

**DRAFT ENVIRONMENTAL ASSESSMENT  
BENBROOK LAKE EAGLE MOUNTAIN CONNECTION EASEMENT  
BENBROOK LAKE, TARRANT COUNTY, TEXAS**



*Prepared for*

**Benbrook Lake Project Office**

*by*

**US Army Corps of Engineers  
Fort Worth District**

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**DRAFT ENVIRONMENTAL ASSESSMENT  
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**1.0 INTRODUCTION**

The Tarrant Regional Water District (TRWD) is requesting an easement from the U.S. Army Corps of Engineers (USACE) in order to construct a 96-inch raw water pipeline, a second future 96” pipeline, booster pump station, and storage tanks on USACE property at Benbrook Lake (see Appendix A - Location Map). The easement would include a portion of the Eagle Mountain Connection Project that would allow TRWD the flexibility to pump water from their East Texas Reservoirs (Cedar Creek and Richland-Chambers) to Eagle Mountain Lake and directly to the proposed Fort Worth Northwest Water Treatment Plant in west Tarrant County, to meet regional water use needs. In addition, the pipeline would allow water to be pumped from Benbrook Lake to a proposed Fort Worth Northwest Water Treatment Plant (see Appendix A – Eagle Mountain Connection Simple Schematic). No additional water rights permits are required as TRWD would be exercising existing water rights permits within Benbrook Lake. As a result of the project, no water from Benbrook Lake would be pumped to Eagle Mountain Lake, only the existing or future water treatment plants.

TRWD and USACE have entered into a Memorandum of Understanding (MOU) to provide a mechanism by which USACE can process a request from TRWD to develop an Environmental Assessment (EA) for a water line easement on USACE property at Benbrook Lake, Texas. In January 2005, USACE released a draft Environmental Assessment, Benbrook Lake Eagle Mountain Connection Easement, Benbrook Lake, Tarrant County, Texas for public review. Subsequently, USACE was made aware of the ability of TRWD to pump water from Benbrook Lake using existing water rights to a planned future Fort Worth Northwest Water Treatment Plant. This re-release of the draft Environmental Assessment addresses the impacts associated with this issue. In addition, the earlier draft did not include a mitigation plan. A mitigation plan is included with this EA. The proposed route of the pipeline and associated facilities have not changed.

The pipeline would be routed from the existing Tarrant Regional Water District Pipeline along the west side of the lake by paralleling Lakeside Drive (downstream of the Benbrook Dam) to the proposed booster pump station and then continuing to US Hwy 377 at Chapin School Road. The pipeline easement would be 90-ft wide plus an additional 30-ft temporary easement. Within the proposed easement a second 96-inch parallel pipeline is also planned in the future.

A comprehensive Environmental Impact Statement (EIS) for the Operations and Maintenance Program of Benbrook Lake was prepared in March 1977. This EIS disclosed the anticipated environmental impacts of water supply contracts. Benbrook has 72,500 acre-feet of water storage that is contracted to be used for beneficial uses such as water supply. In addition, an Environmental Assessment was prepared in November 1981 to address the pipeline to Rolling

Hills Treatment Plant utilizing Benbrook Lake as water storage from Cedar Creek and Richland Chambers Reservoirs going to Rolling Hills Treatment Plant.

### 1.1 PURPOSE AND NEED

TRWD is requesting an easement so that a portion of their pipeline can cross USACE owned land; therefore, an EA is necessary to fulfill requirements under the National Environmental Policy Act. This EA presents the results of studies conducted to evaluate the environmental impacts of granting an easement to TRWD so that they can construct the portions of their project on Federal lands at Benbrook Lake, Texas. This EA will also address the impacts of establishing this area as a utility corridor easement where all future easements would be located to reduce environmental impacts to Federal property.

### 1.2 SCOPE

The proposed action is for USACE to grant an easement to TRWD to install a 96-inch raw water pipeline, booster pump station, and storage tanks on government owned property. Since there is an increasing need to cross government property with utility easements in this area, the proposed action would establish a Utility Corridor Easement in the Benbrook Lake Master Plan in this area. All future utility lines in the area would have to cross this section of Benbrook Lake through the Utility Corridor. This easement would cover approximately 54 acres with an additional 12 acres of temporary easement.

### 1.3 IMPACT ANALYSIS

The analysis process involved the review of past and current data that was collected by a variety of governmental agencies and private organizations. Additional information was obtained through telephone conversations and interviews with knowledgeable persons. TRWD submitted an environmental information document (EID) that addressed the issues associated with their request. All of the information regarding recognized environmental conditions was correlated to provide the following report.

## **2.0 DESCRIPTION OF ALTERNATIVES**

Three alternatives were considered for this project including the no action alternative and two different alignments of the pipeline and facilities on government property.

### 2.1 ALTERNATIVE 1 NO ACTION

The “No Action” alternative would be to locate the project completely off of government property. While this alternative would be physically possible, it is not reasonably feasible due to the fact that several residences and business would have to be purchased and removed raising the overall project cost by many millions of dollars. In addition, the most reasonable tie-in point to TRWD’s existing pipeline from the Richland Chambers to Benbrook Pipeline is on USACE property. If the project was located off of government property, there would be no “Federal

action” that would require an Environmental Assessment under NEPA except for the 404 permits which are being covered under a Nationwide permit described later in the document. Under the no action alternative there would be no impacts to government property. The project would have to be located in the same general vicinity as the proposed route because the proposed line would have to connect to TRWD’s existing pipeline from Richland Chambers Reservoir. The pump station and booster station would still need to be located in the general vicinity as it is proposed, but off of government property.

## 2.2 ALTERNATIVE 2 TRWD ALTERNATIVE

Two basic alternative routes were considered for the proposed water supply pipeline and pump stations on USACE owned property at Benbrook Lake (see Appendix B - Attachments 2-A through 2-F). These routes have been divided into segments for alternatives analysis. Unless otherwise noted, the pipeline would be trenched and buried. The project begins at the east pipeline connection located in Longhorn Park at the east end of Benbrook Dam adjacent to the Benbrook Lake USACE office. This alternative has an estimated cost of approximately \$4,391,600.

### EAST CONNECTION TO RIVER CHANNEL-DIRECT ROUTE

Beginning at the east connection adjacent to the USACE Benbrook Lake Office, Segment Alternate 1A would be routed north across the Benbrook Dam maintenance road. It would turn northwest to follow the maintenance road approximately 500-ft and then proceed aerially northwest along the edge of the dam embankment to the intersection of Pecan Valley Drive and Lakeside Drive. The pipeline would bore under the roadway intersection to the existing Clear Fork Trinity River outfall structure (see Appendix B - Attachment 2-A). Although this was the preferred alternative by TRWD, it was rejected because of USACE’s concerns that it might endanger the dam embankment.

### CROSSING THE RIVER CHANNEL-AREA CROSSING OVER TAILRACE

Segment Alternate 2A would connect to Segment 1A at the toe of Benbrook Dam and would span the tailrace (see Appendix B - Attachment 2-A). This alternative was rejected by USACE because the bridge span might interfere with the operation and maintenance of the tailrace.

### RIVER CHANNEL TO BOOSTER PUMP STATION-SEGMENT ALTERNATE 3A

Segment Alternate 3A would connect with Segment 2A and turn west to bore under Lakeside Drive. The segment would follow the south side of Lakeside Drive west and northwest to Winscott Road. It would turn west to follow the south side of Winscott Road, veer south around the soccer field complex building, and trench under the soccer field parking lot to the location of proposed BPS 4A (see Appendix B - Attachments 2-A, 2-B, 2-C, and 2-D). This alternative was not allowed by USACE due to security issues and therefore the pipeline route was shifted north across the road as required by USACE.

### BOOSTER PUMP STATION ALTERNATIVES-BPS 4A

BPS 4A would be located at the northwest end of Benbrook Dam, south of Winscott Road at

Beach Road, and north of the emergency spillway (see Appendix B - Attachment 2-D). The pump station is designed for a single water tank with the potential for a future tank. The current design is for a 14 million gallon tank, 185 feet in diameter, and 70 feet tall. A security fence will be constructed around the perimeter of the pump station grounds. This location would be favorable from an engineering perspective in regard to elevation but might conflict with expansion of the soccer field complex.

#### BPS TO US HWY 377/CHAPIN SCHOOL ROAD-BPS 4A TO US HWY 377/CHAPIN SCHOOL ROAD

Segment Alternate 5A would begin at BPS 4A and bore under Beach Road west toward US Hwy 377 at Chapin School Road. This route would pass through Dutch Branch Park, open trench under Park Road, pass south of Benbrook Stables, and continue west to the edge of USACE property at US 377 opposite of Chapin School Road (see Appendix B - Attachments 2-D, 2-E, and 2-F). Although this route is shorter and less expensive, this is not considered the preferred alternative because it would not follow the route of a utility corridor required by the USACE.

### 2.3 ALTERNATIVE 3 (USACE REROUTE) Preferred Alternative

This alternative is the preferred alternative for USACE. This alignment reduces dam safety issues but still allows the pipeline, booster pump facilities, and a future pipeline to be located on government owned property. This alternative has an estimated cost of approximately \$6,133,800.

#### EAST CONNECTION TO RIVER CHANNEL-WEST OF LAKESIDE ROAD

Segment Alternate 1B would cross the Benbrook Dam service road, turn west along the service road for approximately 500-ft, and then turn north down-slope following an electric power line right of way (ROW) toward Lakeside Drive. The down-slope pipeline would be buried. The route would turn west and bore under Lakeside Drive, continue under a small, non-play section of the Pecan Valley Golf Course, and trench across Pecan Valley Drive adjacent to the service spillway channel stilling basin (tailrace) (see Appendix B - Attachment 2-A). This is the USACE's preferred route for this segment. Within this segment would also be a diversion consisting of an 84-inch pipe, valves and a flow meter to connect to the existing Benbrook Water and Sewer Authority pipeline (Appendix B - Attachment 2-A). Additionally, a diversion to allow water to be delivered down the Clear Fork Trinity River would be constructed. This would consist of a short pipeline, valve and an outlet structure (Appendix B - Attachment 2-A).

#### CROSSING THE RIVER CHANNEL-TRENCHED CROSSING UNDER TAILRACE

Segment Alternate 2B would connect to Segment 1B and trench under the existing Clear Fork Trinity River channel just north of the tailrace and adjacent to the Pecan Valley Golf Course (see Appendix B - Attachment 2-A). This route would not interfere with the tailrace.

## RIVER CHANNEL TO BOOSTER PUMP STATION-SEGMENT ALTERNATE 3B

Segment Alternate 3B would connect with Segment Alternate 2B and turn west through the Pecan Valley Golf Course. The segment would follow the north side of Lakeside Drive along the southern edge of Pecan Valley Golf Course. It would trench under Cedar Trail, Pecan Valley Circle, the south end of the original Clear Fork Trinity River channel, and Clear Fork Road. Where Lakeside Drive curves northwest, the segment would bore under the road to connect with the proposed BPS 4B (see Appendix B - Attachments 2-A, 2-B, and 2-C). A connection to the existing Weatherford Pipeline is also proposed. This would consist of a pipeline, valves and flow meters (Appendix B - Attachment 2-A). This is the preferred alternate for this segment, as required by USACE, because it would not be as close to Benbrook Dam.

## BOOSTER PUMP STATION ALTERNATIVES-BPS 4B

BPS 4B would be located just south of the emergency spillway between Lakeside Drive and Benbrook Dam (see Appendix B - Attachment 2-C). This location is less favorable than BPS 4A in regard to elevation but would not interfere with expansion of the existing soccer field complex. This is USACE's preferred BPS location.

## BPS TO US HWY 377/CHAPIN SCHOOL ROAD-BPS 4B TO US HWY 377/CHAPIN SCHOOL ROAD

Segment Alternate 5B would be routed from BPS 4B to US Hwy 377 by following the southwest side of Lakeside Drive northwest to Winscott Road, boring north under Winscott Road, and following the north side of Winscott Road northwest to US Hwy 377. The pipeline would then bore south under Winscott Road and follow the south side of the US Hwy 377 ROW westward. The pipeline would be open trenched under Park Road as well as two roads leading to Benbrook Stables. The route would continue to the edge of USACE property opposite Chapin School Road (see Appendix B - Attachments 2-C, 2-D, 2-E, and 2-F). This is USACE's preferred alternative for this segment because it would follow the route of the utility corridor desired by USACE.

## **3.0 AFFECTED ENVIRONMENT**

### 3.1 SETTING

The following paragraphs describe the existing environment along the portion of the proposed project that crosses USACE owned property.

### 3.2 CURRENT LAND USE

The project area is located on USACE property at the north end of Benbrook Lake within the Longhorn, Pecan Valley and Dutch Branch Parks. Most of the land is designated as parks in the Benbrook Lake Master Plan. The parks are used primarily for public recreation and include the Pecan Valley Golf Course, various ball fields, a YMCA facility, riparian forest, upland woods, and open, maintained grasslands with scattered trees.

### 3.3 GEOLOGY AND SOILS

Soils in the project area consist of two general soil map units (USDA 1981). The eastern half of the project area is made up of Frio-Trinity soils (*nearly level, deep, clayey soils; on floodplains*). The western half of the project area lies on Aledo-Bolar-Sanger soils (*gently sloping to moderately steep, very shallow to deep, loamy and clayey soils; on uplands*). Soils in this unit include Aledo, Bolar, Sanger, Brackett, Frio, Luckenbach, Maloterre, Purves, San Saba, Slidell, and Sunev units. Bolar, Sanger, Slidell, and Frio soils are classified as prime farmland soils.

These soil units were formed from the Washita group of the Cretaceous system. The Washita group consists of alternating beds of limestone, shale, and clay shale. Numerous fossils and volumes of shell agglomerate occur throughout this group.

The geologic formations underlying soils in the project area are the Kiamichi on the eastern shore of Lake Benbrook and the Goodland Limestone to the west. Both formations are part of the Fredericksburg group and were deposited during the Lower Cretaceous period (UTA 1988).

### 3.4 AQUATIC RESOURCES

#### 3.4.1 Surface Water

The project area is in the Trinity River Basin. The proposed pipeline route passes north of Benbrook Lake; a flood control/water supply USACE impoundment of the Clear Fork Trinity River. The reservoir is designated as Segment 0830 by the Texas Commission on Environmental Quality (TCEQ). The TCEQ classifies surface water segments according to attainable uses and establishes segment-specific numerical criteria to protect those uses. The numerical criteria for designated segments pertain to aquatic life, contact recreation, public water supply, and general uses. The TCEQ identified Benbrook Lake in the Draft 2002 Texas Water Quality Inventory as fully supporting its designated uses of aquatic life, contact recreation, general use, fish consumption, and public water supply. The report identified nutrient (ammonia) enrichment and excessive algal growth as concerns for the segment. There is one small, unnamed stream on the north end of the project area that flows into the Clear Fork Trinity River (see Appendix B - Attachment 2-D) and two small, unnamed streams and a drainage ditch/channalized stream in the west portion of the project area that flow into Benbrook Lake (see Appendix B - Attachments 2-E and 2-F). The latter two streams were apparently tributaries of Dutch Branch before the Clear Fork Trinity River was impounded for Benbrook Lake

TCEQ has designated the 14 miles of Clear Fork Trinity River from below Benbrook Lake to the confluence with the West Fork Trinity River in downtown Fort Worth as Segment 0829. According to the Draft 2002 Texas Water Quality Inventory, the segment fully supports aquatic life, contact recreation, public water supply, and general use.

Benbrook Lake construction began in May 1947, and was nearing completion when floodgates were closed and deliberate impoundment begun in September 1952. The cost to build the lake was \$14.5 million. The rolled-earth embankment is 9,130 feet in length, including the concrete

spillway, and rises 130 feet above the streambed to an elevation of 747 feet above sea level. A pair of 6.5 by 13-foot sliding gates operated by electric cable hoists controls the floodwater releases through the 13-foot diameter conduit. Two 30-inch diameter pipes are provided for low-flow releases to maintain downstream river flows. The concrete spillway for uncontrolled releases is 500 feet long, with a 100-foot notch in its center.

At the normal, or conservation pool, level of 694 feet above sea level, the lake covers 3,770 surface acres. This would increase to 7,630 acres if the lake ever reaches the nominal maximum flood pool elevation of 724, which is also the overall spillway elevation at the top of the center notch. Benbrook has approximately 72,500 acre-feet of water storage for beneficial uses such as water supply.

### 3.4.2 Ground Water

The major water bearing aquifer underlying the project area is the Paluxy Formation, which is the upper member of the Trinity Aquifer group. Precipitation on the outcrop is the primary source of recharge to the aquifer, while seepage from streams and lakes on the outcrop provide secondary recharge (TDWR 1982).

### 3.4.3 Wetlands

No wetlands were observed in the project area. See Section 3.4.1 (Surface Water) for descriptions of other waters of the U.S.

## 3.5 BIOLOGICAL RESOURCES

### 3.5.1 Vegetation

The project area is located within the *Fort Worth Prairie* component of the *Grand Prairie* within the *Cross Timbers and Prairies* ecoregion of Texas. Historically the grasslands in the project area would likely have included such species as little bluestem (*Schizachyrium scoparium*), sideoats grama (*Bouteloua curtipendula*), Texas grama (*B. curtipendula*), three-awn (*Aristida wrightii*), hairy grama (*B. hirsute*), tall dropseed (*Sporobolus asper*), buffalograss (*Buchloe dactyloides*), windmillgrass (*Chloris verticillata*), hairy tridens (*Erioneuron pilosum*), tumblegrass (*Schedonnardus paniculatus*), western ragweed (*Ambrosia psilostachya*), broom snakeweed (*Gutierrezia sarothrae*), and Texas bluebonnet (*Lupinus texensis*). Introduced species such as bermudagrass (*Cynodon dactylon*) and Johnsongrass (*Sorghum halepense*) are now common in the area. Wooded uplands in the project area include species such as cedar elm (*Ulmus crassifolia*), sugarberry (*Celtis laevigata*), honey locust (*Gleditsia triacanthos*), coral-berry (*Symphoricarpos orbiculatus*), goldenrod (*Solidago* spp.), and ironweed (*Vernonia baldwinii*). Wooded riparian areas include species such as cedar elm, American elm (*U. americana*), black willow (*Salix nigra*), cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), sycamore (*Platanus occidentalis*), pecan (*Carya illinoensis*), bois d'arc (*Maclura pomifera*), flowering dogwood (*Cornus florida*), dewberry (*Rubus trivialis*), coral-berry, dallisgrass (*Paspalum dilatatum*), switchgrass (*Panicum virgatum*), bermudagrass, eastern

gamagrass (*Tripsacum dactyloides*), Virginia wildrye (*Elymus virginicus*), Johnsongrass, and giant ragweed (*Ambrosia trifida*). The proposed project area has been significantly disturbed by past development of the dam, roads, golf course, and various other recreational areas within the parks.

TRWD performed a tree count to identify all trees that within the proposed rights-of-ways. The tree count is located in Appendix C.

### 3.5.2 Fish and Wildlife

Wildlife in the project area likely includes a wide variety of year-around resident and migratory land and shore birds as well as mammals, reptiles, amphibians, and invertebrates. Common mammal species in north central Texas include white-tailed deer (*Odocoileus virginianus*), coyotes (*Canis latrans*), bobcat (*Lynx rufus*), raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), beaver (*Castor canadensis*), striped skunk (*Mephitis mephitis*), and various rodent species.

Finally, the common aquatic species documented in the nearby Lake Benbrook include various species of bass, bluegill, drum, sunfish, blue catfish, channel catfish, hybrid stripper, and shad.

### 3.5.3 Threatened and Endangered Species

The Federally listed bald eagle (*Haliaeetus leucocephalus*; threatened), interior least tern (*Sterna anitllarum*; endangered), and whooping crane (*Grus americana*; endangered) have the potential to occur in Tarrant county. In addition to these species, the black-tailed prairie dog (*Cynomys ludovicianus*) is listed as a “candidate” species which potentially could occur in Tarrant county.

A complete list of all the USFWS and TPWD listed species, a summary of their preferred habitat, and their current status within Tarrant County are listed below in Table 1.

During the on-site investigation, habitat was visually assessed for the listed species as well as its suitability for the same species. Designated critical habitat was not present for any of the Federally listed threatened or endangered species within the project area. Additionally, none of the Federally or state listed species was observed during the on-site investigation. Since the proposed pipelines are within the area previously investigated, additional investigations for threatened or endangered species are not necessary for this EA.

TABLE 1: FEDERAL AND STATE LISTED SPECIES OF TARRANT COUNTY

	Common Name	Scientific Name	Habitat	Status	
				Federal	State
	Whooping Crane	<i>Grus americana</i>	found along marshes, river bottoms, potholes, prairies, and cropland (migratory)	Endangered	Endangered
	Bald Eagle	<i>Haliaeetus leucocephalus</i>	found along large lakes, nesting in tall trees or cliffs near water	Threatened	Threatened
	Black-tailed Prairie Dog	<i>Cynomys ludovicianus</i>	found in short grass prairies	Candidate	Not Listed
	Interior Least Tern	<i>Sterna antillarum athalassos</i>	nests along sand and gravel bars within braided streams and rivers	Endangered	Endangered

The bald eagle is a very large dark brown raptor that nests near large bodies of water and feeds primarily on fish. Adult bald eagles have white heads that distinguish them from golden eagles. Their massive nests are built in tall trees and on cliffs. Historically, decline of the species has been linked to ingestion of pesticides which caused reproductive failure (Oberholser 1974). Habitat degradation and loss, disturbance during nesting season, and illegal taking have contributed to the species' decline as well. Some bald eagles from northern states migrate to Texas for the winter, but the number of year-around residents in the state is known to be increasing (Pulich 1988).

The interior least tern, a very small, mostly white tern nests in colonies on beaches and sandbars. The species has been known to nest very intermittently on sandbars on the Red River, but are considered uncommon to rare and highly local in north central Texas (Oberholser 1974). In general, populations of interior least terns are in decline (Pulich 1988).

Whooping cranes, which stand at about five feet in height, are the tallest native birds in North America. They are mostly white with reddish heads and yellow bills. Whooping cranes are omnivorous; hunting for fish and crabs as well as feeding on acorns and grains. The extant wild population of whooping cranes nests and breeds exclusively at the Woods Buffalo National Park in Canada and winters at the Aransas National Wildlife Refuge on the Texas Gulf coast (Oberholser 1974).

Several species such as the bald eagle (*Haliaeetus leucocephalus*), interior least tern (*Sterna antillarum athalassos*), and whooping crane (*Grus americana*) are known to migrate through, but not nest in the area. The black-tailed prairie dog (*Cynomys ludovicianus*) does occur in central Texas; however, the preferred habitat is short grass prairie where brush is sparse or absent. Therefore, this species would not be expected to occur within the project area.

Finally, there are no federally listed threatened or endangered plants within the vicinity of the project area. The State of Texas does not protect any additional plant species other than the federally protected species.

### 3.6 AIR QUALITY

The federal air quality program in Texas is administered by the TCEQ. The State Implementation Plan (SIP) includes Tarrant County as a non-attainment area for ozone (i.e., air quality in Tarrant County has failed to meet national ambient standards for ozone). The Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). Areas of the country where air pollution levels persistently exceed the NAAQS may be designated as non-attainment areas. Conversely, areas of the country that do not persistently exceed the NAAQS are designated as attainment areas. The recommended project area would be located entirely within the Consolidated Metropolitan Statistical Area (CMSA). CMSA is currently designated as in non-attainment for 8-hour ozone.

### 3.7 NOISE

Ambient noise in the proposed project area is produced from sources such as traffic on perimeter roads, aircraft approaching or departing from Fort Worth Joint Reserve Base, and recreational areas within the parks. Winscott Road on the north edge of the project area is a public thoroughfare with access to residential neighborhoods to the north and east. US Hwy 377 on the west edge of the project area connects Benbrook and Fort Worth to cities further south such as Cresson and Granbury and generates fairly constant traffic noise.

### 3.8 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act requires Federal Agencies to "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking."

The proposed water pipeline Right-of-Way was surveyed for cultural resources in April 2004. One cultural resource site was identified on Corps fee property. This is a prehistoric archeological site buried within Holocene alluvial deposits. It was determined that the site is eligible for inclusion in the National Register of Historic Places

### 3.9 SOCIOECONOMIC CONDITIONS

The proposed project is entirely within USACE owned property at the north end of Benbrook Lake. Portions of the property are leased for various recreation facilities such as the Pecan

Valley Golf Course, soccer fields, various other ball fields, the YMCA, and the Benbrook Stables. There are no residences within the project limits.

According to the USACE Engineering Manual (EM) 1110-2-1205, “the aesthetic value of a project area is determined by the combination of landscape components (e.g., landforms, vegetation, and land use), climatic factors, and human perceptions or expectations. The significance of aesthetic effects is a function of changes in landscape components caused by a project and factors related to frequency of viewing and project setting (USACE, 1989).”

The existing view toward the proposed booster pump station and storage tanks from Winscott Road and Lakeside Drive includes the Pecan Valley Golf Course and other grasslands with scattered trees and Benbrook Dam and the emergency spillway structure dominate the view. Various buildings, such as the YMCA and structures associated with gaming fields, are visible from Winscott Road as well. There are 2 public water supply above ground storage tanks located off the northeast corner of Winscott Road and US Hwy 377. Each of these tanks store 1.5 million gallons and are 35 feet tall and 85 feet in diameter. Many of the residences along the north side of Winscott Road have privacy fences that block their views of the lake property.

### 3.10 RECREATION AND OPENSOURCE

Recreational areas occurring within the project vicinity include Pecan Valley Golf Course, a Soccer Field Complex, Benbrook Stables and Dutch Branch Park which includes numerous recreational activities such as baseball fields, a YMCA facility, a miniature golf course, batting cages and tennis courts. The Golf Course and the rest of the land are designated as high-density recreation although portions of the land are currently behind a high security fence until it developed into recreation facilities.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

### 4.1 LANDUSE

#### *4.1.1 Proposed Action*

The preferred route for the proposed pipeline project would primarily follow already established ROWs and would not significantly alter current land uses. Route alternatives that do not follow established ROWs would cause only temporary surface impacts and disruption of current land use practices (i.e., the golf courses). The preferred location of the booster pump station (4B) would alter the Existing land use and convert approximately 17 acres of designated parkland to a permanent utility easement.

#### *4.1.2 TRWD Alternative*

The TRWD alternative would convert for the booster pump station approximately 16 acres of parkland and convert it to a permanent utility easement, which would interfere with future expansion of the soccer field complex at Winscott Road.

#### 4.1.3 *No Action*

The No Action Alternative would have no affect on government property located at Benbrook Lake.

### 4.2 GEOLOGY AND SOILS

#### 4.2.1 *Proposed Action*

Surface and subsurface soil disturbances caused by trenching activities would take place entirely within existing ROWs and easements. The proposed water pipeline alignment crosses prime farmland soils within the project area, including Bolar, Sanger, Slidell, and Frio soils. None of the project area is currently used for agricultural purposes. The project area is zoned for urban land uses; therefore, the proposed project is exempt from the requirements of the Farmland Protection Policy Act (FPPA) and requires no coordination with the Natural Resources Conservation Service (NRCS). The contractor would be required to remove and stockpile topsoil and then replace it during construction.

#### 4.2.2 *TRWD Alternative*

Impacts to geology and soils under this alternative would be similar to the preferred alternative.

#### 4.2.3 *No Action*

The impacts to geology and soils under this alternative would be similar to the preferred alternative, but they would be occur off of government property.

### 4.3 AQUATIC RESOURCES

#### 4.3.1 Surface Water

##### 4.3.1.1 *Proposed Action*

The proposed pipeline route passes north of Lake Benbrook, a flood control/water supply USACE impoundment of the Clear Fork Trinity River. Segment 2B would cross the service spillway channel (tailrace) downstream of Benbrook Dam (see Appendix B - Attachment 2-A). Segment 3B would cross the southern end of the old Clear Fork Trinity River channel west of the current outlet works and tailrace (see Appendix B - Attachment2-B). The electric supply line for BPS-4B, routed generally parallel to Segment Alternate 5B, would cross a small, unnamed stream just north of Winscott Road (Stream 1), while Segment 5B would cross a tributary of Stream 1 (Stream 1a) (see Appendix B - Attachment 2-D). Construction measures would be taken to avoid soil erosion, degradation, and siltation into adjacent waters; therefore, the proposed project would not result in adverse impacts to the streams.

The operating procedures at Benbrook Lake would not change as a result of the proposed action. A total of 72,500 acre-feet have been contracted within the conservation pool at Benbrook Lake. The proposed action would allow TRWD and other cities to continue to draw their contracted 72,500 acre-feet of water out of Benbrook Lake to be treated at the Rolling Hills Water Treatment Plant, the future Fort Worth Northwest Water Treatment Plant, or other existing or

future water treatment plants. Water would also continue to be supplied to Benbrook Lake as storage from existing pipelines from Richland Chambers and Cedar Creek Reservoirs.

#### 4.3.1.2 *TRWD Alternative*

Segment 2A would cross the service spillway channel (tailrace) downstream of Benbrook Dam (see Appendix B - Attachment 2-A). Segment 5A would cross two small unnamed streams (Streams 2 and 3) and a drainage ditch/channalized stream in Dutch Branch Park (see Appendix B - Attachments 2-E and 2-F).

#### 4.3.1.3 *No Action*

There would be no impacts to government property under this alternative; however, the pipeline would have to cross the Clear Fork Trinity River downstream of government property.

### 4.3.2 Ground water

#### 4.3.2.1 *Proposed Action*

No impacts to the Trinity Aquifer group ground water resources resulting from the proposed water pipeline project are anticipated.

#### 4.3.2.2 *TRWD Alternative*

No impacts to the Trinity Aquifer group ground water resources resulting from the proposed water pipeline project are anticipated.

#### 4.3.2.3 *No Action*

No impacts to the Trinity Aquifer group ground water resources resulting from the proposed water pipeline project are anticipated.

### 4.3.3 Wetlands

#### 4.3.3.1 *Proposed Action*

No wetlands were observed in the project area. Therefore, there would be no impacts to wetlands.

#### 4.3.3.2 *TRWD Alternative*

No wetlands were observed in the project area. Therefore, there would be no impacts to wetlands.

Proposed Segment Alternative impact areas to waters of the U.S. are summarized in Table 2. Calculations include a 90-ft water pipeline ROW plus a 30-ft wide temporary easement. See Appendix B - Attachments 2-A through 2-F.

**Table 2.** Approximate segment alternative impact areas to waters of the U.S.

Waters of the U.S.	OHWM (feet)	Segment Alternatives									
		1		2		3		4 (BPS)		5	
		A	B	A	B	A	B	A	B	A	B
Tailrace	150	0.0	0.0	0.0	0.41	0.0	0.0	0.0	0.0	0.0	0.0
Old Channel	25	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0
Stream 1	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.003*
Stream 1a	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
Stream 2	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01
Stream 3	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01
Drainage Ditch	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01
<b>Segment Impact Totals (acres)</b>		0.0	0.0	0.0	0.41	0.0	0.07	0.0	0.0	0.03	0.05

\**impact from BPS-4B electric supply line (15-ft easement)*

#### 4.3.3.3 No Action

No wetlands would be impacted on government property. It is unknown if any wetlands would be impacted due to the project being located off of government property. Any wetlands that would be covered under Section 404 would have to be appropriately mitigated.

## 4.4 BIOLOGICAL RESOURCES

### 4.4.1 Vegetation

#### 4.4.1.1 Proposed Action

The majority of the proposed pipeline preferred route would follow already established and maintained grass covered ROWs. The proposed pipeline easement is 90-ft wide (plus 30-ft temporary easement). A tree count of the easement is located in Appendix C.

#### 4.4.1.2 TRWD Alternative

The majority of the proposed pipeline preferred route would follow already established and maintained grass covered ROWs. The proposed pipeline easement is 90-ft wide (plus 30-ft temporary easement). Segment 5A could potentially impact black willows located along streams 2 and 3 and the drainage ditch/channalized stream in Dutch Branch Park.

Table 3 summarizes segment alternate areas of impact.

**Table 3.** Approximate vegetation impact areas by segment alternates.

Segment Alternatives	Areas of Impact (acres*)	
	Wooded Areas	Grasslands**
1A	2.6	1.1
1B	3.0	1.5
2A	0.0	0.3
2B	0.3	0.0
3A	0.8	17.7
3B	5.0	8.9
4A	0.0	5.4
4B	0.0	5.4
5A	0.0	13.4
5B	0.0	26.7
<b>Total Route A (TRWD)</b>	3.4	37.9
<b>Total Route B (USACE)</b>	8.2	42.5

\*assumes 90-ft ROW plus 30-ft temporary easement

\*\* may include scattered trees accounted for in the tree count

#### 4.4.1.3 No Action

There would be no impacts to vegetation located on government property as a result of the No action Alternative.

#### 4.4.2 Fish and Wildlife Species

##### 4.4.2.1 Proposed Action

The majority of the proposed pipeline alignment follows existing ROWs. Impacts to wildlife and their habitats would be temporary and minimal during construction.

##### 4.4.2.2 TRWD Alternative

The majority of the proposed pipeline alignment follows existing ROWs. Impacts to wildlife and their habitats would be temporary and minimal during construction.

##### 4.4.2.3 No Action

The No Action alternative would not impact any fish and wildlife species on government property. In addition, Impacts to wildlife and their habitats would be temporary and minimal during construction.

#### 4.4.3 Threatened and Endangered Species

##### 4.4.3.1 Proposed Action

The project area does include potential bald eagle habitat, but no nests have been observed in the vicinity of the proposed alignment alternatives. No adverse impacts to the species are expected due to the proposed project.

There is no interior least tern habitat within the project impact area. Therefore, adverse impacts to the species due to the proposed project are not anticipated.

Whooping cranes are only occasional migrants through north central Texas. While migrating whooping cranes could potentially stop to rest and feed along the shores of Benbrook Lake, it is unlikely that the species would use the project impact area for these purposes. Therefore, adverse impacts to the species due to the proposed project are not anticipated.

#### *4.4.3.2 TRWD Alternative*

Impacts to threatened and endangered species with the TRWD would be the same as those impacts explained for the proposed action.

#### *4.4.3.3 No Action*

Impacts to threatened and endangered species with the TRWD would be the same as those impacts explained for the proposed action.

### 4.5 AIR QUALITY

#### *4.5.1 Proposed Action*

Due to the nature of the proposed project, impacts to regional air quality resulting from construction activities, such as dust and exhaust from construction equipment, would be temporary and minimal.

#### *4.5.2 TRWD Alternative*

Due to the nature of the proposed project, impacts to regional air quality resulting from construction activities, such as dust and exhaust from construction equipment, would be temporary and minimal.

#### *4.5.3 No action*

Due to the nature of the proposed project, impacts to regional air quality resulting from construction activities, such as dust and exhaust from construction equipment, would be temporary and minimal.

### 4.6 NOISE

#### *4.6.1 Proposed Action*

The major source of noise associated with the project would occur during the construction phase of the project. Noise associated with project construction is difficult to predict. Heavy machinery, the source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. Generally, noise created from the proposed project would be minimal, short-lived, and would have no adverse environmental effects. Noise generated from the Booster pump station should not be heard from outside the immediate area of the pump facility.

#### *4.6.2 TRWD Alternative*

Noise impacts associated with the TRWD alternative would be the same as those described with

the proposed action.

#### 4.6.3 *No Action*

Noise impacts associated with the TRWD alternative would be the same as those described with the proposed action.

### 4.7 CULTURAL RESOURCES

#### 4.7.1 *Proposed Action*

The construction of the pipeline would adversely affect the prehistoric archeological site buried within Holocene alluvial deposits. It was determined that the site is eligible for inclusion in the National Register of Historic Places

The adverse effects would be mitigated by data recovery excavations prior to pipeline construction. A detailed data recovery plan would be developed in consultation with the State Historic Preservation Officer (SHPO), and implemented with a Memorandum of Agreement signed by the Corps and the SHPO, and provided to the Advisory Council on Historic Preservation.

#### 4.7.2 *TRWD Alternative*

No known cultural sites were identified along the TRWD alternative; however, through surveys were not completed due to the fact that this alternative was not the preferred alternative. If this alternative/route were identified as a preferred route at a later time, more in-depth cultural surveys would be completed.

#### 4.7.3 *No Action*

No known cultural sites were identified along the No Action alternative; however, through surveys were not completed due to the fact that this alternative was not the preferred alternative. If this alternative/route were identified as a preferred route at a later time, more in-depth cultural surveys would be completed.

### 4.8 SOCIOECONOMIC EFFECTS

The TRWD alternative and the USACE alternative would have similar socioeconomic effects. Both are discussed here together.

No residences or businesses would be displaced by the proposed project and no significantly adverse regional economic impacts due to the project are anticipated. Short-term, local employment opportunities may become available as a result of the proposed construction project. Certain project segment alternatives could have temporary effects on recreational facilities:

- Segment Alternate 1B would have minor impacts on a non-play area of the Pecan Valley Golf Course Hole 6 and on the golf course access road adjacent to Hole 6.
- Segment Alternate 2A would impact a small portion of non-play area and the tee box of Hole 17.

- Segment Alternate 3A would impact non-play area of Hole 16 and the tee box of Hole 17 as well as the soccer field parking lot at Winscott Road.
- Segment Alternate 3B would impact non-play areas and the fairways of Holes 16 and 17.
- BPS Alternate 4A would be located adjacent to the soccer field complex at Winscott Road.
- Segment Alternates 5A and 5B would impact portions of the Benbrook Stables either south of the buildings (5A) or north of the buildings (5B).

Impacts to recreational facilities would include temporary disruption of play; nuisance caused by noise and/or dust; and ground disturbing activities.

Aesthetic impacts of the proposed project would largely be limited to the proposed BPS facility (BPS-4A or BPS-4B) and associated storage tanks. Other project elements would either be buried (i.e., the trenched pipeline) or would be located adjacent to existing, similar features. For example, the above-ground portion of the BPS-4B electric power supply line would be located adjacent to an existing above-ground electric power line. While both of the BPS alternatives would be seen in a context of “natural” features and man-made facilities, the location chosen for the proposed BPS would affect the views of each alternative site.

BPS-4A and the associated storage tanks would be located just south of Winscott Road adjacent to the existing soccer field complex and would be clearly visible from the road and from nearby residences. (BPS-4B would be located approximately 1,500 ft south of the roadway and the associated storage tanks would be constructed on the south side of the facility.) Thus, the construction of BPS-4B, the preferred alternative, would minimize aesthetic impacts due to its location farther away from residences and recreational facilities.

Under the No Action Alternative residences or businesses would potentially be displaced by the proposed project if no other feasible route could be identified. Short-term, local employment opportunities may become available as a result of the proposed construction project. The overall cost of the project would be significantly higher than the preferred alternative which could raise the overall cost of water prices for the general consumer even more. Socioeconomic impacts associated with the Booster Pump Station would be the same as the preferred alternative as the booster pump station would have to be located in the same general vicinity.

#### 4.9 RECREATION AND OPENSOURCE

##### *4.9.1 Proposed Action*

Impacts to recreation and open space would be temporary surface impacts. The preferred alternative would temporarily disrupt land use practices at portions of Pecan Valley Golf Course and at Benbrook stables. The preferred location of the booster pump station would remove approximately 17 acres of designated recreation land from use; however, this property is currently located behind the existing security fence that limits public use of the area and there are no current plans to build recreational facilities at this location. In addition, one restroom would

be impacted, but a similar restroom would be replaced on government property at Benbrook Lake.

Impacts to lake recreation activities would continue similar to those experienced today as Tarrant Regional Water District exercises their water supply rights. Drawdowns would continue to prohibit use of some boat ramps during summer months or drought years. Impacts to recreation as a result of the drawdowns were previously disclosed in the Operations and Maintenance EIS prepared in 1977.

#### *4.9.2 TRWD Alternative*

The TRWD alternative would disrupt use of the soccer fields and possibly prevent any future expansion of the complex. Several of the recreational activities located at Dutch Branch Park and at Benbrook Stables would be temporarily disrupted from construction activities. The preferred location of the booster pump station would remove approximately 17 acres of designated recreation land from use; however, this property is currently located behind the existing security fence that limits public use of the area and there are no current plans to build recreational facilities at this location.

Impacts to lake recreation activities would continue similar to those experienced today as Tarrant Regional Water District exercises their water supply rights. Drawdowns would continue to prohibit use of some boat ramps during summer months or drought years. Impacts to recreation as a result of the drawdowns were previously disclosed in the Operations and Maintenance EIS prepared in 1977.

#### *4.9.3 No Action*

There would be no impacts to recreational facilities located on government property as a result of the No Action Alternative.

## **5.0 MITIGATION**

### **5.1 Section 404**

Adverse impacts to waters of the U.S. would be avoided and minimized to the extent practicable. Preconstruction streambed contours would be restored. The need for compensatory mitigation for adverse impacts to waters of the U.S. is not anticipated. Clearing of trees would be avoided and minimized where practical, although the preferred alignment would require removing more trees than the TRWD's preferred route.

### **5.2 Vegetation Mitigation**

A mitigation plan was developed and is enclosed as Appendix D. The plan describes the compensation requirement for adverse environmental impacts caused by construction activities. The plan would be to plant 8.0 acres of woodlands at designated places on Benbrook Lake as per the specifications outlined in the mitigation plan. Grassland impacts would be mitigated onsite as adverse impacts occur.

### 5.3 Recreation Mitigation

All affected recreation facilities on the golf course and at the stables would be replaced or restored back to their original pre-construction condition. This includes the restroom at the golf course, golf holes, fences, and any other recreation facility.

## 6.0 CUMULATIVE IMPACTS

Contact with USACE personnel at Lake Benbrook and other local agencies including TRWD was initiated to determine past, present and reasonably foreseeable future actions at or in the vicinity of the project site.

Past actions at the site include the construction of the lake dam and associated facilities including the water intake structure, maintenance roads, valve and outlet structure, tailrace and the emergency spillway. Numerous roads and trails have been constructed in the project site including Lakeside Drive, Pecan Valley Drive, Cedar Trail, Pecan Valley Circle, Clear Fork Road, Sproles Street, Winscott Road, US Highway 377 as well as golf cart paths associated with Pecan Valley Golf Course. Other past actions within the project vicinity include the construction of the Benbrook Water & Sewer Authority Waterline, Weatherford Pipeline, Pecan Valley Golf Course, a Soccer Field Complex, Benbrook Stables and Dutch Branch Park, which includes numerous recreational activities such as baseball fields, a YMCA facility, a miniature golf course, batting cages and tennis courts. In addition, many residential subdivisions have been constructed adjacent to and around government property at Benbrook Lake and in the general area.

Present actions at the project site include the current operation of all lake facilities and utilization of all the public recreational areas located on USACE property as well as the numerous roads that lie within the general project area.

Future actions at the project site would be the addition of a second 96-inch raw water pipeline that would parallel the proposed pipeline for this project. The easement for the proposed pipeline would be large enough to encompass the proposed pipeline as well as the inclusion of the second pipeline planned for the future. Several residential subdivisions are also being planned for future development.

Since there are no direct or indirect impacts to groundwater, wetlands, and threatened or endangered species, there can be no cumulative impacts from the proposed alternatives. In addition, since there would only be a slight disturbance to soils and surface water during construction and would be returned to its original preconstruction grade, there would be no cumulative impacts to these resources.

### 6.1 BIOLOGICAL RESOURCES

There has been and will continue to be a cumulative adverse impact of the loss of vegetation and fish and wildlife habitat in the immediate general area due to the conversion of rangeland that serves as habitat to residential subdivisions. All present and future projects on government

property would be appropriately mitigated if possible to reduce these cumulative impacts.

## 6.2 AIR QUALITY

All alternatives would have a temporary and minimal adverse cumulative impact on air quality during construction activities from exhaust from the construction equipment and increased particulate matter from soil disturbance.

## 6.3 NOISE

No alternative should have a cumulative impact of increased noise pollution. There are no other projects identified that would be constructed in the immediate vicinity and at the same time of the proposed project and noise is a very site specific impact limited to the immediate vicinity of the project.

## 6.4 CULTURAL RESOURCES

There would not be a cumulative impact to cultural resources because the adverse effects would be mitigated by data recovery excavations prior to pipeline construction. The mitigation plan would cover the proposed and the future pipeline that is proposed.

## 6.5 SOCIOECONOMIC EFFECTS

There could be a temporary cumulative benefit to the immediate area as money would be expended in the local community and there is possibility of increase employment as all of the projects of others and the proposed alternative would be implemented. However, this impact would be temporary in nature.

## 6.6 RECREATION AND OPENSOURCE

There would not be a cumulative adverse impact to recreation as a result of implementing any of the alternatives as most recreation facilities are public owned and would not be impacted by the projects of others. There could however be a cumulative benefit if the projects of others, mainly the subdivisions, implement additional recreational facilities.

There would be a cumulative adverse impact of a reduction of open space since projects of others would increase impervious cover as would the proposed alternative.

## **7.0 PERMITS**

### 7.1 CLEAN WATER ACT – NATIONAL POLLUTION DISCHARGE ELIMINATION STORM WATER REQUIREMENTS

#### 7.1A STORM WATER REQUIREMENTS FOR CONSTRUCTION ACTIVITY

Some of the storm water runoff from this proposed construction would flow into the Clear Fork Trinity River below Benbrook Dam (segment number 0829) and a small, unnamed tributary of the river as well as into two small intermittent streams and a formerly channelized stream/drainage ditch which drain into Benbrook Lake (segment number 0830) (see Appendix B - Attachments 2-A through 2-F).

Best Management Practices (BMPs) would be utilized during construction for temporary erosion and sedimentation control. Where appropriate, BMPs such as silt fences, rock berms, and interceptor swales would be in place prior to the initiation of construction and would be maintained throughout the duration of the construction. Clearing of vegetation would be limited and/or phased in order to maintain a natural water quality buffer and minimize the amount erodible earth exposed at any one time. Upon completion of the construction activities, disturbed areas would be restored and vegetative cover re-established.

The construction contractor would be required to take appropriate measures to prevent, minimize, and control spills of fuels, lubricants, and hazardous materials in the construction staging area. All spills, including those of less than twenty-five gallons, would be cleaned up immediately and any contaminated soil would be removed from the site and disposed of properly. Designated areas would be identified for spoils disposal and materials storage. These areas would be protected from run-on and run-off. The use of construction equipment within the stream channels would be minimized. All construction equipment and materials used within the stream channels and immediate vicinity would be removed as soon as the work schedule permitted and/or when not in use and would be stored in an area protected from run-on and run-off. All materials being removed and/or disposed of by the contractor would be handled in accordance with state and federal laws. The contractor would be required to practice good housekeeping measures and grade management techniques throughout construction of the proposed project.

Because this project would disturb more than one acre, the contractor would be required to comply with the TCEQ – Texas Pollutant Discharge Elimination System General Permit for Construction Activity. Project disturbances would exceed five acres; therefore, it would be necessary to file a Notice of Intent (NOI) with the TCEQ. The contractor would have to prepare a Storm Water Pollution Prevention Plan (SWP3) and have it in place at least 48 hours prior to and during construction of proposed project. Impacts would be minimized by limiting work by construction equipment directly in the stream channels and/or adjacent areas as much as practical. No long-term water quality impacts are expected as a result of the proposed project. A Notice of Termination (NOT) would be filed once the site has reached final stabilization.

Water quality impacts associated with construction would be minimized by employing erosion control, sedimentation control, and post-construction total suspended solids (TSS) control BMPs under the TCEQ Section 401 Water Quality Certification Conditions for Nationwide Permits (see Attachment 3). At least one erosion control BMP as specified would be implemented and maintained until construction were complete. Erosion control BMPs to be used could include temporary vegetation, blankets/matting, mulch, sod, interceptor swales, and diversion dikes. In addition, at least one sedimentation control BMP would be maintained and remain in place until completion of the project. Sedimentation control BMPs could include sand bag berms, silt fences, triangular filter dikes, rock berms and hay bale dikes, brush berms, stone outlet

sedimentation traps, or sediment basins. Finally, at least one post-construction TSS control BMP would be implemented upon completion of the project. Post-construction TSS control BMPs could include retention/irrigation, extended detention basins, vegetative filter strips, constructed wetlands, wet basins, vegetation lined drainage ditches, grassy swales, and sand filter systems.

#### 7.1B POINT SOURCE DISCHARGES

No point source discharges are proposed for this project.

#### 7.2 CLEAN WATER ACT – PROTECTION OF WETLANDS, EO 11990 AND SECTION 404

No wetlands, as defined in the USACE 1987 Wetland Delineation Manual, were observed within the proposed project area; therefore no impacts to wetlands are expected. Approximately 0.5 acres of waters of the U.S., including the Benbrook Lake tailrace, the old Clear Fork Trinity River channel, an unnamed tributary of the river, and two small unnamed streams and the previously channalized stream/drainage ditch in Dutch Branch Park would be impacted temporarily by construction of the proposed pipeline. The USACE Nationwide Permit 12 (*NWP 12 - Utility Line Activities*) has been used to authorize this project as well as the remainder of the project off of government property. NWP 12 authorizes “activities required for the construction, maintenance, and repair of utility lines and associated facilities in waters of the U.S.,...provided there is no change in preconstruction contours.” The proposed project would be designed and constructed according to the terms and conditions of NWP 12. Preconstruction notification (PCN) of the USACE would be required if any of the following criteria were met:

- a) Mechanized clearing in a forested wetland for the utility line ROW;
- b) A Section 10 Permit is required;
- c) The utility line in waters of the U.S., excluding overhead lines, exceed 500 ft;
- d) The utility line is placed in a jurisdictional area (i.e., water of the U.S.) and it runs parallel to a stream bed that is within that jurisdictional area;
- e) Discharges associated with the construction of utility line substations that result in the loss of greater than 1/10 acre of waters of the U.S. (see Table 2);
- f) Permanent access roads constructed above grade in waters of the U.S. for a distance of more than 500 ft; or;

Because none of these conditions apply to the proposed project, no PCN was required for coverage under NWP 12.

## **8.0 FINDINGS AND CONCLUSIONS**

The proposed alternatives for the Waterline Easement have been evaluated in this EA. No significant impacts to the human environment are identified from the implementation of the proposed action. Identified mitigation requirements would offset vegetation damages. There is no habitat for threatened or endangered species noted on the subject property. The alignment along Winscott Road would be established as a Utility Corridor where future easement requests would be concentrated to reduce environmental impacts.

Taking into account the findings of this section, an Environmental Impact Statement (EIS) would not be necessary. Accordingly, a Finding of No Significant Impact (FONSI) was prepared for the selected action. Upon conclusion of the 30-day public review the easements located in Appendix E would be granted, if no major comments are received that affect this decision.

## **9.0 PUBLIC INVOLVEMENT**

### **9.1 AGENCY COORDINATION**

This section discusses consultation and coordination that would occur during preparation of this document. This includes contacts made during development of the proposed action, other alternatives considered, and writing of the EA. Copies of agency coordination letters are presented in Appendix F. Formal and informal coordination would be conducted with the following agencies:

- U.S. Army Corps of Engineers (USACE, Fort Worth District),
- State Historic Preservation Office (SHPO),
- U.S. Fish and Wildlife Service (USFWS),
- Federal Environmental Protection Agency (EPA), Region 6 Office
- Texas Parks and Wildlife Department (TPWD), and
- Texas Natural Resource Conservation Commission (TNRCC)

Letters were received from USFWS and TPWD suggesting mitigation requirements. Revised mitigation requirements are outlined in Chapter 5 of this document. USFWS was coordinated with while developing the proposed mitigation plan.

### **9.2 PUBLIC INFORMATION AND REVIEW**

In accordance with NEPA, a 30-day review period of the previous draft EA was provided via a Notice of Availability in the local newspapers and a local mailing (Appendix G). No comments by the general public were received during the public comment period.

## 10.0 REFERENCES

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- United States Army Engineering District. 1981. Preliminary Environmental Impact Assessment, Contracting Balance of Navigation Storage in Benbrook Lake.

**APPENDIX A  
LOCATION MAP**

**APPENDIX B**  
**ROUTE ALTERNATIVES**

**APPENDIX C**  
**TRWD TREE COUNT**

**APPENDIX D  
MITIGATION PLAN**

**APPENDIX E**  
**REAL ESTATE EASEMENTS**

**APPENDIX F**  
**AGENCY COORDINATION**

**APPENDIX G**  
**PUBLIC INVOLVEMENT**

