CHAPTER 6
FINAL RECOMMENDED PLAN

This chapter provides further details on the final Recommended Plan. After public review of the draft Interim Feasibility Report and higher Corps review changes to the Tentatively Selected Plan were made. The Recommended Plan as described below is the final Recommended Plan.

FINAL RECOMMENDED PLAN FEATURES

TIMBER CREEK

The Recommended Plan for Timber creek is the same plan that was identified as the Tentatively Selected Plan in Chapter 5.

ONION CREEK FOREST/YARRABEE BEND

The Recommended Plan for Onion Creek Forest/Yarrabee Bend is the same plan that was identified as the Tentatively Selected Plan in Chapter 5.

In addition to participating with the Corps for a solution to solve the water resource problems in the Onion Creek Forest area, the City of Austin actively pursued funding under FEMA's Hazard Mitigation Grant Program (HMGP), being administered by the State of Texas Division of Emergency Management. The application was approved on 16 June 2006, for an amount up to $6,255,823, for purchase of up to 118 selected homes in the Onion Creek Forest area. These buyouts are to be performed only on a willing seller basis, and must be completed by 16 June 2008. This HMGP program is cost-shared at the rate of 75% Federal and 25% non-Federal. The Corps estimates that not all of the selected homes could be purchased under this grant program. The exact number will not be known until the program expires. However, this action would reduce the Corps' project by an unknown amount. It may also result in some modifications to the recreation plan features.

Technically, lands purchased by the City with HMGP grant funds are not project lands and Corps policy limits Federal cost-sharing for recreation to facilities developed on lands acquired for non-recreation purposes. By letter dated 11 December 2006, the Assistant Secretary of the Army for Civil Works approved an exception to this policy, enabling the HMGP lands to become project lands. However, the City of Austin would receive no credit for the lands purchased under the HMGP grant program toward its share of the Corps project. Implementation of the Corps project (i.e., execution of a Project Cooperation Agreement) for the Onion Creek/Yarrabee Bend project area would not be undertaken until the HMGP program is completed in June 2008.

WILLIAMSON CREEK

During the review of the draft feasibility report by higher Corps officials, a potential policy issue regarding the cost of restoration lands in highly urbanized areas was identified. After consultation with the local sponsors, it was concluded that any decision or action on Williamson Creek would be deferred and not recommended as part of the final Recommended Plan. This will allow for the Corps' evolving policies concerning ecosystem restoration in highly urbanized areas to mature, and perhaps for the project team to reformulate the plan to more closely adhere to policy.

ENVIRONMENTAL EFFECTS OF THE FINAL RECOMMENDED PLAN

The impacts associated with the final Recommended Plan would be the same as the tentatively selected Recommended Plan as described in Chapter 5, except that the impacts associated with Williamson Creek would not occur. This significantly reduces the impacts the environment from implementation of the Recommended Plan. A updated Environmental Compliance Section and table was completed for the Recommended Plan since the environmental requirements for the plan would be different than what was required for the Tentatively Selected Plan as described in Chapter 5.

The Recommended Plan in combination with the HMGP program described in the previous section would not result in cumulative impacts since the net result of the action are identical. However, it may result in a less expensive project overall for the City of Austin, since the cost share with FEMA is 75% Federal and 25% non-Federal and the Corps program is 65% Federal and 35% non-Federal.

ENVIRONMENTAL COMPLIANCE

Table 6-1 shows the status of environmental compliance of the final Recommended Plan with applicable laws, executive orders and other environmental issues. More detailed descriptions of environmental compliance are explained where compliance issues were encountered.

ENDANGERED SPECIES ACT OF 1973

A Planning Aid Letter was received from USFWS, which listed possible threatened and endangered species. The Corps determined that the project would not likely adversely affect any Federally-listed threatened or endangered species. In the draft Fish and Wildlife Coordination Act Report dated August 23, 2006 (Appendix D), USFWS concurred that the project would not likely adversely affect Federally-listed threatened or endangered species. Therefore, the plan is in full compliance with the Endangered Species Act.

FISH AND WILDLIFE COORDINATION ACT

A Planning Aid Letter dated October 11, 2002 was received providing existing fish and wildlife conditions within the Onion Creek. A second Planning Aid Letter was received on May 22, 2006. A draft Fish and Wildlife Coordination Act Report was received on August 23, 2006 and a Final Fish and Wildlife Coordination Act Report dated October 6, 2006 is included in Appendix D. This report has fully considered the USFWS comments during the decision making process.

CLEAN WATER ACT – SECTION 404

Since Williamson Creek was deferred from considerations, no impacts to Water of the United States would occur.

EXECUTIVE ORDER 11988 – FLOOD PLAIN MANAGEMENT

Executive Order 11988, Floodplain Management, was considered during the development of the proposed project. There are no practical alternatives to achieve the project purposes of ecosystem restoration and recreation facilities development without placing fill within the floodplain. Material removed from the project area requiring disposal, as part of the proposed plan, would be placed in approved landfills for the types of materials involved. The proposed fill actions would not result in adverse environmental impacts. Further, floodplain fills for recreational facilities and ecosystem restoration would not directly or indirectly induce additional development in the floodplain, and would therefore be in compliance with Executive Order 11988.

EXECUTIVE ORDER 11990 – PROTECTION OF WETLANDS

Executive Order 11990 was considered during the development of the proposed project. The proposed project would neither adversely impact nor result in any loss of wetland areas; therefore, the project is in compliance with Executive Order 11990.

EXECUTIVE ORDER 12898, FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW INCOME POPULATIONS

Executive Order 12898 provides for review of proposed activities to assess the effect on minority and low income populations. The area of potential project impact was screened and it was determined that the Timber Creek area does contain minority and low income populations. This fact was made more evident during conservations with local residents while the project delivery team was conducting site visits to this area. The residents stated that they could not afford to purchase similar property out of the floodplain in the Austin area. It was explained to the individuals that relocation assistance would be provided, to the extent authorized, in addition to the fair market value of the land.

Additional alternatives were considered to resolve the flooding issues in this area so that minority and low income residents were not displaced, but those alternatives are not practical in that they do not provide sufficient flood reduction and are not economically feasible. The structural alternative was a 250-foot wide diversion channel which only lowered the water surface elevation by a couple of feet. The benefit-to-cost ratio for the structural alternative was 0.2.

The flooding problem is intensified in the Timber Creek area because these residences are in the floodway. The Timber Creek area experiences high velocities through the neighborhood which causes the mobile homes to be pushed off of their supports and float downstream for several hundred feet in some cases. Therefore, flood proofing measures are not feasible. In addition, flooding in this area frequently results in vehicle and personal property damages, which only intensifies losses these residents experience during flooding. There are no feasible alternatives that could alleviate the flooding problem in this area.

Travis County implemented a voluntary buyout program using FEMA flood hazard mitigation funds in this area. The FEMA grant did not provide sufficient funds to complete the buyouts so only forty-one parcels were purchased, which left the remaining residents in the floodplain and at risk for flooding. The fact that Travis County ran out of funds before it could complete the voluntary buyouts shows that additional residents still desire to receive funding to assist them in relocating out of the floodplain.

Three public meetings have been conducted in the Onion Creek watershed in which the general public was asked to provide comments on the proposed project. Several members from the Timber Creek area were present during the public meetings; however, no real issues with the

proposed plan were identified. It was explained that relocation assistance would be provided to assist the residents in finding alternative housing.

As mentioned earlier, the project delivery team conducted several site visits during the feasibility study. During the visits, several residents asked about the proposed recommended plan for the Timber Creek area. The Recommended Plan and other alternatives were explained in detail. The residents acknowledged that there was not a lot that could be done to resolve the flooding problem other than buyouts.

The Corps conducted a coordination meeting with the United States Environmental Protection Agency (EPA), during which the EPA concurred that there did not seem to be any additional alternatives that would resolve the flooding area in this reach. EPA preliminarily supported the buyouts as long as relocation assistance was provided to the residents. They concurred that the only other practical alternative was the no action alternative, which would leave the low income populations unprotected from the flooding and did not meet the objectives of the study or most of the residents.

Low-income populations have not been identified in the other areas of interest of the project; consequently, environmental justice is not considered an issue in these areas. Recognizing the overall balance of benefits and impacts, it has been determined that implementation of the Recommended Plan would be in compliance with the intent and spirit of Executive Order 12898.

ADVISORY CIRCULAR 150-5200-33 – HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS

The project is being coordinated with the Federal Aviation Administration (FAA) as required by the Memorandum of Agreement. A letter transmitting the proposed plan was mailed on August 1, 2005 to the FAA. Several follow-up telephone conversations have occurred and the FAA has sent the proposed plan to their Washington Office, but no recommendation from the FAA has been provided to the Corps.

SECTION 106 COMPLIANCE

Coordination was initiated with the State Historic Preservation Officer (SHPO) during the feasibility study. A draft programmatic agreement (PA) for the project component was prepared and forwarded to SHPO for their concurrence on how to address Section 106 compliance. Comments on the proposed PA were provided to the Corps and the Corps forwarded a final PA via email (Included in Appendix C). A PA will be executed between the SHPO and the Corps so that the Corps will be in Section 106 compliance. The Correspondence is enclosed in Appendix H.

TABLE 6-1
Relationship of Plan to Environmental Protection Statutes and Other Environmental Requirements

Policies	Compliance of Plan
Public Laws	
Archeological and Historic Preservation Act, 1974, as amended	Plan in Full Compliance
Archeological Resources Protection Act, 1979, as amended	Plan in Full Compliance
Clean Air Act, 1977, as amended	Plan in Full Compliance
Clean Water Act, 1972, as amended	Plan in Full Compliance
Coastal Zone Management Act, 1972, as amended	Not Applicable
Endangered Species Act, 1973, as amended	Plan in Full Compliance
Farmland Protection Policy Act	Not Applicable
Fish and Wildlife Coordination Act, 1958, as amended	Plan in Full Compliance
Magnuson Fisheries Conservation and Management Act	Not Applicable
Migratory Bird Treaty Act, 1918, as amended	Plan in Full Compliance
National Environmental Policy Act, 1969, as amended	Plan in Full Compliance
National Historic Preservation Act, 1966, as amended	In Progress
Native Graves Protection and Repatriation Act, 1990	Plan in Full Compliance
Rivers and Harbor Act, 1899	Not Applicable
Wild and Scenic Rivers Act, as amended	Not Applicable
Executive Orders	
Environmental Justice (E.O. 12898)	Plan in Full Compliance
Flood Plain Management (E.O. 11988)	Plan in Full Compliance
Protection of Wetlands (E.O. 11990)	Plan in Full Compliance
Protection of Children from Environmental Heath Risks (E.O. 13045)	Plan in Full Compliance
Others	
FAA Advisory Circular 150-5200-33	In Progress

ECONOMIC ANALYSIS

UPDATED ECONOMICS

The costs associated with Timber Creek and Onion Creek Forest/Yarrabee Bend did not change and are shown in Chapter 5 on 5-16 and 5-17, respectively. Table 6-2 shows a cost estimate for the final Recommended Plan. Table 6-3 displays an economic summary of the final Recommended Plan. The final Recommended Plan would have a first cost of $82,726,000 and an annual cost of $4,050,000. The plan would provide $6,014,000 in benefits and $1,964,000 of net benefits, which would result in a benefit-to-cost ratio of 1.5.

Table 6-2
Cost Estimate Summary for the Recommended Plan
August 2006 Price levels

Description	First Costs – Recommended Plan		
	Timber Creek	OCF/YB	Total
Lands and Damages	$6,245,000	$49,069,000	**$55,314,000**
Relocation Assistance	$1,823,000	$11,070,000	**$12,893,000**
Restoration Construction	$129,000	$1,479,000	**$1,608,000**
FDR Construction/Demo	$544,000	$3,249,000	**$3,793,000**
Recreation Facilities	$1,021,000	$2,790,000	**$3,811,000**
PED	$263,000	$960,000	**$1,223,000**
Construction Management	$180,000	$401,000	**$581,000**
HTRW	$0	$499,000	**$499,000**
Contingency	$534,000	$2,344,000	**$2,878,000**
Adaptive Management	$6,000	$120,000	**$126,000**
Total First Costs – Tentatively Selected Plan	**$10,745,000**	**$71,981,000**	**$82,726,000**

Table 6-3 **Economic Summary** **TOTAL RECOMMENDED PLAN** (August 2006 Prices, 5.125%, 50 year period of analysis)	
Project Costs	**First Cost**
Flood Damage Reduction	
Lands and Damages	$44,584,000
Relocation Assistance	$12,893,000
Construction	$3,793,000
HTRW	$499,000
Preconstruction, Engineering and Design	$703,000
Construction Management	$220,000
Construction Contingency	$1,304,000
Real Estate Contingency	$8,526,000
Total Flood Damage Reduction	**$72,522,000**
Recreation	
Construction	$3,811,000
Preconstruction, Engineering and Design	$400,000
Construction Management	$279,000
Construction Contingency	$1,122,000
Total Recreation	**$5,612,000**
FDR and Recreation Annualized Computations	
FDR and Recreation First Cost (excluding Relocation assistance)	$65,241,000
Interest During Construction	$2,928,000
Total Investment	$68,499,000
Annual Costs	
Interest and Amortization	$3,825,000
OMRR&R	$225,000
Total Annual Costs	**$4,050,000**
Annual Benefits	
Flood Damage Reduction	$2,767,000
Municipal and Insurance Reduction	$185,000
Recreation	$3,062,000
Total Annual Benefits	**$6,014,000**
Net Annual Benefits	**$1,964,000**
Benefit-to-Cost Ratio	**1.5**
Ecosystem Restoration	
Construction	$1,608,000
Lands	$1,864,000
Preconstruction, Engineering and Design	$120,000
Construction Management	$82,000
Construction Contingency	$452,000
Real Estate Contingency	$340,000
Adaptive Management	$146,000
Total Ecosystem Restoration	**$4,592,000**
Total Recommended Plan Summary	
Project First Cost	**$82,726,000**

COST APPORTIONMENT

The individual cost apportionments of the Timber Creek and Onion Creek Forest/Yarrabee Bend are shown in Chapter 5 on Tables 5-23 and 5-24, respectively. Table 6-4 displays the total cost apportionment of the final Recommended Plan.

Table 6-4
Cost Apportionment for the Recommended Plan
August 2006 Prices

Project Feature	Recommended Plan		
	Federal	***Non-Federal***	***Total***
Flood Damage Reduction	$47,140,000	$25,382,000	$72,522,000
Recreation	$2,544,000	$3,068,000	$5,612,000
Ecosystem Restoration	$2,985,000	$1,607,000	$4,592,000
Total Cost	**$52,669,000**	**$30,057,000**	**$82,726,000**
Percent of Total Cost	**63.7%**	**36.3%**	**100.0%**

NON-FEDERAL RESPONSIBILITIES (ITEMS OF LOCAL COOPERATION)

The Items of Local Cooperation listed in Chapter 5 would still have to be followed; however, the ones listed for the structural flood damage reduction would not be applicable.

FULLY FUNDED COST ESTIMATE

The fully funded cost estimate is intended to provide an indication of total project costs when inflation is taken into account. Inflation rates are based on rates developed as part of the Corps budgeting process. The fully funded cost estimate for the final Recommended Plan is $84,963,000. Table 6-5 presents the fully funded cost estimate, by reach.

Table 6-5
Fully Funded Cost Estimate for the Recommended Plan

Reach	*First Cost*	*Fully Funded First Cost*
Timber Creek	$10,745,000	$10,882,000
Onion Creek Forest/Yarrabee Bend	$71,981,000	$74,081,000
Total Cost	**$82,726,000**	**$84,963,000**