Abridged Application

Due February 5, 2016 by 5:00pm
SWIFT@twdb.texas.gov

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TWDB

By submitting this abridged application, you understand and confirm that the information provided is true and correct to the best of your knowledge and further understand that the failure to submit a complete abridged application by the stated deadlines, or to respond in a timely manner to additional requests for information, may result in the withdrawal of the abridged application without review.

GENERAL INFORMATION

Name of Entity	County	Regional Water Planning Area
Harris County MUD #50	Harris	H

Entity Contact Information				
Contact Person	**Name**	**Mr. Carl D. McConnell, PE, PMP**		
	Title	**District Engineer**		
Mailing Address		Dannenbaum Engineering Corporation		
		3100 West Alabama		
		Houston, Texas 77098		
Phone Number		713-527-6384	**Fax Number**	
Email Address		Carl.Mcconnell@dannenbaum.com		

PROJECT DESCRIPTION

Name of Project *(As it appears in the 2016 regional water plan)*	**Municipal Conservation, Harris County MUD #50** **Water Loss Reduction, Harris County MUD #50**			
Where can the project be found in the most recent Regional Water Plan?	**Project described on page:**	5-B-CNSV-003-2 5-B-CNSV-003-6	**Capital costs listed on page:**	5-A-104 5-A-118

Please attach a list of all water systems served by the proposed project.

Phase(s) Applied For	☒ Planning	☐ Acquisition	☒ Design	☒ Construction
Population Served When Fully Operational	4,900			

Description of Proposed Project

Harris County MUD #50 proposes the installation of an Automated Meter Infrastructure (AMI) system across its 1,400 meters. The project will retrofit 325 meters with the Tesla4 register from RG3, and will install 1,025 new meters with the Tesla4 register. The project cost includes a "pilot kit," extended antennas, two years' of AMI fees, and network base collectors which will receive and route the data from the meters. The AMI system will help MUD #50 isolate sources of leaks, and will support its current water loss detection and elimination efforts.

The Region H water plan shows average water losses of 18.8% across the entire region (page 1-32). It also found a "high level of inaccuracy" in the reported data, suggesting that utilities should "refine their water accounting procedures" (page 1-31). The Region H plan considers water loss reduction to be part of "municipal conservation" (page 5-11). Smart meters are cited on page 5-B-CNSV-003-2, referencing the City of Houston's experience with smart metering systems to recognize leaks on both the service and customer sides of the system.

The original cost estimate for water loss reduction for Harris County MUD #50 was based on the Alliance for Water Efficiency cost effectiveness tool (see page 5-B-CNSV-003-6). The proposed cost takes into account MUD #50's specific scope of work, and we will

pursue an amendment as necessary to the State Water Plan to reflect the actual capital cost of our proposal. We will pursue this amendment in parallel with the TWDB's review of our application and, hopefully, the development of our final application.

As stated in the Region H plan on page 5-B-CNSV-003-3, water loss reduction projects are expected to provide a 1% efficiency improvement per year until a 10% real loss threshold is achieved and maintained. Since MUD #50's real water losses are currently estimated at 64%, we anticipate that this project will achieve 26% savings overall. The project may generate additional conservation savings based upon the use of software to present usage data to customers and to promote the conservation measures listed on page 5-B-CNSV-003-2.

Emergency *(select all that apply)*	☐ Applicant/entity's water supply will last less than 180 days. ☐ Water supply need occurs earlier than anticipated in the State Water Plan. ☐ Applicant has received or applied for Federal emergency funding. ☒ None of the above.

Agricultural Efficiency Project?	☐ Yes ☒ No	Efficiency improvement achieved by implementing the project *(Please provide an attachment showing the basis for your calculation.)* ☐ <1% ☐ 1%-1.9% ☐ 2%-5.9% ☐ 6%-9.9% ☐ 10%-13.9% ☐ 14%-17.9% ☒ ≥18%

Household Cost Factor

(Household Cost Factor for SWIFT prioritization is calculated by dividing the service area's average residential water bill by its annual median household income. For regional projects, these should represent the combined service areas of all participating entities.)

Estimated average annual residential water bill:	$401.88	**Annual Median Household Income:**	$30,789

The proposed project addresses:	☒ Conservation ☒ Water Loss ☐ N/A	**Annual Volume of Water Produced/Conserved by the Project** *(in acre-feet per year)*	69 acre-feet per year (26% of water demand as reported in Region H Plan)

Readiness to Proceed *(select all that apply)*	☐ Preliminary planning or design work (30% of total project) has been completed or is not required. ☐ Applicant is prepared to begin implementation or construction within 18 months of application deadline. ☒ Applicant has acquired all water rights associated with the proposed project, or none will be required.

ESTIMATED COSTS		
Estimated Project Costs	Low-interest Loan	$ 540,000.00
	Deferred Loan	$
	Board Participation	$
	Local Contribution	$

	Other:		$
	Total Estimated Project Costs		$ 540,000.00

Anticipated Commitments *Attach proposed schedule for multi-year commitments*	☒ One-Time Commitment	☐ Multi-Year Commitments

HC MUD 50 - AMI Water Meter System

	Item	QTY	Unit	Unit Price	Total Price
	Construction				
1	AMI Pilot Kit - Includes Panasonic Toughbook, software package, 25 "No Lead" brass meters with Tesla4 Register, 3 month on site training, and network collector	1	EA	$ 23,000	$ 23,000
2	5/8"x3/4" "No Lead" brass meters with Tesla4 registers	1,025	EA	$ 210	$ 215,250
3	Retro-Fit with register only, includes universal adapter	375	EA	$ 180	$ 67,500
4	Extended Antenna - Flush Mount with Meter Lid	1,400	EA	$ 25	$ 35,000
5	Cost per meter per year for AMI Fee	1,400	EA	$ 2	$ 2,100
6	6" Turbine Meter for Water Wells	2	EA	$ 2,300	$ 4,600
7	8" Turbine Meter for Water Wells	1	EA	$ 2,735	$ 2,735
8	Install cost per 5/8"x3/4" meter, with Cast Iron lid. Work done by RG3 Utilities	1,025	EA	$ 42	$ 43,050
9	Network Fixed Base Collector with install cost included, as needed	1	EA	$ 26,200	$ 26,200
10	Network Fixed Base Repeater with install cost included, as needed	1	EA	$ 3,810	$ 3,810
	Total Construction				**$ 423,245**
	Contingency				**$ 26,755**
	Engineering				**$ 50,000**
	Costs Associated with Bond Issuance				**$ 40,000**
	Total Project Cost				**$ 540,000**

HC MUD 50 - Water Education Center and Administrative Offices

	Item	QTY	Unit	Unit Price	Total Price
	Construction				
1	Building	8200	SQFT	$ 110	$ 902,000
2	Site Improvements	1	LS	$ 98,000	$ 98,000
	Total Construction				**$ 1,000,000**
	Property Acquisition				$ 30,000
	Architecture/Engineering				$ 110,000
	Survey				$ 25,000
	Geotechnical/Material Testing				$ 25,000
	Environmental				$ 10,000
	Bond Issuance Costs				$ 100,000
	Total Project Cost				**$ 1,300,000**