to the public at these locations 30 days prior to the May 26, 2020 Public Hearing. Additionally, an electronic copy of the IPP was made available to the Public on the Region C Regional Planning Group website.

State agencies (such as the Texas Water Development Board, Texas Parks and Wildlife, and the Texas State Soil and Water Conservation Board) were given the opportunity to review and submit written comments on the IPP up to 90 days after the Public Hearing. Responses to these comments are located in **Section Q.2.** Additionally, the Public was given the opportunity to comment on the IPP at the Public Hearing as well as the opportunity to submit written comments up to 60 days after the Public Hearing. Responses to these comments are located in **Section Q.3.** Original comments on the IPP are compiled and located in **Attachment Q-1**. Any other changes made to the IPP that were not directly related to an official comment are summarized in **Section HQ.4**.

Q.2 Agency Comments

A summary of the agency comments received are shown in **Table Q.1.** Comments are listed in the order of the count shown in **Table Q.1**. Responses to comments are shown immediately after each received comment in ***blue font***.

Table Q.1 Summary of Agency Comments

Count	Name	Representing
1	Jessica Zuba	Texas Water Development Board
2	Cindy Loeffler	Texas Parks and Wildlife
3	Barry Mahler, Rex Isom	Texas State Soil and Water Conservation Board

Q.2.1 TWDB Comments on 2021 Initially Prepared Region C Regional Water Plan with Responses

Level 1: Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract

1. Chapter 5 and the State Water Planning Database (DB22). The plan includes the following recommended water management strategies (WMS) by WMS type, providing supply in 2020 (not including demand management): one *new major reservoir*, 24 *groundwater wells & other*, seven *indirect reuse*, three *other direct reuse*, and 15 *other surface water*. Strategy supply with an online decade of 2020 must be constructed and delivering water by January 5, 2023.

   a) Please confirm that all strategies shown as providing supply in 2020 are expected to be providing water supply by January 5, 2023. *[31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]*

   The following water management strategies are shown as providing supply in 2020 and are expected to be providing water supply by January 5, 2023, unless otherwise noted.

   Major Reservoir

   - ***NTMWD – Bois d'Arc Lake:*** *This project is currently under construction and initial operation is projected to begin in 2022.*

   Groundwater Wells & Other

   Groundwater well strategies have a relatively short timeline from design to construction as compared to other strategies. Based on the most updated information available from Region C water providers, the following strategies are expected to be providing water supply by January 5, 2023. The one exception is the 'TRWD – Carrizo-Wilcox' water management strategy. This strategy is not projected to be implemented until 2040. This was corrected in the database. Please see response to comment #12 for more information.

   - ***Anna – New Well(s) in Woodbine Aquifer***
   - ***Argyle WSC – New Well(s) in Trinity Aquifer***
   - ***Blooming Grove – New Well(s) in Woodbine Aquifer***
   - ***Bolivar WSC – New Well(s) in Trinity Aquifer***
   - ***County-Other, Denton – New Well(s) in Trinity Aquifer***
   - ***County-Other, Denton – New Well(s) in Woodbine Aquifer***
   - ***County-Other, Parker – New Well(s) in Trinity Aquifer***
   - ***Cross Timbers WSC – New Well(s) in Trinity Aquifer***
   - ***Gunter – New Well(s) in Trinity Aquifer***
   - ***Irrigation, Fannin – New Well(s) in Trinity Aquifer***
   - ***Justin – New Well(s) in Trinity Aquifer***

- ***Krum – New Well(s) in Trinity Aquifer***
- ***Lakeside – New Well(s) in Trinity Aquifer***
- ***Livestock, Henderson – New Well(s) in Carrizo-Wilcox Aquifer***
- ***Livestock, Tarrant – New Well(s) in Trinity Aquifer***
- ***Manufacturing, Wise – New Well(s) in Trinity Aquifer***
- ***Mining, Grayson – New Well(s) in Trinity Aquifer***
- ***Northwest Grayson County WCID 1 – New Well(s) in Trinity Aquifer***
- ***Pelican Bay – New Well(s) in Trinity Aquifer***
- ***Pilot Point – New Well(s) in Trinity Aquifer***
- ***South Freestone County WSC – New Well(s) in Carrizo-Wilcox Aquifer***
- ***Teague – New Well(s) in Carrizo-Wilcox Aquifer***

Indirect Reuse

- ***Denton – Unallocated Supply Utilization:*** *The supplies for this strategy are from Denton's existing indirect reuse that is limited by the current WTP capacity. Denton has no need in 2020 and the next WTP expansion is not planned to be implemented until 2030. DB22 was updated to show this strategy to be online in 2030.*
- ***DWU – Indirect Reuse Implementation:*** *The supplies for this strategy in 2020 include DWU's share of additional discharges to Lewisville Lake as well as the Elm Fork Swap and Ray Hubbard Exchange. Both are contractual and do not require any additional infrastructure components. Therefore, supplies are expected to be available prior to 2023. Please refer to Chapter 5D for more details.*
- ***Midlothian – Indirect Reuse:*** *The supplies for this strategy utilize effluent from the TRA Mountain Creek Regional Wastewater System and will augment Joe Pool Lake supplies. Midlothian will need a contract with TRA and a relatively simple expansion to their Tayman WTP to implement this strategy. It is projected that this strategy can be online prior to 2023. Please refer to section 5E.5.1 for more details.*
- ***Mining, Jack – Indirect Reuse (Jacksboro):*** *The supplies for this strategy will be effluent from the City of Jacksboro WWTP and is planned to replace existing City of Jacksboro potable water supply sales to Jack County Mining. This strategy is projected to be implemented prior to 2023 because no infrastructure is required. Mining operations tanker trucks will be filled with raw, nonpotable water directly from the source.*
- ***Seagoville – Unallocated Supply Utilization:*** *Seagoville fulfills all of its demand with purchased, treated supplies from DWU. Existing supplies are limited by pump station capacity. It is projected that the necessary pump station expansion will occur before 2023 to meet the City's needs.*
- ***TRWD – Additional Cedar Creek and Richland-Chambers:*** *This strategy will not be online until 2030. This was updated in the database.*
- ***Waxahachie – Unallocated Supply Utilization:*** *The supplies for this strategy are from Waxahachie's existing indirect reuse that is limited by the current WTP capacity. Waxahachie has no need in 2020 and the next WTP*

expansion is not planned to be implemented until 2030. DB22 was updated to reflect this strategy is online in 2030.

- ***Weatherford – Indirect Reuse (Lake Weatherford/Sunshine):*** *Weatherford's reuse permit has both an interim and an ultimate phase. Supplies shown in 2020 are projected to be online prior to 2023.*

Direct Reuse

Based on the most updated information available from Region C water providers, the following strategies are expected to be providing water supply by January 5, 2023.

- ***Frisco – Additional Direct Reuse***
- ***Gainesville – Expand Direct Reuse for Irrigation***

Other Surface Water

- ***Denison – Texoma with Infrastructure Improvements:*** *The City of Denison currently blends Texoma supplies with supplies from Lake Randell. Due to blending constraints, additional supplies from Texoma will need to be desalinated. No expansion to the raw water delivery system will be needed prior to 2030. The only infrastructure needed prior to the 2020 implementation deadline is a 4 MGD Desalination WTP. This strategy is needed in order to meet the City's 2020 need. It is expected that this strategy will be online by 2023.*
- ***DWU – Conservation Surplus Reallocation:*** *Conservation is a demand reduction strategy. However, conservation quantities are specific to individual DWU customers. This water management strategy is implemented to attempt to update DB22 to reflect what will be happening. Existing supplies that were allocated to a specific customer can be reallocated to another customer with a need after conservation measures have been implemented. There is no infrastructure or projects associated with this strategy and so the strategy meets the 2020 implementation deadline.*
- ***Muenster – Develop Muenster Lake Supply:*** *This strategy encompasses a 0.5 MGD WTP. A plant of this size can be implemented relatively easily utilizing measures such as package plants. It is the intent of the City that this strategy is implemented prior to the 2020 deadline to give the City a redundant source. However, the City can continue to meet all their demand utilizing their existing groundwater sources. For planning purposes, this strategy is shown to be online prior to 2023.*
- ***TRWD – Aquifer Storage and Recovery Pilot:*** *The first phase of this project is already under construction and is planned to be completed prior to the 2020 implementation deadline.*
- ***Fort Worth – Unallocated Supply Utilization:*** *Fort Worth has no need in 2020 after conservation and the next WTP expansion is not planned to be implemented until 2030. DB22 was updated to show this strategy to be online by 2030.*

- ***Gainesville – Unallocated Supply Utilization:*** *The City of Gainesville has existing groundwater supplies in the Trinity aquifer and existing surface water supplies in Moss Lake. In DB22 this strategy was updated to reflect these two sources (previously combined in one strategy). Groundwater supplies do not need any additional infrastructure to access and will be implemented and utilized by Cooke County mining in 2020. The next WTP expansion (Moss Lake supplies) is not planned to be implemented until 2050. DB22 was updated to show this strategy to be online by 2050.*
- ***Jacksboro – Unallocated Supply Utilization:*** *These supplies only require a relatively small connection (7 ac-ft/yr) to the Jack County Other water user. This strategy is projected to be implemented prior to the 2020 deadline.*
- ***Midlothian – Unallocated Supply Utilization:*** *These supplies only require a WTP expansion. The City has already begun to move forward with the design and construction of the first expansion and is projected to be completed prior to the 2020 deadline.*
- ***Runaway Bay – Unallocated Supply Utilization:*** *Existing raw water supplies from TRWD are currently limited by the City's WTP capacity. A WTP expansion is needed to meet the projected 2020 need. It is projected that the 3 MGD expansion will be completed prior to the 2020 implementation deadline.*
- ***Sherman – Unallocated Supply Utilization:*** *This strategy accounts for existing supplies that can be treated using the City's current WTP facilities and delivered to future direct customers. The only customer that has needs in 2020 is Southmayd. A direct connection to this entity will be relatively straightforward (only requires transmission infrastructure and no raw water or treatment expansions) and is projected to be implemented prior to the 2020 implementation deadline.*
- ***TRWD – Unallocated Supply Utilization:*** *The supplies for this strategy are existing supplies that were not allocated due to TRWD's existing customer constraints (whether due to a contractual or infrastructure constraint). This strategy takes those existing supplies and allocates to water users with needs in 2020. This strategy assigns water only to those customers with needs in 2020 that have existing infrastructure capacities or will implement the necessary measures to access and/or treat these additional supplies by the 2020 implementation deadline.*
- ***Walnut Creek SUD – Unallocated Supply Utilization:*** *The supplies for this strategy are existing supplies from TRWD (see above) that will become accessible after a 6 MGD WTP expansion. This expansion is expected to be online by 2023 to meet the SUD's water needs.*
- ***Wise County WSD – Unallocated Supply Utilization:*** *The supplies for this strategy are existing supplies from TRWD (see above) that will become accessible after a 9 MGD WTP expansion. This expansion is expected to be online by 2023 to meet the WSD's water needs.*

b) Please provide the specific basis on which the planning group anticipates that it is feasible that the *new major reservoir* and 15 *other surface water*. WMSs will all actually be online and providing water supply by January 5, 2023. For example, provide information on actions taken by sponsors and anticipated future project milestones that demonstrate sufficient progress toward implementation. *[31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]*

Please see responses above.

c) In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly, and also indicate whether 'demand management' will be the WMS used in the event of drought to address such water supply shortfalls or if the plan will show these as simply 'unmet'. If municipal shortages are left 'unmet' and without a 'demand management' strategy to meet the shortage, please also ensure that adequate justification is included in accordance with 31 TAC § 357.50(j). *[TWC § 16.051(a); 31 § TAC 357.50(j); [31 TAC § 357.34(i)(2); Contract Exhibit C, Section 5.2]*

The Region C Water Plan and DB22 has been updated to reflect any changes that were made as a result of the comments included within this appendix. There are no municipal shortages that are left 'unmet'.

d) Please be advised that, in accordance with Senate Bill 1511, 85th Texas Legislature, the planning group will be expected to rely on its next planning cycle budget to amend its 2021 Regional Water Plan during development of the 2026 Regional Water Plan, if recommended WMSs or projects become infeasible, for example, due to timing of projects coming online. Infeasible WMSs include those WMSs where proposed sponsors have not taken an affirmative vote or other action to make expenditures necessary to construct or file applications for permits required in connection with implementation of the WMS on a schedule in order for the WMS to be completed by the time the WMS is needed to address drought in the plan. *[Texas Water Code § 16.053(h)(10); 31 TAC § 357.12(b)]*

This is understood. The 2021 Region C Water Plan has been updated with the information available at the time of publication.

2. Chapter 2, page 2-89, Attachment 5. Please revise the table header "Wholesale Water Provider" to "Major Water Provider" in the final, adopted regional water plan. [31 TAC § 357.31(f)]

   Region C revised this in the final, regional water plan. The table header was updated to "Major Water Provider."

3. Section 3.3., Table 3.5, page 3.12. Table 3.5 appears to present counties associated with the Cross Timbers Aquifer that are inconsistent with the DB22. Please reconcile as necessary in the final, adopted regional water plan. [31 TAC § 357.32(d)]

   Region C revised this in the final regional water plan. The Cross Timbers Aquifer is now associated with Jack and Parker County.

4. Appendix E, Section E.9, Table E.9. Several aquifer/county/basin geographic splits with modeled available groundwater (MAG) values of zero appear to be missing from Table E.9, for example Queen City/Freestone; Woodbine/Kaufman/Sabine;

Trinity/Rockwall/Sabine; Woodbine/Rockwall/Sabine Basin. Please add these geographic splits to Table E.9 in the final, adopted regional water plan. [31 TAC § 357.32(d)]

Region C added these geographic splits in the final regional water plan.

5. Appendix E, Section E.9, Table E.9. Trinity Aquifer, Jack County, and Nacatoch Aquifer, Henderson County are presented as groundwater availability sources, but these sources are not represented in DB22. Please reconcile this information in the final, adopted regional water plan. [Contract Exhibit C, Section 3.5.2]

   Region C reconciled this information in the final regional water plan. Region C removed the zero quantity groundwater availability sources from Appendix E, Section E.9, and Table E.9 in order to match what is represented in DB22.

6. Section 4.2, page 4-5. The plan does not appear to include needs (potential shortages) for major water providers (MWP) reported by category of use including municipal, mining, manufacturing, irrigation, steam electric, mining, and livestock. Please report the results of the needs analysis for MWPs by categories of use as applicable in the region in the final, adopted regional water plan. [31 TAC § 357.33(b)]

   Region C included needs for major water providers reported by category of use in the final regional water plan. Please see Table 4.4 for reference.

7. Section 4.5, page 4-6. The plan does not appear to include a secondary needs analysis for MWPs. Please present the results of the secondary needs analysis by decade for MWPs in the final, adopted regional water plan. [31 TAC § 357.33(e)]

   Region C included a secondary needs analysis by decade for MWPs in the final regional water plan. Please see Table 4.6 for reference.

8. Chapter 5B. The plan includes reuse recommendations in the conservation recommendation subchapter; however, it is noted that conservation and reuse are presented in separate subsections. Please add a clarifying statement to Chapter 5B noting that reuse is considered a unique strategy type for regional water planning purposes and is reported separately in DB22 in the final, adopted regional water plan. [31 TAC § 357.34(j); Contract Exhibit C, Section 5.10]

   Region C included a clarifying statement to Chapter 5B that notes that reuse is considered a unique strategy type for regional water planning purpose. Please see Page 5B.1 for reference. Additionally, the different strategy types are discussed in more detail in Chapter 5A.

9. Table 5E.258, page 5E-327 and Appendix E page 5. The approved Hydrologic Variance for Region C does not specify the addition of return flows in the modeling that was used for calculating the Lake Jacksboro and the Lost Creek System yield. Please clarify whether Jacksboro's authorized indirect reuse return flows are utilized in the firm yield modeling of the Lost Creek/Jacksboro System yield or are a separate source of supply for the water user groups (WUG) in the final, adopted regional water plan and DB22. [31 TAC § 357.32(c)]

   As stated in Appendix E Section E.2, the firm yield of the Lost Creek-Jacksboro system, as calculated in the Region C WAM, is more than the water right of 1,397

acre-feet per year. This yield does not include return flows and is consistent with the Hydrologic Variance request. The 200 acre-feet of return flows is an additional authorization in Certificate of Adjudication 08-3133 and is considered by Region C to be part of the reservoir system yield. This reuse is currently only authorized for irrigation. Since return flows from Jacksboro are more than 200 acre-feet per year the full amount is considered to be available for use – it is not a modeled yield. Appendix E was clarified regarding the authorizations of water.

10. Chapter 5. Please include documentation of why brackish groundwater desalination was not selected as recommended WMS in the final, adopted regional water plan. [Texas Water Code § 16.053(e)(5)(j); Contract Exhibit C, Section 5.2; 31 § TAC 357.34(g)]

    Brackish groundwater was considered but not recommended as a water management strategy because there were no water providers that selected brackish groundwater desalination as a recommended strategy during this round of planning. Brackish groundwater desalination was included within the plan as an alternative water management strategy for MEN WSC in Navarro County. Region C included the following statement for documentation purposes in Section 5A.1.5; "In this round of planning, there are no recommended water management strategies utilizing brackish groundwater desalination because municipal needs are able to be met through other strategies. However, brackish groundwater desalination was considered and is included as an alternative water management strategy for MEN WSC."

11. Chapter 5 and Appendix H. The plan does not appear to address how anticipated water losses associated with WMS yields were taken into account. Please provide an estimate of strategy water losses in the final, adopted regional water plan. [Contract Exhibit C, Section 5.2.3]

    Specific losses in treatment and delivery were only included within a water provider's plan if requested by the water provider. NTMWD and UTRWD specifically requested that treatment and delivery losses be considered as part of their demands. Losses associated with desalination water treatment were estimated at 25 percent of the source water. Water losses from conventional treatment are expected to be minimal and were not directly considered. Region C added the following to Appendix H's Introduction to clarify; "Anticipated water losses for treatment were considered when sizing the raw water infrastructure for water management projects. For desalination treatment plants, losses were estimated at 25 percent of the source water. Water losses for conventional treatment are expected to be minimal and were not considered unless specially requested. WMS yields shown in the tables represent finished water. Water losses associated with delivery are incorporated into the demand calculations and are not addressed separately unless requested. Both NTMWD and UTRWD requested that 5% of total demand (both existing and potential future) be reserved for assumed losses in treatment and delivery. These losses are included within the major water provider plans discussed in Chapter 5D."

12. Chapter 5 and DB22. The plan includes WMS projects that appear to come online after the related WMS is initially online providing supply. For example, the TRWD - Carrizo-Wilcox Groundwater WMS is reported to provide supply in 2020, however the related WMS project in DB22 does not come online until 2040. For WMS projects that are necessary for a strategy to deliver water, please ensure that the project is associated with the initial

decade, or earlier decade, that the strategy is delivering supply. In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly. [31 TAC § 357.10(21); Contract Exhibit C, Section 5.2]

The TRWD - Carrizo-Wilcox Groundwater strategy is intended to come online in 2040. There were several incorrect entries in the database associated with shared WUGs with other regions. This has been corrected for the final plan.

13. Appendix G. Some alternative WMS evaluations are assigned an implementation decade of NA in the plan, however associated alternative projects in DB22 are assigned an online decade. For example, George Parkhouse Reservoir I (South) is noted NA in Section G.3.1, but alternative projects in DB22 reflects an online decade of 2050, and Lake O' the Pines is noted NA in Section G.5.3 but the alternative project in DB22 reflects an online decade of 2030. Please ensure that all alternative WMSs have been fully evaluated in accordance with rule and guidance, revise the online decade information in the text of the plan to reflect the online decade in DB22, and ensure that all fully evaluated alternative WMS are included in DB22, in the final, adopted regional water plan. [31 TAC § 357.35(g)(3); 31 TAC § 357.50(g)(2)(B); Contract Exhibit C, Section 5.7]

Region C updated the online decade for alternative water management strategies in Appendix G from 'NA' to match the online implementation date in DB22 (see below).

Alternative Strategy	Updated Online Decade
George Parkhouse Reservoir (North)	2050
George Parkhouse Reservoir (South)	2050
Carrizo-Wilcox/Queen City (Region D) Groundwater	2020
Cypress Basin Supplies (Lake O' the Pines)	2030
Toledo Bend	2070

Region C also updated Sections 5.D and 5.E to reflect online dates for any water provider's alternative strategies. Lastly, Region C updated DB22 to include all fully evaluated alternative strategies.

14. Section 5.C.1.7, page 5C-9, 1st paragraph. The plan appears to present information on the yield for Marvin Nichols Reservoir that is inconsistent with the Table 5A.1 and DB22. For example, page 5C-9 presents the yield for water users within Region C as 361,000 ac-ft/yr and the yield is presented as 361,200 ac-ft/yr in Table 5A.1 and in DB22. Additionally, the firm yield of 451,300 ac-ft/yr presented on page 5C-9 does not appear to match the firm yield represented in DB22 as 451,500 ac-ft/yr. Please reconcile this information as necessary in the final, adopted regional water plan. [31 TAC § 357.35(g)(1)]

Marvin Nichols (328) firm yield is 451,500 ac-ft/yr, with 20% reserved for local use (90,300 ac-ft/yr) and 80% for Region C (361,200 ac-ft/yr). Region C updated Chapter 5C.1.7 to reflect the correct values.

15. Chapter 5E. The plan appears to include non-recommended or alternative strategies in the county summary tables. For example, Table 5E.411 includes zero yield for Wise County Manufacturing Conservation, but page 5E.510 states that conservation for Wise County Manufacturing is not recommended. Table 5E.410 for example, includes strategy types

that are not recommended for Wise County and lists a zero yield. Please remove any zero yield strategy references from the County Summary tables in the final, adopted regional water plan to avoid confusion, since regional water plans may not include zero yield recommended strategies. [31 TAC § 357.34(d)]

Region C corrected this in the final regional water plan.

16. Appendix G.2.2. It is not clear from the plan what is included in the capital cost estimates for the Generic Dredging WMS. Page G.13 states that "Capital costs were based on previous projects and dredging costs.", and Table H.16 does not provide details on the capital cost components. Please provide additional details of the project components associated with the capital cost in the final, adopted regional water plan. [Contract Exhibit C, Section 5.5]

    Unit costs for the general dredging strategy were derived from previous dredging projects. To better understand the potential feasibility of dredging for water supply, costs were developed to dredge three lakes in Region C: Lake Bridgeport, Eagle Mountain Lake and Lake Ray Hubbard. Details of these costs are included in Tables H-16a, H-16b, and H-16c. Region C also added the following statement to Section G.2.2 under the Cost Analysis; "Costs associated with general dredging projects include bathymetric survey, sediment testing, dredging, and disposal."

17. Appendix G.3.9. The plan displays a 2080 online decade for the Toledo Bend alternative WMS, however DB22 reports several alternative projects for Toledo Bend with an assigned 2030 online decade. Please reconcile as necessary, including assigning an implementation decade within the current planning horizon (2020- 2070) in the final, adopted regional water plan. [Contract Exhibit C, Section 5.7]

    As discussed in Chapter 5D it is projected that this strategy will be recommended in 2080. However, the sponsors of this strategy requested that this strategy be kept within the 2021 Region C Water Plan as an alternative strategy. Region C updated the final regional water plan to show the alternative water management strategy 'Toledo Bend' as having an online date of 2070. Changes were made to Section 5.D, Appendix G and DB22.

18. Appendix H, Table H.45. It is not clear from the plan what is included in the capital costs estimates for the NTMWD - Additional Measures to Access Full Lavon Yield WMS project. The capital costs presented in Table H.45 are listed as Construction Costs. Please provide additional details of the project components associated with the capital cost in the final, adopted regional water plan. [Contract Exhibit C, Section 5.5]

    This strategy includes horizontal floating pumps so that NTMWD can access supplies from Lavon Lake at lower elevations. Region C updated the cost estimate to include the description "Horizontal floating pumps".

19. Appendix H, Table H.95. The City of Irving indirect reuse project does not specify any components associated with the capital cost. Please clarify what projects components are included in the cost estimates for this project in the final, adopted regional water plan. [Contract Exhibit C, Section 5.5.3]

    Project components include UV pre-treatment facilities and transmission infrastructure. Region C updated the cost estimate to include these components.

20. Units costs reported in DB22 appear notably high for the following WMSs: Conservation, Water Loss Control – Bedford ($1,762,821), Conservation, Water Loss Control – Blue Ridge ($83,014, $61,208, $59,296, $61,034), TRWD – Carrizo-Wilcox Groundwater – Bethesda WSC ($798,375). Please confirm that the calculated unit costs are correct in DB22 and that costs were considered in WMS recommendations in the final, adopted regional water plan. [31 TAC § 357.34(e)(2)]

    Region C updated DB22 with corrected unit costs. The following changes were made to those specifically referenced in this comment; 'Conservation, Water Loss Control – Bedford' ($1,762,821 updated to $3,740) & 'TRWD – Carrizo-Wilcox Groundwater – Bethesda WSC' ($798,375 updated to $798). No changes were made to Blue Ridge conservation costs. These costs are derived from the methodology used for all WUGs. A review of this methodology may be warranted during the 2026 planning cycle for smaller WUGs.

21. Appendix H, Table H.131. It is not clear from the plan whether the 'Pump Replacement at WTP' component of the Athens MWA - Infrastructure Improvements at WTP project is necessary to increase the treated water supply volume to the entity. Please ensure that no infrastructure maintenance or repair costs and only costs that are required to increase the volume of water supply are included in the final, adopted regional water plan. [Contract Exhibit C, Section 5.5.3]

    The Athens MWA's WTP is located at Lake Athens. This project is necessary to convey supplies from Athens MWA to the City of Athens. The project will provide for additional transmission capacity from the WTP.

22. Chapter 5. The contract Scope of Work, Task 5A, 21(e)vi indicates that Lake Ringgold will be evaluated as a potential strategy for TRWD, however Lake Ringgold does not appear to be mentioned in the plan. Please document in the final, adopted regional water plan why Lake Ringgold, a previously recommended strategy in regional water plans, was not evaluated as a potentially feasible strategy. [Contract Scope of Work, Task 5A]

    TRWD requested that this water management strategy no longer be considered a potentially feasible WMS for TRWD since it is being pursued by Wichita Falls. This is documented here, in Appendix Q, of the final regional water plan.

23. Section 7.3, page 7-8. The plan indicates that a list of emergency interconnects would be submitted to the TWDB separately. At the time of review, the TWDB has not received additional emergency interconnect information from the region. Please ensure that the full list of existing and potential emergency interconnects is included in the final, adopted regional water plan. [31 TAC § 357.42(d)]

    Region C's full list of existing and potential emergency interconnects was submitted to the EA confidentially and separately from the final regional plan as per the General Guidance Section 7.3 on September 4, 2020.

24. Section 7.4, pages 7-8 through 7-9. Please confirm whether the entities evaluated for emergency responses to local drought conditions or loss of municipal supply were assumed to have 180 days or less of remaining supply. [Contract Exhibit C, Section 7.4]

Region C updated Section 7.4 to include confirmation that the entities evaluated for emergency responses to local drought conditions or loss of municipal supply were assumed to have 180 days or less of remaining supply.

25. Chapter 7. The plan does not appear to include a discussion of whether drought contingency measures have been recently implemented in response to drought conditions. Please describe this in the final, adopted regional water plan. [Contract Scope of Work, Task 7, subtask 3]

    Chapter 7 has been revised to include a new section 'Recent Implementation of Drought Contingency Measures in Region C' which includes this discussion.

26. Chapter 10, Section 10.4.2. The plan notes that all meetings were held in accordance with the Texas Open Meetings Act but does not discuss compliance with the Texas Public Information Act. Please address how the planning group complied with the Texas Public Information Act in the final, adopted regional water plan. [31 TAC §357.21; 31 TAC §357.50(f)]

    Region C added the following statement to Section 10.4; "All regular, committee, and subcommittee meetings of the regional water planning group were posted and held in accordance with the Texas Open Meetings Act, the Texas Public Information Act, statute, and regional water planning rules."

27. Chapter 11. Please provide a reference to the Implementation Survey (Appendix P) in Chapter 11 of the final, adopted regional water plan. [31 TAC § 357.45(a)]

    Appendix P is included in the list of related appendices on Page 1 of Chapter 11. Region C added another reference to the Implementation Survey in Section 11.1.

28. Chapter 11. Please provide a brief summary of how the 2016 Plan differs from the 2021 Plan with regards to recommended and alternative WMS projects in the final, adopted regional water plan. [31 TAC § 357.45(b)(4)]

    Chapter 11 was revised to clarify that the chapter includes a summary of changes to both Water Management Strategies and Water Management Strategy Projects. The majority of the strategies included in the plan have a corresponding project of the same name.

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

1. Page 1.19 and Table 1.7. The Blossom Aquifer is indicated as being a groundwater source within Fannin County in Region C, however the Blossom Aquifer is not present in Fannin County. Please review this and consider revising as necessary.

    Data in Table 1.7 (which shows quantities from the Blossom Aquifer in Fannin County) is from TWDB (https://www3.twdb.texas.gov/apps/reports/WU/SumFinal_Groundwater_Pumpage). ***Region C left the table as is.***

2. Page 1-30, page 5B.35, and page 5D.44. The plan references the Sulphur Basin Supplies WMS in multiple locations, however the strategy has been renamed this planning cycle. Please update these references as appropriate in the final plan.

   Page 1.30 is referring to the 2016 Region C Regional Water Plan when the strategy was combined and referred to as the "Sulphur Basin Supplies" WMS. Region C left this reference as is. Page 5B.35 and 5D.44 are referring to UTRWD's reuse strategy which utilized both Marvin Nichols and Wright Patman (supplies from the Sulphur Basin). Region C revised the wording.

3. Chapter 3. Please consider including a map of Cross Timbers Aquifer.

   Region C updated the figure of the minor aquifers in Chapter One (Figure 1.3) to include the Cross Timbers Aquifer.

4. Page 3-12, Table 3.5. Please consider revising the heading of Table 3.5 to Groundwater Availability in Region C (Acre-Feet per Year).

   Region C revised this in the final regional water plan.

5. Section. 3.4, page 3.13 states: "Table 3.6 and Figure 3.2 show the currently available water supplies in Region C by different source types", however Figure 3.2 is a map of the GCDs in Region C. Please correct this as appropriate in the final plan.

   Region C updated this reference to the correct figure.

6. Section 5A.1.1, page 5A-2. Please consider revising the sentence stating that 140 GPCD is the state goal for municipal water conservation. This is a recommendation from the Water Conservation Implementation Task Force, rather than a state goal.

   Region C revised this sentence in the final regional water plan to "140 gallons per person per day, which is a recommended GPCD goal from the Water Conservation Implementation Task Force."

7. Section 5E.16.1, Table 5E.406, page 5E-11. The plan states that conservation is not recommended for Wise County Mining, however Table 5E.406 and DB22 show conservation WMS supply for this WUG. Please reconcile this as necessary in the final plan.

   Region C corrected section 5E.16.1 and Table 5E.406 to reflect that conservation is recommended for Wise County Mining in the final regional water plan.

8. Chapter 11, p. 11-1, the highlight box indicates that Lake Fork and Lake Tawakoni are among the eastern reservoirs with new droughts of record. Please consider reconciling the apparent inconsistency of information as reported in App E, p. 4 and as highlighted in Chapter 11, p. 11-1.

Region C reconciled these differences and removed Lake Fork and Tawakoni from the Chapter 11 highlight box.

9. Appendix E. The table of contents for Appendix E is not consistent with the contents. Please review and reconcile in the final plan.

Region C reviewed and reconciled the table of contents in the final regional water plan.

10. Appendix E, page 4, please consider providing a reference for the statement: "It should be noted that the recent drought (2010-2015) did not represent a new drought of record for Lake Fork or Lake Tawakoni".

This statement is based on an unpublished informal assessment of the potential for a new drought of record in various basins conducted internally by FNI. The text has been changed to say, "It should be noted that the recent drought (2010-2015) most likely did not represent a new drought of record for Lake Fork or Lake Tawakoni."

11. Appendix G, pages G.36 and G.42. The Texas Instream Flow Program (Senate Bill 2) is erroneously equated with the TCEQ's environmental flow rulemaking process (Senate Bill 3). Please consider revising this in the final plan.

The reference to the Texas Instream Flow Program has been removed, leaving only the reference to Senate Bill 3.

12. Appendix H, page H-1. The plan appears to include outdated references including reference to TWDB's guidance from the fourth cycle, reference to cost assumptions in the 2016 plan, and a memo from 2013. Please consider updating these references as appropriate in the final plan.

Region C updated the introduction in Appendix H as appropriate in the final regional plan.

13. Appendix H. The plan includes several cost tables, for example, H.46, H.58, that include Conflicts as a line item under capital cost, Total Cost of Facilities. Please consider clarifying what is included as a conflict capital cost and consider incorporating this cost into the Total Cost of the Project cost section.

Conflicts are typically included for projects that encompass large areas, such as new reservoir development. Conflicts include transportation and utility relocations and modifications to other infrastructure that would be impacted by the proposed project. A statement to this effect was added in Appendix H.

14. Please consider clarifying the increase and reasonableness in demand reduction for reported in DB22 for South Ellis County WSC in decades 2060 and 2070, which results in a demand reduction of over 40 percent of the total demands in those decades.

South Ellis County WSC reported only one water loss percentage (57.3%). Consistent with the Region C methodology for determining water savings from water loss reductions, the potential for water loss recovery is nearly 40%. Region C added the following clarification to South Ellis County WSC's description in Section 5E.5.1 in the final regional plan; "The majority of need in 2050-2070 is met through water conservation measures, most notably an enhanced water loss control program consisting of elements such as water main replacement. More details about water conservation measures can be found in Appendix I."

15. Appendix A. Please consider updating the 'Consistency with TWDB Rules' appendix to reflect updated rule references, based on amendments to 31 TAC Chapter 357 adopted by the TWDB Board on June 4, 2020.

    Region C updated Appendix A based on amendments to 31 TAC Chapter 357 adopted by the TWDB Board on June 4, 2020.

Q.2.2 Texas Parks and Wildlife Summarized Comments on 2021 Initially Prepare Region C Regional Water Plan with Responses

1. There have been recent updates (March 30, 2020) to the list of federal and state listed species and Species of Greatest Conservation need, including species in Region C Counties. We recommend that you update Table 1.14 with the latest information that is available at: https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/.

   Region C updated Table 1.14 with the latest information as of the March 30, 2020 update.

2. Desired future conditions (DFCs) adopted in 2017 for the primary aquifer in Region C, the Trinity, do not address protection of springs. Ultimately TPWD would like to see DFCs adopted to protect these features.

   Regional Water Planning Groups do not have input in the Groundwater Management Area and Groundwater Conservation District process of selecting Desired Future Conditions but encourages those entities to consider this comment when setting DFCs. No change needed in the final regional plan.

3. TPWD appreciates the inclusion of new quantitative information in the plan including potential habitat impacts, in stream miles, for the state listed Creek Chubsucker for George Parkhouse I and II, and Marvin Nichols reservoirs. TPWD continues to have concerns regarding impacts from new reservoir strategies as well as increased elevation at Wright Patman and encourages Region C to continue to update and improve the quantitative environmental information as it becomes available. TPWD looks forward to continued coordination with project sponsors to avoid, minimize and mitigate impacts to fish and wildlife resources.

Region C appreciates TPWD's recognition of the effort to include more quantitative environmental information within the regional plan. Region C recognizes concerns regarding impacts from new reservoir strategies and will strive to continue to update the quantitative environmental information included with the regional water plans. No change needed in the final regional plan.

4. TPWD commends Region C for progress made towards meeting the statewide goal of 140 gallons per person per day, as illustrated by Figure 5B.6.

   Region C appreciates TPWD's recognition of conservation efforts. Region C will continue to encourage additional conservation efforts. No change needed in the final regional plan.

5. To be further consistent with the long-term protection of natural resources TPWD recommends that Region C continue to seek alternatives to new surface water supplies such as additional water conservation measures and further study of all potential water management strategies such as aquifer storage and recovery and desalination.

   Region C appreciates your comments. No change needed in the final regional plan.

6. As in the previous planning cycles TPWD staff appreciates the time the planning group gave to evaluating whether to recommend stream segments as ecologically unique. Ultimately the workgroup and the Region C voting members decided not to recommend stream segments as ecologically unique due to concerns about regulatory implications of recommending and designating an ecologically unique stream segment. TPWD continues to support regional water planning groups in recommending ecologically unique river and stream segments. While TPWD does not have immediate plans to update the information for Ecologically Significant River and Stream Segments of Region C that was initially prepared by the department in 2000, we would support an update if Region C would find it beneficial in making a decision to recommend a river or stream segment as ecologically unique. New natural resources information is likely available for the river and stream segments the department has identified as well as for other segments not yet identified as candidates for the ecologically unique designation. We also support the planning group's legislative recommendation to form a working group comprised of representatives of TWDB, TPWD, TCEQ, and the sixteen water planning regions to bring clarity, purpose, and direction to designating streams as ecologically unique.

   Region C appreciates the TPWD's support of Region C's efforts regarding Ecologically Significant River and Stream Segments. Should TPWD update the information for Ecologically Significant River and Stream Segments of Region C, this information would be considered during updates of future regional water plans. No change needed in the final regional plan.

7. Section 1.11.3 of the 2021 IPP addresses TPWD's 2015 comments regarding invasive species and includes updated information regarding present known status of zebra mussels in Region C. Transporting zebra mussels is illegal. To prevent the transmission of invasive species TPWD recommends avoiding transport of water from

basins where these species are known to occur. If this is unavoidable these transfers of water should be directly to water treatment plants.

Region C water management strategies have been developed with the prevention of transmission of invasive species in mind. However, as TPWD knows, the transport of invasive species commonly occurs from boaters and users of the lakes. Water providers cannot directly control this type of transmission. Region C will continue to update this information throughout each regional planning process. No change needed in the final regional plan.

Q.2.3 Texas State Soil and Water Conservation Board Summarized Comments on 2021 Initially Prepared Region C Regional Water Plan with Responses

1. The TSSWCB is writing new Water Quality Management Plan Programs (WQMPs) for these new landowners who are implementing BMPs on their land. Education and implementation of proper land management and BMPs continues to be essential. Voluntary incentive-based programs are essential to continue to address soil and water conservation in Texas. These best management practices (BMPs) implemented for soil and water conservation provide benefits not only to the landowner but ultimately to all Texans and our water supply.

   Region C appreciates the TSSWCB's continued efforts towards soil and water conservation education and implementation. Region C agrees that proper land management and implementation of BMPs provide benefits not only to the landowner but all Texans and our water supply. No change needed in the final regional plan.

Q.3 Public Comments

The Region C Regional Water Planning Group appreciated each comment received from the public regarding the Initially Prepared Plan and appreciates those individuals and organizations who took the time to thoughtfully consider the plan and to present ideas to improve upon the plan. A summary of the public comments received are shown in **Table Q.2**. Comments are summarized for clarity within this section and are grouped by concern and/or topic. Responses to comments are shown immediately after in ***blue font***. Original comments on the Initially Prepared Plan can be found in **Attachment Q-1**.

Table Q.2 Summary of Public Comments

Count	Name	Representing/Subject Line
Oral Comments Received at Public Hearing		
1.	Janice Bezanson	Texas Conservation Alliance
2.	Ronna Hartt	Upper Trinity Regional Water District
3.	Ben Jones	Dallas resident
Comments Received via Letter or Report Format		
4.	Larry N. Patterson	Upper Trinity Regional Water District
5.	Janice Bezanson	Texas Conservation Alliance

Count	Name	Representing/Subject Line
6.	Rita Beving	Region C Comments from Rita Beving w/ Attachments
Comments Received via Email		
7.	Adelia Jones	Marvin Nichols Reservoir
8.	Alan Kazdoy	Marvin Nichols Reservoir
9.	Alex Holland	Opposed to Marvin Nichols Reservoir
10.	Alexander	NO to Marvin Nichols Reservoir!
11.	Allen Majefski	Stop reservoir
12.	Ashley Monismith	Opposition to Marvin Nichols Reservoir in Region C Water Plan
13.	Augustine Jalomo	Oppose the Marvin Nichols Reservoir
14.	Becky Lum	Marvin Nichols
15.	Brianna Veerasammy	Marvin Nichols Reservoir
16.	Carol Nash	Marvin Nichols Reservoir
17.	Caroline Vornberg	Do NOT build Marvin Nichols Reservoir!!! and Do not fund Marvin Nichols
18.	Cathy Wallace	Marvin Nichols Reservoir
19.	Chris Guldi	No to Marvin Nichols Reservoir
20.	Dalenn Maxwell	Marvin Nichols Reservoir comments
21.	Dan Moulton	Marvin Nichols reservoir
22.	Dawn Spalding	Region C Water Plan
23.	Dick Schoech	Do not build Marvin Nichols Reservoir.
24.	Grecia Alfaro	Building Reservoirs is out-dated
25.	Ida Ghorbani	URGENT: Region C Water Plan
26.	Jack Hughes	Remove the Marvin Nichols Reservoir from the Region C water plan
27.	Jan Falcona	No On Reservoir
28.	Jan Miller	No to Marvin Nichols Reservoir
29.	Jay B	Please drop M Nichols Reservoir
30.	Jeff Lu	Opposing Marvin Nichols Reservoir
31.	Jo Ann Duman	Coment on Region C Water Supply Plan
32.	John Lingenfelder	Comments on the 2021 IPP for Region C.
33.	John Mayes	Marvin Nichols
34.	John Mendy	Marvin Nichols Reservoir
35.	John Brooks	Region C IPP
36.	Julie Ryan	Deny Marvin Nichols Reservoir
37.	Julie Thibodeaux	SAVE THE OLD FORESTS – DROP MARVIN NICHOLS RESERVOIR OUT OF WATER PLAN
38.	Karen Dyer	Marvin Nichols Reservoir – please read
39.	Karla Zemler	Marvin Nicoles Reservoir
40.	Kathy Lawrence	Please DO NOT Build Marvin Nichols Reservoir
41.	Kelly Longfellow	Region C Water Plan: Marvin Nichols
42.	Kirk Miller	Region C Water Plan
43.	Kohl Zierath	Do the right thing!
44.	Kristi Purviance	Marvin Nichols Comment
45.	Layla Gulley	$4.4 B Marvin Nichols Reservoir

Count	Name	Representing/Subject Line
46.	Lori Lewis	Marvin Nichols Reservoir
47.	Maria Mar	No Marvin Nichols Reservoir!
48.	Marla Ballard	Marvin Nichols Reservoir
49.	Mary Cato	Marvin Nichols Reservoir
50.	Mary Warren	Better water plans to end the Marvin Nichols Reservoir project
51.	Marylee Thomason	Marvin Nicholas reservoir NO!
52.	Maureen Kellen-Taylor	Marvin Nichols Reservoir
53.	Melinda EB	For Kevin Ward (Marvin Nichols Res & the Region C Plan)
54.	Michael Martin	NO Marvin Nichols reservoir
55.	Michele Cyr	Marvin Nichols Reservoir
56.	MJ Bivens	Marvin Nichols Reservoir.
57.	Molly Rooke	Remove Marvin Nichols Reservoir from the Region C water plan
58.	Paula Day	Opposition to Marvin Nichols Reservoir
59.	Peggy Henger	Water Conservation
60.	Penelope Bisbee	Marvin Nichols Reservoir - No
61.	Rachel Ford	SAY NO to the Marvin Nichols Reservoir Project
62.	Rebecca Marin	Marvin Nichols Reservoir
63.	Richard Guldi	Don’t build Martin Nichols Reservoir
64.	Richard Rivera	NO to Region C Water Plan
65.	Roger Arnold	Marvin Nichols Reservoir
66.	Ryan Hamilton	Cancel the Marvin Nichols Reservoir
67.	Sahan Yerram	Don’t Build The Marvin Nichols Reservoir
68.	Seylah Williams	
69.	Sharon Richey	I urge you to vote NO!
70.	Simon Rook	No to Marvin Nichols Reservoir in the Region C water plan
71.	Stacy Clark	No on the reservoir.
72.	Steven Sverdlik	Marvin Nichols Reservoir
73.	Susan Cowger	Marvin Nichols Reservoir
74.	Tolbert Greenwood	Opposition to Marvin Nichols Reservoir
75.	William Cage	Marvin Nichols Water Reservoir
76.	William Forbes	Marvin Nichols Reservoir proposal

Q.3.1 Specific Comments on 2021 Initially Prepared Region C Regional Water Plan with Responses

1. **Upper Trinity Regional Water District –** Specific mark-ups were sent by Larry Patterson and are included in their entirety in Attachment Q-1. Ronna Hartt made an oral comment at the Public Hearing in support of the 2021 Region C Regional Water Plan. ***Region C appreciates UTRWD’s continued support of the regional planning process. Region C updated UTRWD’s sections as outlined in the letter. The one exception was updating the ‘Lake Ralph Hall and Reuse’ water management strategy’s reuse quantity from 15,391 to 21,179 acre-feet per year in its entirety. Chapter 5D was updated to explain that UTRWD will be seeking a state water right***

for return flows out of Lake Ralph Hall for up to 21,179 ac-ft/yr and cost estimates were developed based on this amount. However, for regional planning purposes the dry-year projected return flow value of 15,391 ac-ft/yr by 2070 is used.

2. **Janice Bezanson (Texas Conservation Alliance) –** Comments were provided on behalf of Texas Conservation Alliance in addition to oral comments from the Region C Public Hearing. ***Region C acknowledges TCA's review and comments on the IPP.***
   a. ***Current Supplies. The comment asserts that if the region as a whole can bring the average gpcd to 143 gpcd the current supplies will be adequate to meet 2070 demands. –*** *It is important to note that supplies listed within the plan as "overall supplies" are not the same as "connected supplies" (please see Chapter Two for more details). Region C continues to support water users in efforts to increase conservation efforts as a means to preserve existing supplies and delay the need for future supplies (please refer to Chapter 5B for more information on conservation and reuse measures). However, even assuming 143 gpcd is achievable for the projected population in 2070 would only reduce the municipal demand from 2.7 million ac-ft/yr to 2.4 million ac-ft/yr. Including the non-municipal demand increases this reduced demand from 2.4 million to 2.6 million ac-ft/yr. Connected supplies in Region C are only 1.7 million ac-ft/yr still leaving an overall shortage of approximately 900,000 ac-ft/yr. Additionally, this calculation does not account for any management supply factor or losses in treatment and delivery. It also does not account for increased non-municipal demands beyond 2030 that were not considered during this round of planning. However, during the regional planning process Region C evaluated potentially feasible strategies to connect to overall supplies as well as strategies outside of the Region.*
   b. ***Urbanization. This comment asserts that water supplies are substantially undercounted due to not taking into consideration the increased inflows due to the increase in impervious cover associated with population growth and urbanization. Additionally, the comment asserts that by 2070 the additional run-off resulting from urbanization in the upper Trinity Basin would exceed one million AFY beyond the historical flows in the Trinity River and a substantial fraction would be captured by existing reservoirs (and potentially the Main Stem Balancing Reservoir) –*** *Most rain that falls in urbanized DFW is not within the watershed of any Region C water supply reservoirs. Most run-off from Region C urbanized area is in the Lake Livingston watershed in Region H. Therefore, the future yield of existing reservoirs in Region C is not likely to increase due to urbanization within these watersheds. Also, since reliable supplies are impacted by drought, increased runoff during normal and wet periods will have considerably less impact on reservoir yield. Regardless of urbanization, runoff during drought will continue to be low.*
   c. **Municipal Reuse. This comment asserts that there is no barrier to 100% reuse of the region's return flows. The comment further states that if only 2/3 of the projected return flows are used as water supplies then the projected demand could be met with no other strategies –** The reuse supply projections quoted in this comment only account for current reuse projects. The 2021 Region C plan recommends over 480,000 acre-feet per year of additional reuse strategies. Also, t*here* ***is*** *a barrier to utilizing 100% reuse of return flows. It is required that some amount of return flow be returned to the natural waterways*

to support aquatic life. TCEQ typically requires a certain amount of bypass flows and/or only permits a certain percentage of available return flows to be reused.

d. **Main-Stem Balancing Reservoir. This comment asserts that the only defensible source of supply would be to develop the Main-Stem Balancing Reservoir and it is not included in the plan as a recommended or alternative strategy. Additionally this comment asserts that this project could have a much larger yield due to the location on the Trinity River (asserting that any return flows captured upstream could be diverted from the Trinity River into the MSBR)–** *Region C agrees that the Main Stem Balancing Reservoir is a feasible strategy. The Main-Stem Balancing reservoir is a recommended project for Dallas Water Utilities and is shown coming online in 2040 per input from the sponsor. Details for the project can be found in* ***Chapter 5D.1.1*** *under 'Additional Indirect Reuse' and in* ***Appendix G****. Projected reuse yields of 96,000 AFY by 2070 were calculated based on 44% return flows from projected future water demands and accounting for the Elm Fork Swap and Ray Hubbard Exchange that is included as a recommended strategy between NTMWD and DWU. It is important to note that the balancing reservoir only has rights to a certain amount of supplies regardless of the location of the reservoir itself. Most of the natural flow in the Trinity River during drought conditions has been allocated to existing water rights, so this project is dependent only on the availability of available return flows.*

e. ***Opposition to Marvin Nichols Reservoir and Reservoirs in General. This comment asserts the TCA's opposition to reservoirs stating that the dramatic negative impacts of any reservoir cannot be justified if there are other more cost-effective ways to meet Region C's water demands –*** *Comment noted.*

3. **John Lingenfelder (Region C Water Planning Group Member)**

   a. **Water Conservation Specifics Lacking in the Region C IPP for 2021. This comment asserts that the IPP fails the test of being a balanced report because it lacks sufficient analysis of how to moderate demand so that available supply is sufficient and instead plans supply to meet an estimated demand –** *Region C goes above and beyond TWDB requirements when it comes to conservation planning. Not only are all water conservation plans reviewed for water providers within Region C, but a tool was developed specifically for Region C to account for all the conservation measures that are being outlined in those plans and project water savings from the recommended conservation package. As a bottoms-up planning process, it is not the intended role of the Region C Water Planning Group to stipulate how water providers utilize existing water supplies. Region C can and does provide support for conservation efforts, but conservation must be implemented by the water providers themselves. Water Conservation specifics can be found both in* ***Chapter 5B*** *and* ***Appendix I****.*

   b. **Data for Major Water Providers Is Not Clear to the Reader. This comment asserts that it would be beneficial to readers to see all MWP details in one place including historical usage, projected demand, available supply and need –** ***Chapter 5D*** *discusses all 6 Major Water Providers and both Regional Water Providers in detail. Projected Demand, Available Supply, and the Need for* *each MWP can be found in summary tables at the end of each providers section. This chapter gives a concise summary of each major water provider's plan.*

c. **Water Demand Projections Do Not Reflect Active Conservation Measures. This comment asserts that the demands are inflated because conservation measures are not built into the existing demands –** *All existing demands are based on recent per capita water use that accounts for reduced water use from implemented water conservation measures through the base year of demand. The projected municipal water demands include further per capita use reductions associated with passive conservation measures, such as the plumbing code requirements. (See Appendix I, Sections I.1.1 and I.1.2.) The Region C water plan recommends additional active water conservation measures, which TWDB requires to be recognized as a demand reduction* ***strategy****. This means that the* ***future active conservation measures are accounted for in the water providers supplies from strategies*** *and not existing supplies. This includes realized water savings from implemented water conservation measures that have occurred after the base year for which demands are developed. While it may be confusing to report some conservation measures as a demand reduction (current practices and passive measures) and other measures (active measures after base year) as strategies, this is the procedure required by regional planning. Demand projections are finalized before the TWDB approves funding for work on water management strategies (including conservation). The water provider's overall surplus and/or shortage is reported prior to application of conservation strategies in accordance with TWDB guidelines. Secondary needs report the water provider's overall surplus and/or shortage after the implementation of conservation and direct reuse. These needs can be found in Chapter 4.*

d. **Misstated observation about Twice Weekly Irrigation Restriction & Projected Water Savings. This comment asserts that the IPP is incorrect in stating that twice weekly watering restrictions are relatively new in Texas and the US (Appendix I, page 22). Additionally, the comment asserts that the IPP needs to be modified to reflect that "Twice Weekly Irrigation Restriction" should be a major part of the plan and to not have a discussion of these BMPs is a serious oversight of the water planning group –***The referenced experience in California between 2014 and 2017 is in response to a severe drought. Water providers in North Texas have implemented extreme restrictions on outdoor watering in response to drought. However, this conservation measure is not a drought response but rather a long-term life-style change in outdoor water use. Data for this type of public response is still being collected and therefore is relatively new for wide application. Additionally, there is a discussion of conservation BMPs that were approved by the water planning group for inclusion into the Region C plan in both* ***Chapter 5B*** *and* ***Appendix I****. Twice Weekly Watering Restriction is discussed specifically in* ***Section I.10*** *and was applied to municipal WUGs with the specified characteristics or if stated in the WUGs water conservation plan.*

e. **Acronyms and Glossary. This comment asserts that the list of acronyms seems hidden and that a glossary of terminology would be helpful –** *Comment noted. The list of acronyms is placed after the Table of Contents, which is consistent with standard formatting. A glossary of terms was added behind the list of acronyms. Terminology is also defined when necessary throughout the plan.*

f. **A Data Presentation Error. This comment asserts that there appears to be a data disconnect between "Table E.1" and "Table 3.1" –** *Tables have been checked for consistency.*

g. **Historical Usage and Projected Demand. This comment asserts that there is a lack of connection between historic usage and future demand projections and that the IPP lacks quantifying historical usage. –** *Future demand projections are based on drought of record conditions. This is required by statute and TWDB rules for regional water planning**. Historical water use can provide a historical context of water use in Region C, but it does not provide the data necessary to determine future demand projections.** Drought of record per capita water use and population projections are the basis for municipal demand projections. **Chapter 2.3.1** and **Appendix C** explain how population and demand projections were calculated. The TWDB releases draft projections for the regional planning process and then the planning groups can make limited adjustments. Since no new census data had been released since the publication of the 2016 Regional Water Plans, there were restrictions on adjusting the TWDB's draft population projections for regional, county and individual water user group totals. Historical usage summaries may be found in Chapter 1 Tables 1.2, 1.4 and 1.7.*

h. **Projections of Impounded Water Availability Based on Safe Yield instead of Firm Yield. This comment asserts that the wording of the IPP and explanation therein are unsatisfactory and call into question whether the use of safe instead of firm is to purposefully obscure the possibility that there is sufficient water available looking to the future. This comment also states that it was alluded to by FNI that the reservoirs using safe yield in lieu of firm yield were geographically located where they would be more susceptible to the effect of droughts. The comment continues that a cursory examination of the map locations of the said reservoirs calls this explanation into question –** *Water providers are given the opportunity by the TWDB to choose to use safe yield in lieu of firm yield. Only two water providers requested to use safe yield: TRWD and DWU. Safe yield is consistent with the current operations of these two surface water suppliers and previous regional and other water planning. Safe yield is the amount of water that can be used during the critical drought while leaving a minimum supply in reserve. (For TRWD this minimum is a one-year supply; for Dallas this minimum is approximately nine months of supply.)The TRWD reservoirs include Lake Bridgeport, Eagle Mountain Lake, Lake Worth, Lake Benbrook, Lake Arlington, Richland-Chambers Reservoir and Cedar Creek Reservoir. Dallas reservoirs include Lake Ray Roberts, Lake Lewisville, Lake Grapevine, Lake Ray Hubbard, Lake Tawakoni, and Lake Fork. For some of these lakes, Dallas holds only a portion of the water rights. Supply for the other water right holders in these lakes were calculated using firm yield. In accordance with the TWDB planning rules, firm yields for TRWD and DWU sources are also determined and reported in the plan.*
The request to use safe yields must be outlined and approved by both the regional planning group and the TWDB in a hydrologic variance request. This request was submitted April 13, 2018 and approved by the TWDB on June 21, 2018.
It should be noted that safe yield has historically been used as the basis for water supply planning for water providers across the state.

i. **Conservation and Environmental Aspect. This comment asserts that the IPP does little to suggest and provide analyses of methods to aggressively address controlling water demand. Areas mentioned include Residential Turf Grass, Pricing Structure for Residential Water Usage, Restriction on Residential Landscape Irrigation, Global Climate Change and State Climatologist, Hurdle to Effective Conservation –** *Region C has always stressed the importance of water conservation being included as part of the regional water plan and has developed an aggressive conservation package that is considered uniquely for each WUG. The regional planning process can provide resources to water users regarding conservation measures. However, the Region C Water Planning Group cannot dictate what water user groups will implement. The Region C Regional Water Plan dedicates significant effort to collecting and reviewing individual water conservation plans so that the projected conservation quantities included within the plan represent what is projected to occur rather than double counting savings that have already occurred . This is as outlined in TWDB general guidelines for regional water plan development. As discussed in Chapter 5B, Region C water users have made, and continue to make, significant improvements to water conservation, and these measures will be considered in each five-year update to the regional plan.*

j. **Climate Change and Creation of New Reservoirs. This comment asserts that the impoundment of water for municipal use destroys ecological habitat that cannot be replaced through mitigation. Additionally, the lost life will decay and form methane that will be released and accelerate global warming. It will also remove a natural carbon sink and replace it with a warming sink. This comment asserts that a report from the state climatologist should be included within the IPP to address and confirm this. –** *Consideration of any climate change effect(s) are beyond the scope and funding of the regional planning process at this time. Region C supports the possibility of including climate change considerations in future rounds of planning given the funding and authority to do so.*

4. **Rita Beving**

a. **More Conservation. This comment notes high water loss and gpcds and emphasizes that cities/entities need to reduce both water loss and consumption before proposing a new reservoir such as Marvin Nichols –** Region C supports the inclusion of continued efforts towards reducing water loss and consumption through conservation. The Region C Water Plan has an aggressive conservation package that is considered uniquely for each WUG. However, even with conservation Region C will need to develop additional water supplies. The RWPG strongly encourages the implementation of conservation measures by providers in the region, but the planning group does not have the authority to force water users within Region C to adopt specific conservation measures.

b. **Better Contracts. This comment asserts that water districts need to end Take or Pay contracts due to it being a disincentive for implementation of meaningful water conservation plans –** *Comment noted. The planning group does not have the authority to force water providers to restructure contracts.*

c. **Better Strategies. This comment asserts that all cities need to implement lawn watering ordinance and recycled and gray water needs to be fully utilized. Additional strategies such as aquifer storage should be employed**

before reservoirs – *Comment noted. The planning group does not have the authority to force water providers to adopt these strategies. Aquifer storage and recovery was included in this regional water plan as both a feasible and recommended strategy.*

d. **Marvin Nichols Opposition. This comment asserts opposition to inclusion of the Marvin Nichols Reservoir within the regional water plan. This comment also asserts that Region C reneged on its original agreement not to pursue Marvin Nichols until 2070, forcing a negotiation which Region D did not want due to a conflict in water plans. –** *Comment noted. Please see **Appendix J** for an updated quantitative analysis of the impact of Marvin Nichols Reservoir and **Chapter 10** for a summary of the Region C and Region D Interregional Coordination. Additionally, Region C did not violate any of the four points agreed upon between Region C and Region D during the fourth planning cycle. Information on this can be found online at the link located below this response. The agreement stated only that "Region C will adopt a resolution to recommend that water suppliers in Region C not submit any water rights applications for new reservoirs that would be located in Region D through the end of the 5th cycle of regional water planning". Marvin Nichols was included as a recommended strategy in the 2021 Region C Regional Water Plan and no official conflict was declared.*
http://www.twdb.texas.gov/waterplanning/rwp/regions/RegionCandDConflict2016.asp

Q.3.2 General Comments on 2021 Initially Prepared Region C Regional Water Plan with Responses

Region C received several comments from the public in opposition to the inclusion of the Marvin Nichols Reservoir as a recommended water management strategy within the regional water plan. Region C appreciates input from the public and would like to recognize that all public comments were noted however no changes were made to the plan itself. An Updated Quantitative Analysis of the Impact of Marvin Nichols Reservoir was completed and is included in **Appendix J**. Additionally, a summary of the effort made towards interregional coordination between Regions C and D are summarized in **Chapter 10**. The main points of opposition are summarized below and in **Table Q-3**. Original comments are included in their entirety in **Attachment Q-1**. Responses to the main points of opposition are provided below. ***There are no changes to the Region C water plan as the result of these comments.***

a. General Opposition to Marvin Nichols Reservoir (328) – *Comments noted.*

b. Consideration of cheaper options than the projected $4.4 billion MNR project *Cost is a consideration in the evaluation of potentially feasible strategies. The MNR provides an economically feasible source of water supply.*

c. Economically harmful – *New reservoir construction can provide economic development for both the region where the reservoir is located and the receiving region. An economic study for the MNR was conducted and is included as Attachment 4 in Appendix J. The study found the new reservoir would have a positive effect of $1.47 billion on the local economy.*

d. Environmentally destructive and/or depletion of natural resources – *The impacts of the MNR are detailed in Appendix J. The proposed mitigation for the project would fully compensate for these impacts and provide protected habitats for wildlife beyond the protections offered today.*

e. Disturbs landowners and/or DFW residents – *Comment noted.*

f. Marvin Nichols Reservoir is unnecessary, there exists better options, and/or Region C should increase conservation efforts – *The MNR provides much needed water for Region C water providers. Region C continues to promote and encourage water conservation.*

Table Q.3 Summary of Public Comments

Commenter Name (Affiliation)	Main Points of Opposition					
	General Opposition	Expensive	Economically Harmful	Environmentally Destructive and/or Resource Depletion	Disturbs Landowners and/or DFW Residents	Unnecessary or Better Options
Adelia Jones	x	x		x	x	
Alan Kazdoy	x	x		x		x
Alex Holland	x			x	x	x
Alexander	x			x	x	x
Allen Majefski	x					
Ashley Monismith	x	x		x	x	x
Augustine Jalomo	x			x	x	x
Becky Lum	x				x	x
Brianna Veerasammy	x			x	x	x
Carol Nash	x	x		x	x	
Caroline Vornberg	x	x	x	x	x	x
Cathy Wallace	x	x		x		x
Chris Guldi	x	x		x		x
Dalenn Maxwell	x	x	x	x	x	x
Dan Moulton	x	x		x	x	x
Dawn Weeks Spalding	x			x	x	x
Dick Schoech	x					
Grace Alfaro	x	x		x	x	x
Ida Ghorbani	x	x		x	x	x
Jack Hughes	x	x		x	x	x
James Presley (Friends United for a Safe Environment)	x		x		x	x

Table Q.3 Summary of Public Comments

Commenter Name (Affiliation)	Main Points of Opposition					
	General Opposition	Expensive	Economically Harmful	Environmentally Destructive and/or Resource Depletion	Disturbs Landowners and/or DFW Residents	Unnecessary or Better Options
Jan Falcona	x	x		x		x
Jan Miller	x	x	x	x	x	x
Jay B	x					x
Jeff Lu	x			x	x	x
Jo Ann Duman	x		x	x		x
John Mayes	x			x	x	x
John Mendy	x			x	x	x
John Brooks	x		x	x	x	x
Julie Ryan	x			x	x	x
Julie Thibodeaux	x			x	x	x
Karen Dyer	x			x	x	x
Karla Zemler	x			x		
Kathy Lawerence	x	x	x	x	x	x
Kelly Longfellow	x			x	x	
Kirk Miller	x	x			x	x
Kohl Zierath	x			x		
Kristi Purviance	x		x	x	x	x
Layla Gulley	x			x	x	x
Lori Lewis	x			x	x	x
Maria Mar	x	x		x	x	x
Marla Ballard	x	x	x	x	x	x
Mary Cato	x	x	x	x		x
Mary Warren	x				x	x

Table Q.3 Summary of Public Comments

Commenter Name (Affiliation)	Main Points of Opposition					
	General Opposition	Expensive	Economically Harmful	Environmentally Destructive and/or Resource Depletion	Disturbs Landowners and/or DFW Residents	Unnecessary or Better Options
Marylee Thomason	x	x		x		x
Maureen Kellen-Taylor	x			x	x	x
Melinda EB	x	x		x	x	x
Michael Martin	x			x	x	x
Michele Cyr	x		X	x		x
MJ Bivens	x	X		x		x
Molly Rooke	x	X		x		x
Paula Day	x	x		x	x	x
Peggy Henger	x					x
Penelope Bisbee	x		x	x	x	x
Rachel Ford	x	x	x	x	x	x
Rebecca Marin	x	x		x	x	x
Richard Guldi	x	x		x		x
Richard Rivera	x			x	x	x
Roger Arnold	x	x		x	x	x
Ryan Hamilton	x		x	x	x	x
Sahan Yerram	x				x	x
Seylah Williams	x			x	x	x
Sharon Richey	x	x		x	x	x
Simon Rook	x			x	x	x
Stacy Clark	x			x	x	x
Steven Sverdlik	x			x	x	x

Table Q.3 Summary of Public Comments

Commenter Name (Affiliation)	Main Points of Opposition					
	General Opposition	Expensive	Economically Harmful	Environmentally Destructive and/or Resource Depletion	Disturbs Landowners and/or DFW Residents	Unnecessary or Better Options
Susan Cowger	x	x				x
Tolbert Greenwood	x	x		x	x	x
William Cage	x	x		x		
William Forbes	x				x	x

Q.4 Other Changes

During the review and comment period of the IPP, several requests were made by entities within Region C to make minor revisions to the plan. These changes are discussed below. Additionally, minor formatting and wording revisions were made upon further review of the IPP but are not included in the discussion below. These changes were made to enhance the clarity of the plan itself and did not impact content.

Q.4.1 Changes to WWP and/or WUG Plans

- **Update City of Denton Plan (Frank Pugsley, City of Denton)** – It was requested to move the implementation date of the '20 MGD WTP Expansion – Ray Roberts' Project from 2050 to 2040 and the '30 MGD WTP Expansion – Ray Roberts' Project from 2060 to 2050.
- **Update City of Keller Plan (Alonzo Linan, City of Keller)** – It was requested to remove the 'Additional Delivery Infrastructure from Fort Worth' Project. This project will be completed before the cutoff date for existing projects. Costs for this project were included in the IPP as Table H.158. To maintain consistent numbering there is no longer a Table H.158 and all other WMS's have retained their previous designations.
- **Update City of Weatherford Description (Rick Shaffer, City of Weatherford)** – Minor re-wording of Weatherford's section in Chapter 5E.
- **Update City of Wilmer Plan (Donald McKinney, City of Wilmer)–** The City of Wilmer's "Direct Connection to Dallas" water management strategy was updated throughout the plan to reflect that this strategy would be needed in 2020 (not 2070).
- **Update Cash SUD Plan (Tony Smith, Region D Consultant) –** Cash SUD is a water user located primarily in Region D but with a portion of demand located within Region C. Cash SUD requested that their existing contract with NTMWD be updated to reflect a maximum of 1.0 MGD (1,120 acre-feet per year). The contract was previously limited to 2.2 MGD (2,466 acre-feet per year).
- **Update City of Fort Worth Plan (Christopher Harder, City of Fort Worth) –** Existing supplies for the City of Fort Worth were updated to correct for an error in how the "TRWD Raw Water" existing supplies were being shown in Table 5D.4. The "General – 50 MGD Expansion 5" and "General 50 MGD Expansion 6" were removed as projects.
- **Update City of Prosper Plan** – Infrastructure costs were updated to reflect the quantity of additional supplies needed from NTMWD.
- **Update City of Blooming Grove Plan** – The City of Blooming Grove requested to remove the water management strategy "Blooming Grove – New Well(s) in Woodbine Aquifer" from the Region C Water Plan (Table H.14 in Appendix H).
- **Update of Tarrant Regional Water District Plan** – Updated '***Table 5D.9 Summary of Major Water Provider Plan – Tarrant Regional Water District'*** to include demands from Sardis-Lone Elm in the Potential Future Customers section.

Q.4.2 Other

- **Update to Final 2021 Regional Water Plan Deadlines (Sarah Backhouse, TWDB) –** The TWDB issued a letter to all regional water planning groups outlining revised regional planning deadlines. The deadline to submit the final regional water plans to the TWDB was extended from 10/14/2020 to 11/5/2020 and the data entry deadline was extended from 9/14/2020 to 10/6/2020.

- **Removed Capital Costs for Specific Conservation Projects** – The conservation projects for time-of-day irrigation restriction, twice weekly irrigation restriction, and water waste prohibition were determined to be better represented without a capital cost. Based on TWDB guidelines, removal of capital costs caused these measures to no longer be considered as projects. However, these conservation measures remain as strategies in the 2021 Region C Water Plan with annual costs associated with ordinance and enforcement costs.
- **Update of NTMWD Service Area** – The figure in Appendix G for the "NTMWD Carrizo-Wilcox Groundwater from Region I" water management strategy was updated to include the updated NTMWD service area shapefile.
- **Update of Appendix H Text** – Appendix H section ***H.3 Assumptions for Annual Cost*** was updated to include description of the assumption that large non-reservoir projects (projects costs greater than $250 million) were assumed to be amortized over 30 instead of 20 years. This was discussed and approved by major water providers during the planning process.

Attachment Q-1

Comments on Initially Prepared Plan

Attachment Q – Summary of Agency Comments

Count	Name	Representing/Subject Line
1.	Jessica Zuba	Texas Water Development Board
2.	Cindy Loeffler	Texas Parks and Wildlife
3.	Barry Mahler, Rex Isom	Texas State Soil and Water Conservation Board

Attachment Q – Summary of Public Comments

Count	Name	Representing/Subject Line
Oral Comments Received at Public Hearing		
1.	Janice Bezanson	Texas Conservation Alliance
2.	Ronna Hartt	Upper Trinity Regional Water District
3.	Ben Jones	Dallas resident
Comments Received via Letter or Report Format		
4.	Larry N. Patterson	Upper Trinity Regional Water District
5.	Janice Bezanson	Texas Conservation Alliance
6.	Rita Beving	Region C Comments from Rita Beving w/ Attachments
Comments Received via Email		
7.	Adelia Jones	Marvin Nichols Reservoir
8.	Alan Kazdoy	Marvin Nichols Reservoir
9.	Alex Holland	Opposed to Marvin Nichols Reservoir
10.	Alexander	NO to Marvin Nichols Reservoir!
11.	Allen Majefski	Stop reservoir
12.	Ashley Monismith	Opposition to Marvin Nichols Reservoir in Region C Water Plan
13.	Augustine Jalomo	Oppose the Marvin Nichols Reservoir
14.	Becky Lum	Marvin Nichols
15.	Brianna Veerasammy	Marvin Nichols Reservoir
16.	Carol Nash	Marvin Nichols Reservoir
17.	Caroline Vornberg	Do NOT build Marvin Nichols Reservoir!!! and Do not fund Marvin Nichols
18.	Cathy Wallace	Marvin Nichols Reservoir
19.	Chris Guldi	No to Marvin Nichols Reservoir
20.	Dalenn Maxwell	Marvin Nichols Reservoir comments
21.	Dan Moulton	Marvin Nichols reservoir
22.	Dawn Spalding	Region C Water Plan
23.	Dick Schoech	Do not build Marvin Nichols Reservoir.
24.	Grecia Alfaro	Building Reservoirs is out-dated
25.	Ida Ghorbani	URGENT: Region C Water Plan
26.	Jack Hughes	Remove the Marvin Nichols Reservoir from the Region C water plan
27.	Jan Falcona	No On Reservoir
28.	Jan Miller	No to Marvin Nichols Reservoir
29.	Jay B	Please drop M Nichols Reservoir

Count	Name	Representing/Subject Line
30.	Jeff Lu	Opposing Marvin Nichols Reservoir
31.	Jo Ann Duman	Coment on Region C Water Supply Plan
32.	John Lingenfelder	Comments on the 2021 IPP for Region C.
33.	John Mayes	Marvin Nichols
34.	John Mendy	Marvin Nichols Reservoir
35.	John Brooks	Region C IPP
36.	Julie Ryan	Deny Marvin Nichols Reservoir
37.	Julie Thibodeaux	SAVE THE OLD FORESTS – DROP MARVIN NICHOLS RESERVOIR OUT OF WATER PLAN
38.	Karen Dyer	Marvin Nichols Reservoir – please read
39.	Karla Zemler	Marvin Nicoles Reservoir
40.	Kathy Lawrence	Please DO NOT Build Marvin Nichols Reservoir
41.	Kelly Longfellow	Region C Water Plan: Marvin Nichols
42.	Kirk Miller	Region C Water Plan
43.	Kohl Zierath	Do the right thing!
44.	Kristi Purviance	Marvin Nichols Comment
45.	Layla Gulley	$4.4 B Marvin Nichols Reservoir
46.	Lori Lewis	Marvin Nichols Reservoir
47.	Maria Mar	No Marvin Nichols Reservoir!
48.	Marla Ballard	Marvin Nichols Reservoir
49.	Mary Cato	Marvin Nichols Reservoir
50.	Mary Warren	Better water plans to end the Marvin Nichols Reservoir project
51.	Marylee Thomason	Marvin Nicholas reservoir NO!
52.	Maureen Kellen-Taylor	Marvin Nichols Reservoir
53.	Melinda EB	For Kevin Ward (Marvin Nichols Res & the Region C Plan)
54.	Michael Martin	NO Marvin Nichols reservoir
55.	Michele Cyr	Marvin Nichols Reservoir
56.	MJ Bivens	Marvin Nichols Reservoir.
57.	Molly Rooke	Remove Marvin Nichols Reservoir from the Region C water plan
58.	Paula Day	Opposition to Marvin Nichols Reservoir
59.	Peggy Henger	Water Conservation
60.	Penelope Bisbee	Marvin Nichols Reservoir - No
61.	Rachel Ford	SAY NO to the Marvin Nichols Reservoir Project
62.	Rebecca Marin	Marvin Nichols Reservoir
63.	Richard Guldi	Don’t build Martin Nichols Reservoir
64.	Richard Rivera	NO to Region C Water Plan
65.	Roger Arnold	Marvin Nichols Reservoir
66.	Ryan Hamilton	Cancel the Marvin Nichols Reservoir
67.	Sahan Yerram	Don’t Build The Marvin Nichols Reservoir
68.	Seylah Williams	
69.	Sharon Richey	I urge you to vote NO!

Count	Name	Representing/Subject Line
70.	Simon Rook	No to Marvin Nichols Reservoir in the Region C water plan
71.	Stacy Clark	No on the reservoir.
72.	Steven Sverdlik	Marvin Nichols Reservoir
73.	Susan Cowger	Marvin Nichols Reservoir
74.	Tolbert Greenwood	Opposition to Marvin Nichols Reservoir
75.	William Cage	Marvin Nichols Water Reservoir
76.	William Forbes	Marvin Nichols Reservoir proposal

Transcript of Oral Comments Received at Public Hearing

1. "The recommendation in the Region C IPP that Marvin Nichols Reservoir be constructed by 2050 is not consistent with the Region C Water Planning Group's charge to develop a plan that is in the best interests of the people of Texas. This reservoir would cost $4.4 billion. It would permanently inundate 66,000 acres of prime bottomland. It would take perhaps three times that many acres out of production. It would force thousands of Texans to sell their land. It would devastate the timber- and ag-based economy of a 15-county region of Texas. And it would destroy a huge chunk of bottomland hardwood forest, the most biologically productive inland ecosystem. There are ways for Region C to obtain the water it needs that cost less and have dramatically fewer negative impacts. DFW's non-consumptive uses of water, which are primarily for households and human use at businesses, can be met by increased municipal water recycling. There is already significant reuse of the municipal return flows in the region, and more is planned, but the potential for reuse is vastly more than recommended. The Region C IPP recommends the Main Stem Off-Channel Balancing Reservoir to store return flows as well as urban runoff for Dallas Water Utilities, and to facilitate transfer of water. If properly used, this project could facilitate reuse throughout the DFW region. If used in conjunction with other planned increases in municipal reuse, the Main Stem Balancing Reservoir could achieve virtually 100% reuse of Region C return flows. This would assure a drought-proof water supply for all the Metroplex's non-consumptive uses. The vast majority of the region's consumptive use is for lawn and landscape watering. There is already enough water developed to meet those needs for the foreseeable future. Given an increasing population density and more efficient irrigation, a future decline in per capita consumptive water use is inevitable. If additional consumptive demands were to occur in future, those demands could be met by capturing the increased urban run-off that occurs as the region develops. If DFW's return flows are maximally reused and any increased consumptive use comes from increased urban run-off, it is possible that construction of the Main Stem Off-Channel Balancing Reservoir could provide any need for water for the Metroplex during the next fifty years. Choosing a big glitzy project like Marvin Nichols will benefit the engineering, consulting, and construction companies who build the reservoir, but it is a very inefficient way to ensure a reliable water supply for the people of the DFW Metroplex, or the people of Texas."

2. "Good afternoon, this is Ronna Hartt with the Upper Trinity Regional Water District. On behalf of Upper Trinity, I want to thank you for the opportunity to speak today. As the regional water provider for Denton County and portions of Collin, Cooke, Fannin and Wise county, Upper Trinity takes its water supply planning responsibilities very seriously. Accordingly, we've reviewed the proposed water management strategies for the 16-county region, especially those strategies in the 2021 IPP. The population in water demand projections included in the plan for Upper Trinity service area are reasonable and generally consistent with our expectations. Upper Trinity fully supports the IPP and urges its adoption. Upper Trinity will be providing comments in writing prior to the July 27 deadline and we request these revisions be made prior to submission to the Water Development Board. Thank you for the opportunity to speak today."

3. “Hi this is Ben Jones, I live in Region C, specifically in Dallas, and I was just calling to ask that the proposed Marvin Nichols Reservoir be removed from this plan. It just seems incredibly inefficient with something with over a 4 billion dollar price tag, and to take all of that money and to channel into businesses and organizations like engineering firms and other groups, all at the cost of thousands upon thousands of private land owners land, 66 thousand acres worth, seems to me not only inefficient and unwise but un-Texan. I will encourage that Marvin Nichols, the proposed Reservoir, be removed from this plan. Thank you very much.”

Appendix Q

Agency Comments

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

Mr. J. Kevin Ward, Chair
c/o Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

Re: Texas Water Development Board Comments for the Region C Regional Water Planning Group Initially Prepared Plan, Contract No. 1548301831

Dear Mr. Ward:

Texas Water Development Board (TWDB) staff have completed their review of the Initially Prepared Plan (IPP) submitted by March 3, 2020 on behalf of the Region C Regional Water Planning Group (RWPG). The attached comments follow this format:

- **Level 1:** Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements; and,

- **Level 2:** Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

Please note that rule references are based on recent revisions to 31 Texas Administrative Code (TAC) Chapter 357, adopted by the TWDB Board on June 4, 2020. 31 TAC § 357.50(f) requires the RWPG to consider timely agency and public comment. Section 357.50(g) requires the final adopted plan include summaries of all timely written and oral comments received, along with a response explaining any resulting revisions or why changes are not warranted. Copies of TWDB's Level 1 and 2 written comments and the region's responses must be included in the final, adopted regional water plan (*Contract Exhibit C, Section 13.1.2)*.

Standard to all planning groups is the need to include certain content in the final regional water plans that was not yet available at the time that IPPs were prepared and submitted. In your final regional water plan, please be sure to also incorporate the following:

a) Completed results from the RWPG's infrastructure financing survey for sponsors of recommended projects with capital costs, including an electronic version of the survey spreadsheet *[31 TAC § 357.44]*;

b) Completed results from the implementation survey, including an electronic version of the survey spreadsheet *[31 TAC § 357.45(a)]*;
c) Documentation that comments received on the IPP were considered in the development of the final plan *[31 TAC § 357.50(f)]*; and
d) Evidence, such as a certification in the form of a cover letter, that the final, adopted regional water plan is complete and adopted by the RWPG *[31 TAC § 357.50(h)(1)]*.

Please ensure that the final plan includes updated State Water Planning Database (DB22) reports, and that the numerical values presented in the tables throughout the final, adopted regional water plan are consistent with the data provided in DB22. For the purpose of development of the 2022 State Water Plan, water management strategy and other data entered by the RWPG in DB22 shall take precedence over any conflicting data presented in the final regional water plan *[Contract Exhibit C, Sections 13.1.3 and 13.2.2]*.

Additionally, subsequent review of DB22 data is being performed. If issues arise during our ongoing data review, they will be communicated promptly to the planning group to resolve. Please anticipate the need to respond to additional comments regarding data integrity, including any source overallocations, prior to the adoption of the final regional water plans.

The provision of certain content in an electronic-only form is permissible as follows: Internet links are permissible as a method for including model conservation and drought contingency plans within the final regional water plan; hydrologic modeling files may be submitted as electronic appendices, however all other regional water plan appendices should also be incorporated in hard copy format within each plan *[31 TAC § 357.50(g)(2)(C), Contract Exhibit C, Section 13.1.2 and 13.2.1]*.

The following items must accompany, the submission of the final, adopted regional water plan:

1. The prioritized list of all recommended projects in the regional water plan, including an electronic version of the prioritization spreadsheet *[31 TAC § 357.46];* and,
2. All hydrologic modeling files and GIS files, including any remaining files that may not have been provided at the time of the submission of the IPP but that were used in developing the final plan *[31 TAC § 357.50(g)(2)(C), Contract Exhibit C, Section 13.1.2, and 13.2.1].*

The following general requirements that apply to recommended water management strategies must be adhered to in all final regional water plans including:

1. Regional water plans must not include any recommended strategies or project costs that are associated with simply maintaining existing water supplies or replacing existing infrastructure. Plans may include only infrastructure costs that are associated with volumetric increases of treated water supplies delivered to water user groups or that result in more efficient use of existing supplies *[31 TAC § 357.10(39), § 357.34(e)(3)(A), Contract Exhibit C, Sections 5.5.2 and 5.5.3]*; and,

2. Regional water plans must not include the costs of any retail distribution lines or other infrastructure costs that are not directly associated with the development of additional supply volumes (e.g., via treatment) other than those line replacement costs related to projects that are for the primary purpose of achieving conservation savings via water loss reduction *[§ 357.34(e)(3)(A), Contract Exhibit C, Section 5.5.3]*.

Please be advised that, within the attached document, your region has received a comment specifically requesting that the RWPG provide the basis for how the RWPG considers it feasible that certain water management strategies will actually be implemented by January 5, 2023 (see Level 1, Comment 1), especially for projects with long lead times. This comment is aimed at making sure RWPGs do not present projects in their plans to provide water during the 2020 decade that cannot reasonably be expected to be online, *and provide water supply*, by January 5, 2023. For project types whose drought yields rely on *previously stored water*, the 2020 supply volume should take into consideration reasonably expected accumulated storage that would already be available in the event of drought. The RWPG must adequately address this Level 1 comment in the final, adopted regional water plan, which might require making changes to your regional plan.

It is preferable that RWPGs adopt a realistic plan that acknowledges the likelihood of unmet needs in a near-term drought, rather than to present a plan that overlooks reasonably foreseeable, near-term shortages due to the inclusion of unrealistic project timelines. If a '2020' decade project cannot reasonably be expected to come online by January 2023, for example if a reservoir has not started the permitting process, it should be moved to the 2030 decade. Any potential supply gaps (unmet needs) created by moving out projects to the 2030 decade may be shown as simply 'unmet' in the 2020 decade or be shown as met by a 'demand management' strategy. Doing so will appropriately reflect the fact that some entities would likely face an actual shortage if a drought of record were to occur in the very near future despite projects (that may be included in the plan but associated with a later decade) that will eventually address those same potential shortages in future years.

It is imperative that you provide the TWDB with information on how you intend to address this comment and all other comments well in advance of your adoption the regional water plan to ensure that the response is adequate for the Executive Administrator to recommend the plan to the TWDB Board for consideration in a timely and efficient manner. Your TWDB project manager will review and provide feedback to ensure all IPP comments and associated plan revisions have been addressed adequately. Failure to adequately address this comment (or any Level 1 comment) may result in the delay of the TWDB Board approval of your final regional water plan.

As a reminder, the deadline to submit the final, adopted regional water plan and associated material to the TWDB is **October 14, 2020**. Any remaining data revisions to DB22 must be communicated to Sabrina Anderson at Sabrina.Anderson@twdb.texas.gov by **September 14, 2020.**

If you have any questions regarding these comments or would like to discuss your approach to addressing any of these comments, please do not hesitate to contact Kevin Smith at (512) 475-1561 or Kevin.Smith@twdb.texas.gov. TWDB staff will be available to assist you in any way possible to ensure successful completion of your final regional water plan.

Sincerely,

Jessica Pena Zuba

Digitally signed by Jessica Pena Zuba
Date: 2020.06.15 08:59:35 -05'00'

Jessica Zuba
Deputy Executive Administrator
Water Supply and Infrastructure

Date: 6/15/2020

Attachment

c w/att.: Mr. Howard Slobodin, Trinity River Authority
Ms. Amy Kaarlela, Freese & Nichols, Inc.

TWDB comments on the Initially Prepared 2021 Region C Regional Water Plan.

Level 1: Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

1. Chapter 5 and the State Water Planning Database (DB22). The plan includes the following recommended water management strategies (WMS) by WMS type, providing supply in 2020 (not including demand management): one *new major reservoir*, 24 *groundwater wells & other*, seven *indirect reuse*, three *other direct reuse*, and 15 *other surface water*. **Strategy supply with an online decade of 2020 must be constructed and delivering water by January 5, 2023**.
    a) Please confirm that all strategies shown as providing supply in 2020 are expected to be providing water supply by January 5, 2023. *[31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]*
    b) Please provide the specific basis on which the planning group anticipates that it is feasible that the *new major reservoir* and 15 *other surface water*. WMSs will all actually be online and providing water supply by January 5, 2023. For example, provide information on actions taken by sponsors and anticipated future project milestones that demonstrate sufficient progress toward implementation. *[31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]*
    c) In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly, and also indicate whether 'demand management' will be the WMS used in the event of drought to address such water supply shortfalls or if the plan will show these as simply 'unmet'. If municipal shortages are left 'unmet' and without a 'demand management' strategy to meet the shortage, please also ensure that adequate justification is included in accordance with 31 TAC § 357.50(j). *[TWC § 16.051(a); 31 § TAC 357.50(j); [31 TAC § 357.34(i)(2); Contract Exhibit C, Section 5.2]*
    d) **Please be advised that, in accordance with Senate Bill 1511, 85th Texas Legislature, the planning group will be expected to rely on its next planning cycle budget to amend its 2021 Regional Water Plan during development of the 2026 Regional Water Plan, if recommended WMSs or projects become infeasible, for example, do to timing of projects coming online.** Infeasible WMSs include those WMSs where proposed sponsors have not taken an affirmative vote or other action to make expenditures necessary to construct or file applications for permits required in connection with implementation of the WMS on a schedule in order for the WMS to be completed by the time the WMS is needed to address drought in the plan. *[Texas Water Code § 16.053(h)(10); 31 TAC § 357.12(b)]*

2. Chapter 2, page 2-89, Attachment 5. Please revise the table header "Wholesale Water Provider" to "Major Water Provider" in the final, adopted regional water plan. *[31 TAC § 357.31(f)]*

3. Section 3.3., Table 3.5, page 3.12. Table 3.5 appears to present counties associated with the Cross Timbers Aquifer that are inconsistent with the DB22. Please reconcile as necessary in the final, adopted regional water plan. *[31 TAC § 357.32(d)]*

4. Appendix E, Section E.9, Table E.9. Several aquifer/county/basin geographic splits with modeled available groundwater (MAG) values of zero appear to be missing from Table E.9, for example Queen City/Freestone; Woodbine/Kaufman/Sabine; Trinity/Rockwall/Sabine; Woodbine/Rockwall/Sabine Basin. Please add these geographic splits to Table E.9 in the final, adopted regional water plan. *[31 TAC § 357.32(d)]*

5. Appendix E, Section E.9, Table E.9. Trinity Aquifer, Jack County, and Nacatoch Aquifer, Henderson County are presented as groundwater availability sources, but these sources are not represented in DB22. Please reconcile this information in the final, adopted regional water plan. *[Contract Exhibit C, Section 3.5.2]*

6. Section 4.2, page 4-5. The plan does not appear to include needs (potential shortages) for major water providers (MWP) reported by category of use including municipal, mining, manufacturing, irrigation, steam electric, mining, and livestock. Please report the results of the needs analysis for MWPs by categories of use as applicable in the region in the final, adopted regional water plan. *[31 TAC § 357.33(b)]*

7. Section 4.5, page 4-6. The plan does not appear to include a secondary needs analysis for MWPs. Please present the results of the secondary needs analysis by decade for MWPs in the final, adopted regional water plan. *[31 TAC § 357.33(e)]*

8. Chapter 5B. The plan includes reuse recommendations in the conservation recommendation subchapter; however, it is noted that conservation and reuse are presented in separate subsections. Please add a clarifying statement to Chapter 5B noting that reuse is considered a unique strategy type for regional water planning purposes and is reported separately in DB22 in the final, adopted regional water plan. *[31 TAC § 357.34(j); Contract Exhibit C, Section 5.10]*

9. Table 5E.258, page 5E-327 and Appendix E page 5. The approved Hydrologic Variance for Region C does not specify the addition of return flows in the modeling that was used for calculating the Lake Jacksboro and the Lost Creek System yield. Please clarify whether Jacksboro's authorized indirect reuse return flows are utilized in the firm yield modeling of the Lost Creek/Jacksboro System yield or are a separate source of supply for the water user groups (WUG) in the final, adopted regional water plan and DB22. *[31 TAC § 357.32(c)]*

10. Chapter 5. Please include documentation of why brackish groundwater desalination was not selected as recommended WMS in the final, adopted regional water plan.

[Texas Water Code § 16.053(e)(5)(j); Contract Exhibit C, Section 5.2; 31 § TAC 357.34(g)]

11. Chapter 5 and Appendix H. The plan does not appear to address how anticipated water losses associated with WMS yields were taken into account. Please provide an estimate of strategy water losses in the final, adopted regional water plan. *[Contract Exhibit C, Section 5.2.3]*

12. Chapter 5 and DB22. The plan includes WMS projects that appear to come online after the related WMS is initially online providing supply. For example, the TRWD - Carrizo-Wilcox Groundwater WMS is reported to provide supply in 2020, however the related WMS project in DB22 does not come online until 2040. For WMS projects that are necessary for a strategy to deliver water, please ensure that the project is associated with the initial decade, or earlier decade, that the strategy is delivering supply. In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly. *[31 TAC § 357.10(21); Contract Exhibit C, Section 5.2]*

13. Appendix G. Some alternative WMS evaluations are assigned an implementation decade of NA in the plan, however associated alternative projects in DB22 are assigned an online decade. For example, George Parkhouse Reservoir I (South) is noted NA in Section G.3.1, but alternative projects in DB22 reflects an online decade of 2050, and Lake O' the Pines is noted NA in Section G.5.3 but the alternative project in DB22 reflects an online decade of 2030. Please ensure that all alternative WMSs have been fully evaluated in accordance with rule and guidance, revise the online decade information in the text of the plan to reflect the online decade in DB22, and ensure that all fully evaluated alternative WMS are included in DB22, in the final, adopted regional water plan. *[31 TAC § 357.35(g)(3); 31 TAC § 357.50(g)(2)(B); Contract Exhibit C, Section 5.7]*

14. Section 5.C.17, page 5C-9, 1st paragraph. The plan appears to present information on the yield for Marvin Nichols Reservoir that is inconsistent with the Table 5A.1 and DB22. For example, page 5C-9 presents the yield for water users within Region C as 361,000 ac-ft/yr and the yield is presented as 361,200 ac-ft/yr in Table 5A.1 and in DB22. Additionally, the firm yield of 451,300 ac-ft/yr presented on page 5C-9 does not appear to match the firm yield represented in DB22 as 451,500 ac-ft/yr. Please reconcile this information as necessary in the final, adopted regional water plan. *[31 TAC § 357.35(g)(1)]*

15. Chapter 5E. The plan appears to include non-recommended or alternative strategies in the county summary tables. For example, Table 5E.411 includes zero yield for Wise County Manufacturing Conservation, but page 5E.510 states that conservation for Wise County Manufacturing is not recommended. Table 5E.410 for example, includes strategy types that are not recommended for Wise County and lists a zero yield. Please remove any zero yield strategy references from the County Summary tables in the final, adopted regional water plan to avoid confusion, since regional

water plans may not include zero yield recommended strategies. *[31 TAC § 357.34(d)]*

16. Appendix G.2.2. It is not clear from the plan what is included in the capital cost estimates for the Generic Dredging WMS. Page G.13 states that "Capital costs were based on previous projects and dredging costs.", and Table H.16 does not provide details on the capital cost components. Please provide additional details of the project components associated with the capital cost in the final, adopted regional water plan. *[Contract Exhibit C, Section 5.5]*

17. Appendix G.3.9. The plan displays a 2080 online decade for the Toledo Bend alternative WMS, however DB22 reports several alternative projects for Toledo Bend with an assigned 2030 online decade. Please reconcile as necessary, including assigning an implementation decade within the current planning horizon (2020-2070) in the final, adopted regional water plan. *[Contract Exhibit C, Section 5.7]*

18. Appendix H, Table H.45. It is not clear from the plan what is included in the capital costs estimates for the NTMWD - Additional Measures to Access Full Lavon Yield WMS project. The capital costs presented in Table H.45 are listed as Construction Costs. Please provide additional details of the project components associated with the capital cost in the final, adopted regional water plan. *[Contract Exhibit C, Section 5.5]*

19. Appendix H, Table H.95. The City of Irving indirect reuse project does not specify any components associated with the capital cost. Please clarify what projects components are included in the cost estimates for this project in the final, adopted regional water plan. *[Contract Exhibit C, Section 5.5.3]*

20. Units costs reported in DB22 appear notably high for the following WMSs: Conservation, Water Loss Control – Bedford ($1,762,821), Conservation, Water Loss Control – Blue Ridge ($83,014, $61,208, $59,296, $61,034), TRWD – Carrizo-Wilcox Groundwater – Bethesda WSC ($798,375). Please confirm that the calculated unit costs are correct in DB22 and that costs were considered in WMS recommendations in the final, adopted regional water plan. *[31 TAC § 357.34(e)(2)]*

21. Appendix H, Table H.131. It is not clear from the plan whether the 'Pump Replacement at WTP' component of the Athens MWA - Infrastructure Improvements at WTP project is necessary to increase the treated water supply volume to the entity. Please ensure that no infrastructure maintenance or repair costs and only costs that are required to increase the volume of water supply are included in the final, adopted regional water plan. *[Contract Exhibit C, Section 5.5.3]*

22. Chapter 5. The contract Scope of Work, Task 5A, 21)e)vi indicates that Lake Ringgold will be evaluated as a potential strategy for TRWD, however Lake Ringgold does not appear to be mentioned in the plan. Please document in the final, adopted regional water plan why Lake Ringgold, a previously recommended strategy in

regional water plans, was not evaluated as a potentially feasible strategy. *[Contract Scope of Work, Task 5A]*

23. Section 7.3, page 7-8. The plan indicates that a list of emergency interconnects would be submitted to the TWDB separately. At the time of review, the TWDB has not received additional emergency interconnect information from the region. Please ensure that the full list of existing and potential emergency interconnects is included in the final, adopted regional water plan. *[31 TAC § 357.42(d)]*

24. Section 7.4, pages 7-8 through 7-9. Please confirm whether the entities evaluated for emergency responses to local drought conditions or loss of municipal supply were assumed to have 180 days or less of remaining supply. *[Contract Exhibit C, Section 7.4]*

25. Chapter 7. The plan does not appear to include a discussion of whether drought contingency measures have been recently implemented in response to drought conditions. Please describe this in the final, adopted regional water plan. *[Contract Scope of Work, Task 7, subtask 3]*

26. Chapter 10, Section 10.4.2. The plan notes that all meetings were held in accordance with the Texas Open Meetings Act but does not discuss compliance with the Texas Public Information Act. Please address how the planning group complied with the Texas Public Information Act in the final, adopted regional water plan. *[31 TAC §357.21; 31 TAC §357.50(f)]*

27. Chapter 11. Please provide a reference to the Implementation Survey (Appendix P) in Chapter 11 of the final, adopted regional water plan. *[31 TAC § 357.45(a)]*

28. Chapter 11. Please provide a brief summary of how the 2016 Plan differs from the 2021 Plan with regards to recommended and alternative WMS *projects* in the final, adopted regional water plan. *[31 TAC § 357.45(b)(4)]*

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

1. Page 1.19 and Table 1.7. The Blossom Aquifer is indicated as being a groundwater source within Fannin County in Region C, however the Blossom Aquifer is not present in Fannin County. Please review this and consider revising as necessary.

2. Page 1-30, page 5B.35, and page 5D.44. The plan references the Sulphur Basin Supplies WMS in multiple locations, however the strategy has been renamed this planning cycle. Please update these references as appropriate in the final plan.

3. Chapter 3. Please consider including a map of Cross Timbers Aquifer.

4. Page 3-12, Table 3.5. Please consider revising the heading of Table 3.5 to Groundwater Availability in Region C (Acre-Feet per Year).

5. Section. 3.4, page 3.13 states: "Table 3.6 and Figure 3.2 show the currently available water supplies in Region C by different source types", however Figure 3.2 is a map of the GCDs in Region C. Please correct this as appropriate in the final plan.

6. Section 5A.1.1, page 5A-2. Please consider revising the sentence stating that 140 GPCD is the state goal for municipal water conservation. This is a recommendation from the Water Conservation Implementation Task Force, rather than a state goal.

7. Section 5E.16.1, Table 5E.406, page 5E-11. The plan states that conservation is not recommended for Wise County Mining, however Table 5E.406 and DB22 show conservation WMS supply for this WUG. Please reconcile this as necessary in the final plan.

8. Chapter 11, p. 11-1, the highlight box indicates that Lake Fork and Lake Tawakoni are among the eastern reservoirs with new droughts of record. Please consider reconciling the apparent inconsistency of information as reported in App E, p. 4 and as highlighted in Chapter 11, p. 11-1.

9. Appendix E. The table of contents for Appendix E is not consistent with the contents. Please review and reconcile in the final plan.

10. Appendix E, page 4, please consider providing a reference for the statement: "It should be noted that the recent drought (2010-2015) did not represent a new drought of record for Lake Fork or Lake Tawakoni".

11. Appendix G, pages G.36 and G.42. The Texas Instream Flow Program (Senate Bill 2) is erroneously equated with the TCEQ's environmental flow rulemaking process (Senate Bill 3). Please consider revising this in the final plan.

12. Appendix H, page H-1. The plan appears to include outdated references including reference to TWDB's guidance from the fourth cycle, reference to cost assumptions in the 2016 plan, and a memo from 2013. Please consider updating these references as appropriate in the final plan.

13. Appendix H. The plan includes several cost tables, for example, H.46, H.58, that include Conflicts as a line item under capital cost, Total Cost of Facilities. Please consider clarifying what is included as a conflict capital cost and consider incorporating this cost into the Total Cost of the Project cost section.

14. Please consider clarifying the increase and reasonableness in demand reduction for reported in DB22 for South Ellis County WSC in decades 2060 and 2070, which results in a demand reduction of over 40 percent of the total demands in those decades.

15. Appendix A. Please consider updating the 'Consistency with TWDB Rules' appendix to reflect updated rule references, based on amendments to 31 TAC Chapter 357 adopted by the TWDB Board on June 4, 2020.

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July 17, 2020

Mr. J. Kevin Ward, RCWPG Chair
Region C Regional Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

Re: 2021 Region C Initially Prepared Regional Water Plan

Dear Mr. Ward:

Thank you for seeking review and comment from the Texas Parks and Wildlife Department ("TPWD") on the 2021 Initially Prepared Regional Water Plan for Region C (IPP). Thank you for the Region's responsiveness to TPWD's comments in previous planning cycles. Water impacts every aspect of TPWD's mission to manage and conserve the natural and cultural resources of Texas. Although TPWD has limited regulatory authority over the use of state waters, we are the agency charged with primary responsibility for protecting the state's fish and wildlife resources. To that end, TPWD offers these comments intended to help avoid or minimize impacts to state fish and wildlife resources.

TPWD understands that regional water planning groups are guided by 31 TAC §357 when preparing regional water plans. These water planning rules spell out requirements related to natural resource and environmental protection. Accordingly, TPWD staff reviewed the IPP with a focus on the following questions:

- Does the IPP include a quantitative reporting of environmental factors including the effects on environmental water needs and habitat?
- Does the IPP include a description of natural resources and threats to natural resources due to water quantity or quality problems?
- Does the IPP discuss how these threats will be addressed?
- Does the IPP describe how it is consistent with long-term protection of natural resources?
- Does the IPP include water conservation as a water management strategy?
- Does the IPP include Drought Contingency Plans?
- Does the IPP recommend any stream segments be nominated as ecologically unique?
- Does the IPP address concerns raised by TPWD in connection with the 2016 Water Plan?

The population of Region C, which comprises 25 percent of Texas' population, was nearly 6.5 million in 2010 and is expected to more than double to 14.7 million by 2060. Approximately 90 percent of the current water use in Region C is for municipal supply. Regional water use, which was about 1.34 million acre-feet in 2016 is expected to nearly double to 2.9 million acre-feet by 2070, based on dry year demands. According to the

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Region C IPP dry year demands are 10-15 percent higher than normal year demands, especially for municipal use because of increased lawn irrigation use.

Chapter 1 adequately describes the natural resources in Region C and how water development projects threaten these natural resources. Details of water related threats to natural resources are briefly summarized in Chapter 1, including invasive species, changes to natural flow conditions, water quality concerns, and inundation due to reservoir development. Chapter 6, Section 6.4 is referenced in Chapter 1 where further information on how the plan is consistent with the long-term protection of the State's natural resources is presented. Please note there have been recent updates (March 30, 2020) to the list of federal and state listed species and Species of Greatest Conservation need, including species in Region C counties. We recommend that you update Table 1.14 with the latest information that is available at:
https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/.

According to the IPP, groundwater development and the resulting water level declines have caused many springs to disappear and greatly diminished the flow from those that remain. New groundwater supplies in the Region are limited since most groundwater has already been developed. In addition, concern about groundwater drawdown is likely to prevent any substantial increase in groundwater use in Region C and may require conversion to surface water in some areas. TWDB planning rules now require that groundwater supplies not exceed the Modeled Available Groundwater (MAG) values that were determined to meet the desired future conditions (DFCs) of the groundwater source. However, DFCs adopted in 2017 for the primary aquifer in Region C, the Trinity, do not address protection of springs. Ultimately TPWD would like to see DFCs adopted to protect these features.

Water conservation and reuse, the two most environmentally benign strategies, comprise 32 percent of the recommended strategies for meeting future water demands in Region C. Other proposed water management strategies (WMS) include interbasin transfers from existing surface water supplies (Lake Palestine) interbasin transfer and desalination of water from Lake Texoma, interbasin transfer of water from the Neches and Sulphur Basins, and construction of five new reservoirs: Bois d'Arc Lake (presently being built), Lake Ralph Hall, Tehuacana Reservoir, Marvin Nichols Reservoir, and Lake Columbia. interbasin transfers from Toledo Bend Reservoirs is included as an alternative water management strategy.

Quantitative reporting of environmental factors impacted by water management strategies is covered in Appendix G and additional quantitative information in Appendix J for Marvin Nichols Reservoir. The environmental information is similar to what was included in the 2016 Region C Water Plan. However, in the 2021 IPP the Sulphur Basin Supplies Strategy has been separated into two distinct strategies. The Wright Patman strategy assumes the reallocation of flood storage to elevation 235 MSL. The other strategy involves a larger footprint of the Marvin Nichols Reservoir site with a conservation pool elevation of 328.0 MSL. TPWD appreciates the inclusion of new quantitative information in the plan including potential habitat impacts, in stream miles, for the state listed Creek Chubsucker for George Parkhouse I and II, and Marvin Nichols reservoirs. Estimated environmental flow requirements based on the Trinity Basin Water Availability Model are provided for Tehuacana Creek Reservoir. TPWD continues to have concerns regarding impacts from new reservoir strategies as well as increased elevation at Wright Patman and encourages Region C to continue to update and improve the quantitative environmental information as it becomes available. TPWD looks forward to continued coordination with project sponsors to avoid, minimize and mitigate impacts to fish and wildlife resources.

Water conservation and reuse comprise 32 percent of the recommended strategies for meeting future water demands in Region C. According to the IPP, about half of the water used for municipal supply in Region C is discharged as treated effluent from wastewater treatment plants, making wastewater reclamation and reuse a potentially significant source of water supply for the region. TPWD commends Region C for progress made toward implementing water conservation strategies towards meeting the statewide goal of 140 gallons per person per day, as illustrated by Figure 5B.6.

The IPP describes how it is consistent with the long-term protection of natural resources. Section 6.4 highlights how Region C plans to use conservation, reuse, full utilization of existing surface supplies (committed and non-committed), and ground water to limit the need of new surface water supplies. These steps to protect water resources will benefit natural resources in Region C and Region D. Based on current projected population growth and water demands, Region C is planning for five new reservoirs: Bois d'Arc Lake (presently being built), Lake Ralph Hall, Tehuacana Reservoir, Marvin Nichols Reservoir, and Lake Columbia. The plan acknowledges that these reservoirs will have significant impact on natural resources and plan to address those impacts through the state and federal permitting processes required for these projects. To be further consistent with the long-term protection of natural resources TPWD recommends that Region C continue to seek alternatives to new surface water supplies such as additional water conservation measures and further study of all potential water management strategies such as aquifer storage and recovery and desalination.

As in the previous planning cycles TPWD staff appreciates the time the planning group gave to evaluating whether to recommend stream segments as ecologically unique. Ultimately the workgroup and the Region C voting members decided not to recommend stream segments as ecologically unique due to concerns about regulatory implications of recommending and designating an ecologically unique stream segments. TPWD continues to support regional water planning groups in recommending ecologically unique river and stream segments. While TPWD does not have immediate plans to update the information for Ecologically Significant River and Stream Segments of Region C that was initially prepared by the department in 2000, we would support an update if Region C would find it beneficial in making a decision to recommend a river or stream segment as ecologically unique. New natural resources information is likely available for the river and stream segments the department has identified as well as for other segments not yet identified as candidates for the ecologically unique designation. We also support the planning group's legislative recommendation to form a working group comprised of representatives of TWDB, TPWD, TCEQ, and the sixteen water planning regions to bring clarity, purpose, and direction to designating streams as ecologically unique.

Section 1.11.3 of the 2021 IPP addresses TPWD's 2015 comments regarding invasive species and includes updated information regarding present known status of zebra mussels in Region C. Transporting zebra mussels is illegal. To prevent the transmission of invasive species TPWD recommends avoiding transport of water from basins where these species are known to occur. If this is unavoidable these transfers of water should be directly to water treatment plants.

Thank you for your consideration of these comments. TPWD looks forward to continuing to work with the planning group to develop water supply strategies that not only meet the future water supply needs of the region but also preserve the ecological health of the region's aquatic resources. Please contact me at (512) 389-8715 or Cindy.Loeffler@TPWD.Texas.gov if you have any questions or comments.

Sincerely,

Cindy Loeffler, Chief
Water Resources Branch

CL:lc

CC: Adam Whisenant, Coastal Fisheries Division

TEXAS STATE SOIL AND WATER CONSERVATION BOARD
Protecting and Enhancing Natural Resources for Tomorrow

June 18, 2020

Mr. Kevin Ward
Region C Chair

Dear Mr. Ward;

For the past 2 years the Texas State Soil and Water Conservation Board (TSSWCB) has been participating in the Texas Water Development Board's (TWDB) Regional Water Planning meetings as directed by Senate Bill 1511, passed in the 2017 legislative session. We appreciate being included in the process and offer these constructive comments to the regional water plans and ultimately the State water plan.

As you may know 82% of Texas' land area is privately-owned and are working lands, involved in agricultural, timber, and wildlife operations. These lands are important as they provide substantial economic, environmental, and recreational resources that benefit both the landowners and public. They also provide ecosystem services that we all rely on for everyday necessities, such as air and water quality, carbon sequestration, and wildlife habitat.

With that said, these working lands are where the vast majority of our rain falls and ultimately supply the water for all of our needs, such as municipal, industrial, wildlife, and agricultural to name a few. Texas' private working lands are a valuable resource for all Texans.

Over the years, the private landowners of these working lands have been good stewards of their property. In an indirect way they have been assisting the 16 TWDB's Regional Water Planning Groups in achieving their goals through voluntary incentive-based land conservation practices.

It has been proven over time if a raindrop is controlled where it hits the ground there can be a benefit to both water quality and water quantity. Private landowners have been providing benefits to our water resources by implementing Best Management Practices (BMP) that slow water runoff and provide for soil stabilization, which also slows the sedimentation of our reservoirs and allows for more water infiltration into our aquifers.

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http://www.tsswcb.texas.gov

Some common BMPs include brush management, prescribed grazing, fencing, grade stabilization, irrigation land leveling, terrace, contour farming, cover crop, residue and tillage management, and riparian herbaceous cover.

The TSSWCB has been active with agricultural producers since 1939 as the lead agency for planning, implementing, and managing coordinated natural resource conservation programs for preventing and abating agricultural and sivicultural nonpoint sources of water pollution.

The TSSWCB also works to ensure that the State's network of over 2,000 flood control dams are protecting lives and property by providing operation, maintenance, and structural repair grants to local government sponsors.

The TSSWCB successfully delivers technical and financial assistance to private landowners of Texas through Texas' 216 local Soil and Water Conservation Districts (SWCD) which are led by 1,080 locally elected district directors who are active in agriculture. Through the TSSWCB Water Quality Management Plan Program (WQMP), farmers, ranchers, and silviculturalists receive technical and financial assistance to voluntarily conserve and protect our natural resources. Participants receive assistance with conservation practices, BMPs, that address water quality, water quantity, and soil erosion while promoting the productivity of agricultural lands. This efficient locally led conservation delivery system ensures that those most affected by conservation programs can make decisions on how and what programs will be implemented voluntarily on their private lands.

Over time, lands change ownership and many larger tracts are broken up into smaller parcels. Most new landowners did not grow up on working lands and therefore may not have a knowledge of land management techniques. The TSSWCB is writing new WQMPs for these new landowners who are implementing BMPs on their land. Education and implementation of proper land management and BMPs continues to be essential. Voluntary incentive-based programs are essential to continue to address soil and water conservation in Texas.

These BMPs implemented for soil and water conservation provide benefits not only to the landowner but ultimately to all Texans and our water supply.

Respectfully,

Barry Mahler
Chairman

Rex Isom
Executive Director

1497 Country View Lane • Temple, TX 76504-8806
Phone: 254-773-2250 • Fax: 254-773-3311
http://www.tsswcb.texas.gov

Appendix Q

Public Comments

Transcript of Oral Comments Received at Public Hearing

1. "The recommendation in the Region C IPP that Marvin Nichols Reservoir be constructed by 2050 is not consistent with the Region C Water Planning Group's charge to develop a plan that is in the best interests of the people of Texas. This reservoir would cost $4.4 billion. It would permanently inundate 66,000 acres of prime bottomland. It would take perhaps three times that many acres out of production. It would force thousands of Texans to sell their land. It would devastate the timber- and ag-based economy of a 15-county region of Texas. And it would destroy a huge chunk of bottomland hardwood forest, the most biologically productive inland ecosystem. There are ways for Region C to obtain the water it needs that cost less and have dramatically fewer negative impacts. DFW's non-consumptive uses of water, which are primarily for households and human use at businesses, can be met by increased municipal water recycling. There is already significant reuse of the municipal return flows in the region, and more is planned, but the potential for reuse is vastly more than recommended. The Region C IPP recommends the Main Stem Off-Channel Balancing Reservoir to store return flows as well as urban runoff for Dallas Water Utilities, and to facilitate transfer of water. If properly used, this project could facilitate reuse throughout the DFW region. If used in conjunction with other planned increases in municipal reuse, the Main Stem Balancing Reservoir could achieve virtually 100% reuse of Region C return flows. This would assure a drought-proof water supply for all the Metroplex's non-consumptive uses. The vast majority of the region's consumptive use is for lawn and landscape watering. There is already enough water developed to meet those needs for the foreseeable future. Given an increasing population density and more efficient irrigation, a future decline in per capita consumptive water use is inevitable. If additional consumptive demands were to occur in future, those demands could be met by capturing the increased urban run-off that occurs as the region develops. If DFW's return flows are maximally reused and any increased consumptive use comes from increased urban run-off, it is possible that construction of the Main Stem Off-Channel Balancing Reservoir could provide any need for water for the Metroplex during the next fifty years. Choosing a big glitzy project like Marvin Nichols will benefit the engineering, consulting, and construction companies who build the reservoir, but it is a very inefficient way to ensure a reliable water supply for the people of the DFW Metroplex, or the people of Texas."

2. "Good afternoon, this is Ronna Hartt with the Upper Trinity Regional Water District. On behalf of Upper Trinity, I want to thank you for the opportunity to speak today. As the regional water provider for Denton County and portions of Collin, Cooke, Fannin and Wise county, Upper Trinity takes its water supply planning responsibilities very seriously. Accordingly, we've reviewed the proposed water management strategies for the 16-county region, especially those strategies in the 2021 IPP. The population in water demand projections included in the plan for Upper Trinity service area are reasonable and generally consistent with our expectations. Upper Trinity fully supports the IPP and urges its adoption. Upper Trinity will be providing comments in writing prior to the July 27 deadline and we request these revisions be made prior to submission to the Water Development Board. Thank you for the opportunity to speak today."

3. “Hi this is Ben Jones, I live in Region C, specifically in Dallas, and I was just calling to ask that the proposed Marvin Nichols Reservoir be removed from this plan. It just seems incredibly inefficient with something with over a 4 billion dollar price tag, and to take all of that money and to channel into businesses and organizations like engineering firms and other groups, all at the cost of thousands upon thousands of private land owners land, 66 thousand acres worth, seems to me not only inefficient and unwise but un-Texan. I will encourage that Marvin Nichols, the proposed Reservoir, be removed from this plan. Thank you very much.”

Appendix Q

Comments Received via Letter or Report Format

UPPER TRINITY
REGIONAL WATER DISTRICT

P.O. Box 305 • Lewisville, TX 75067

(972) 219-1228 • www.utrwd.com

July 10, 2020

Mr. Kevin Ward
Region C WPG Chair
c/o Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

Re: Support for the 2021 Initially Prepared Region C Water Plan

Dear Mr. ~~Ward~~: Kevin

As the regional water provider for Denton County and portions of Collin, Cooke and Wise Counties, Upper Trinity Regional Water District takes its water supply planning responsibility very seriously. Accordingly, we have reviewed in detail the proposed water management strategies for the 16-county region, especially those strategies listed for Upper Trinity included in the **2021 Initially Prepared Region C Water Plan**.

The population and water demand projections prepared by the RCWPG consultant for the Upper Trinity service area are somewhat lower than our expectations in the first several decades, however Upper Trinity still fully supports the **Initially Prepared Plan** and urges its adoption. Prior to submission to the Texas Water Development Board, we request a few corrections related to Upper Trinity (see enclosures), of specific importance are the corrections to Table H.62 (Lake Ralph Hall and Reuse Cost Estimate).

Please feel free to contact me at 972-219-1228 should you have any questions or need additional information.

Sincerely,

Larry N. Patterson

Larry N. Patterson, P.E.
Executive Director

Enclosures: (1)

C: Simone Kiel, P.E., Freese and Nichols, Inc.
Region C – WPG; File

Lake Columbia would provide a new water source near existing water resources for DWU. This makes it easier to operate and maintain as part of the overall DWU system. Dallas' share of the capital cost is estimated at $313 million. This strategy is recommended for DWU for implementation in 2070. This strategy is also recommended for other users located in Region I. Additional details for this strategy can be found in the corresponding technical memorandum in **Appendix G.**

5C.1.6 Lake Ralph Hall and Reuse

Lake Ralph Hall is a proposed new reservoir on the North Fork of the Sulphur River in Fannin County in Region C. The lake would store 160,235 acre-feet of water and inundate 7,605 acres at the normal pool elevation of 551 feet MSL. This project is sponsored by the Upper Trinity Regional Water District (UTRWD), which has a water right permit to impound Lake Ralph Hall and divert 45,000 acre-feet per year. Of this amount, 39,220 acre-feet per year is firm supply.

7,568 acres

UTRWD intends to reuse the water originating from Lake Ralph Hall. The source of reuse water will be various UTRWD WWTPs in the Lewisville Lake Basin, based on the percentage of effluent that originates from Lake Ralph Hall. This reuse will augment UTRWD's supply ~~in Lewisville Lake~~ at no additional capital cost to UTRWD.

suggest striking "in Lewisville Lake"

The strategy includes construction of the Lake Ralph Hall, a transmission pipeline from the reservoir to a new balancing reservoir, a lake intake pump station (intake is sized for full permitted amount), and land acquisition of the reservoir site and transmission system easements. The Lake Ralph Hall Dam would be constructed across the valley of the North Fork Sulphur River near the City of Ladonia. The North Fork of the Sulphur River is a highly eroded channel that continues to erode during high flow events. Lake Ralph Hall Dam and Lake would slow down erosive flows, reduce continued degradation of the downstream channel, and provide storage for water supply.

8 acres of wetlands

Environmental considerations were analyzed as part of the Lake Ralph Hall Environmental Impact Statement. There are ~~no~~ wetlands within the reservoir site. Most of the site consists of grasslands, pastures and cropland. A mitigation plan has been developed for this project, and it has been accepted by TCEQ for the water right and ~~is under review by the~~ U.S. Army Corps of Engineers (USACE) for the federal Section 404 permit. The project is expected to be constructed and supplying water by 2030. The development of the reuse supplies from Lake Ralph Hall source water will occur over time beginning as early as 2030. Capital costs to construct this project are estimated at $443 million. This is a recommended project for UTRWD. Additional details for this strategy can be found in the corresponding technical memorandum in **Appendix G.**

404 permit received Jan 30, 2020

Marvin Nichols Reservoir

The Marvin Nichols Reservoir has been included in the previous four Region C Water Plans (2001, 2006, 2011, and 2016) and is being retained as a potentially feasible strategy for the 2021 Region C Water Plan. Marvin Nichols Reservoir is a potential reservoir located on the Sulphur River in Titus, Red River, and Franklin Counties, about 45 miles west of Texarkana. The reservoir, if constructed, would be approximately 100 miles from the Metroplex. This strategy has historically

Project also includes roadway relocations, utility relocations, mitigation, reservoir and administration/support facilities, and temporary facilities to support construction

5C.7 Summary of Recommended Major Water Management Strategies

Table 5C.1 is a summary of the recommended major water management strategies for Region C. These projects represent the majority of the total supply from strategies Much of the remaining cost of strategies is associated with infrastructure projects to treat and/or deliver these supplies to water user groups.

match page 5D.48

Table 5C.1 Recommended Major Water Management Strategies for Region C

Strategy	Supplier	Supply (Ac-Ft/Yr)	Supplier Capital Cost	Supplier Unit Cost ($/1000 gallon)	
				With Debt Service	After Debt Paid
New Surface Water					
Bois d'Arc Lake	NTMWD	120,200	$939,638,000	$1.49	$0.25
Lake Columbia[b]	DWU	56,000	$322,267,000	$1.77	$0.86
Lake Ralph Hall and Reuse	UTRWD	39,220	$443,090,730	$2.05	$0.38
	UTRWD	15,391		$1.48	$0.25
Marvin Nichols Reservoir	TRWD, NTMWD, and UTRWD	361,200	$4,467,478,000	$2.67	$0.57
Neches River Run-of-the-River[a]	DWU	47,250	$261,616,000	$1.89	$0.97
Tehuacana Reservoir	TRWD	21,070	$325,468,000	$3.28	$0.96
Wright Patman Reallocation	TRWD, NTMWD, and UTRWD	122,200	$1,645,711,000	$2.73	$0.71
Connection of Existing Supplies					
GTUA Regional System	GTUA – Phase I	15,332	$243,985,500	$5.72	$3.06
	GTUA – Phase II	20,540	$224,082,500	$4.75	$2.93
Integrated Pipeline (IPL)	TRWD	60,263	$507,733,000	$0.95	$0.48
	DWU	-	$419,835,000	$0.93	$0.41
Lake Palestine (Connect to Bachman)	DWU	105,370	$297,546,000	$0.52	$0.05
Lake Texoma	NTMWD – Phase I (Blending)	39,733	$228,206,000	$1.23	$0.28
	NTMWD – Phase II (Blending)	74,733	$346,367,000	$1.04	$0.32
Oklahoma Water	NTMWD	50,000	$259,924,000	$1.30	$0.43

21,179

Lake Ralph Hall Indirect Reuse. UTRWD will be seeking a state water right to reuse return flows from water originating from the Lake Ralph Hall, providing up to 21,179 acre-feet per year available by 2070. The source of this reuse water will be various UTRWD WWTPs in the Lewisville Lake Basin, based on a percentage of effluent that originates from Lake Ralph Hall. This reclaimed water would augment UTRWD's supply ~~in Lewisville Lake~~.

It will take some years before the full return flow amount is available. Currently much of the area to which UTRWD provides water service is rural and has individual septic systems. It is anticipated that as the area grows, municipal sewer collection systems will be developed, resulting in increased return flow.

Additional Direct Reuse. UTRWD plans to develop up to an additional 2,240 acre-feet per year of direct reuse in Denton County. The specific location of this supply is uncertain and will depend on demands in UTRWD's service area.

Marvin Nichols Reservoir This strategy assumes that Marvin Nichols Reservoir (at 328 MSL) will come online in 2050. This strategy is a joint recommended strategy for NTWMD, TRWD and UTRWD in Region C. Additionally, 20% of the supplies from Marvin Nichols Reservoir will be reserved for water users in Region D.

Wright Patman Reallocation. This strategy is assumed to come online in 2070. The USACE selected an increase of Lake Wright Patman to an elevation of 235 MSL to be the Tentatively Selected Plan (TSP) in February 2019. Like Marvin Nichols Reservoir, this is a joint recommended strategy for NTMWD, TRWD and UTRWD in Region C.

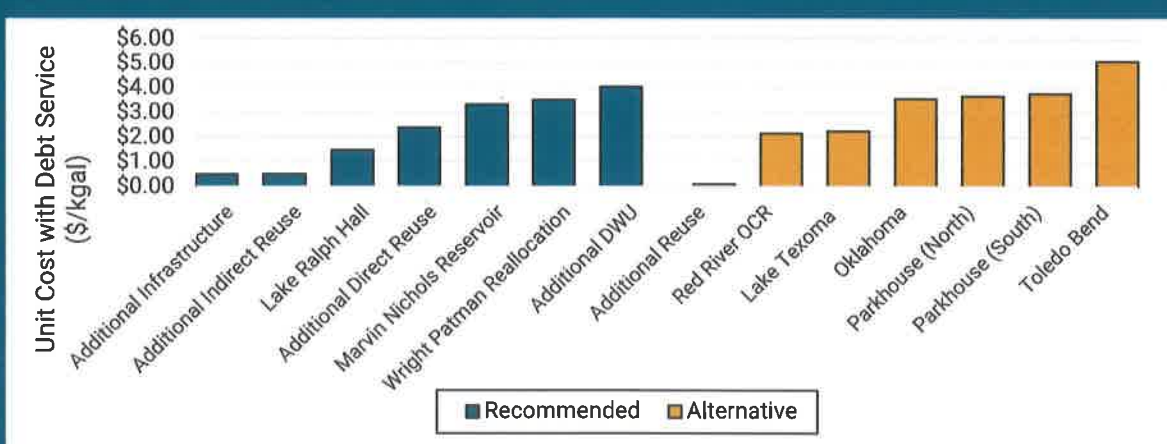
suggest striking "in Lewisville Lake"

Additional Indirect Reuse. The source for this strategy will be the maximum allowable indirect reuse made available from implementation of the Sulphur Basin Supplies water management strategy.

Water Treatment and Distribution Improvements. UTRWD will need to make improvements to its water treatment and distribution system to meet the demands of its customers. UTRWD has developed a capital improvement plan with specific projects through 2035. Estimated costs for improvements after 2035 are also included.

Strategy Unit Costs

Costs were developed for both recommended and alternative strategies. Costs are summarized in **Table 5D.15** and **Table 5D.16**.



Upper Trinity RWD (Ac-Ft/Yr)	2020	2030	2040	2050	2060	2070
Total Supplies	**57,844**	**61,655**	**59,828**	**57,248**	**55,710**	**54,586**
Need (Demand - Supply)	**0**	**14,197**	**37,823**	**64,393**	**85,440**	**107,774**
Contracted Amount from DWU*	***42,905***	***49,097***	***51,809***	***52,622***	***53,281***	***53,952***
Water Management Strategies						
Conservation (Wholesale)	1,508	4,048	5,064	6,256	7,321	8,487
Additional Supplies from DWU (Up to Current Contracts)[b]	1,725	4,246	8,923	12,449	14,554	16,254
Additional DWU (Contract Increase)	0	0	0	5,605	11,210	11,210
Lake Ralph Hall	0	39,220	39,142	39,064	38,986	38,908
Lake Ralph Hall Indirect Reuse	0	13,944	14,689	15,428	15,390	15,391
Additional Direct Reuse	0	560	1,121	2,240	2,240	2,240
Marvin Nichols Reservoir	0	0	0	26,152	26,152	26,152
Wright Patman Reallocation	0	0	0	0	0	8,848
Additional Indirect Reuse	0	0	0	10,340	10,340	13,838
Water Treatment and Distribution Improvements	*1,725*	*57,970*	*63,875*	*111,278*	*118,872*	*132,841*
Total Supplies from Strategies	**3,233**	**62,018**	**68,939**	**117,534**	**126,193**	**141,328**
Total Supplies	**61,089**	**123,673**	**128,767**	**174,782**	**181,903**	**195,914**
Reserve or (Shortage)	10,755	47,821	31,116	53,141	40,753	33,554
Management Supply Factor	1.21	1.63	1.32	1.44	1.29	1.21 1.21

[a]These entities contract directly with UTRWD for wholesale supply, but Mustang SUD is the contract operator for their water systems, providing general operational functions including billing, operations and maintenance, etc.
[b]UTRWD's current contracts with DWU indicate that DWU will supply 1) water needed for several specific water suppliers in Denton County + 10 MGD and 2) an additional amount equal to 40% of UTRWD's supplies from Chapman.

should this be footnote "b"

???

Table 5D.15 Summary of Costs for Recommended Strategies - UTRWD

Strategy	Date to be Developed	Quantity for UTRWD (Ac-Ft/Yr)	UTRWD Share of Capital Costs	Unit Cost ($/1000 gal) With Debt Service	Unit Cost ($/1000 gal) After Debt Service	Table for Details
Conservation[a]	2020	8,464	Included under County Summaries in Chapter 5E.			
Additional Supplies from DWU (Up to Current Contracts)[b]	2020	16,254	$0	$4.05	$4.05	None
Additional DWU (Contract Increase)	2050	11,210	$0	$4.05	$4.05	None
Lake Ralph Hall	2030	39,220	$443,090,730	$1.48	$0.25	H.62
Lake Ralph Hall Indirect Reuse	2030	15,428	See above. 21,179			
Additional Direct Reuse	2030	2,240	$17,959,000	$2.38	$0.65	H.66
Additional Indirect Reuse	2030	13,838	$0	$0.50	$0.50	None
Marvin Nichols Reservoir	2050	26,152	$403,904,000	$3.33	$0.71	H.20
Wright Patman Reallocation	2070	8,848	$149,844,000	$3.51	$0.91	H.23
Water Treatment and Distribution Improvements	2020	132,841	$646,364,000	$0.48	$0.24	H.64
Total UTRWD Capital Costs			**$1,661,161,730**			

[a]UTRWD has no retail sales, so conservation savings are reflected in their customers' conservation savings. see comments on H.62

[b]UTRWD's current contracts with DWU indicate that DWU will supply 1) water needed for several specific water suppliers in Denton County + 10 MGD and 2) an additional amount equal to 40% of UTRWD's supplies from Chapman.

see comments on H.64

Table 5D.16 Summary of Costs for Alternative Strategies - UTRWD

Strategy	Quantity for UTRWD (Ac-Ft/Yr)	UTRWD Share of Capital Costs	Unit Cost ($/1000 gal) With Debt Service	Unit Cost ($/1000 gal) After Debt Service	Table for Details
George Parkhouse Reservoir (North)	28,116	$469,733,000	$3.66	$0.83	H.68
George Parkhouse Reservoir (South)	29,900	$549,322,000	$3.78	$0.78	H.69
Red River Off-Channel Reservoir	15,000	$126,771,000	$2.16	$0.76	H.42
Lake Texoma	25,000	$270,614,000	$2.25	$0.46	H.67
Toledo Bend	50,000	$1,058,650,000	$5.09	$1.45	H.19
Oklahoma	10,000	$150,183,000	$3.57	$1.06	H.65
Additional Reuse	15,000	$1,750,000	$0.09	$0.07	H.66

Table 5D.21 Summary of Costs for Recommended Strategies - GTUA

Strategy	Date to be Developed	Quantity for GTUA (Ac-Ft/Yr)	GTUA Share of Capital Costs	Unit Cost ($/1000 gal) With Debt Service	Unit Cost ($/1000 gal) After Debt Service	Table for Details
Conservation[a]	2020	4,418	Included under County Summaries in Chapter 5E.			
GTUA Regional Water System – Phase 1	2020	15,332	$243,985,500	$5.72	$3.06	H.72
GTUA Regional Water System – Phase 2	2030	20,540	$224,082,500	$4.75	$2.93	H.73
Connection from Sherman to CGMA	2030	4,484	$31,115,000	$1.78	$0.28	H.71
Parallel CGMA Pipeline (NTMWD)	2030	30,775	$89,989,000	$3.55	$2.72	H.70
Total GTUA Capital Costs			**$589,172,000**			

[a]*GTUA has no retail sales, so conservation savings are reflected in their customers' conservation savings.*

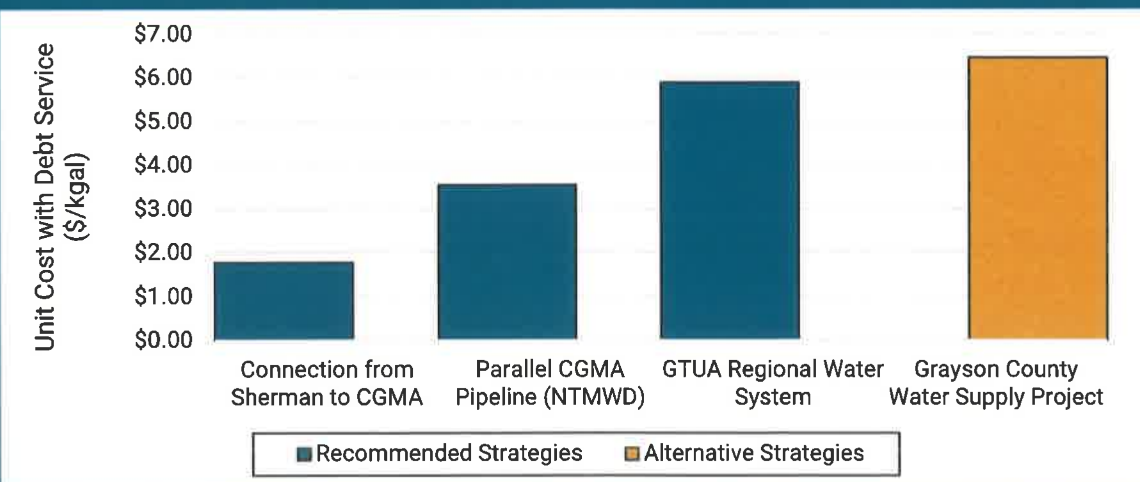
Table 5D.22 Summary of Costs for Alternative Strategies - GTUA

Strategy	Date to be Developed	Quantity for UTRWD (Ac-Ft/Yr)	UTRWD Share of Capital Costs	Unit Cost ($/1000 gal) With Debt Service	Unit Cost ($/1000 gal) After Debt Service	Table for Details
Grayson County Water Supply Project	NA	37,610	$657,965,000	$6.45	$3.53	H.74
Total GTUA Capital Costs			**$657,965,000**			

GTUA

Strategy Unit Costs

Costs were developed for both recommended and alternative strategies. Costs are summarized in **Table 5D.21** and **Table 5D.22**.



8.3 Recommendations for Unique Sites for Reservoir Construction

In 2007, the 80th Texas Legislature passed Senate Bill 3 (SB3), which designated unique sites for reservoir construction as recommended in the *2007 State Water Plan*, including the following sites previously recommended by the Region C Water Planning Group:

- Muenster site on Brushy Elm Creek in Cooke County
- Ralph Hall site on the North Sulphur River in Fannin County
- Lower Bois d'Arc Creek (currently named Bois d'Arc Lake) site on Bois d'Arc Creek in Fannin County
- Marvin Nichols site on the Sulphur River in Red River, Titus, and Franklin counties
- Fastrill site on the Neches River in Anderson and Cherokee counties
- Tehuacana site on Tehuacana Creek in Freestone County.

SB3 also designated the Columbia site on Mud Creek in Cherokee County as a unique site for reservoir construction. This site was previously recommended by the East Texas Regional Water Planning Group.

According to Section 16.051 of the Texas Water Code, these designations were to terminate on September 1, 2015, unless there was "an affirmative vote by a proposed project sponsor to make expenditures necessary in order to construct or file applications for permits required in connection with the construction of the reservoir under federal or state law." To date, none of the existing reservoir designations have been terminated.

Finally, a new reservoir located at the George Parkhouse (North) site was added as an alternative water management strategy in the *2016 Region C Water Plan* for the Upper Trinity Regional Water District (UTRWD) and the North Texas Municipal Water District (NTWMD). It was recommended that the Texas Legislature designate the George Parkhouse (North) site as a unique site for reservoir construction. However, the Legislature has not yet approved this additional designation..

With the exception of Muenster Lake, which has been constructed and is currently in operation, brief descriptions of each site follow, along with a summary of actions that the project sponsor has taken to bring the project to fruition.

Lake Ralph Hall would be located on the North Sulphur River in southeast Fannin County, north of Ladonia. The site is located in the Sulphur River Basin in Region C. The reservoir would yield 39,220 acre-feet per year and would flood 7,605 acres. Lake Ralph Hall is a recommended water 7,568 management strategy for the UTRWD. The proposed lake would provide water to southeast Fannin County residents, as well as to customers of the Upper Trinity Regional Water District in the Denton County area.

To develop Lake Ralph Hall, UTRWD has:

- Secured a water right. Permit 5821, issued in December 2013, allows UTRWD to impound up to 180,000 acre-feet in Lake Ralph Hall and to divert up to 45,000 acre-feet per year for municipal, industrial, irrigation, and recreation purposes. As part of the water right permitting process, UTRWD completed special engineering and cultural resources studies, including:

- Hydrologic and hydraulic studies,
- Biological and in-stream flow assessment,
- Geologic characteristics study,
- Economic impact study, and
- Water conservation implementation plan.
- Applied for a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (USACE). As part of the 404 permitting process, UTRWD has:

Section 404 permit received on Jan 30, 2020

Completed special engineering and cultural resources studies, including:

- Hydrologic and hydraulic studies,
- Preliminary jurisdictional determination of waters of the U.S.,
- Preliminary habitat assessment,
- Archaeology & quaternary geology,
- Biological and in-stream flow assessment,
- Geologic characteristics,
- Economic impact study,
- Geomorphic and sedimentation evaluation, and
- Draft mitigation plan for impacts to aquatic resources and terrestrial habitats.
- Had a draft Environmental Impact Statement (EIS) developed and submitted it to the USACE. Final approval of the EIS is anticipated in late 2019.

Final EIS issued Sept. 2019

Bois d'Arc Lake (formerly named Lower Bois d'Arc Creek Reservoir) would be located on Bois d'Arc Creek in Fannin County, immediately upstream from the Caddo National Grassland. The site is located in the Red River Basin in Region C. The proposed reservoir would yield 120,200 acre-feet per year and would flood 16,641 acres. The North Texas Municipal Water District (NTMWD) is the primary developer of Bois d'Arc Lake. The proposed reservoir is a recommended water management strategy to provide water to potential customers in Fannin County in addition to existing customers of the NTMWD.

To develop Bois d'Arc Lake, NTMWD has:

- Secured a water right. Permit 12151, issued in June 2015, allows NTMWD to impound up to 367,609 acre-feet and to divert up to 175,000 acre-feet per year for municipal, industrial, and irrigation purposes. As part of the water right permitting process, NTMWD has:
- Contracted with conservation experts and enhanced its water conservation plan.
- Reached settlement agreements with the National Wildlife Federation, the Sierra Club, Texas Parks and Wildlife Department, Bois D'Arc Municipal Utility District, and some landowners.
- Applied for a Clean Water Act Section 404 permit from USACE. As part of the 404 permitting process, NTMWD:
- Completed a final pipeline alignment, intake pump station location, and terminal storage analysis study.
- Completed an archaeological study of reservoir site, pipeline route, and Leonard water treatment plant site and completed Phase 1 archaeological study of mitigation site.
- Submitted a final proposed mitigation plan to USACE.Completed 30 percent dam design and met with TCEQ to discuss the design.

Table H.62

UTRWD - Lake Ralph Hall and Reuse

Probable Owner:	UTRWD		
Quantity:	39,220	Ac-Ft/Yr from Ralph Hall	60,399
	54,299	Total, including Reuse	
Peak:	43.7 MGD	1.25 peaking factor	

CONSTRUCTION COSTS

Dam, Reservoir and Conflicts	**Size**	**Quantity**	**Unit**	**Unit Price**	**Cost**
Mobilization and Demobilization		1	LS	$6,488,600	$6,489,000
Stormwater Prevention		1	LS	$1,260,200	$1,260,000
Care of Water		1	LS	$2,500,000	$2,500,000
Clearing & Grubbing		275	AC	$5,000	$1,375,000
Topsoil Stripping		250,000	CY	$7.00	$1,750,000
Excavation		3,870,000	CY	$3.75	$14,513,000
Roadways		17,160 ~~23,800~~	LF	$325	$7,735,000
Bridges		15,800 ~~13,080~~	LF	$2,173	$28,423,000
Utility Relocations		53,500	LF	$121	$6,474,000
Miscellaneous conflicts		1	LS	$3,000,000	$3,000,000
Embankment Random Fill		1,638,000	CY	$3.25	$5,324,000
Embankment Core		2,011,000	CY	$3.50	$7,039,000
Soil Bentonite Slurry Trench		355,000	SF	$10	$3,550,000
Soil Cement		125,000	CY	$105	$13,125,000
Filter Drains		244,000	CY	$76	$18,544,000
Miscellaneous drainage		1	LS	$2,300,000	$2,300,000
Principal Spillway Reinf. Conc.		4,590	CY	$750	$3,443,000
Roller Compacted Concrete		128,780	CY	$200	$25,756,000
Embankment Instrumentation		1	LS	$500,000	$500,000
Embankment seeding		1	LS	$600,000	$600,000
Engineering and Contingencies (35%)					$53,795,000
Subtotal for Dam, Reservoir and Conflicts					**$207,495,000**
TRANSMISSION FACILITIES					
		32 miles = 168,960 LF			
Pipeline	**Size**	**Quantity**	**Unit**	**Unit Price**	**Cost**
Pipeline to Balancing Reservoir	54	158,400	LF	$367	$58,133,000
Right of Way Easements		158,400	LF	$16	$2,550,000
Engineering and Contingencies (30%)					$17,440,000
Subtotal of Pipeline					**$78,123,000**
Intake Pump Station					
Intake only		1	LS	$18,493,800	$18,494,000
Pump Station	4000 ~~2300~~ HP	1	LS		$13,322,000
Engineering and Contingencies (35%)					$11,136,000
Subtotal of Pump Station					**$42,952,000**
Balancing Reservoir					
Reservoir	20 MG	1	LS	$3,500,000.00	$3,500,000
Engineering and Contingencies (35%)					$1,225,000
Subtotal of Balancing Reservoir					**$4,725,000**
CONSTRUCTION TOTAL					**$333,295,000**
Land Acquisition					**$48,000,000**
Mitigation and permitting					**$38,881,730**
Interest During Construction (30 months)			30	months	**$22,914,000**

Continued	
TOTAL COST	**$443,090,730**
ANNUAL COSTS	**Cost**
Debt Service on reservoir and intake (3.5% for 40 years)	$16,869,000
Debt Service on Transmission system (3.5% for 30 years)	$4,505,000
Electricity ($0.08 per kWh)	$1,619,000
Operation & Maintenance	$3,216,000
Total Annual Costs	**$26,209,000**
UNIT COSTS (During Amortization)	
Per Acre-Foot (Ralph Hall and Reuse)	$483
Per 1,000 Gallons	$1.48
UNIT COSTS (After Amortization)	
Per Acre-Foot (Ralph Hall and Reuse)	$80
Per 1,000 Gallons	$0.25
UNIT COSTS (During Amortization)	
Per Acre-Foot (Ralph Hall only)	$668
Per 1,000 Gallons	$2.05
UNIT COSTS (After Amortization)	
Per Acre-Foot (Ralph Hall only)	$123
Per 1,000 Gallons	$0.38

60,399 acre-ft/yr should be used for calculating cost with reuse

Table H.64

UTRWD - Treatment and Distribution System Improvements		
Amount	132,841	AF/Y
OWNER:	UTRWD	
Project	**Date**	**Capital Budget**
2020 Projects		
Pipelines		
Parallel Pipeline from Taylor RTWP to Stone Hill Pump Station	2020	$41,508,000
Pipeline from Harpool RWTP Raw Water North Storage to Harpool RWTP	2020	$11,859,000
~~RTWS Valve, Meter, Tank and Pipeline Improvements/Rehab~~	~~2020~~	~~$2,372,000~~
Upsizing/Realocation FM2181 24" Pipeline	2020	$3,558,000
Customer Pipeline Extentions	2020	$247,000
Aubrey Pipeline and Point of Delivery #1	2021	$396,000
Pilot Point Pipeline	2022	$124,000
All Other Facilities		$27,000,000
Southwest Pump Station - Phase I ~~and Interim Pump Station~~	2020	~~$7,165,000~~
~~Ozone System Rehabilitation at the Taylor RWTP~~	~~2020~~	~~$969,000~~
~~Harpool RWTP High Service Pumping Improvements, Phase 1B~~	~~2020~~	~~$6,226,000~~
Harpool RWTP Phased Treatment Expansion, Phase 1	2020	$44,473,000
Harpool RWTP Raw Water North Storage	2020	$2,125,000
Harpool RWTP North Transmission Main, Phase 1	2020	$6,819,000
Contingency Improvements	2020	$494,000
Mustang Point of Delivery #3	2021	$484,000
Harpool In-Line Booster Pump Station @ NE Pipeline	2023	$544,000
Pipeline Total		**$60,064,000**
All Other Facilities Total		**$69,299,000**
Total, 2020 Projects		**$129,363,000**

Will close this project out this year.

Will close this project out this year.

Please add the following projects to the 2020-2030 list above.

RTWS General Treatment and Pumping Improvements	2021	$15,000,000
Replacement / Upsizing of Section of Phase 1A Water Pipeline	2021	$ 7,700,000
Elevated Storage Tank	2021	$ 7,000,000

Please add the following projects to the list below.

RTWS Northeast Transmission Pipelines (Ph1-6) and Loop	2025-30	$96,700,000
RTWS Southwest Transmission Pipelines (Ph1-4)	2030-35	$46,000,000
RTWS Ground Storage Tank and Pump Station	2025-2030	$20,000,000
Harpool Finished Water Pump Station No. 2	2025	$17,000,000

Continue

Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)		**$42,273,850**
Interest During Construction (3% for 1 years with a 0.5% ROI)		**$4,720,013**
Annual Costs for 2020 Projects		
Debt Service (3.5% interest, 30 year bonds)		$7,034,000
Power (Estimated)		$2,666,667
Water Treatment Plant Operation (10 MGD Expansion)		$1,670,000
Operation and Maintenance		$815,000
Total Pre-Amortization		**$12,185,667**
Total After Amortization		**$5,151,667**
2030 Projects		
Pipelines		
Customer Pipeline Extensions	2025	$445,000
~~NE~~ Elevated Storage Tank and Pipeline	2025	~~$14,824,000~~ $10,000,000
~~North Pipeline from Harpool RWTP to Celina (Coffey Road)~~	~~2026~~	~~$3,775,000~~
~~All Other~~ Facilities		
Harpool RWTP Expansion, Phase 2 ~~(from 20.0 to 30.0 MGD)~~	2025	$41,850,000 ~~$19,766,000~~
Harpool Membrane Replacement Project	2025	~~$19,766,000~~ $10,000,000
~~RTWS General Treatment & Pumping Improvements~~	~~2025~~	~~$1,977,000~~
Contingency Improvements	2025	$8,005,000
StoneHill Improvments and GST	2025	$14,824,000
Pipeline Total		**$19,044,000**
All Other Facilities Total		**$64,338,000**
Total, 2030 Projects		**$83,382,000**
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)		**$28,231,500**
Interest During Construction (3% for 1 years with a 0.5% ROI)		**$3,069,371**

Continued	
Annual Costs for 2030 Projects	
Debt Service (3.5% interest, 30 year bonds)	$4,534,000
Power (Estimated)	$3,101,333
Water Treatment Plant Operation	$1,670,000
Operation and Maintenance	$561,000
Total Pre-Amortization	**$9,866,333**
Total After Amortization	**$5,332,333**
2040 Projects	
Harpool WTP Water Quality Improvements	$59,400,000
Harpool Water Treatment Plant Expansion ~~(40 MGD)~~	$70,597,664
Taylor RWTP Expansion ~~(from 70 MGD to 82 MGD)~~	$40,500,000 ~~$27,672,000~~
Other Pipeline Projects (estimated)	$20,000,000
Other Pump Station Projects (estimated)	$5,000,000
Engineering and Contingencies (30% for Pipelines, 35% for others)	$42,144,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$4,548,876
Total, 2040 Projects	**$169,963,000**
Annual Costs for 2040 Projects	
Debt Service (3.5% interest, 30 year bonds)	$9,241,000
Power (Estimated)	$3,101,333
Water Treatment Plant Operation	$6,032,321
Operation and Maintenance	$325,000
Total Pre-Amortization	**$18,699,654**
Total After Amortization	**$9,458,654**
2050 Projects	
Water Treatment Plant Expansion ~~(40 MGD)~~	$70,597,664
Other Pipeline Projects (estimated)	$20,000,000
Other Pump Station Projects (estimated)	$5,000,000
Engineering and Contingencies (30% for Pipelines, 35% for others)	$32,459,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,521,558
Total, 2050 Projects	**$131,578,000**
Annual Costs for 2050 Projects	
Debt Service (3.5% interest, 30 year bonds)	$7,154,000
Power (Estimated)	$2,053,333

Continued	
Water Treatment Plant Operation	$4,941,837
Operation and Maintenance	$325,000
Total During Amortization	**$14,474,170**
Total After Amortization	**$7,320,170**
2060 Projects	
Water Treatment Plant Expansion (40 MGD)	$70,597,664
Other Pipeline Projects (estimated)	$20,000,000
Other Pump Station Projects (estimated)	$5,000,000
Engineering and Contingencies (30% for Pipelines, 35% for others)	$32,459,000
Interest During Construction (3% for 1 years with a 0.5% ROI)	$3,521,558
Total, 2060 Projects	**$131,578,000**
Annual Costs for 2060 Projects	
Debt Service (3.5% interest, 30 year bonds)	$7,154,000
Power (Estimated)	$2,053,333
Water Treatment Plant Operation	$4,941,837
Operation and Maintenance	$325,000
Total During Amortization	**$14,474,170**
Total After Amortization	**$7,320,170**
TOTAL CAPITAL COST	**$646,364,000**
UNIT COSTS (During Amortization)**	
Per Acre-Foot	**$156**
Per 1,000 Gallons	**$0.48**
UNIT COSTS (After Amortization)**	
Per Acre-Foot	**$77**
Per 1,000 Gallons	**$0.24**

** These unit costs are the average of each decade's unit costs.

these numbers do not match
those on page 5D.46

Wholesale Water Provider/ Use Category	Population & Projected Dry-Year Demand Including Customers (Demand in Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Total UTRWD Demand	**50,320**	**75,918**	**97,710**	**121,693**	**141,195**	**162,405**
Trinity River Authority						
Population Served	**622,557**	**918,139**	**1,020,349**	**1,108,167**	**1,211,944**	**1,355,172**
Municipal Demand	131,157	187,659	206,666	222,076	238,915	263,846
Manufacturing Demand	6,373	8,336	7,978	7,803	7,443	7,256
Irrigation Demand	27,044	27,653	27,765	27,890	27,987	28,049
Steam Electric Power Demand	8,442	8,487	8,476	8,466	8,461	8,454
Mining Demand	0	385	509	692	871	1,096
Livestock Demand	0	0	0	0	0	0
Total TRA Demand	**173,016**	**232,520**	**251,394**	**266,927**	**283,677**	**308,701**
Fort Worth						
Population Served	**1,394,591**	**1,694,815**	**2,017,530**	**2,262,135**	**2,478,090**	**2,702,871**
Municipal Demand	276,138	332,630	394,080	439,423	478,820	519,638
Manufacturing Demand	9,683	10,569	10,567	10,567	10,567	10,567
Irrigation Demand	0	0	0	0	0	0
Steam Electric Power Demand	2,000	2,000	2,000	2,000	2,000	2,000
Mining Demand	1,754	1,811	1,677	1,677	1,677	1,677
Livestock Demand	0	0	0	0	0	0
Total Fort Worth Demand	**289,575**	**347,010**	**408,324**	**453,667**	**493,064**	**533,882**

Provider	Source	2020	2030	2040	2050	2060	2070
Trinity River Authority	Joe Pool Lake						
	Midlothian	5,833	5,712	5,591	5,470	5,349	5,229
	Grand Prairie	1,272	1,239	1,207	1,174	1,141	1,109
	Grand Prairie (raw)	300	300	300	300	300	300
	Cedar Creek	7,346	7,346	7,346	7,346	7,346	7,346
	Duncanville	1,197	1,197	1,197	1,197	1,197	1,197
	Navarro Mills Lake	18,333	17,325	16,317	15,308	14,300	13,292
	Bardwell Lake	9,600	9,295	8,863	8,432	8,000	7,568
	Lake Livingston (Region C)	20,000	20,000	20,000	20,000	20,000	20,000
	Reuse (Region C)	68,140	68,543	69,275	69,790	69,790	69,790
	Subtotal	**132,021**	**130,957**	**130,096**	**129,017**	**127,423**	**125,831**
	TRWD	48,633	44,474	40,902	40,635	41,144	39,287
	TRA Total in Region C	**180,654**	**175,431**	**170,998**	**169,652**	**168,567**	**165,118**
Upper Trinity Regional Water District	Chapman Lake	11,795	11,729	11,662	11,594	11,528	11,460
	DWU Contract	41,194	44,851	42,886	40,173	38,727	37,698
	Chapman Reuse	3,970	4,178	4,383	4,584	4,558	4,531
	Direct Reuse	897	897	897	897	897	897
	UTRWD Total	**57,856**	**61,655**	**59,828**	**57,248**	**55,710**	**54,586**
Greater Texoma Utility Authority	Lake Texoma Raw Water	83,200	83,200	83,200	83,200	83,200	83,200
	Delivery Limited by WTP Capacity	11,210	11,210	11,210	11,210	11,210	11,210
	Usable Lake Texoma Raw Water	71,990	71,990	71,990	71,990	71,990	71,990
	Denison (for Pottsboro)	406	543	679	918	1,512	1,682
	NTMWD (Collin-Grayson MA)	4,485	5,400	5,400	5,400	5,400	5,400
	GTUA Total	**88,091**	**89,143**	**89,279**	**89,518**	**90,112**	**90,282**

[a]*The available supply reported is the safe yield because of the operations by the MWP.*

page 5D.47 has 57,844

page 5D.46 has 41,182

Table 5A.1 List of Major Potentially Feasible Water Management Strategies

Potentially Feasible Water Management Strategy	Potential Sponsor	Maximum Supply Available (Ac-Ft/Yr)
Reuse Strategies		
Cedar Creek Wetland Reuse	TRWD	88,059
Reuse from TRA Central WWTP	TRWD	60,000
Indirect Reuse Implementation	DWU	62,559
Main Stem Balancing Reservoir	DWU	95,829
Additional Lavon Watershed Reuse	NTMWD	38,780
Expanded Wetland Reuse	NTMWD	37,510
Connection of Existing Supplie		
Integrated Pipeline	TRWD, DWU	313,880
Connect to Lake Palestine (IPL Delivery Point to Bachman WTP)	DWU	105,370
Lake Texoma (Blending)	NTMWD and UTRWD	138,9336
GTUA Regional System	GTUA	35,872
Water from Oklahoma	NTMWD, UTRWD, Irving	55,000
Sabine Conjunctive System Operations	DWU	104,200
Toledo Bend Reservoir	NTMWD, TRWD, UTRWD, DWU	350,000
Lake O' the Pines (Cypress Basin Supplies)	NTMWD	50,000
New Surface Water	21,179	
Bois d'Arc Lake	NTMWD	120,200
Lake Ralph Hall	UTRWD	39,220
Lake Ralph Hall Reuse	UTRWD	15,428
Marvin Nichols Reservoir	NTMWD, UTRWD, TRWD, DWU and/or Irving	361,200
George Parkhouse Reservoir (North)	NTMWD and/or UTRWD	85,200
George Parkhouse Lake (South)	NTMWD and/or UTRWD	92,800
Wright Patman Reallocation	NTMWD, UTRWD, TRWD, DWU and/or Irving	122,200
Lake Columbia	DWU	56,000
Red River Off Channel Reservoir	DWU, UTRWD	114,000
Neches River Run-of-the-River Diversion	DWU	47,250
New Groundwater		
Carrizo-Wilcox Aquifer	NTMWD, TRWD, DWU	104,000
Desalination		
Gulf of Mexico with Desalination	Multiple	200,000
Lake Texoma with Desalination	NTMWD, GTUA, DWU, Denison	223,000
Aquifer Storage and Recovery (ASR)		
Aquifer Storage and Recovery	Multiple	50,000

Serving Texas Conservation for Fifty Years

Comments on the Initially Prepared Region C Plan
By Texas Conservation Alliance
July 27, 2020

Texas Conservation Alliance appreciates the opportunity to add the following comments to the oral comments we submitted at the teleconference on May 26.

In reading the 2021 Initially Prepared Region C Water Plan (Region C IPP, IPP, the Plan), we are reminded of Henry David Thoreau's remark, "We are determined to be starved before we are hungry." The Region C IPP suggests a future in which the people of Region C must finance a number of reservoirs scattered across east Texas, with the attendant hundreds of miles of expensive pipelines, and all of this in addition to the best efforts at conservation, reuse, and optimum use of existing water supplies. But the situation is not that desperate.

According to the Region C IPP, the population of the region in 2010 was (in round numbers) 6.5 million residents. The current (2020) population is projected at 7.5 million. The projection for 2070 is 14.7 million.

The IPP projects that a 2020 demand of 1.7 million acre-feet per year (AFY) – 1.5 million AFY of it municipal – increasing to 2.9 million AFY - 2.7 million of it municipal – in the year 2070.

The Plan claims a 2020 overall water supply availability of 2.4 million AFY. The IPP projects that the currently-available supplies will decline by 2070 to 2.3 million AFY.

Using the figures above, we calculate a current per capita water use for Region C of 204 gallons per person per day (gpcd) and a 2070 projection of 178 gpcd.

We conclude several points from these numbers:

- First, the current supply significantly exceeds current demand and will continue to for decades to come.

- A quick calculation shows that the supplies stated for Region C as available would be sufficient to meet the projected 2070 demand If per capita water use for the region were to drop to 143

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gpcd. Given that the target gpcd for the entire state is 140 gpcd, this is clearly within the realm of the possible. Every improvement over the 178 gpcd projected for 2070 would help close the 2070 gap between supply and demand alleged by the Region C IPP.

- truth, the current and future water supply numbers in the IPP are substantially undercounted because the yields of the region's water supply reservoirs have been calculated without taking into account the increased inflows due to the increase in impervious cover associated with the region's dramatic population growth and urbanization. This undercounting provides a significant portion of the justification for many of the recommended water management strategies, including construction of the mega-project Marvin Nichols Reservoir. Obviously, no major infrastructure project should be undertaken until a more accurate counting of supply is determined.

- Also not taken into account in the IPP's assessment of Region C's supplies are most of the potential supplies available from reuse. For example, the 2070 supply projection includes only 400,000 AFY of reuse out of return flows that would exceed 1.5 million AFY if the projected municipal demand of 2.7 million AFY in 2070 were to prove correct.

  It is important to note that there is no barrier to 100% reuse of the region's return flows. Reuse is almost always a lower cost option than any other source of water supply.

- If only 2/3 of the projected return flows were used as water supply, then the projected demand for 2070 could be met by the projected supplies, with no additional source of supply other than reuse (i.e., no new reservoir).

Main-Stem Balancing Reservoir

If additional supplies were ever needed, the only defensible new source of supply would be to develop the proposed Main-Stem Balancing Reservoir (MSBR). According to the Region C IPP, the cost of water from the Main-Stem Balancing Reservoir would be $1.89 per thousand gallons. The cost for Marvin Nichols Reservoir, for example, would be $2.67/1,000 gal or $3.18/1,000 gal, depending on which version was built.

The stated cost of MSBR, however, is for the rather arbitrary yield of 96,000 AFY. Potentially, this water management strategy could have a much larger yield and, consequentially, a much lower cost per unit of water. This much larger potential yield is due to the location of MSBR on the Trinity River below Dallas. Any return flows not captured upstream could be diverted from the Trinity into MSBR.

Additionally, the urban run-off below the areas controlled by upstream reservoirs would flow past the pick-up point of MSBR, and some could also be diverted into the reservoir.

If the Region C population does reach the 14 million projected in the IPP (by no means a certainty), the additional run-off resulting from urbanization in the upper Trinity Basin would exceed one million AFY beyond the historical flows in the Trinity River, a substantial fraction of which will be captured by existing reservoirs. An additional substantial fraction could be captured by MSBR.

The fact that MSBR is not a recommended or an alternative in the Region C Plan, when projects such as Marvin Nichols Reservoir are, is blatantly not in the best interests of the people of Texas.

Conclusion

As Texas Conservation Alliance pointed out in our oral comments, the Marvin Nichols Reservoir, *recommended* in the Region C IPP, would cost $4.4 billion. It would permanently inundate 66,000 acres of prime bottomland. It would take perhaps three times that many acres out of production. It would force thousands of Texans to sell their land. It would harm the timber- and ag-based economy of a 15-county region of Texas. And it would destroy a huge chunk of bottomland hardwood forest, the most biologically productive inland ecosystem, eliminating the stellar habitat that forest provides to wildlife and outdoor recreation. Other reservoirs recommended in the IPP differ from Marvin Nichols Reservoir only in degree. The dramatic negative impacts of any reservoir cannot be justified if there are other cost-effective ways to meet Region C's water demands.

In summary, any reasonable projection of future water demands in Region C can be met by supplementing current supplies with further conservation, reuse, and perhaps MSBR.

July 25, 2020
Comments on the Region C 2021 Water Plan

Dear Mr. Ward and Region C members:

I am writing these comments after limited review of the 2021 Region C draft water plan. It is unfortunate that Region C continues to pursue the proposed Marvin Nichols reservoir when Region C has done an inadequate job in proposing or utilizing less expensive and low impact methods by which to secure more water supply. Further, Region C continues to put forward plans where the numbers don't seem to add up to justify this proposed reservoir project.

Within this plan, Region C's own numbers show the following:

- Unacceptable water loss is as high as 40 to near 50% in some cities/entities as noted in Appendix B in the Water Loss Audit Data section. Acceptable loss per the TWDB is 10%. Many cities/entities show a 15% to 20% loss in this plan. Cities/entities need to reduce their water loss if they are going to ask residents to pay more for their water and/or justify the building of reservoirs on the backs of those same ratepayers.

- Some cities within Region C have existing gpcd rates that are as much as 100-200 gallons per capita per day higher than the recommended 140 gpcd rate put forward by the TWDB in 2016. See section I.17.

- Many projected gpcd water goals from 2020 to 2070 have already been met by cities/entities when one compares actual reported numbers to the TWDB vs. Section I.17 in this plan. Even water goals for some cities projected out as far as fifty years from now for the year 2070 have already been met as shown by the actual numbers reported to the TWDB as indicated in both the years of 2018 and 2016. See pages 949-955 in section I.17 vs. reported numbers to the TWDB.

- Some cities/entities numbers in the Region C plan show 0 or less than 10 gallons of reduction in gpcd over the next fifty years. With ever improving technology, plumbing codes, water efficient appliances, etc., 0-10 gpcd reductions over fifty years is simply unacceptable, even for those cities that are still experiencing growth. Again, see section I.17.

More Conservation, Better Contracts and Better Strategies Needed

Aside from the numbers reflected in this plan regarding reported water loss and gpcd goals, Region C needs to pursue water conservation in a more assertive manner before proposing the building of new reservoirs. Those measures include:

- Water districts that utilize 30 to 40-year+ Take or Pay contracts need to end this practice as it is a disincentive for cities to implement meaningful water conservation plans. One water district has already been sued by 13 cities protesting the use of this contract methodology for their cities to secure water.

- All cities need to implement lawn watering ordinances. Lawn watering accounts for more than 50% of residential use. Many customer cities, such as Farmers Branch, have no time-of-day or days-per-week ordinances in place to ensure residents do not waste water on their lawns.

- Recycled and gray water need to be fully utilized. For instance, Dallas has six municipal golf courses. Only two courses use gray water. There are more than 26 golf courses in the DFW area. How many other courses are using potable drinking water for their watering needs instead of gray water?

- Strategies such as aquifer storage should be employed for the region before building reservoirs with high evaporation and sedimentation rates, coupled with the permanent and irreversible damage to land and cultural sites.

Those entities applying for a federal permit to build a reservoir are required by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA). There are low impact methods and more cost-effective means available to meet Region C's water demands. These measures should include meaningful and enforced city lawn watering ordinances, the additional use of gray water and municipal water recycling, capturing urban run-off, and more.

As mentioned in the 2021 Region C plan, Marvin Nichols has been inserted into local water plans since 1968. After 30+ years of this proposed reservoir project being passed on from plan to plan, there is one major factor that all can agree upon. The political opposition to this proposed project is fierce from those who live and work in Region D. That opposition will persist as long as DFW and the customer cities within our region will not do what it takes to stop wasting water, or adopt additional practicable water conservation measures. Our region needs to do all it can before taking the water away from another part of the state.

For the past twenty years, I have walked some of the actual property with landowners that would be in or near the proposed Marvin Nichols footprint. I have met with Region D residents as well as timber and industry representatives who would be affected. I have yet to see the Region C water planning group embrace all it can do to meet its water needs before it can justify denying Texans their quality of life, their land and their livelihoods.

Region C reneged on its original agreement not to pursue Marvin Nichols till 2070, forcing a negotiation which Region D did not want due to a conflict in water plans. Now Region C is looking at the proposed $4.4B Marvin Nichols project moving forward for 2050, and there is talk our region will pursue the permits as soon as the 2021 plan is adopted.

Our region simply needs to do all it can before it bullies another into giving up its land and water.

Sincerely,

Rita Beving
13214 Glad Acres Drive
Farmers Branch, Texas. 75234
214.557.2271

Details and Questions Regarding the 2021 Region C Water Plan

Unacceptable Water Loss

While reviewing the Region C Water Plan, I looked at the Appendices. I reviewed the Water Loss Audit Data in Appendix B and was concerned to see the tremendous amount of water loss some cities have reported. According to the TWDB, the acceptable state average for loss is 10%.

The following cities have 20% or more water loss (2017) as illustrated in the graph provided by Freese & Nichols:

1.	**Anna**	**40.38%**
2.	Athens	29.98%
3.	Bois D'Arc MUD	34.78%
4.	Bolivar WSC	27.76%
5.	Bonham	20.15%
6.	**Buena Vista Bethel SUD**	**40.32%**
7.	**Cockrell Hill**	**49.12%**
8.	Honey Grove	20.83%
9.	Leonard	28.35%
10.	Mountain Peak SUD	36.93%
11.	Murphy	23.49%
12.	Springtown	37.20%
13.	Tom Bean	33.40%
14.	Trinidad	21.21%
15.	White Settlement	20.21%

As highlighted, three cities/entities had 40 to almost 50% water loss.

More than 50 cities/entities were over the 10% acceptable levels deemed by TWDB.

Out of more than 210 cities/entities listed, more than half (over 110) didn't even report what their water loss was.

How many millions of gallons per day are lost in these cities today, much less the year 2017 from when these numbers were taken? What steps or guidance have been provided by Region C to help these cities address these major water loss problems?

Unacceptable GPCD Rates and Projections for Many Region C Cities

Within the Appendices, I also reviewed the gpcd goals for cities/entities for 2020 with additional projections every ten years through 2070. See section I.17, p. 949-955.

Though I realize there are cities with a higher demand for water due to commercial needs, such as Addison where there are many restaurants, hotels, etc., compared to its residential mix, there is still no reason for those gpcd rates to be so high.

In 2016, Region C's Water Conservation Implementation Task Force suggested a voluntary goal of 140 gpcd as a threshold. This is also what was recommended by the TWDB.

Yet, when looking in Section I.17 of the 2021 Draft (RWPV2 Section), the GPCD goals don't seem to make sense when one looks at the actual numbers per the Texas Water Development Board WUG reports.

Section I.17 Goals Vs. Actual Reported GPCD Summary Estimates (from TWDB website) p.949-955

Region C GPCD Goals	**2020 Goal**	**2070 Goal**	**TWDB Water Planning User Group (WUG) Utility Detailed GPCD Report – Year 2018/Year 2016**	
			2018	**2016**
Addison	349	333	291	319
Colleyville	340	313	238	249
Fairview	306	297	246	230
Grapevine	297	285	250	267
Heath	275	265	236	234
Highland Park	381	368	317	336
Hudson Oaks	290	279	257	275
Parker	359	348	296	314
Roanoke	251	232	230	219
Southlake	353	341	286	290
Trophy Club	324	313	233	191
University Park	252	241	235	224

Observations of Region C City/Entity Goals:

A) Unacceptable GPCD goals

The cities represented above indicate some of the highest gpcd goal cities on the Region C list. It is disheartening, at best, to see that when the TWDB has set a goal of 140 gpcd that these cities' goals are more than 100 gallons per capita per day – some 200 – over the recommended TWDB gpcd goal of 140.

Some of these cities' goals projected out for the NEXT 50 YEARS to 2070 are still more than 100 gpcd than the recommended 140 gpcd goal put forward in 2016 by the TWDB.

B) Minimal or Zero GPCD Reductions Projected over a 50-Year Period

Some cities, like Fairview, have projected only a gpcd reduction of 9 gallons over the next 50 years despite the technological improvements that we know will come over time in plumbing, household appliances, building codes, etc.

Of the 270 cities/entities listed in the Region C plan, there are many that have minimal gpcd goals for a 50-year period. A sampling of cities have indicated minimal *gpcd reductions* from 2020 through 2070 including: Aledo (6 *gpcd reduction*), Alvord (1), Aubrey (5), Collinsville (7), Farmersville (6), Fate (6), Frisco (5), Grand Prairie (6), Irving (8), Mineral Wells (4), Mckinney (7), Ponder (5), Prosper (5), Rockwall (6), Royse City (6), Rowlett (7), and Saginaw (6). Cities like Pelican Bay and Reno have indicated 0 gpcd reductions for their decades of goals between 2020 and 2070.

These 50-year horizon goals do not even meet the annual reduction of 1% in total gpcd that was recommended based on a five-year rolling average, until an entity achieves 140 gpcd or less, as stated by the Water Conservation Implementation Task Force years ago.

C) Arbitrary GPCD Goal Setting as a Means to an End?

Next, in comparing the gpcd goal years of 2020 and 2070 in the Region C plan to the actual reported numbers found on the TWDB website for 2018 and 2016, it appears the 12 cities above <u>have already</u> reached not only their current 2020 gpcd goals, but also their projected 2070 goals.

For example, the projected 2020 goal for Addison is 349 gpcd. This is 58 gallons more than their actual usage of 291 in 2018 and 30 more than their usage of 319 in 2016. If Addison has already achieved this gpcd goal as far back as the year 2016, then why are numbers like 349 being used for 2020 and 333 fifty years from now in 2070?

Fairview is another example. The numerical difference between their actual 2018 usage and their 2020 projected gpcd goal is 60. Fairview's reported numbers for both 2016 and 2018 are far lower than the projected Region C gpcd goals for 2020 and 2070.

Since these cities have already achieved these stated goals 2-4 years ago, don't these figures make these goals stated in the Region C plan arbitrary?

How many of the 270+ cities/entities also reflect the same inflated numbers as Addison or Fairview in projected goals vs. what these cities have already achieved in lower gpcd numbers?

Even the largest cities in the Region C such as Dallas and Ft. Worth have already achieved the goals they've projected over a 50-year horizon when one compares the Region C plan's gpcd goals to the actual reported numbers to TWDB:

Region C GPCD Goals	**2020 Goal**	**2070 Goal**	**TWDB Water Planning User Group (WUG) Utility Detailed GPCD Report – Year 2018/Year 2016**	
Dallas	185	166	154	174
Ft. Worth	151	160	140	139

When one reviews the Region C plan and the 270+ cities/entities (counties not included) on p. 949-955, it raises the question whether these gpcd goals were inflated to justify Region C strategies such as building reservoirs.

Water Districts Need to End "Take or Pay" Contracts & Similar Agreements

Out-moded "Take or Pay" contracts such as that of the North Texas Municipal Water District and contracts based on similar criteria utilized by other water purveyors need to end.

There has already been a lawsuit by thirteen cities against such 30-40+ year contracts which base their rates on the highest historical annual year of use. For those cities that are essentially built out, the highest historical year of usage may be twenty years old. Advances in water appliances, plumbing and building codes, etc. make forcing a city into this kind of contract a major disincentive for implementing strong water conservation programs.

All Region C Cities Need to Have Time-of-Day or Days-Per-Week Watering Restrictions Outside of Drought Periods

Many customer cities within Region C do not have time-of-day or days-per-week watering restrictions outside of drought periods.

For instance, some of the customer cities of DWU such as Farmers Branch are not asked or required to follow any such requirements. It is only voluntarily asked during a time of drought.

With 38% of Dallas' water contracts for other cities/suburbs, much water could be saved with contracts that encourage or incentivize smaller cities to encourage residential and commercial users to conserve water. This also applies to other districts' customer cities.

Region C Cities Need to Use Gray Water for Golf Courses and More Recycled Water Wherever Practicable

Cities need to use gray water wherever practicable since the water savings can be significant.

Example: According to data in the 2019 Dallas Water Plan, Dallas supplies gray water to two municipal golf courses, Cedar Crest and Stevens Park, saving 1.0 mgpd in potable water. Dallas owns 6 municipal courses. Clearly, there are four courses that DWU could transition to using gray water to help save water for the City of Dallas.

There are more than 26 courses in the Dallas area, some of which belong to private entities and water providers' customer cities. Those courses should also become part of a transition plan to use gray water in order to save potable drinking water for residents.

Direct municipal recycling would be another viable approach for DFW. This would involve filtering wastewater using high-tech filters such as those which are used in reserve osmosis and adding ultraviolet light or other disinfection.

Region C Should Pursue Aquifer Storage Projects Instead of Expensive and Destructive Reservoir Projects

Many cities within the state of Texas have embraced aquifer storage due to the sedimentation and evaporation that reservoirs present during operation.

Aquifer storage projects established near the Region C cities they serve would also reduce the need for expensive pipelines to be built. San Antonio, Kerrville and El Paso already have such projects.

The Tarrant Regional Water District is pursuing a pilot aquifer storage project. If successful, other Region C water providers need to utilize strategies such as storage and other measures before inundating 66,000 acres of valuable bottomland hardwood forest and agri-lands for the footprint of Marvin Nichols reservoir, along with an additional 66,000 acres used for mitigation.

Appendix Q

Comments Received via Email

From: Adelia Jones <adeliaej@gmail.com>
Sent: Tuesday, June 23, 2020 11:14 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Please do not build this reservoir! There are cheaper more environmentally friendly ways to get water. This will not only force thousands from their farms, ranch land and homes but will also have a terrible impact on our already threatened ecosystems.

From: kazdoy@aol.com <kazdoy@aol.com>
Sent: Monday, July 27, 2020 10:08 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Mr. Ward,

I live in the region, and oppose the Marvin Nicols Reservoir being in the Region C plan.

The main reasons for my opposition are that this reservoir simply is not needed, it is too costly in dollars, and will be harmful to the environment.

The cities in the DFW area are still among the highest per capita users of water in the state, and conservation measures would be a more effective and less expensive option for securing more water.

Thank you,

Alan Kazdoy
7805 Chattington Drive
Dallas, Texas 75248

From: Alex Holland <a.holland714@gmail.com>
Sent: Monday, July 27, 2020 3:03 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Opposed to Marvin Nichols Resevoir

Hello Mr. Ward,

My name is Alex Holland, and I have lived in the Plano/Dallas area for about 25 years. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metro. I understand there is a growing need for water as the population in North Texas continues to grow, but I propose we continue to search for a solution that preserves life for all in North Texas.

Thank you for your time,

--
Alexandra Holland
BSW 2017 - Diana R. Garland School of Social Work
a.holland714@gmail.com
Tel: (972)-310-7046

From: Alex A <xanderray96@gmail.com>
Sent: Monday, July 27, 2020 4:06 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: NO to Marvin Nichols Reservoir!

Hi Kevin,
My name is Alexander. I live in North Richland Hills. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Please stop this project from continuing.

From: Allen Majefski <amajefski@icloud.com>
Sent: Monday, July 27, 2020 12:07 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Stop reservoir

Allen Majefski

From: Ashley Monismith <ashley.monismith@gmail.com>
Sent: Monday, July 27, 2020 4:27 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Opposition to Marvin Nichols Reservoir in Region C Water Plan

Hi Kevin,

My name is Ashley Monismith. I live at 3025 Kinkaid Dr in Dallas (75220). I'm writing to strongly oppose having the Marvin Nichols Reservoir in the Region C water plan. The reservoir would require cutting down and destroying forests, which pose a threat and result in harmful impacts on the environment as well as people's lives in the Dallas-Fort Worth metroplex. Please consider opting instead for less destructive, conservation-based and lower cost alternatives to meeting DFW's water needs.

Regards,
Ashley Monismith

From: Augustine Jalomo <augustinej@gmail.com>
Sent: Monday, July 27, 2020 3:00 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Oppose the Marvin Nichols Reservoir

Good Afternoon Mr. Kevin Ward.
My name is Augustine Jalomo and I live at 607 West Canty Street Dallas 75208.

I am writing to you to express my strong opposition in having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests which poses threats and harm on the environment and people's lives in the DFW area.

Thank you.

Augustine "Tino" Jalomo
214.718.2384

From: becky lum <beckycl123@yahoo.com>
Sent: Friday, June 19, 2020 10:17 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols

I would appreciate it so very much if you guys would find water somewhere. It's not fair to take people's land that has been in their family for 100 of years just to provide water for the city. Dig wells or look elsewhere. I have a son buried in that area and kids and grandkids that live in that area. It's not our problem that you guys can't provide for people in the city. Don't punish us with your problems.

From: Brianna Veerasammy <bri.vee@LIVE.COM>
Sent: Monday, July 27, 2020 4:09 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hi Kevin,

My name is Brianna Veerasammy. I live at 1621 Oak Creek Ln Apt D, Bedford TX. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Brianna Veerasammy

From: carol nash <nashcarol@sbcglobal.net>
Sent: Monday, July 27, 2020 1:06 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

I am writing to voice my opposition to the construction of the Marvin Nichols Reservoir. This project will be an environmental disaster for some of the last river bottom habitat left in the state. Farmers and ranchers who have lived in the area for generations will be displaced. And for what? This project will deliver profits for construction companies and more water for wasteful urban residents and businesses. There are other cost effective ways to meet the water needs of our region without destroying habitat and livelihoods.

Carol Nash
7701 Fisher Rd.
Dallas, TX 75214

From: Caroline Vornberg <cvornberg@gmail.com>
Sent: Monday, July 27, 2020 1:24 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Do NOT build Marvin Nichols Reservoir!!!

For more than 20 years, many of us have stood with East Texans to keep the proposed Marvin Nichols reservoir at bay. Why? Because it kicks landowners, many who have had their ranches in their family from generations, off their land. And Region C, which includes all of DFW, we can do so much more in ***water conservation*** than building expensive reservoirs with conservation.

The $4.4 billion Marvin Nichols project is included in the plan despite Region C originally promising that this project would not be revisited till ***2070***. **Our region should do more with water conservation, reuse, aquifer storage and seek other alternatives before condemning ranchers and farmers off their land to build Marvin Nichols reservoir.**

The proposed Marvin Nichols Reservoir would inundate twenty miles of the Sulphur River and more than 66,000 acres of forest and productive ranchland. The building of the reservoir would have a significant negative impact on the timber and agriculture-based economy of rural northeast Texas. The amount of land that will be taken out of production, to not only build Marvin Nichols Reservoir but also mitigate its impacts, will devastate the economy of a fifteen-county region!

Sincerely, Dr. Caroline Vornberg, (Anderson County). 2181 An CR 319 Frankston 75763

(Formerly of Dallas County)

--
Caroline Vornberg 972-342-4657

From: Caroline Vornberg <cvornberg@gmail.com>
Sent: Friday, July 24, 2020 5:03 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Do not fund Marvin Nichols

Building a reservoir is one of the most expensive ways a region can pursue to secure more water. There are cheaper, less destructive alternatives to obtain more water than building Nichols Reservoir.

Region C should be recommending cost-effective, low-impact options for water supply such as:

- Increased municipal water recycling
- Harnessing urban runoff
- Storing surface water in underground aquifers
- Asking all customer cities to encourage less lawn watering via ordinance and education. The use of native plants or drought resistant turf should also be encouraged
- Ending the use of "Take or Pay" contracts by water districts and water retailers need to end in DFW. This forces cities to pay for water they may not use in any given year. 30 to 40 year Take or Pay contracts are a disincentive for cities to conserve water.
- Implementing more recycling, developing more wetland filtration projects or filter more wastewater to help secure more water.
- Utilizing more gray (used) water can meet the demand for water to water lawns. For instance, the City of Dallas has several municipal golf courses which use potable drinking water instead of gray water for watering. Lawn watering for future expansion can also be met by capturing run-off in neighborhoods.

Any entity applying for a federal permit is required by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA). There are less damaging ways to meet DFW's water demands – such as municipal water recycling, capturing urban run-off, or bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying 66,000 acres of prime farmland, timberland, and wildlife habitat. The other options are much less expensive.

The proposed Marvin Nichols project is designed to enrich the very engineers who studied and validated this project -- they would also be the builders of this $4.4

billion project on the backs of taxpayers! ***Region C should be a good neighbor to Region D, where Texans would be robbed of their heritage, their way of life, and their livelihoods. Take Marvin Nichols out of this plan – DFW can do better!***

--
Caroline Vornberg, Ed.D 972-342-4657

From: Cathy Wallace <catwal2@yahoo.com>
Sent: Friday, July 24, 2020 8:49 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Dear Planners,

I am writing to request that you vote NO on the proposed expensive Marvin Nichols Reservoir.

I am requesting that you would consider less expensive and more environmentally friendly solutions for water like recyling, harnessing runoff, storing surface water in underground aquifers, less lawn watering.

Thank you for your consideration,
Cathy Wallace

From: Chris Guldi <caguldi03@gmail.com>
Sent: Saturday, July 25, 2020 12:47 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: No to Marvin Nichols Reservoir

While I am truly grateful for your attention to our future water needs, I must object to your persistent consideration of the Marvin Nichols Reservoir. We can meet our water needs with less costly, proven conservation measures such as water recycling and ending take or pay water contracts. Our increasingly hot summers are the very reason such a reservoir will rapidly evaporate and become useless when we most need water. We instead need the timber and agriculture that currently occupy that land.
Please shelve the outmoded Marvin Nichols plan once and for all.
Yours truly,
Chris Guldi
7228 La Sobrina Dr.
Dallas TX

From: Daleen Maxwell <daleen@sbcglobal.net>
Sent: Monday, July 27, 2020 12:20 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir comments

Dear Mr. Ward,

As a concerned citizen, I am writing to encourage you to take the $4.4 B Marvin Nichols Reservoir out of the Region C water plan. I firmly believe that *there are less destructive and cheaper ways to meet DFW's water needs. The* water reservoir project which would waste money, harm the climate and the environment by destroying a huge forest and continuing water waste. There are smarter, cheaper, more eco-friendly and more equitable ways to meet Region C's water "needs" (building a reservoir in East Texas-- Region D-- to supply water to North Central Texas--Region C-- so it can continue its water waste). The project will destroy more than 66,000 acres of bottomland hardwood forest and agri-lands in Northeast Texas. Much of this land has been passed down for generations since settlers' times. This project could hurt an entire 15-county area.

Respectfully,

Daleen J. Maxwell
9942 Galway Drive
Dallas TX 75218

From: Dan Moulton <dan_moulton@sbcglobal.net>
Sent: Friday, July 24, 2020 5:42 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols reservoir

To Region C Planners:

Building a reservoir is one of the most expensive ways a region can pursue to secure more water. There are cheaper, less destructive alternatives to obtain more water than building Nichols Reservoir.

Region C should be recommending cost-effective, low-impact options for water supply such as:

- Increased municipal water recycling
- Harnessing urban runoff
- Storing surface water in underground aquifers
- Asking all customer cities to encourage less lawn watering via ordinance and education. The use of native plants or drought resistant turf should also be encouraged
- Ending the use of "Take or Pay" contracts by water districts and water retailers need to end in DFW. This forces cities to pay for water they may not use in any given year. 30 to 40 year Take or Pay contracts are a disincentive for cities to conserve water.
- Implementing more recycling, developing more wetland filtration projects or filter more wastewater to help secure more water.
- Utilizing more gray (used) water can meet the demand for water to water lawns. For instance, the City of Dallas has several municipal golf courses which use potable drinking water instead of gray water for watering. Lawn watering for future expansion can also be met by capturing run-off in neighborhoods.

Any entity applying for a federal permit is required by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA). There are less damaging ways to meet DFW's water demands – such as municipal water recycling, capturing urban run-off, or bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying 66,000 acres of prime farmland, timberland, and wildlife habitat. The other options are much less expensive.

The proposed Marvin Nichols project is designed to enrich the very engineers who studied and validated this project -- they would also be the builders of this $4.4 billion project on the backs of taxpayers! Region C should be a good neighbor to Region D, where Texans would be robbed of their heritage, their way of life, and their livelihoods. Take Marvin Nichols out of this plan – DFW can do better!

Sincerely,
Daniel W. Moulton
Chair, Executive Committee
Dallas Sierra Club

From: Dawn Spalding <Dawn.spalding@earthx.org>
Sent: Monday, July 27, 2020 3:10 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Region C Water plan

Hi Kevin,
My name is Dawn Weeks Spalding. I live at 4113 Glenwick Lane,Dallas,75205. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Dawn Weeks Spalding
Strategic Partnerships & EarthxGlobal Gala
EarthX 2020
214-228-3969

From: Dick schoech <dschoech@sbcglobal.net>
Sent: Saturday, July 25, 2020 12:34 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Do not build Marvin Nichols Reservoir.

Please do not build Marvin Nichols Reservoir.

--

Dick Schoech

From: Grecia Alfaro <grecia.serna@gmail.com>
Sent: Monday, July 27, 2020 2:42 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Building Reservoirs is out-dated

I am Grace Alfaro and I live in the Lakewood Neighborhood in East Dallas. There are less destructive and cheaper ways to meet DFWs water needs!! I am asking for you the following:

• Get rid of Take or Pay contracts that force cities to pay for water they may not even use annually due to being pushed into these outmoded 30-40 year contracts with rates based on the historical highest annual use of water. NTWMD is already being sued for this practice by numerous cities.

• Encourage DFW cities to develop and actually implement meaningful water conservation plans and to adopt ordinances that enforce limited lawn watering. Ask cities to encourage developers and residents to use drought resistant turf and native plants.

• Adopt the use of underground aquifer water storage instead of building reservoirs with high evaporation and sedimentation rates.

• Have cities utilize gray water for all their golf course watering. For instance, only two of Dallas' six municipal golf courses use gray water instead of potable drinking water for watering. Just these two Dallas courses that use gray water save 1 million gallons per day in water.

• Ask cities to reduce water leakage due to aging water main and pipe infrastructure.

• Cities can engage in more water recycling (including direct recycling) and harness urban runoff.

Building reservoirs is an out-dated mode of securing more water. DFW should do all it can with conservation and other measures before kicking Texans off their land and denying them their livelihoods and quality of life.

Thank you.

From: Ida Gh <ida1382@yahoo.com>
Sent: Monday, July 27, 2020 4:07 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: URGENT: Region C Water Plan

Hello,
My name is Ida Ghorbani, and I live in Plano, Texas. I am writing to you today in strong opposition of having The Marvin Nichols Reservoir Region C water plan.
This reservoir is unnecessary and would require cutting down and destroying and valuable and beautiful forests, posing large threats and harmful impacts on the environments and people's lives in the DFW Metro as well. Building reservoirs is an out-dated mode of securing more water. DFW should do it all with conservation and other measures before kicking Texans off their land and and denying them their livelihoods and quality of life. Reservoirs are incredibly costly, and not just in a monetary way. We encourage that cities engage in more water recycling, harness urban runoff, develop and actually implement meaningful water conservation plans and ordinances that enforce limited lawn watering and encourage drought resistant turfs and native plants, remove unfair Take or Pay contracts, adopt the use of underground aquifer water storage, reduce water leakage, and utilize gray water for golf course watering in order to better conserve water and be more eco-conscious.

Please hear our voices and keep the environment and communities in mind when making such decisions! Together, we can solve the Climate Crisis!

With gratitude,
Ida from Climate Reality DFW

From: Jack Hughes <hughes.jack2@gmail.com>
Sent: Monday, July 27, 2020 5:07 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Remove the Marvin Nichols Reservoir from the Region C water plan

Mr. Ward,

Please remove the Marvin Nichols Reservoir from the Region C water plan. We can satisfy (and reduce) our region's water needs in better ways - which can be cheaper, more eco-friendly and fairer to the landowners at the same time.

Thank You,

Jack Hughes
5124 Meadowcreek Dr.
Dallas, TX 75248

From: Jan Falcona <janfalcona@gmail.com>
Sent: Monday, July 27, 2020 4:50 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: No On Reservoir

Dear Mr. Ward,

I implore you to vote against including Marvin Nichols Reservoir in the Region C water plan. Creating this reservoir is not the way to go. Not only is the cost astronomical, it would destroy many trees and endanger the environment.

Don't rely on the outdated methods of the past. We need meaningful water conservation plans such as:
- ordinances that enforce limited lawn watering.
- encourage developers and residents to use drought resistant turf and native plants.
- use underground aquifer water storage instead of building reservoirs with high evaporation and sedimentation rates.
- use gray water for all golf course watering. Currently, only two of Dallas' six municipal golf courses use gray water instead of potable drinking water for watering. The two Dallas courses that use gray water save 1 million gallons per day in water.
- reduce water leakage due to aging water main and pipe infrastructure.
- do more water recycling (including direct recycling) and harness urban runoff.

The Climate Crisis requires strong leadership and innovation, not yesterday's standards.

Conserving trees and caring for the environment are crucial to all of our future, and especially the poor and underserved who are most harmed by environmental degradation.We are counting on you to lead us into a better future for DFW.

Best regards,

Jan Falcona
5710 Martel Ave #A7
Dallas, Texas 75206

"May your trails be crooked, winding, lonesome, dangerous, leading to the most amazing view."
--Edward Abbey

From: Jan Miller <jgmiller5594@sbcglobal.net>
Sent: Monday, July 27, 2020 3:14 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: No to Marvin Nichols Reservoir

Please table plans for the Marvin Nichols Reservoir, as previously agreed, until 2070.

This massive reservoir will inundate 66,000 acres and require another 66,000 acres as mitigation, destroying family owned, established farms, ranches and ecosystems across 15 counties. Especially in this time when economies are reeling from the ongoing COVID-19 pandemic, the impact of this project's estimated cost of $4.4 Billion on taxpayers is difficult to justify, in addition to the economic upheaval in Region D's affected counties. Especially when considering that the Region C counties that will eventually benefit from from the reservoir can do so much more to conserve water use, from simple actions by individual and business users, to municipal contracts.

Please remove plans for the Marvin Nichols Reservoir from consideration: there are many other options that require less expense, economic hardship and environmental destruction.

Thank you for your consideration,

Jan Miller
4320 Rockwood Trail
Arlington, TX 76016

From: Jay <jaybar66@gmail.com>
Sent: Friday, July 24, 2020 2:57 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Please drop M Nichols Reservoir

This seems like an extrodinarly poor substitute for more logical long term sustainable water sourcing. The reservoir should only be considered AFTER we've exhausted all the alternatives like conservation, watershed use, etc.

~JayB
Dallas

From: Jeff Lu <sunkiwist0519@gmail.com>
Sent: Monday, July 27, 2020 3:55 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Opposing Marvin Nichols Reservoir

Hi Kevin,

My name is Jeff Lu. I live in Dallas, TX. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Thank you,
Jeff Lu

From: Jo Ann Duman <jduman8@gmail.com>
Sent: Sunday, July 26, 2020 6:09 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Coment on Region C Water Supply Plan

Kevin Ward, Region C Water Planning Group, and Texas Water Development Board:

The proposed Region C plan must remove Marvin Nichols and other proposed reservoir sites in the Sulphur River Basin.

1. The biggest need in the Region C area is to reduce wasteful water use. Most of the water is used for watering lawns. Taking natural resources and inflicting environmental damage on northeast Texas for lawns is immoral.

2. Region C must use all the potential reservoir sites in the Trinity River Basin before destroying the resources of other basins. Why does the plan not contain a single reservoir site south of Dallas along the Trinity River? Tennessee Colony remains one possibility yet TWDB and Region C have not included it in the region's plan in the past or in the current proposed plan. Not only is inflicting natural resources loss on the residents of other basins immoral, there are tremendous additional environmental and economic losses from inter-basin transfer of water rather than fully using in-basin resources first. Region C should use all the water falling within its own basin before commandeering water from other basins.

3. State water planning law does not allow devastation of natural resources and the economy of areas outside of Region C. The loss of bottomland hardwoods, farm and ranch lands, hunting revenues which often exceed farming income, and the property tax base of numerous school districts and counties in the upper Sulphur River Basin is far greater than the benefit to water users in Region C who could reduce water usage and eliminate the need for any reservoir outside Region C.

4. The available water in any reservoir proposed in the Sulphur River Basin will be much lower than Region C's current estimates. Destruction of timberlands will result in much lower rainfall as the transpiration and from trees creates the humidity that provides the higher rainfall in northeast Texas. The process of drier ecosystems caused by loss of trees is called desertification and has been widely documented in other parts of the world.

JO ANN M. DUMAN, 903-276-9434
5803B Sidney Drive, Texarkana, Texas 75503

COMMENTS – 2021 INITIALLY PREPARED REGION C WATER PLAN

John Lingenfelder, Member – Region C Water Planning Group

<u>Water Conservation Specifics Lacking in the Region C IPP for 2021</u>

The Region C IPP for 2021 is built upon a false premise. The premise of this plan is to ensure that the supply of water is there for whatever the estimated demand is. This premise precludes planning to ensure that estimated demand is kept within the constraints imposed by a limited supply.

Due to this above premise the plan focuses on the creation of impounded water in new reservoirs as the primary method to meet that perceived demand.

The Region C IPP for 2021 fails the test of being a balanced report. It lacks a sufficient analysis of how to moderate demand so that available supply is sufficient.

Structure of the RWP IPP Presentation

<u>Data for Major Water Providers Is Not Clear to the Reader</u>

There are six (6) major water providers (MWP) in the region serving 94% of the region's population and accounting for 84% of the region's demand.

Although the IPP includes data about all the water providers in Region C, it does not give a concise, clear picture of the Historical Usage, the Projected Demand, the Available Supply and the Need for each of these six MWP. Considering that 84% of Region C's demand is met by these six MWP, it would be beneficial to readers of the IPP to see in one place either the detail of or a summary of the data for each one, instead of the readers being required to tease out this data from various places in the IPP.

<u>Water Demand Projections Do Not Reflect Active Conservation Measures</u>

From Chapter 1.6.3 (pg. 32)

> "As described in Section 2.2, the TWDB chose the year 2011 as the base planning year. Region C WUGs have continued to implement water conservation measures since 2011. The associated water savings have reduced water demand in Region C, but ***this demand reduction is not reflected in the Region C water demand projections.***"

From Appendix I.1.3 (pg. 4)

> "Region C WUGs have continued to implement active water conservation measures since the base year. The associated water savings has reduced water demand in Region C, but ***this demand reduction is not reflected in the Region C water demand projections***."

From Appendix I.1.2 (pg. 4)

> "... the projected ***water savings from passive measures are built into the Region C water demand projections.***"
> "The projected passive water savings are presented in Table I.1 as "Water Savings Implicit in Water Demand Projections."

The only inference from the above is to reasonably assume that the Demand Projections in the IPP are overstated. One can only assume they do not reflect the reality of “active” water conservation measures put in place since the base year, 2011, thereby skewing the demand projection negatively.

Misstated observation about Twice Weekly Irrigation Restriction & Projected Water Savings
Appendix I.10.2 (pg. 22)

> "Water savings from a twice weekly irrigation restriction are difficult to measure ... Although this restriction has been used as a drought response measure in Region C for many years, the corresponding water savings have not been widely studied. ...***a permanent restriction of this type is relatively new in Texas and the U.S., so there are limited data available regarding permanent water savings***."

The statement that this type of restriction is relatively new in the U.S. and that there is limited data, is incorrect. The experience in California during the severe drought experienced from 2014 into 2017 demonstrated and left little doubt on the effect of landscape irrigation restriction as a major part of conservation. The California Water Board report on what had been achieved regarding urban water consumption was that there was a per capita reduction of over 20%.

The Region C IPP needs to be modified to reflect that “Twice Weekly Irrigation Restriction” should be a major part of a well-designed plan to reduce residential water demand in Region C. The TWDB has several Best Management Practice publications which address residential landscape irrigation conservation. (refer to “5.3 Landscape Irrigation Conservation and Incentives” and to “5.6 Outdoor Watering Schedule”) To not have a discussion of these Best Management Practices as an integral part of the IPP regarding water conservation, is a serious oversight and shortcoming on the part of the WPG.

One note about the California experience. Certain general restrictions were mandated statewide but did not include twice weekly residential landscape irrigation restrictions ***unless*** a major water provider did not have a plan to achieve the desired reduction in water demand. In other words, how to achieve 20% water demand reduction was left to local entities, with the promise that twice weekly restriction would be put in place if a major water provider failed in their obligation.

Acronyms and Glossary
There is a list of acronyms in the plan, but it is not readily accessible. It seems “hidden” on page 34 of the 35-page Table of Contents. Additionally, a glossary of terminology used in the IPP would be helpful.

A Data Presentation Error
Comparing “Table E.1” in Chapter 3 and “Table 3.1” in Appendix E, there appears to be a data disconnect between these tables for “Overall Water Supply Available in Region C”. The values for Reuse in the two tables should be the same but are not. Please look at to see if a correction is warranted.

Issues with Content in the IPP

Historical Usage and Projected Demand

There is an issue with the lack of connection between historic usage/demand and future demand projections. The IPP lacks quantifying the historical usage, then directly tying that history to its demand projections. It would be helpful to the reader if they could trace the historical demand to the projected demand and read the explanation of the change. One method to do this is by Water Provider.

> NTMWD – History and Demand Projection
> As an example, using current consumption data from NTMWD shows that for the year ending July 2019, the total water supplied to WUGs was approximately 285,000 ac ft. The IPP for NTMWD projects the 2020-decade demand will be 408,705 ac ft.
>
> Attention to providing such historical data with an explanation of how the projected demand in the IPP increases from the 2019 285,000 ac ft to the projected 409,000 ac ft would be helpful and preclude any question about unnecessarily overestimating the projected demand.

Projections of Impounded Water Availability Based on Safe Yield Instead of Firm Yield

The IPP needs to be modified so this can be clarified. Currently, the wording of the document and the explanation therein are unsatisfactory and call into question whether the use of safe instead of firm is to purposefully obscure the possibility that there is sufficient water available looking to the future.

As noted from the TWDB definitions of each, Firm Yield quantify of water available from a reservoir is greater than the Safe Yield quantity of water available from a reservoir. Where firm yield is the quantity of water in a reservoir that would be available in a "dry year" period. Whereas, for a safe yield scenario the water available is reduced to leave a reserve supply just in case a drought is worse than any historical drought.

> **Firm Yield**. Firm yield is defined as the maximum amount of water the reservoir can provide each year *<u>during a drought of record</u>* using reasonable sedimentation rates and reasonable pre-determined withdrawal patterns, assuming full utilization of upstream and downstream senior water rights and full satisfaction of environmental flow requirements and bay and estuary requirements if they apply.
> (From TWDB publication)
>
> **Safe Yield**. Safe yield represents the amount of water that could have been supplied from a reservoir during the worst historical drought *<u>leaving a reserve supply equal to one year's supply</u>* at the end of the critical period.
> (From TWDB publication)

The Water Available from reservoirs at Firm Yield for the decade of 2020 is 1,393,757 ac ft per year. However, several Major Water Providers decided that for certain reservoirs the Water Available for the Region C IPP for 2021 would use the Safe Yield. As these particular reservoirs accounted for more than 50% of the overall water available from reservoirs, this dropped the Water Available quantity by 9% to 1,269,040 or almost 125,000 ac ft per year for the 2020-decade.

There is not an explanation of why Safe Yield is used instead of Firm Yield, other than "the water provider elected to use it". It was alluded by FNI when answering the question about this, that the particular reservoirs designated for Safe Yield instead of Firm Yield were geographically located where these would be more susceptible to the effect of droughts. A cursory examination of the map locations of the said reservoirs calls this explanation into question.

As noted before, it would be helpful if the IPP included a report by the state climatologist concerning the effects of climate change in the coming decades. It may well be, that use of safe yield for certain reservoirs is most prudent. However, whether this is a prudent course is not conveyed in the IPP as written.

Conservation and Environmental Aspect

The Region C IPP for 2021 does little to suggest and provide analyses of methods to aggressively address controlling water demand. There are several areas which could be a part of a well-designed plan to accomplish this.

1. Residential Turf Grass. A must for the IPP is a thought-out analysis of what the water savings would be if existing residential lawns were replaced with turfgrass that was drought tolerant, requiring substantially less water than existing turf grasses. Current residential planting of turf grasses are either St. Augustine (S secundatum) or Bermuda grass (C dactylon). During the seven-month growing season these turfs require 1 or more intensive water irrigation events per week.

   If these turfgrasses were replaced on a large scale in Region C with alternative turfgrasses, landscape irrigation could be reduced from 1 or more times per week to once monthly. There are existing native grasses such as mixes of Buffalo Grass (B dactyloides) and Texas A&M's drought tolerant St. Augustine variety, TamStar.

2. Pricing Structure for Residential Water Usage. The IPP does not have an analysis of what are the various pricing structures for residential water usage. Each of the Water User Groups provides water to the end user and charges that user for the water consumed. There are 290 Municipal Water User Groups. Each WUG sets its water rate for consumers. There is not a consistency in the pricing to encourage water conservation. If the Region C IPP for 2021 were to include an analysis of the variety of pricing structures, the history of pricing changes and any effects on per capita water usage, the Region C WPG would be able to gauge where and how this structure should be, to encourage conservation of water. Such an analysis would shine a light on how to have a positive impact on overall water demand.

3. Restriction on Residential Landscape Irrigation. As discussed previously, implementing a program as suggested in the TWDB BMP would be helpful in reducing water demand. This coupled with a water usage pricing structure would jointly and positively affect overall water demand for Region C.

4. Global Climate Change and the State Climatologist. The Region C IPP for 2021 does not include any report from the State Climatologist, Dr. John Nielsen-Gammon. It should be incumbent that, based on his report on the Texas Climate Projection issued in July 2020, he should provide data on what can be expected in the coming decades regarding the climate for North Central and

Northeast Texas. Such a report will have an impact on the expectations for Region C regarding water availability in these two regions.

5. Hurdle to Effective Conservation. To have meaningful conservation that has a positive impact on water demand will require planning with the attitude that this is one of the most important parts of the planning process. This region's population will grow tremendously. The availability of water will be spotty, problematic and uncertain. A serious focus on conservation to substantially reduce per capita water demand must become a prime part of the Region C IPP for 2021. To ignore or relegate this "to the back burner" is to do so at the peril of the region.

Climate Change and Creation of New Reservoirs

Whenever forests and savannas are inundated to impound water for a population's use, it must be understood that this destroys an ecological habitat that is home to countless flora and fauna that have synthesized a myriad of parts into a whole over decades and perhaps centuries. The lives that will be lost have value… not in an economic sense, but the flora and the fauna of the area do have an intrinsic value. Inundating such should not be taken lightly and whatever is used for mitigation will not ever replace what has been lost.

An area of forests and savannas that are permanently inundated will drown an incredible amount of life. This life will decay, rot and slowly form methane to be released to acerbate the accelerating global warming. Further, the forests and savannas which are currently sinks for global warming gases will be replaced by a surface of water which will change the area from a carbon sink to a warming sink, further acerbating global warming. A report from the state climatologist could address and confirm this.

From: John Mayes <johnmayes51@icloud.com>
Sent: Tuesday, June 2, 2020 4:02 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols

I am a very concerned land owner in Red River Co over the proposed Marvin Nichols Reservoir, I understand that lots of people need water in the Dallas area but there is plenty of water available and offered by Toledo Bend and many more alternatives , Marvin Nichols will flood several thousand achors of timber and ranch land for absolutely no reason since there's plenty of water available from so many other possibilities so I just can't understand why you want our land .
Thank you for considering other possibilities, John A. Mayes JJJ Timber Farm Red River Co Sent from my iPhone

---

From: john mendy <john.mendy71@gmail.com>
Sent: Monday, July 27, 2020 4:31 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hi Kevin,
My name is John Mendy. I live at 8400 Stonebrook Pkwy, apt 712 Frisco, TX 75034
I am writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and peoples lives in DFW Metro.

Regards

John Mendy

From: John Brooks <johntbrooks68@gmail.com>
Sent: Tuesday, June 2, 2020 3:33 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Region C IPP

I oppose the building of Marvin Nichols Reservoir proposed by Region C for several reasons. Region C has numerous alternatives rather than building MNR. One alternative is obtaining water from Toledo Bend Reservoir who has approximately 900,000 acre feet for sale. Pipeline to Lake Palestine would work. Another alternative would be to increase ability to recycle waste water substantially. Region C currently has permits to recycle approximately 200,000 acre feet per year.
Reallocation of water in existing reservoirs could be another feasible option for Region C.

The building of MNR in Region D would devastate the timber industry. To many acres of timber under water and for mitigation would affect the timber harvest and production of many timber raisers. Timber production would suffer. The cattle and ranching industry of Region D would suffer due to loss of excellent ranch land.
Thousands of acres of farm land would be lost. Region C IPP list 700 acres of farm land would b affected by the building of MNR. I know for a fact my Son in laws group farms several thousand acres of land in the Cuthand Creek area. This makes me question the accuracy of the feasibility studies conducted by the SRBA for the benefit of Region C spending million s of dollars.
Schools in Region D would suffer due to loss of tax revenue and attendance numbers. Rivercrest ISD would lose much of its tax base from oil and gas production, farm and ranch lands, homes , timber lands, and camping and hunting land and weekend camps. Many camps already exist in the footprint of MNR. So why take the land from someone already enjoying the land for camping and hunting, to sell it to someone else to build a weekend home. Greed of money is the only reason that makes sense.

A major concern to me is the Proposed MRN is to be on the Talco media fault line. Why would anyone want to build a dam on a potentially dangerous fault line. If the dam faults due to a quake the devastation below will be major. Loss of life would b possible.

Building of MNR would destroy a unique ecosystem. The seasonal flooding and drying out is necessary for many forms of life.

In conclusion. Please remove Marvin Nichols Reservoir from the Region C proposed 2021 water plan
John T. Brooks I

From: Julie Ryan <jtexana@yahoo.com>
Sent: Monday, July 27, 2020 5:35 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Deny Marvin Nichols Reservoir

Marvin Nichols doesn't meet federal requirements by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA) before pursuing destructive reservoirs like $4.4B Marvin Nichols. It will drown 66,000 prime acres of farm and timberland in its footprint, and another 66,000 acres for mitigation. There are less damaging, less expensive ways to meet DFW's water demands:

- Increased municipal water recycling
- Harnessing urban runoff
- Storing surface water underground with aquifer storage
- Asking all customer cities to encourage less lawn watering via ordinance and education. Some cities have no ordinance at all (Farmers Branch.) The use of native plants or drought resistant turf should also be encouraged
- Ending the use of "Take or Pay" contracts by DFW water districts and water retailers. This forces cities to pay for water they may not use in any given year. 30 to 40 year Take or Pay contracts are a disincentive for cities to conserve water.
- Implementing more recycling, developing more wetland filtration projects or filter more wastewater to help secure more water.
- Utilizing more gray (used) water can meet the demand for water to water lawns. For instance, the City of Dallas has four out of six municipal golf courses which use potable drinking water instead of gray water for watering. Future lawn watering needs can also be met by capturing run-off in neighborhoods.

Why is conservation ignored in favor of a reservoir that would destroy prime farmland and timberland, and with it the livelihood and way of life of Region D residents?
There's a deplorable conflict of interest here. The engineers who studied and validated this $4.4 billion project would also be its builders, at taxpayer expense.
Bringing water from Toledo Bend may cost more--but conservation can reduce that expense. We also cost our neighbors in Region D, but those lost resources and livelihoods aren't even considered.
Residents of Region C are in a never-ending hole when conservation is neglected, but the "build, baby, build" buddy-dealing of massive reservoirs prevails.
Decline Marvin D. Nichols Reservoir.
Sincerely,
Julie E. Ryan
5801 Preston Oaks Rd, Dallas TX 75254

From: Julie Thibodeaux <jthibodeaux62@gmail.com>
Sent: Monday, July 27, 2020 4:25 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Fwd: SAVE THE OLD FORESTS - DROP MARVIN NICHOLS RESERVOIR OUT OF WATER PLAN

Signed:
Julie Thibodeaux
1717 Belle Place
Fort Worth, Texas
76107

---------- Forwarded message ---------
From: **Julie Thibodeaux** <jthibodeaux62@gmail.com>
Date: Mon, Jul 27, 2020 at 4:23 PM
Subject: SAVE THE OLD FORESTS - DROP MARVIN NICHOLS RESERVOIR OUT OF WATER PLAN
To: <regioncwpg@trinityra.org>

DFW has other alternatives to get their water than a $4.4 billion project that will destroy more than 66,000 acres of bottomland hardwood forest and agri-lands in Northeast Texas. Much of this land has been passed down for generations since settlers' times.

This project could hurt an entire 15-county area.

DFW cities are still among the highest per capita users of water in the state. Our local Region C water districts, cities and water retailers could do more with conservation before building a reservoir, one of the most expensive options by which to secure more water.

Building reservoirs is an out-dated mode of securing more water. DFW should do all it can with conservation and other measures before kicking Texans off their land and destroying old growth Cross Timbers forests.

Alternatives:

• Get rid of Take or Pay contracts that force cities to pay for water they may not even use annually due to being pushed into these outmoded 30-40 year contracts with rates based on the historical highest annual use of water. NTWMD is already being sued for this practice by numerous cities.

• Encourage DFW cities to develop and actually implement meaningful water conservation plans and to adopt ordinances that enforce limited lawn watering. Ask cities to encourage developers and residents to use drought resistant turf and native plants.

• Adopt the use of underground aquifer water storage instead of building reservoirs with high evaporation and sedimentation rates.

• Have cities utilize gray water for all their golf course watering. For instance, only two of Dallas' six municipal golf courses use gray water instead of potable drinking water for watering. Just these two Dallas courses that use gray water save 1 million gallons per day in water.

• Ask cities to reduce water leakage due to aging water main and pipe infrastructure.

• Cities can engage in more water recycling (including direct recycling) and harness urban runoff.

From: karendyer@sbcglobal.net <karendyer@sbcglobal.net>
Sent: Monday, July 27, 2020 3:14 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir - please read

Hi Kevin,
My name is Karen Dyer I live at 1704 Glenlivet Drive, Dallas. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Together, we can solve the Climate Crisis!

With gratitude,
Karen Dyer
Climate Reality DFW

From: Karla Zemler <kzemler@att.net>
Sent: Friday, July 24, 2020 11:04 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nicoles Réservoir

Is a boondoggle for construction and cement companies at the expense of being good stewards of resources.
Another business man greasing the palm of another. Oh, maybe build a park on top of a freeway too, Oh ...you did that. When do you respect God's creation?

From: Kathy Lawrence <kathylawrence.writer@gmail.com>
Sent: Saturday, July 25, 2020 10:57 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Please DO NOT Build Marvin Nichols Reservoir

We who live in Dallas, are not going to sit idly by while once again they pursue this unneeded land grab of our neighbors.

Building a reservoir is one of the most expensive ways a region can pursue to secure more water. There are cheaper, less destructive alternatives to obtain more water than building Nichols Reservoir.

Region C should be recommending cost-effective, low-impact options for water supply such as:

- Increased municipal water recycling
- Harnessing urban runoff
- Storing surface water in underground aquifers
- Asking all customer cities to encourage less lawn watering via ordinance and education. The use of native plants or drought resistant turf should also be encouraged
- Ending the use of "Take or Pay" contracts by water districts and water retailers need to end in DFW. This forces cities to pay for water they may not use in any given year. 30 to 40 year Take or Pay contracts are a disincentive for cities to conserve water.
- Implementing more recycling, developing more wetland filtration projects or filter more wastewater to help secure more water.
- Utilizing more gray (used) water can meet the demand for water to water lawns. For instance, the City of Dallas has several municipal golf courses which use potable drinking water instead of gray water for watering. Lawn watering for future expansion can also be met by capturing run-off in neighborhoods.

Any entity applying for a federal permit is required by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA). There are less damaging ways to meet DFW's water demands - such as municipal water recycling, capturing urban run-off, or bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying 66,000 acres of prime farmland, timberland, and wildlife habitat. The other options are much less expensive.

The proposed Marvin Nichols project is designed to enrich the very engineers who studied and validated this project - they would also be the builders of this $4.4 billion project on the backs of taxpayers! Region C should be a good neighbor to Region D, where Texans would be robbed of their heritage, their way of life, and their livelihoods. Take Marvin Nichols out of this plan - DFW can do better!

Sincerely,
Katherine Lawrence
6318 Richmond Ave, Unit 1104
Dallas, TX 75214
kathylawrence.writer@gmail.com

From: Kelly Longfellow <planetorange@hotmail.com>
Sent: Monday, July 27, 2020 7:40 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Region C Water Plan: Marvin Nichols

Hi Kevin,
My name is Kelly Longfellow.
I live at 3316 Grayson Dr, Dallas, TX, 75224.
I'm emailing you today because I strongly oppose having Marvin Nichols Reservoir in the Region C water plan!
The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests, disturbing the eco-system, posing threats and harmful impacts on soil, air, and water pollution, along with human risk and effects of those persons who live in the DFW Metro area.

Loyally,
Kelly Longfellow
Ph.D. Candidate, Erasmus University
VP Al Gore Climate Reality Presenter
Green Faith Fellow
817.368.3900

From: kirkmiller@juno.com <kirkmiller@juno.com>
Sent: Sunday, July 26, 2020 9:45 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Cc: kirkmiller@juno.com
Subject: Region C Water Plan

I urge you to NOT build the Marvin Nichols Reservoir.

We can increase water conservation -- recycle municipal water, capture urban run-off, reduce lawn watering, use more gray water, etc. -- which is much better than building expensive reservoirs and displacing landowners who have had their ranches for many generations.

Region C originally promised that this project would not be revisited until 2070. Please keep that promise and exclude the Marvin Nichols Reservoir from the Region C Water Planning Group water plan.

Thank you.

Kirk Miller
Don't settle for the world as it is. Work for the world as it should be.

From: Kohl Zierath <kohlzierath@gmail.com>
Sent: Monday, July 27, 2020 9:55 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Re: Do the right thing!

Kohl Zierath, Donnington Drive, Plano TX 75093

On Mon, Jul 27, 2020 at 9:54 AM Kohl Zierath <kohlzierath@gmail.com> wrote:
Don't build a pipeline if it's gonna kill all the birds y'all believe the windmills and solar panels are the danger, when it's most likely y'all. Stop shitting all over the planet, we're busy with enough shit already.

From: Kristi Purviance <kpurviance@rivercrestisd.net>
Sent: Wednesday, June 24, 2020 9:12 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Comment

June 24, 2020

Region C Water Planning Group
℅ Trinity River Authority
P.O. Box 60
Arlington, Texas 76004

To Whom It May Concern:

Times are tough right now in this world. Everywhere you look there is division amongst the people: mask or no mask, conspiracy theorist or true believer, Republicans or Democrats, black or white, lake or no lake. Some of these issues we have been battling for many years. Some of these issues just won't go away. Some of these issues are matters of life and death.

Today, I want to voice my opposition to the building of Marvin Nichols. You see, I am a "no lake" person -- and it is a matter of life and death. If Marvin Nichols is built, it will mean the death of over 60,000 acres of prime Texas land. This land houses one of the largest stands of native hardwood trees. This land houses some of the most productive farms and ranches that help feed Texans daily. This land boasts world-record-holding trees and endangered species of many kinds.

The Clean Water Act states that anyone applying for a federal permit must choose the "Least Environmentally Damaging Practicable Alternative." Building Marvin Nichols Reservoir is certainly not the "Least Environmentally Damaging." There are several less damaging ways to meet Dallas-Fort Worth's water needs: municipal water recycling or bringing water from the already-existing Toledo Bend Reservoir are two "less damaging" options.

Sincerely,

Kristi Purviance
500 County Road 1320
Bogata, TX 75417

From: Layla Gulley <lgulley@salesforce.com>
Sent: Monday, July 27, 2020 4:04 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: $4.4 B Marvin Nichols Reservoir

Hi Kevin,

My name is Layla. I live at 1100 Lake Caryolyn Pkwy, Irving, TX 75039. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Best, Layla

Layla Gulley
Strategic Enterprise Business Development | Salesforce
(972) 818-5641

Hi, Kevin.

My name is Lori Delacruz Lewis. I live at 6836 Parkwood Dr. in North Richland Hills, Texas. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metro.

Sincerely,
Lori

Lori Delacruz Lewis
Doctoral Student, Urban Planning and Public Policy
College of Architecture, Planning and Public Affairs (CAPPA)
University of Texas at Arlington
Lori.Lewis2@mavs.uta.edu • 817-233-4093

From: Maria Li-Ya Mar <maria.liya.mar@gmail.com>
Sent: Monday, July 27, 2020 2:55 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: No Marvin Nichols Reservoir!

Hi Kevin,

My name is Liya Mar. I live at 5225 Verde Valley Ln, Dallas Texas.

I'm writing to strongly **oppose** having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and a waste of taxpayers' money, and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metro.

With gratitude,
Li-Ya Maria Mar, Ph.D.,
Activist & Social Media @Climate Reality DFW Chapter
@liyammar

From: Marla Ballard <marlaballard@icloud.com>
Sent: Monday, June 29, 2020 2:02 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

>
> I am writing in regards to the proposed Marvin Nichols Reservoir and would like to see the proposal REMOVED from any plans moving forward. There are many more cost-effective, safer, better-for-the-environment, and overall better resources that don't require land to be lost forever. The agricultural impact alone is enormous; so many people in Northeast Texas depend on land for their livelihood through forestry, livestock, farming, etc. Please consider these people and the contributions they make to our economy in this great state as well as our country before moving forward with a plan to take/ destroy this land.

Thank you for your time!

Marla Ballard

From: Mary Cato <mary.e.cato@gmail.com>
Sent: Friday, July 24, 2020 9:19 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

The proposed $4.4 billion Marvin Nichols project is included in the Region C Water Planning Group water plan despite Region C originally promising that this project would not be revisited till 2070. The Marvin Nichols Reservoir would inundate twenty miles of the Sulphur River and more than 66,000 acres of forest and productive ranchland. The building of the reservoir would have a significant negative impact on the timber and agriculture-based economy of rural northeast Texas. The amount of land that will be taken out of production, to not only build Marvin Nichols Reservoir but also mitigate its impacts, will devastate the economy of a fifteen-county region.

Any entity applying for a federal permit is required by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA). There are less damaging ways to meet DFW's water demands – such as bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying 66,000 acres of prime farmland, timberland, and wildlife habitat.

There are cheaper, less destructive alternatives to obtain more water than building Nichols Reservoir.

Region C should recommend cost-effective, low-impact options for water supply such as:

- Increased municipal water recycling
- Harnessing urban runoff
- Storing surface water in underground aquifers
- Asking all customer cities to encourage less lawn watering via ordinance and education. The use of native plants or drought resistant turf should also be encouraged
- Ending the use of "Take or Pay" contracts by water districts and water retailers need to end in DFW. This forces cities to pay for water they may not use in any given year. 30 to 40 year Take or Pay contracts are a disincentive for cities to conserve water.
- Implementing more recycling, developing more wetland filtration projects or filter more wastewater to help secure more water.
- Utilizing more gray (used) water can meet the demand for water to water lawns. For instance, the City of Dallas has several municipal golf courses which use potable drinking water instead of gray water for watering. Lawn watering for future expansion can also be met by capturing run-off in neighborhoods.

From: Mary Warren <marye27@sbcglobal.net>
Sent: Saturday, July 25, 2020 2:32 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Better water plans to end the Marvin Nichols Reservoir project

Hello, Kevin Ward!

In the interest of having sufficient water for all living things in Texas, here are some ways to do so without building the Marvin Nichols Reservoir. The reservoir should never happen. It would cause more serious problems than it would solve.

• Get rid of Take or Pay contracts that force cities to pay for water they may not even use annually due to being pushed into these outmoded 30-40 year contracts with rates based on the historical highest annual use of water. NTWMD is already being sued for this practice by numerous cities.

• Encourage DFW cities to develop and actually implement meaningful water conservation plans and to adopt ordinances that enforce limited lawn watering. Ask cities to encourage developers and residents to use drought resistant turf and native plants.

• Adopt the use of underground aquifer water storage instead of building reservoirs with high evaporation and sedimentation rates.

• Have cities utilize gray water for all their golf course watering. For instance, only two of Dallas' six municipal golf courses use gray water instead of potable drinking water for watering. Just these two Dallas courses that use gray water save 1 million gallons per day in water.

• Ask cities to reduce water leakage due to aging water main and pipe infrastructure.

• Cities can engage in more water recycling (including direct recycling) and harness urban runoff.

Building reservoirs is an out-dated mode of securing more water. DFW should do all it can with conservation and other measures before kicking Texans off their land and denying them their livelihoods and quality of life.

Please cancel the Marvin Nichols Reservoir today.

Mary Warren
4312 McKinney Avenue #16
Dallas, Texas 75205

From: Marylee S. Thomason <acrazylady@hotmail.com>
Sent: Friday, July 24, 2020 9:37 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nicholas reservoir NO!

When a child breaks or loses a toy, the worst thing you can do it to replace it with no consequence.

When residents and businesses waste water either from laziness or lack of eduction, when districts fail to take advantage of the wide variety of recycling, conservation and using gray water to water yards, the worst thing you can do is to just build another reservoir to make all the problems to away.

They won't go away. Texas is growing fast. In 10 or 15 years, probably before the reservoir is paid for, there will be new cries about water shortages. The same political pressure to have plenty of water to attract new business will emerge.

Better to invest in a much less expensive and less environmentally destructive programs of education about native plants that require much less water. Create a program to re-plumb houses to capture gray water for watering plants. Capture rain water run off from streets and buildings and store it underground.

Make a concerted effort to educate the public, children and adults about the need for water conservation, how to do it at home and the personal and environmental benefits of doing so.

Let's stop taking the easy and expensive way out of solving our problems. The results are temporary. Stop bowing to political pressure, money pressure and be the leaders who through education, investment in systems, not just new pools, and education to make our area a model for water conservation where everyone lives without unnecessary waste.

No new reservoir. It is expensive, invasive, damaging to the environment and a sort term solution.

Marylee S. Thomason
Arlington, TX

From: Maureen Kellen-Taylor <regener8create@gmail.com>
Sent: Monday, July 27, 2020 3:15 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hi Kevin,
My name is Dr Maureen Taylor. I live at 1618 Meadow Park Drive, Keller, Tx 76248
I'm writing to **strongly oppose** including the Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Destroying forests at this time is woefully and dangerously short-sighted.

Respectfully

MKT

From: Melinda Baucom <melindabaucom@yahoo.com>
Sent: Monday, July 27, 2020 4:56 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: For Kevin Ward (Marvin Nichols Res & the Region C Plan)

Hello, Kevin.

My name is Melinda Enochs-Baucom. I live in Duncanville, Texas.

I'm writing you today to strongly urge against the inclusion of the Marvin Nichols Reservoir in the Region C water plan. The inclusion of this reservoir is an expensive ($4.4billion!) and unnecessary action. It would also require cutting down trees/destroying forests. This environmental destruction would be harmful to the citizens of the DFW metropolitan area. Loss of trees increases the urban heat island effect and reduces the land's ability to store carbon, leading to increased warming.

Please, do NOT include the Marvin Nichols Reservoir in Region C plan. It is unnecessary, costly and harmful. Thank you for your time.

Sincerely, Melinda Enochs-Baucom

From: R. Michael Martin <mm@mmsolaradvisory.com>
Sent: Monday, July 27, 2020 3:15 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: NO Marvin Nichols reservoir

Hi Kevin,

I live at 6666 Lakewood Blvd, Dallas, 75214 and am writing to strongly oppose building the Marvin Nichols Reservoir as part of the Region C water plan   This new reservoir is unnecessary and would require massive forest destruction that would threaten and harm the beautiful East Texas environment and the people who live there and in DFW.

We can find better and cheaper solutions focused on efficiencies and, together, we can solve the Climate Crisis!

With gratitude,

Michael Martin

From: Michele Cyr <Michele.Cyr@cookchildrens.org>
Sent: Monday, July 27, 2020 4:45 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hello Kevin,

Take the Marvin Nichols Reservoir out of your current plans. Let's look at other options before we uproot and destroy hardwood forest and agri-lands in Northeast Texas. New technologies are available and will be developed, but they can't replace the damage that will be done if this reservoir is built. We can work on other ways to handle the demand in our area. Please don't destroy or put the burden on another area for our areas water needs. Thank you.

Cheers,
Michele Cyr
Work 682 885 6442
Cell 817 845 6747

From: MJ Bivens <mjbivens@gmail.com>
Sent: Tuesday, June 23, 2020 12:48 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir.

we don’t need or want the proposed Marvin Nichols Reservoir.

Marvin Nichols Reservoir would cost $4.4 billion and inundate 66,000 acres of beautiful forests and productive ranch land vital for wildlife habitat in the Sulphur River basin in Northeast Texas.

Region C should be recommending cost-effective, low-impact options for water supply such as increased municipal water recycling, harnessing urban runoff, and storing surface water in underground aquifers. Water conservation efforts should be focused on reducing lawn watering, including promoting use of native plants, or plants with water needs that can be supplied by the local rainfall.

The Clean Water Act requires that anyone applying for a federal permit choose the Least Environmentally Damaging Practicable Alternative (LEDPA). There are less damaging ways to meet DFW’s water demands – such as municipal water recycling, capturing urban run-off, or bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying 66,000 acres of prime farmland, timberland, and wildlife habitat. The other options are much less expensive.

From: MOLLY ROOKE <mollyrooke@sbcglobal.net>
Sent: Monday, July 27, 2020 2:31 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Remove Marvin Nichols Reservoir from the Region C water plan

Dear Kevin Ward and Region C Planning Group,

Please, remove Marvin Nichols Reservoir from the Region C water plan. This has long been, and continues to be, a bad idea as there are much less expensive and harmful ways for Region C to meet its water needs.

The Marvin Nichols Reservoir:
- is unnecessary,
- is unfair to local property owners, and would cause the destruction of 66,000 acres of agricultural and forest lands in East Texas which are needed to clean our air and protect our climate, as well as support local jobs and economy.

Instead:
- stop the long "Take or Pay" contracts which are huge disincentives to water efficiency
- require policies which will get big reductions in water use and waste (enforced watering restrictions, native plants, xeriscape, and drought tolerant turf grasses
- repair and replace leaky pipes and infrastructure
- encourage water recycling and graywater use
- store water in underground aquifers which reduce water loss through evaporation and don't have sedimentation problems of above ground reservoirs
- maintain and improve efficiency of current reservoirs through dredging of sedimentation, etc.

Please, pursue the many less costly, more eco-friendly and equitable ways to meet the Region C future water needs, NOT Marvin Nichols Reservoir.

Sincerely,
Molly Rooke
5825 Palm Lane
Dallas, TX 75206
214-762-3163

From: Paula Day <pmday7@gmail.com>
Sent: Monday, July 27, 2020 4:07 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Opposition to Marvin Nichols Reservoir

Mr. Ward,
My name is Paula Day. I live at 5011 Reiger Ave. in Dallas.

I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metroplex.

The answer is not to keep building reservoirs without addressing much-needed conservation steps. This is completely analogous to trying to address traffic problems by adding more lanes to the road. This project will destroy more than 66,000 acres of bottomland hardwood forest and agri-lands in Northeast Texas. There are cheaper and more effective ways to meet the water needs of the region that have not been fully explored.

Sincerely,
Paula Day

From: Peggy Henger <pjhenger@verizon.net>
Sent: Saturday, July 25, 2020 11:58 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Water Conservation

I would encourage you to NOT build Marvin Nichols reservoir. Instead, use grey water for agricultural crops and not essential uses. And encourage less watering (with massive run-offs) among homeowners and businesses. We can all do better at conserving water!

The harm in building the reservoir far outweights the benefits.

Peggy Henger
1405 McCallum Dr.
Garland, TX 75042
pjhenger@verizon.net

From: Penelope Bisbee <penbisbee@aol.com>
Sent: Monday, July 27, 2020 4:40 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir - No

Region C,
Please don't build the Marvin Nichols Reservoir. It is a bad idea because:

1) It would destroy productive ranch land. Some of the ranches have been in families for generations. How far does Texas want to go with eminent domain?
2) It would have a negative impact on the timber and agriculture-based economy of rural northeast Texas.
3) There are other solutions, such as: increased municipal water recycling, ending the use of "take or pay" contracts, utilizing more gray water, especially on City of Dallas golf courses, and importantly, asking citizens to be smart about their lawns. In my neighborhood, I see automatic sprinklers in use when it's raining or has just rained. Why? Why water when it's raining? Provide more education about drought resistant plants and grasses. And encourage homeowners to conserve water and not be selfish about their water use.

When all other actions, have been exhausted, then look at a new reservoir. Perhaps in 2070.

Thank you.
Penelope Bisbee
6505 Winton St
Dallas, TX. 75214
817.360.6421

From: Rachel Baker Ford <multismus@aol.com>
Sent: Monday, July 27, 2020 4:01 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: SAY NO to the Marvin Nichols Reservoir Project

DFW can meet their water needs with other alternatives than expensive reservoirs!

The proposed Marvin Nichols project is designed to enrich the very engineers who studied and validated this project -- they would also be the builders of this $4.4 billion project on the backs of taxpayers! Region C should be a good neighbor to Region D, where Texans would be robbed of their heritage, their way of life, and their livelihoods. Take Marvin Nichols out of this plan – DFW can do better!

There are less damaging ways to meet DFW's water demands – such as municipal water recycling, capturing urban run-off, or bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying prime farmland, timberland, cultural artifacts and wildlife habitat. The other options are much less expensive.
Building a reservoir is one of the most expensive ways a region can pursue to secure more water. There are cheaper, less destructive alternatives to obtain more water than building Nichols Reservoir.

Region C should be recommending cost-effective, low-impact options for water supply such as:
- Increased municipal water recycling
- Harnessing urban runoff
- Storing surface water underground with aquifer storage
- Asking all customer cities to encourage less lawn watering via ordinance and education. Some cities have no ordinance (Farmers Branch). The use of native plants or drought resistant turf should also be encouraged
- Ending the use of "Take or Pay" contracts by water districts and water retailers need to end in DFW. This forces cities to pay for water they may not use in any given year. 30 to 40 year Take or Pay contracts are a disincentive for cities to conserve water.
- Implementing more recycling, developing more wetland filtration projects or filter more wastewater to help secure more water.
- Utilizing more gray (used) water can meet the demand for water to water lawns. For instance, the City of Dallas has four out of six municipal golf courses which use potable drinking water instead of gray water for watering. Future lawn watering needs can also be met by capturing run-off in neighborhoods.

Any entity applying for a federal permit is required by the Clean Water Act to choose the Least Environmentally Damaging Practicable Alternative (LEDPA) before pursuing destructive reservoir like $4.4B Marvin Nichols which will drown 66,000 acres in its footprint, and another 66,000 acres for mitigation.
There are less damaging ways to meet DFW's water demands – such as municipal water recycling, capturing urban run-off, or bringing water from the already-existing Toledo Bend Reservoir. Bringing water from Toledo Bend may cost more, but it avoids destroying prime farmland, timberland, cultural artifacts and wildlife habitat. The other options are much less expensive.
The proposed Marvin Nichols project is designed to enrich the very engineers who studied and validated this project -- they would also be the builders of this $4.4 billion project on the backs of taxpayers! Region C should be a good neighbor to Region D, where Texans would be robbed of their heritage, their way of life, and their livelihoods.

Take Marvin Nichols out of this plan – DFW can do better!

Rachel Baker Ford
Charles E. Ford, Jr.
3317 Knights Haven Lane
Garland, Texas 75044-5429

(972-530-6484

From: Marin, Rebecca <rmarin@mail.smu.edu>
Sent: Monday, July 27, 2020 3:09 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hi Kevin. My name is Rebecca Marin, and I live at 3989 Highgrove Drive; Dallas, TX 75220.

I'm writing you to urge water planners to take the $4.4 B Marvin Nichols Reservoir out of the Region C water plan. The Marvin Nichols Reservoir is unnecessary and a waste of money; it would require cutting down and destroying forests, posing threats and harm our environment and people's lives in the DFW Metroplex.

I believe there are less destructive, cheaper and more eco-friendly ways to meet DFW's water needs.

Sincerely,

Rebecca Marin

From: Richard Guldi <RLGuldi77@gmail.com>
Sent: Saturday, July 25, 2020 11:38 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Don't build Martin Nichols Reservoir

85% of the water in a reservoir evaporates before leaving the reservoir.

Focus on water recycling like Dallas is doing.

It's much less expensive, doesn't destroy good farm and wood land, and just makes sense.

Stop the empire builders from their folly.

Thanks,
Dick Guldi,
Co-Chair Conservation,
Dallas Sierra Club.

From: Richard Rivera <richard.rivera@salesforce.com>
Sent: Monday, July 27, 2020 4:05 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: NO to Region C Water Plan

Hi Kevin,
My name is Richard Rivera. I live at 2148 Barberry Dr. 75211. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metro.

Together, we can solve the Climate Crisis!

Cheers,
RICHARD RIVERA
Associate Systems Specialist | EOps - Real Estate | Salesforce
Mobile: 214-549-6715

From: roger arnold <rarnoldreit6@gmail.com>
Sent: Monday, July 27, 2020 2:58 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hi Kevin,

My name is Roger Arnold. I live at 8014 Westover Drive/ Dallas,Texas 75231
I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

From: Ryan Hamilton <rah0226@gmail.com>
Sent: Monday, July 27, 2020 3:30 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Cancel the Marvin Nichols Reservoir

Mr. Ward,

My name is Ryan Hamilton. I live at 7787 Park Downs Drive in Fort Worth. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metro. The project will destroy more than 66,000 acres of bottomland hardwood forest and agri-lands in Northeast Texas. Much of this land has been passed down for generations since settlers' times. DFW cities are still among the highest per capita users of water in the state. Our local Region C water districts, cities and water retailers could do more with conservation before building a reservoir, one of the most expensive options by which to secure more water.

The options we have at our disposal are numerous, and include asking DFW cities to develop and actually implement meaningful water conservation plans and to adopt ordinances that enforce limited lawn watering. In addition, we can ask cities to encourage developers and residents to use drought resistant turf and native plants.We can have cities utilize gray water for all their golf course watering. For instance, only two of Dallas' six municipal golf courses use gray water instead of potable drinking water for watering. Just these two Dallas courses that use gray water save 1 million gallons per day in water. Another ask we should make of cities is to reduce water leakage due to aging water main and pipe infrastructure. This not only sures up our infrastructure but creates JOBS! Cities can also engage in more water recycling (including direct recycling) and harness urban runoff. As we pour more concrete, we create situations where we limit the Earth's ability to naturally handle and store rainwater. The cities pouring that concrete need to be part of the solution.

Building reservoirs is an out-dated mode of securing more water. DFW should do all it can with conservation and other measures before kicking Texans off their land and denying them their livelihoods and quality of life. Please work with our communities and with our natural resources to make sustainable choices before you make mistakes that will be deadly for some.

Respectfully,
Ryan Hamilton
Fort Worth Texas
817-287-1659

From: sahan yerram <sahanyerram@gmail.com>
Sent: Saturday, July 25, 2020 12:57 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Don't Build The Marvin Nichols Reservoir

Hello, my name is Sahan and I'm a local Texan expressing my interest in opposing the construction of the Marvin Nichols Reservoir. The expansive reservoir is very harmful to landowners and will cause unnecessary displacement of happy families.There are better options for water supply such as storing surface water in underwater aquifers and collecting surface runoff.

From: Seylah Williams <seylahgirl@gmail.com>
Sent: Monday, July 27, 2020 3:11 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject:

Hi Kevin,
My name is Seylah Williams. I live at 1981 Lake Crest ln Denton, Texas. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Please consider keeping our land and people safe.

From: Sharon Richey <srichey7@gmail.com>
Sent: Sunday, July 26, 2020 11:57 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: I urge you to vote NO!

URGENT… I implore that you remove plans for Marvin Nichols Reservoir out plans of the Region C.

There are less destructive (and also more money-saving!) ways to meet our water needs here in DFW.

Did you not make commitments telling East Texas that they would wait till 2070 to build this reservoir?

DFW has other alternatives!

This $4.4 billion project would, if allowed to begin, destroy more than 66,000 acres of bottomland hardwood forest and agri-lands.
Land that marks family's generations since settlers' times.
Sharon Richey
Ft Worth, TX 76133
Note: Sierra Club has opposed this since the year 2000!

From: Simon Rook <simon.rook@gmail.com>
Sent: Monday, July 27, 2020 3:03 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: No to Marvin Nichols Reservoir in the Region C water plan

Hi Kevin,
My name is Simon M. Rook. I live at 640 S. Moore St Dallas, TX 75203. I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environment and people's lives in the DFW Metro.

Thank you,
Simon M. Rook

From: Stacy Clark <stacywriterclark@gmail.com>
Sent: Monday, July 27, 2020 3:30 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: No on the reservoir.

Dear Kevin,

My name is Stacy Clark and I live at 4504 Glenwick Lane in Dallas.

I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary and would require cutting down and destroying forests, which are important carbon sinks.

Cordially,

Stacy Clark
214-505-9953

From: Sverdlik, Steven <sverdlik@mail.smu.edu>
Sent: Monday, July 27, 2020 3:17 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

Hello Kevin,

I'm writing to strongly oppose having Marvin Nichols Reservoir in the Region C water plan. The Marvin Nichols Reservoir is unnecessary, and would require cutting down and destroying forests, posing threats and harmful impacts on the environments and people's lives in the DFW Metro.

Thanks for your consideration of this.

Steven Sverdlik

3989 Highgrove Drive
Dallas, TX 75220

From: Susan Cowger <cowger.susan@gmail.com>
Sent: Saturday, July 25, 2020 6:08 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir

I live in Dallas and, for the record, I am opposed to this reservoir being built. It is too expensive and disruptive in light of the many better ways to obtain necessary water.

Susan Cowger

From: Tolbert Greenwood <tolbertgreenwood@gmail.com>
Sent: Monday, July 27, 2020 3:27 PM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Opposition to Marvin Nichols Reservoir

I have been following the efforts to get approval for construction of Marvin Nichols Reservoir for 15 or more years. I have studied the pros and cons and visited the area to be inundated by the reservoir. I strongly oppose the construction of this reservoir.

First, it is not the least environmentally damaging alternative. There are less damaging ways for water demands of the Dallas Fort Worth area to meet its water needs. There are less expensive ways to meet these demands.

Second, the DFW area has not implemented less expensive, less destructive programs to conserve or diminish the needs or demands for water or plan for conservation, recycling, or other reasonable options to conserve and reduce demands.

Third, the citizens where Marvin Nichols Reservoir is to be located have for years opposed the destruction of their farms and ranches and forests for this project. They have recognized that the inundation of old mines by the lake would create environmental damage in addition to the destruction of their beautiful country.

Fourth, this is just another boondoggle to enable the DFW area to continue its wasteful water practices and keep all of its yards and golf courses green while destroying beautiful wooded forests, fields and farms of East Texas. $4.4 billion will become $5 billion or even $6 billion to benefit some engineers and contractors while destroying 66,000 acres and hundreds of miles of pipeline right of way across Texas.

Hopefully, the permit will be denied again and the next time they bring this environmentally damaging project up.

Respectfully submitted,
Tolbert L. Greenwood
6728 Kirkwood Rd.
Fort Worth, TX 76116

From: Guy Cage <guycage.123@gmail.com>
Sent: Monday, July 27, 2020 11:22 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Water Reservoir

Please take this reservoir out of the Region C Plan. It will have harmful impacts on the climate and is a waste of money.

Thanks,
William Guy Cage, Jr.
9959 Adleta Blvd, Apt 1604
Dallas, TX 75243

From: William Forbes <bforbes04@gmail.com>
Sent: Monday, July 27, 2020 10:04 AM
To: RegionCWPG <regioncwpg@trinityra.org>
Subject: Marvin Nichols Reservoir proposal

I am writing from East Texas to say the proposal for a $4.4 billion Marvin Nichols Reservoir is outrageous and needs to be removed immediately from the water plan. This is an archaic, more expensive, more destructive way to meet water needs.

DFW cities are still among the highest per capita users of water in the state. As one gentleman rancher said MANY years ago on a Texas PWD video segment, why should he lose his ranch just because folks in Dallas refuse to practice water conservation with xeriscaping and many other potential measures. I thought conservative leaders were against top-down government takeovers!

Here are some alternative measures:

• Get rid of Take or Pay contracts that force cities to pay for water they may not even use annually due to being pushed into these outmoded 30-40 year contracts with rates based on the historical highest annual use of water. NTWMD is already being sued for this practice by numerous cities.

• Encourage DFW cities to develop and actually implement meaningful water conservation plans and to adopt ordinances that enforce limited lawn watering. Ask cities to encourage developers and residents to use drought resistant turf and native plants.

• Adopt the use of underground aquifer water storage instead of building reservoirs with high evaporation and sedimentation rates.

• Have cities utilize gray water for all their golf course watering. For instance, only two of Dallas' six municipal golf courses use gray water instead of potable drinking water for watering. Just these two Dallas courses that use gray water save 1 million gallons per day in water.

• Ask cities to reduce water leakage due to aging water main and pipe infrastructure.

• Cities can engage in more water recycling (including direct recycling) and harness urban runoff.

Remove the reservoir from the plan, NOW!!!!!!!!!!!!!!!!!!!!!!

William Forbes
607 Burk Street
Nacogdoches, TX 75964