



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

Public Notice

Applicant: Shot Stream, LLC

Permit Application No.: SWF-2017-00034

Date: August 4, 2017

The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

Regulatory Program

Since its early history, the U.S. Army Corps of Engineers has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the U.S. Army Corps of Engineers Regulatory Program.

Section 10

The U.S. Army Corps of Engineers is directed by Congress under Section 10 of the Rivers and Harbors of 1899 (33 USC 403) to regulate *all work or structures in or affecting the course, condition or capacity of navigable waters of the United States*. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

Section 404

The U.S. Army Corps of Engineers is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the *discharge of dredged and fill material into all waters of the United States, including wetlands*. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

Contact

Name: Mr. Brent Jasper

Phone Number: (817) 886-1733

JOINT PUBLIC NOTICE
U. S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT
AND
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUBJECT: Application for a Department of the Army Permit under Section 404 of the Clean Water Act (CWA) and for water quality certification under Section 401 of the CWA to discharge dredged and fill material into waters of the United States associated with the expansion of Dallas Hunting & Fishing Club (DHFC) in Dallas County, Texas.

APPLICANT: Shot Stream LLC
 6065 Sherry Lane
 Dallas, Texas 75229

APPLICATION NUMBER: SWF-2017-00034

DATE ISSUED: August 4, 2017

LOCATION: The DHFC is located on an approximately 735-acre property in southeast Dallas County, Texas, generally bound by the Dowdy Ferry Road and the Trinity River to the west and south, and the City of Dallas South Side Wastewater Treatment Plant levee to the east (**Sheet 1** and **Sheet 2 of 18**) at latitude 32.649° and longitude —96.668°. The site is mapped on the 7.5-minute USGS quadrangle map, Hutchins, Texas. The site is in USGS Hydrologic Unit 12030105 (Upper Trinity).

OTHER AGENCY AUTHORIZATIONS: Section 401 State Water Quality Certification

PROJECT DESCRIPTION: The Applicant would discharge approximately 60,000 cubic yards of dredged and fill material into approximately 268 acres of waters of the U.S. in conjunction with the construction of proposed levee improvements designed to ensure the continued use and function of the existing DHFC. Impacts would occur to 238 acres of open water and approximately 30 acres of scrub shrub wetlands. Aquatic features on the DHFC consist of tiered two-lake system. The proposed project would restore and existing structural components and enhance certain aquatic features. The Applicant's goal is to preserve, enhance, and maintain hunting and fishing recreational opportunities on the DHFC, which was first chartered in 1885. The date of lake construction is unclear, however, two lakes appeared on aerial photography as early as 1952.

As a century-old hunting and fishing club, the project site characteristics have remained virtually unchanged. The existing property consists of a scattering of member cabins, interior access roads, and boat docks. A jurisdictional determination dated September 2016, was prepared for this project site. The two open water lakes (both impoundments of Prairie Creek) are the most prominent features and, combined with two smaller open water features, total approximately 268 acres. Several wetland types occur on-site including buttonbush (*Cephalanthus occidentalis*) scrub shrub (60.25 acres); cattail (*Typha latifolia*) lacustrine fringe (20.44 acres); forested/scrub shrub lacustrine fringe (20.26 acres); green ash (*Fraxinus pennsylvanica*) forested wetlands (9.22 acres); and green ash mosaic wetlands (24.50 acres). Two ephemeral tributaries are present downstream of the two lakes (**Sheets 3-7 of 18**).

The south lake levee has become structurally compromised over time due to erosive forces of the Trinity River. The applicant proposes to reinforce and stabilize the levee to preserve and maintain the lake and wetlands. Additionally, the central levee (between the two lakes) exhibits seepage and requires reinforcement. To construct the levee improvements, the two lake system would be temporarily drained to facilitate mobilization of construction equipment and to allow the lakebed borrow material to be utilized in the reinforcement. Levee improvements along the down gradient slope would consist of the discharge of fill material creating a 4:1 slope to reinforce the levee structure. Levee improvements along the up gradient slope would consist of the discharge of fill material creating a shallow water shelf extending 150 feet into Gaston Lake. The applicant also proposes to enhance existing fish and wildlife habitat to improve hunting and fishing recreational opportunities. To minimize disruption to the DHFC member's activities, and meet the project's stated need, the Applicant proposes to complete the proposed levee repairs and the habitat enhancements simultaneously. Once drained, the Applicant proposes to grade the south lake, canals, flood control structures, berms, mounds, and potholes to convert these areas from un-vegetated open water to seasonally-flooded emergent wetland. The Applicant will utilize the new infrastructure to conduct a series of floods and draw-downs throughout the year in conjunction with seeding, tree planting, natural plant succession, and targeted control of invasive species, to emulate natural floodplain processes and improve forage habitat for wildlife.

The Applicant proposes to re-contour the north lake bottom to enhance topographic complexity, and provide structure for improved fish habitat. Additionally, portions of the lake (including the areas immediately adjacent to the levee, as well as the far north (up-gradient portions of the lake) will be re-graded to create more seasonally flooded emergent wetlands. Beyond the limits of the lakes, the Applicant is proposing minor grading activities to hydrologically connect a series of isolated gravel pit wetlands, as well as minor grading (to be conducted outside of wetland limits) to facilitate a longer hydroperiod in a series of riverine wetlands down-gradient from the south lake. The proposed project would result in no permanent loss of waters of the United States, only temporary impacts. However, approximately 135 acres of open water will be converted to seasonally-flooded emergent wetland.

Proposed activities within an area identified as Sometimes Slough, include minor grading to allow certain portions of the area to retain shallow water for longer periods of time and selective understory vegetation clearing (to be done by hand or hydro-ax mulcher) will be conducted to allow for improved growth in the herbaceous strata. Grading impacts would occur as a result of construction of two small berms (± 3 feet) strategically placed to prolong retention of water during overbank events. These berms would be constructed on uplands within the forested wetland/upland mosaic area and would not result in the loss of forested wetlands. Additionally, 0.05 acre of temporary impacts to the open water habitat within this area are anticipated during the installation of the proposed gate valve structure that would allow controlled flooding of the Sometimes Slough from the Trezevant Marsh area. Utilizing the gate valve, the area would be fully inundated (approximately one to three feet deep) from November through March, then drawdowns would occur throughout April to allow for germination of the native seed bank. From April through October, light floods may be conducted to maintain saturated soil conditions and to keep out non-preferential or invasive species. This area is not targeted for any proposed seeding or planting, however, in the event that the native seed bank does not provide optimal growth, targeted seeding may be used in the future.

The Trezevant Marsh complex contains the most significant modifications to waters of the United States within the overall DHFC project area. Proposed work within this complex includes reinforcing the lake side of the levee (in the vicinity of two breaches) with soil excavated from the lake bottom, and creating a series of canals, mounds, and berms within the existing lake bed, and dividing the lake into four managed units. Earthen levee reinforcement and re-contouring of the lake bottom are also proposed. The levee reinforcement would be graded to facilitate a gradual slope back to the lacustrine fringe wetland areas. Impacts to the lacustrine fringe wetlands would be temporary and resulting from disturbance of vegetation and some slight increases in elevations within the wetland areas (± 2 feet). However, based on current conditions and the proposed management plan, it is anticipated that these areas will revert to emergent wetland condition upon completion of construction.

Upon completion of site grading, the newly constructed four-chamber lake would be managed as four distinct units. Utilizing the gate valve, the chambers would be fully inundated (approximately one to two feet deep) from November through March, then drawdowns would be conducted in April to allow for germination of the native seed bank. From April through October, light floods may be conducted to maintain saturated soil conditions and to keep out non-preferential or invasive species. In addition to promoting re-growth of the native seed bank, targeted planting of bare-root plants and seeding will be utilized throughout the four-chambered system. Also, approximately 100 bare-root bald cypress (*Taxodium distichum*) saplings will be planted along the edges of the mounds and berms within the Trezevant Marsh chambers. Ultimately, the proposed improvements are intended to convert the majority of the open water habitat (except the central drainage canal) within the Trezevant Marsh complex to seasonally flooded emergent wetland.

Proposed improvements to the Borrow Pit Wetlands complex include minimal work within waters of the United States. The Applicant proposes to connect three currently isolated pits by re-contouring the berms surrounding the pits. Ultimately, this would result in minor temporary impacts to the fringes of these wetlands during construction, but no permanent loss of aquatic function is anticipated. In addition to re-contouring the berms surrounding this complex, the Applicant proposes constructing a drainage channel (entirely in upland areas) from Gaston Lake to the Borrow Pit Wetland Complex. Upon completion of the canal, gate valves would be installed allowing the Applicant to manage this complex as previously described for other areas. Pre-and-post project wetland limits within this complex would be similar, but it is anticipated that connecting the three pits would increase wetland acreage slightly.

The Gaston Lake complex improvements include dredging and re-contouring the lake bottom, reinforcing the existing levee between the north (Gaston) and south (Trezevant) lakes and installing a new gate valve structure (replacing the faulty existing valve), creating a large shallows area along the existing levee, and creating two managed units in the northern portions of the lake.

The lake would be drained to the extent necessary to allow for the proposed work to proceed. The levee reinforcement would include stepped grading to create a broad lacustrine fringe wetland area where approximately 40 bare-root bald cypress trees will be planted along with targeted seeding of herbaceous species where necessary. The lake bottom would be re-contoured to create a series of mounds, channels, and potholes. In conjunction with the re-contouring effort, vertical log structures, brush piles, and riprap would be installed throughout the lakebed. These improvements are intended to create subsurface topographic complexity and structure (which are virtually absent) to improve fish habitat.

The northern limits of the Gaston Lake complex would be converted to emergent wetland in a similar manner to the Trezevant Marsh system. The lake bed would be re-contoured to include two successive berms and an elevated lake bottom, thereby creating two additional managed units. The berms would be located and sized in a manner to allow water level changes in Gaston Lake (associated with the flooding and drawdowns in Trezevant Marsh) to influence the water levels within the units. Planting/seeding is not planned at this time but may be implemented in the future depending on successful germination of the native seed bank and control of undesirable species.

ALTERNATIVE SITE LOCATIONS AND ALTERNATIVE LAYOUTS: The Applicant believes that the proposed action is water-dependent based on the defined need and purpose. Given the existing conditions, the necessary maintenance on the existing lake levees/berms at a minimum must involve work in waters of the United States, including wetlands. The Applicant believes that consideration of alternative geographic locations is not practicable, and considered only the No Action Alternative. The USACE has not evaluated the Alternatives Analysis prepared by the Applicant.

NO ACTION ALTERNATIVE: The No Action Alternative represents what would happen at the property were the Applicant's preferred alternative not implemented. Under the No Action Alternative, all existing aquatic features would remain in their current state. Subsequent overbank flood events of the Trinity River could continue to erode into the property, potentially draining the southern lake. Over time, these continued erosive forces will continue to threatening the levee situated between the two lakes. Further degradation of these components may jeopardize the continued operation of a hunting and fishing club.

The No Build Alternative does not address the project need or purpose, and from the Applicant's perspective, is therefore not practicable. The Applicant further argues that the proposed alternative, over the life of the project, provides enhancements to the aquatic environment thereby making it less damaging to the No Action Alternative. The Applicant believes the proposed alternative is both the least damaging and only practicable alternative, and therefore is the least environmentally damaging practicable alternative.

PUBLIC INTEREST REVIEW FACTORS: This application will be reviewed in accordance with 33 CFR 320-331, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concerns for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including its cumulative effects. Among the factors addressed are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE in determining whether to issue; issue with modifications or conditions; or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

STATE WATER QUALITY CERTIFICATION: This project would result in a direct impact of greater than three acres of waters of the state or 1,500 linear feet of streams (or a combination of the two is above the threshold), and as such would not fulfill Tier I criteria for the project. Therefore, Texas Commission on Environmental Quality (TCEQ) certification is required. Concurrent with USACE processing of this Department of the Army application, the TCEQ is reviewing this application under Section 401 of the Clean Water Act, and Title 30, Texas Administrative Code Section 279.1-13 to determine if the work would comply with State water quality standards. By virtue of an agreement between the USACE and the TCEQ, this public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, PO Box 13087, Austin, Texas 78711-3087. The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of the work is made available for review in the TCEQ's Austin Office. The complete application may be reviewed in the USACE's office. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requestor, or of persons represented by the requestor; and a brief description of how the application, if granted, would adversely affect such interest.

ENDANGERED AND THREATENED SPECIES: The USACE has reviewed the U.S. Fish and Wildlife Service's latest published version of endangered and threatened species to determine if any may occur in the project area. The proposed project would be located in Dallas County, where the whooping crane (*Grus americana*), piping plover (*Charadrius melodus*), interior least tern (*Sterna antillarum*), black-capped vireo (*Vireo atricapilla*), red knot (*Calidris canutus rufa*), and golden-cheeked warbler (*Dendroica chrysoparia*) are known to occur or may occur as migrants. The whooping crane, interior least tern, black-capped vireo, and golden-cheeked warbler are listed as an endangered species. The piping plover and red knot are listed as threatened species. Our initial review indicates that the proposed work would have no effect on federally-listed endangered or threatened species.

NATIONAL REGISTER OF HISTORIC PLACES: The USACE has reviewed the latest complete published version of the National Register of Historic Places and found no listed properties to be in the project area. However, presently unknown scientific, archaeological, cultural or architectural data may be lost or destroyed by the proposed work under the requested permit.

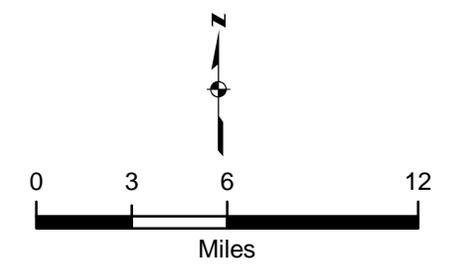
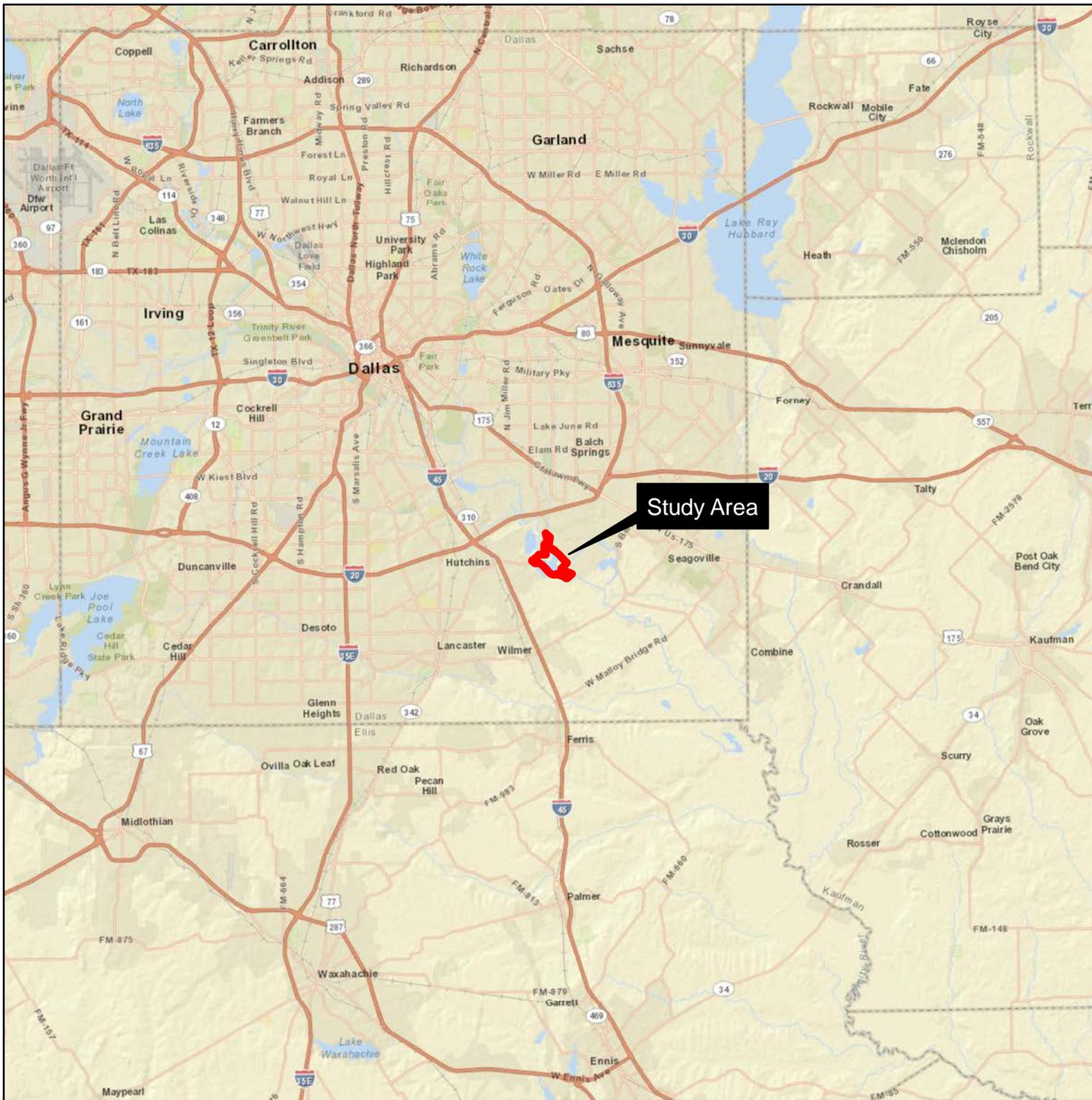
FLOODPLAIN MANAGEMENT: The USACE is sending a copy of this public notice to the local floodplain administrator. In accordance with 44 CFR part 60 (Flood Plain Management Regulations Criteria for Land Management and Use), the floodplain administrators of participating communities are required to review all proposed development to determine if a floodplain development permit is required and maintain records of such review.

SOLICITATION OF COMMENTS: The public notice is being distributed to all known interested persons in order to assist in developing fact upon which a decision by the USACE may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition.

PUBLIC HEARING: Prior to the close of the comment period any person may make a written request for a public hearing setting forth the particular reasons for the request. The District Engineer will determine whether the issues raised are substantial and should be considered in his permit decision. If a public hearing is warranted, all known interested persons will be notified of the time, date, and location.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before September 5, 2017, which is the close of the comment period. Extensions of the comment period may be granted for valid reasons provided a written request is received by the limiting date. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to: Mr. Brent Jasper; Regulatory Division, CESWF-DE-R; U. S. Army Corps of Engineers; Post Office Box 17300; Fort Worth, Texas 76102-0300. You may visit the Regulatory Division in Room 3A37 of the Federal Building at 819 Taylor Street in Fort Worth between 8:00 A.M. and 3:30 P.M., Monday through Friday. Telephone inquiries should be directed to (817) 886-1733. Please note that names and addresses of those who submit comments in response to this public notice may be made publicly available.

DISTRICT ENGINEER
FORT WORTH DISTRICT
CORPS OF ENGINEERS



Legend

 Study Area

Notes:

1. Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013
- 2.
- 3.
- 4.
- 5.

Project Title: Dallas Hunting and Fishing Club

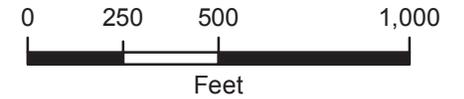
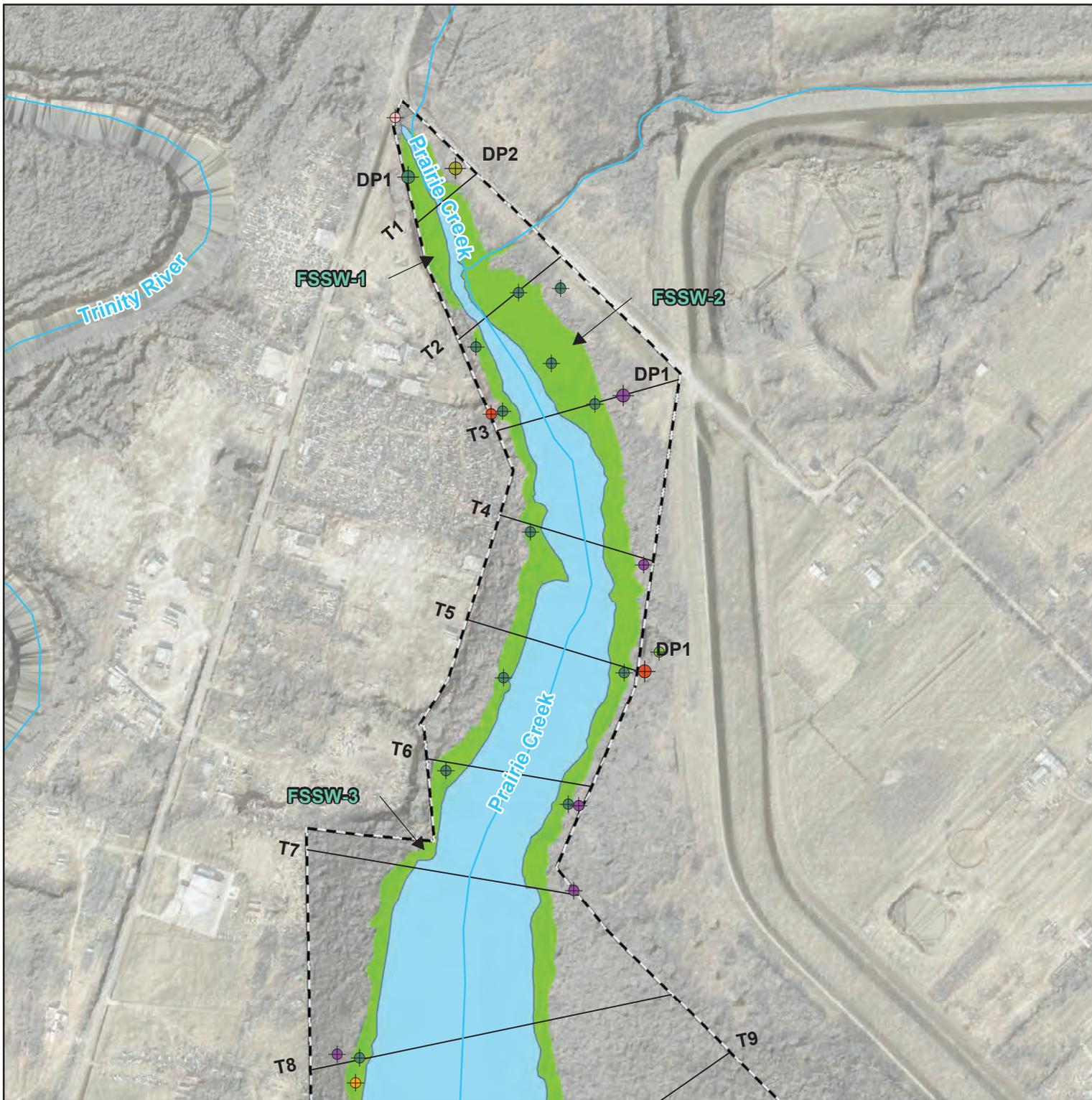
Project Number: SWF-2017-00034

Date: 08/2016 AVO: 31867

Sheet Title: PROJECT LOCATION MAP

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Legend

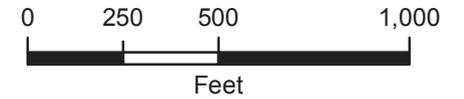
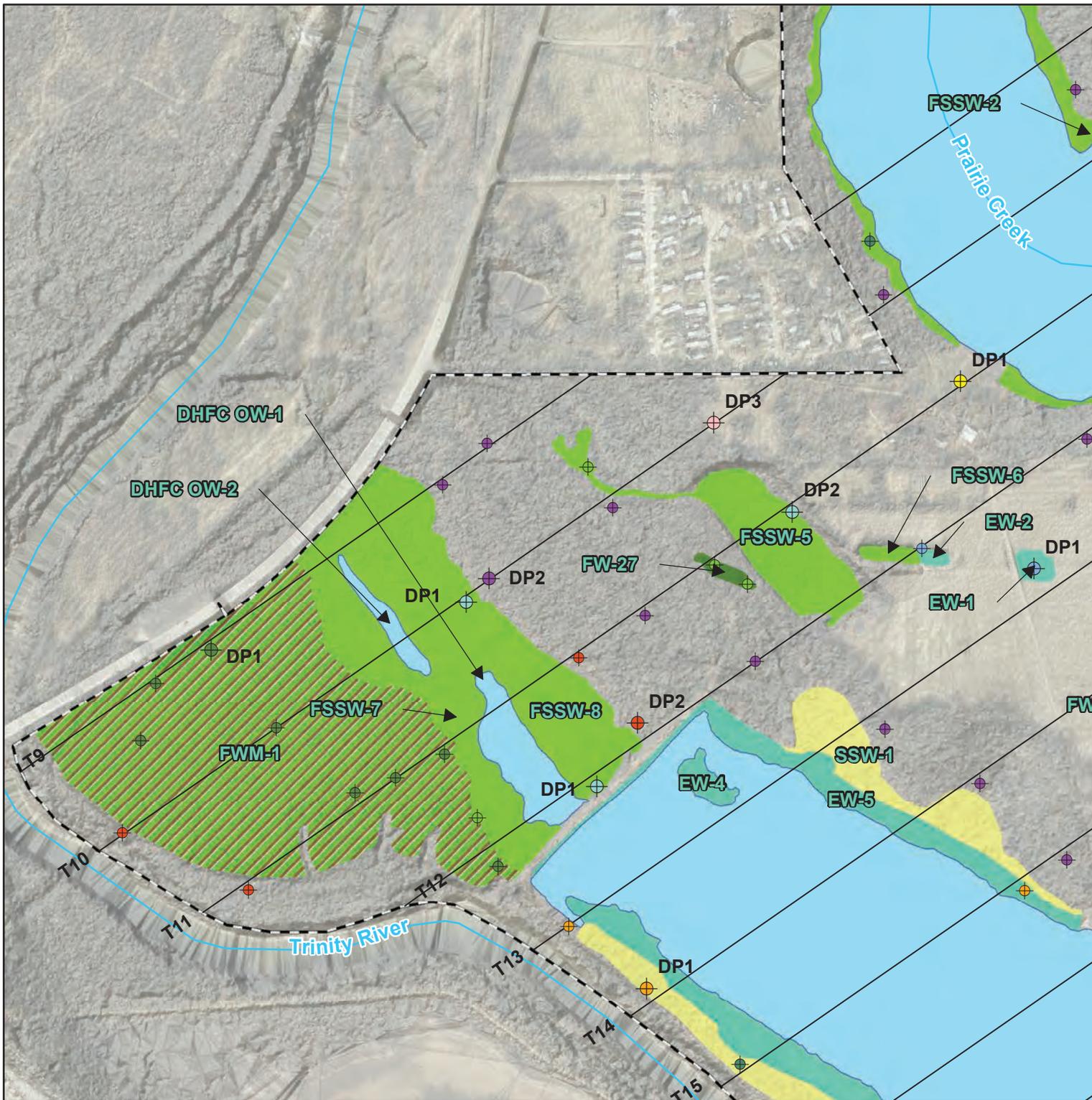
- USGS NHD Stream Centerlines
- Transects
- Study Area
- EMERGENT WETLAND
- EPHEMERAL STREAM
- FORESTED WETLAND
- FORESTED WETLAND MOSAIC
- FORESTED/SCRUB SHRUB WETLAND
- OPEN WATER
- SCRUB SHRUB WETLAND



Project Title: Dallas Hunting and Fishing Club
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 Date: 09/2016 AVO: 31867
 Sheet Title: AQUATIC FEATURES MAP

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Legend

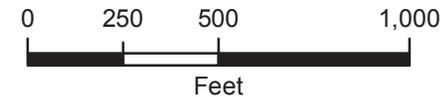
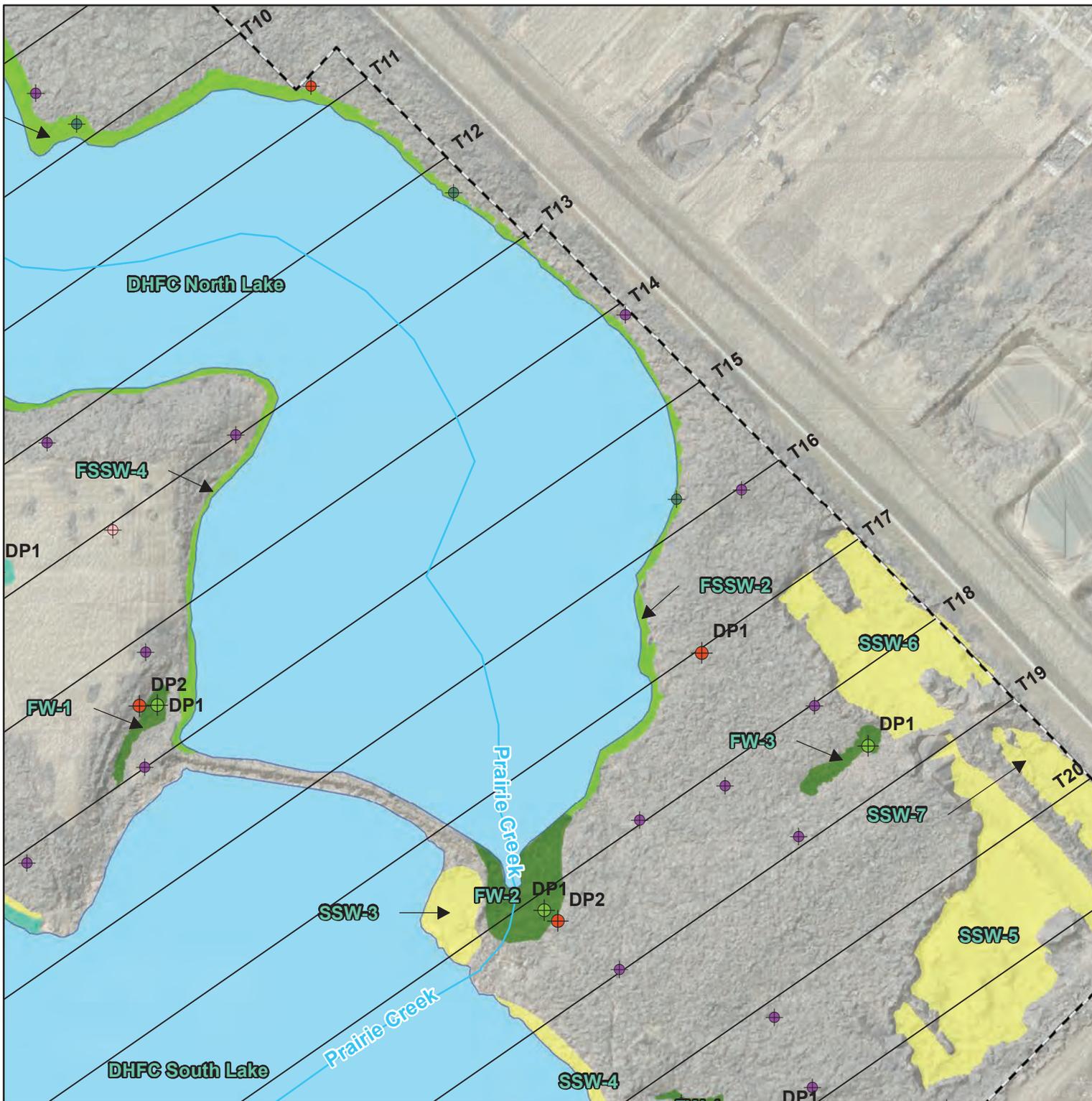
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Project Title: Dallas Hunting and Fishing Club
 Project Number: SWF-2017-00034
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 Sheet Title: AQUATIC FEATURES MAP

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Legend

- USGS NHD Stream Centerlines
- Transects
- Study Area
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Project Title: Dallas Hunting and Fishing Club

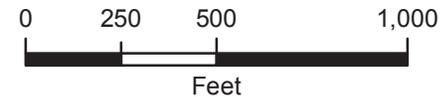
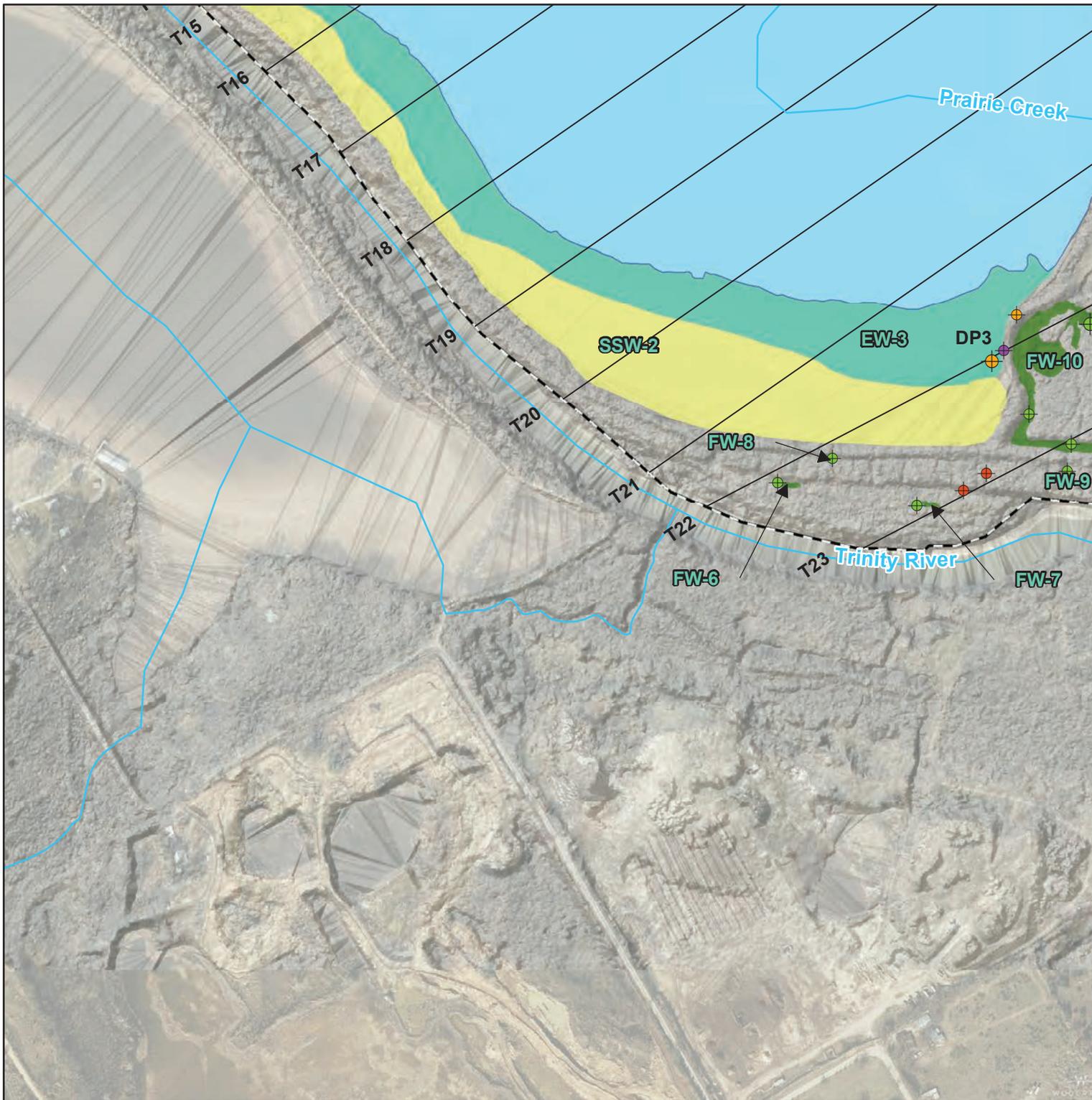
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Sheet Title: AQUATIC FEATURES MAP

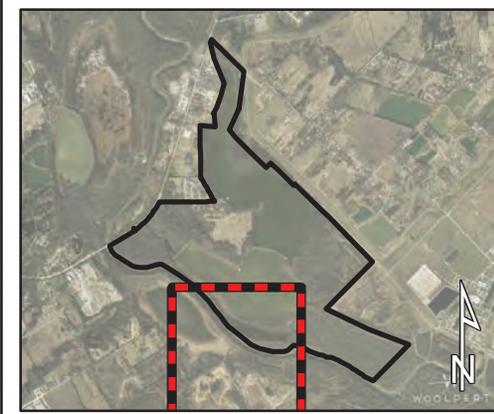
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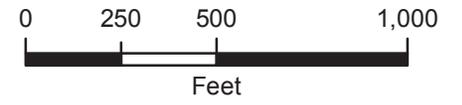
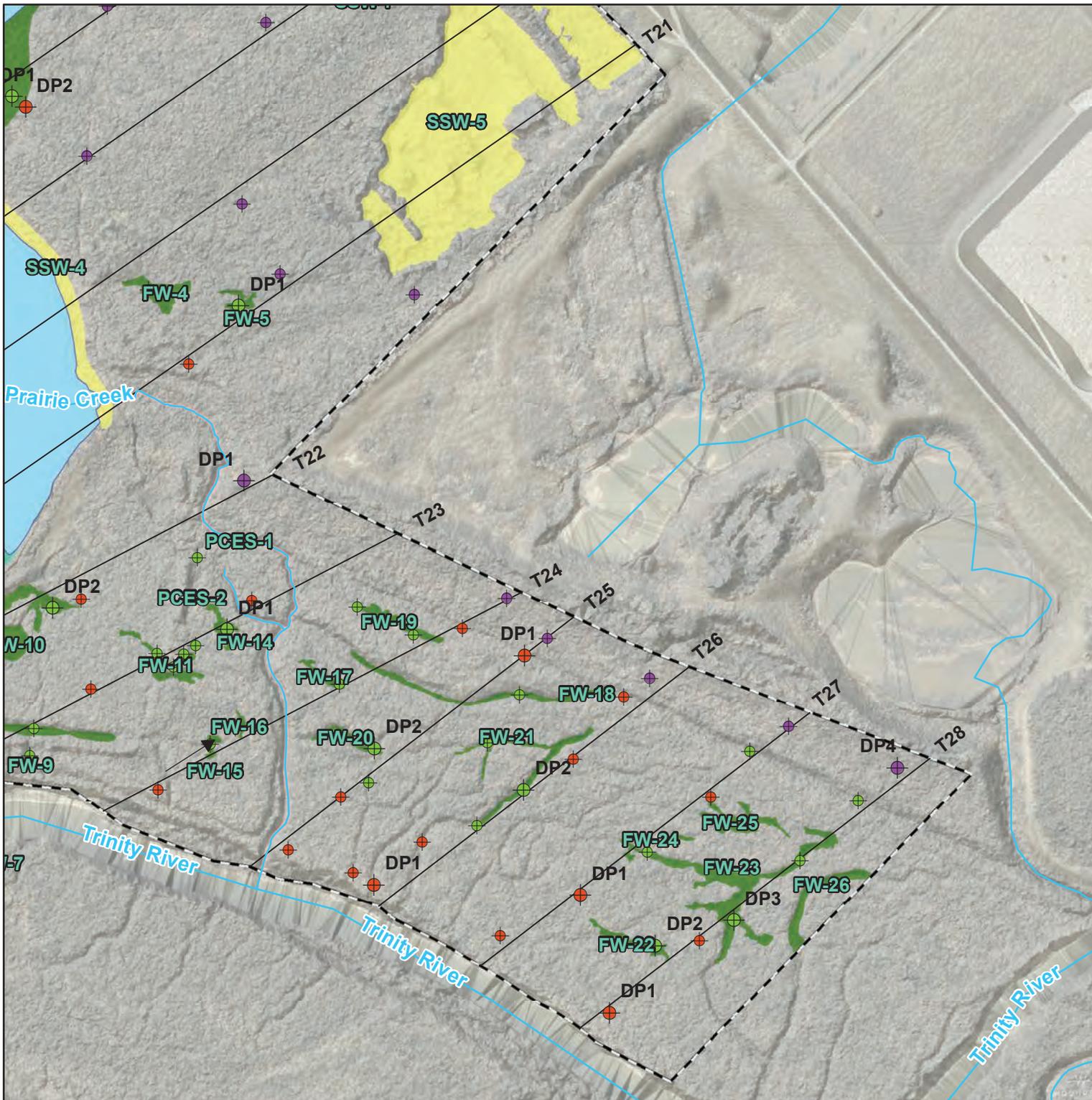


Legend

- USGS NHD Stream Centerlines
- Transects
- Study Area
- EMERGENT WETLAND
- EPHEMERAL STREAM
- FORESTED WETLAND
- FORESTED WETLAND MOSAIC
- FORESTED/SCRUB SHRUB WETLAND
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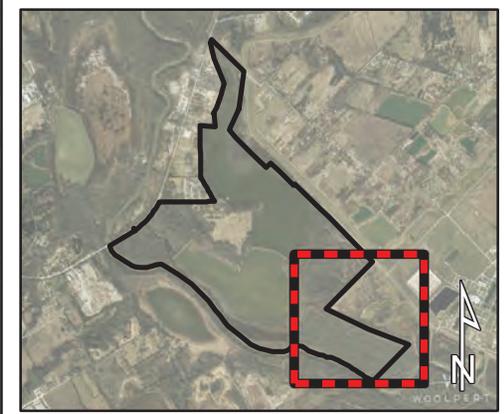


Project Title: Dallas Hunting and Fishing Club	
Project Number: SWF-2017-0034	
Date: 09/2016	AVO: 31867
Sheet Title: AQUATIC FEATURES MAP	
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Legend

- USGS NHD Stream Centerlines
- Transects
- Study Area
- EMERGENT WETLAND
- EPHEMERAL STREAM
- FORESTED WETLAND
- FORESTED WETLAND MOSAIC
- FORESTED/SCRUB SHRUB WETLAND
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Project Title: Dallas Hunting and Fishing Club

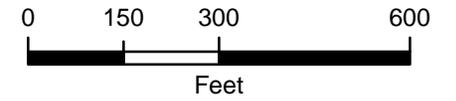
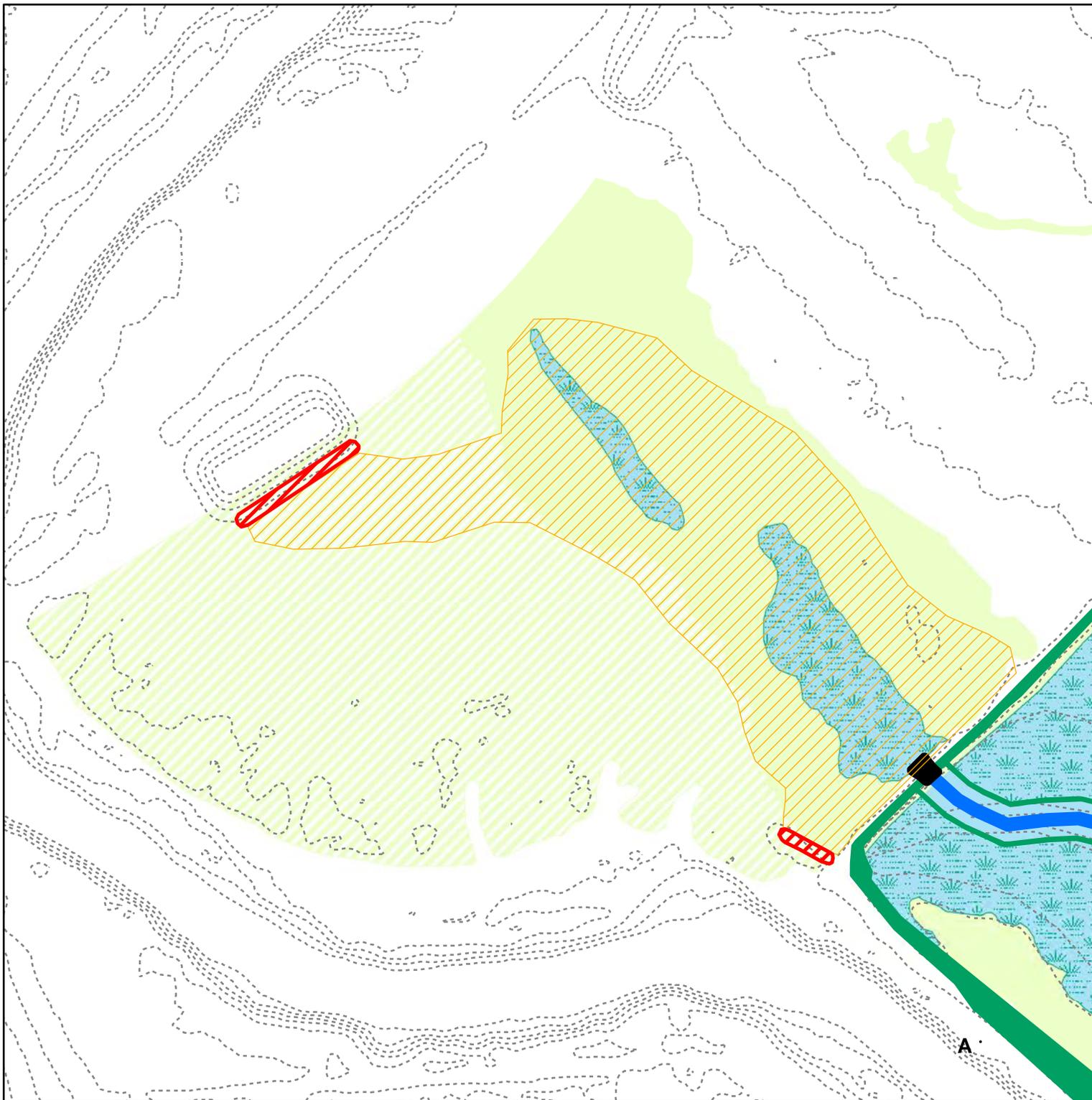
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Sheet Title: AQUATIC FEATURES MAP

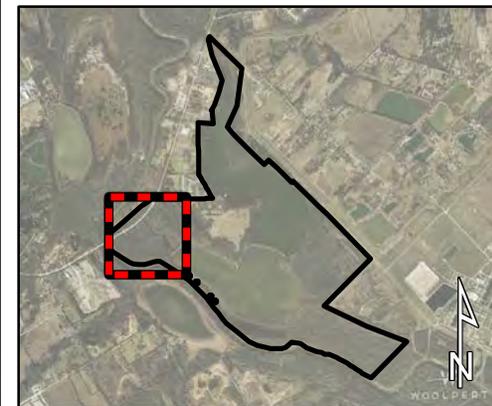
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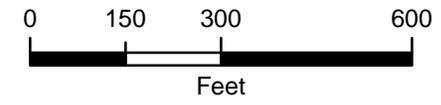
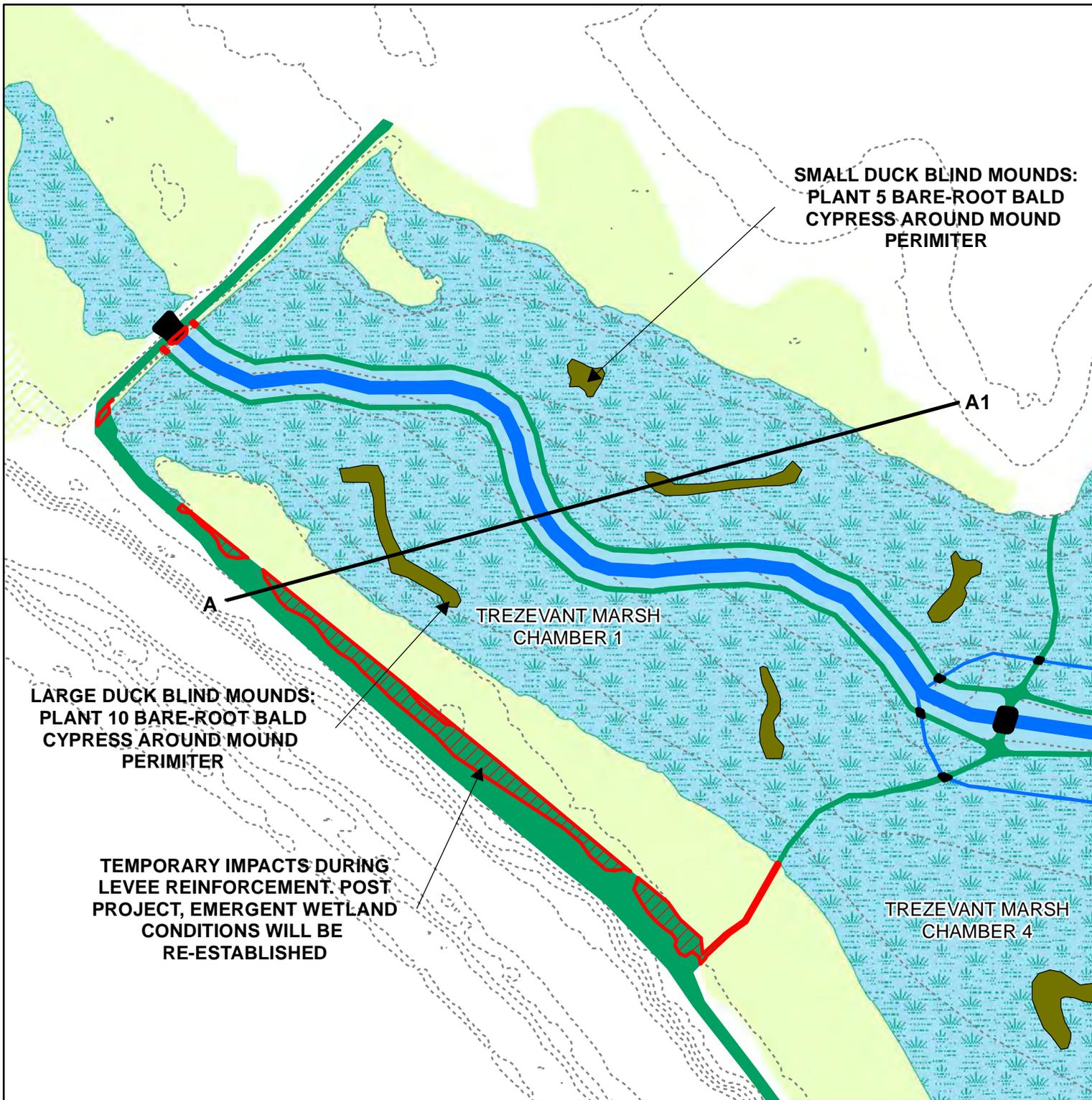


Legend

 Gate Valve Structure	 Existing Contour
 Levee Vegetated	 Proposed Wetland
 Levee (Gravel Road)	 Appx. Berm Location
 Drainage Canal	 Selective Vegetation Clearing
 Mounds	
 Existing Wetland	
 Existing Wetland Mosaic (50/50)	
 Existing Open Water	

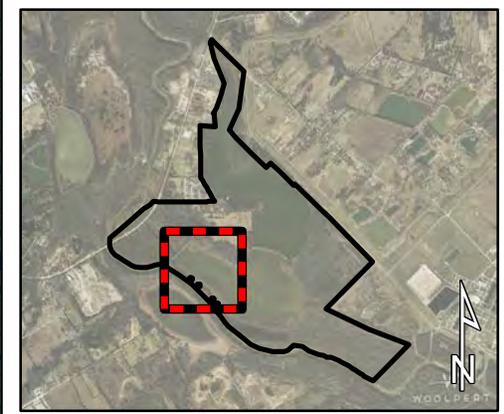


Dallas Hunting and Fishing Club	
Project Number: SWF-2017-00034	
Date: 04/2017	AVO: 31867
Sometimes Slough	
Aquatic Habitat Enhancement Plan	
Sheet 8 of 18	
	



Legend

Gate Valve Structure	Existing Contour
Levee Vegetated	Proposed Wetland
Levee (Gravel Road)	Temporary Impacts
Drainage Canal	
Mounds	
Existing Wetland	
Existing Wetland Mosaic (50/50)	
Existing Open Water	



Dallas Hunting and Fishing Club

Project Number: SWF-2017-00034

Date: 04/2017 AVO: 31867

Trezevant Marsh - Chamber 1
Aquatic Habitat Enhancement Plan

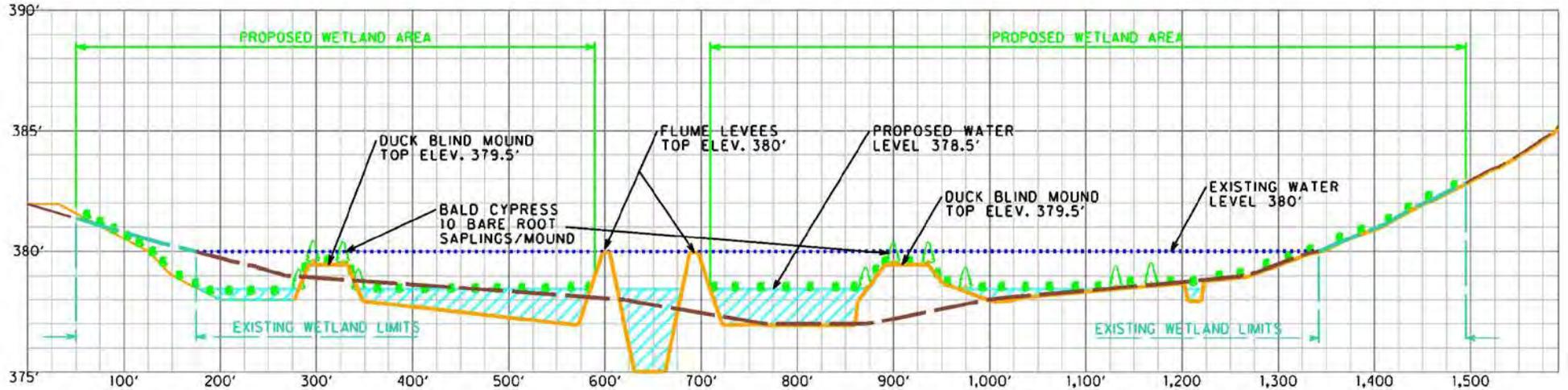
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PROFILE A - A1

A

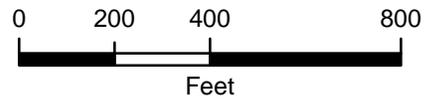
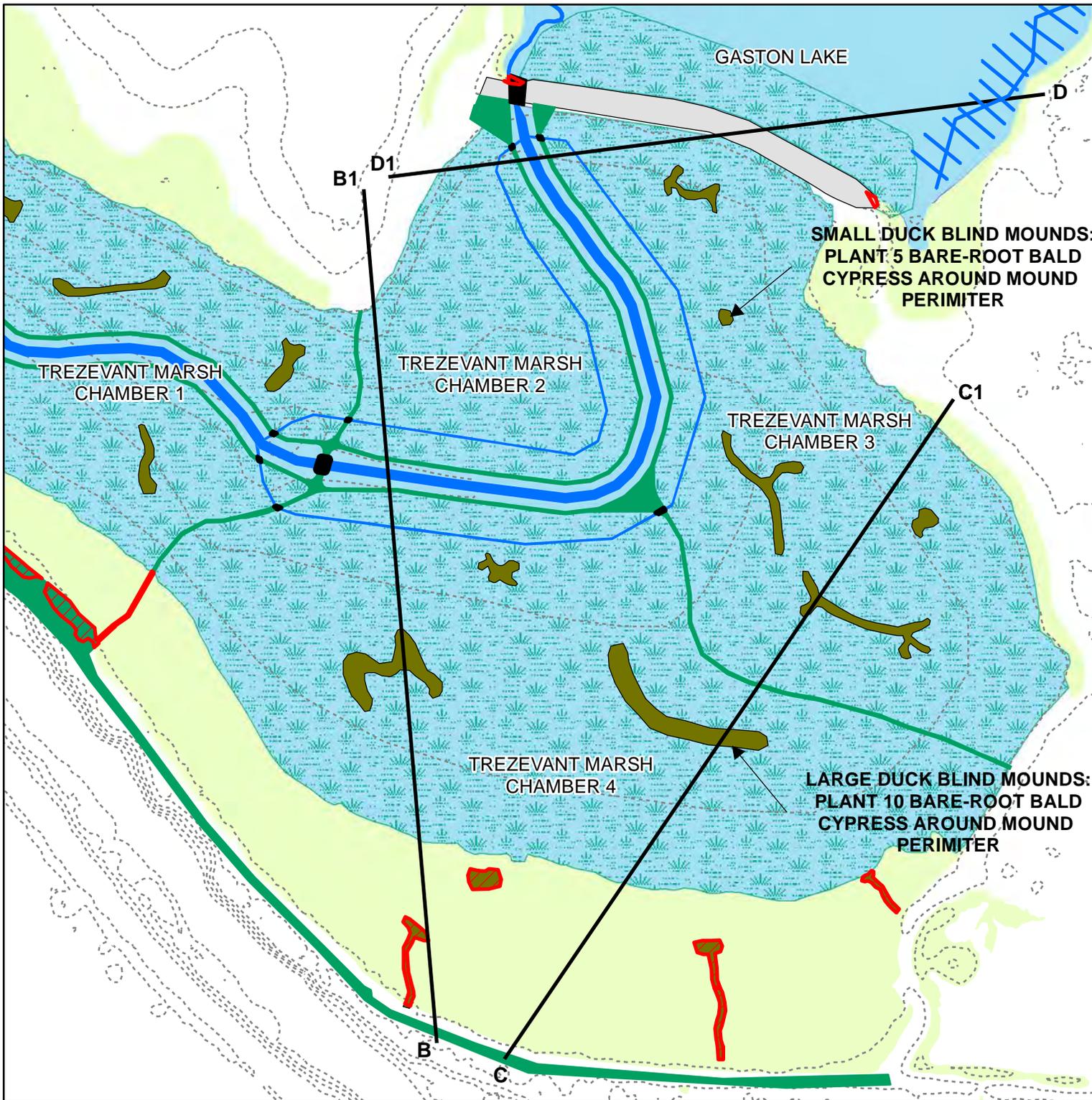
A1



- LEGEND**
- EXISTING GROUND
 - PROPOSED GROUND
 - EXISTING WATER LEVEL
 - PROPOSED WATER LEVEL
 - EXISTING WETLAND AREA
 - PROPOSED WETLAND AREA

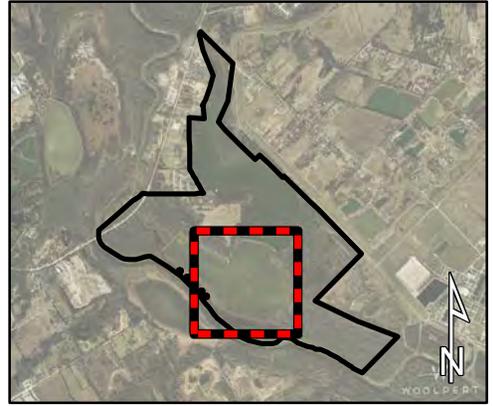
GRID SCALE
 VERTICAL: 1'
 HORIZONTAL: 25'

Dallas Hunting and Fishing Club
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Trezevant Marsh - Chamber 1 Profile A - A1
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Legend

	Gate Valve Structure		Existing Contour
	Levee Vegetated		Proposed Wetland
	Levee (Gravel Road)		Temporary Wetland Impacts
	Channel		
	Mounds		
	Existing Wetland		
	Existing Open Water		



Dallas Hunting and Fishing Club

Project Number: SWF-2017-00034

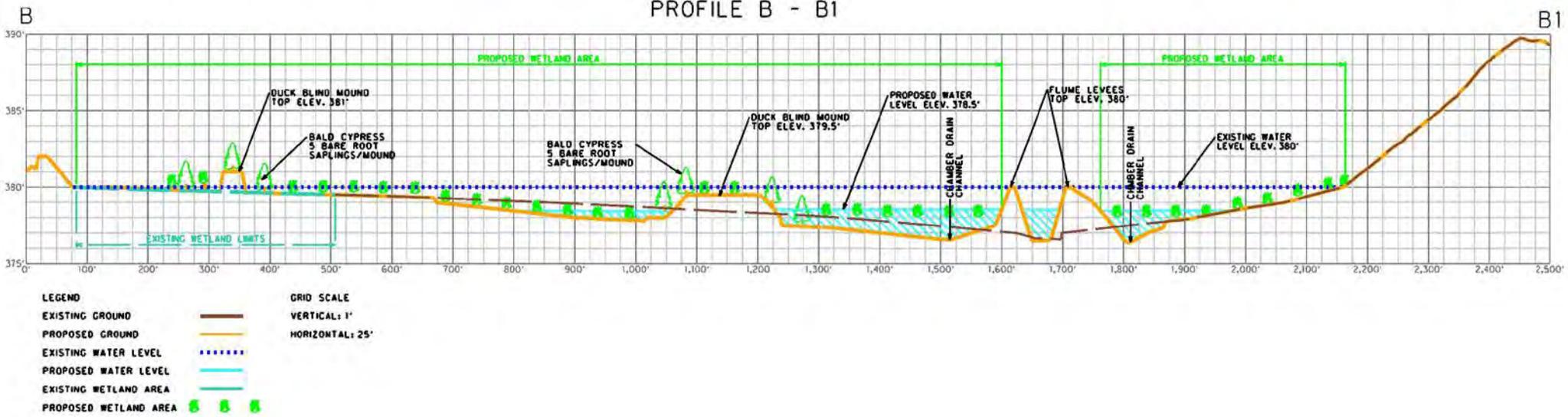
Date: 04/2017 AVO: 31867

Trezevant Marsh - Chamber 2,3,4
Aquatic Habitat Enhancement Plan

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PROFILE B - B1

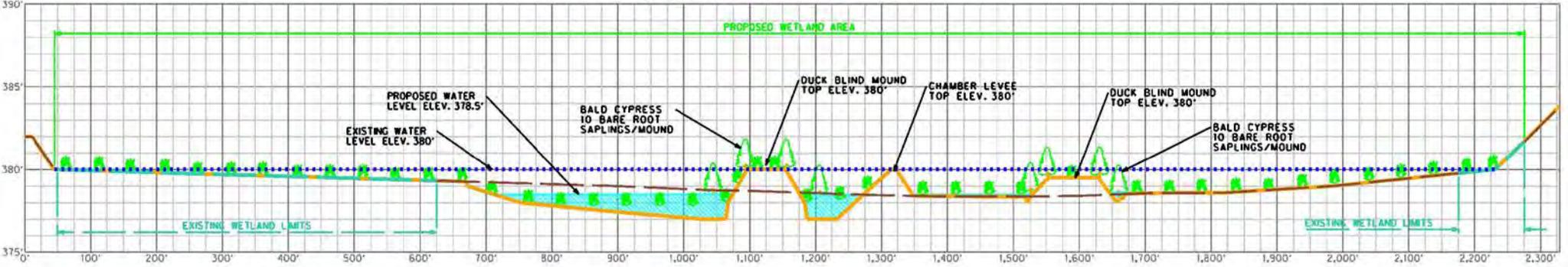


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Trezevant Marsh - Chambers 2 & 4 Profile B - B1
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C

PROFILE C - C1

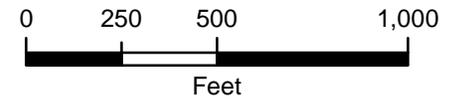
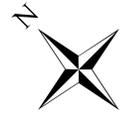
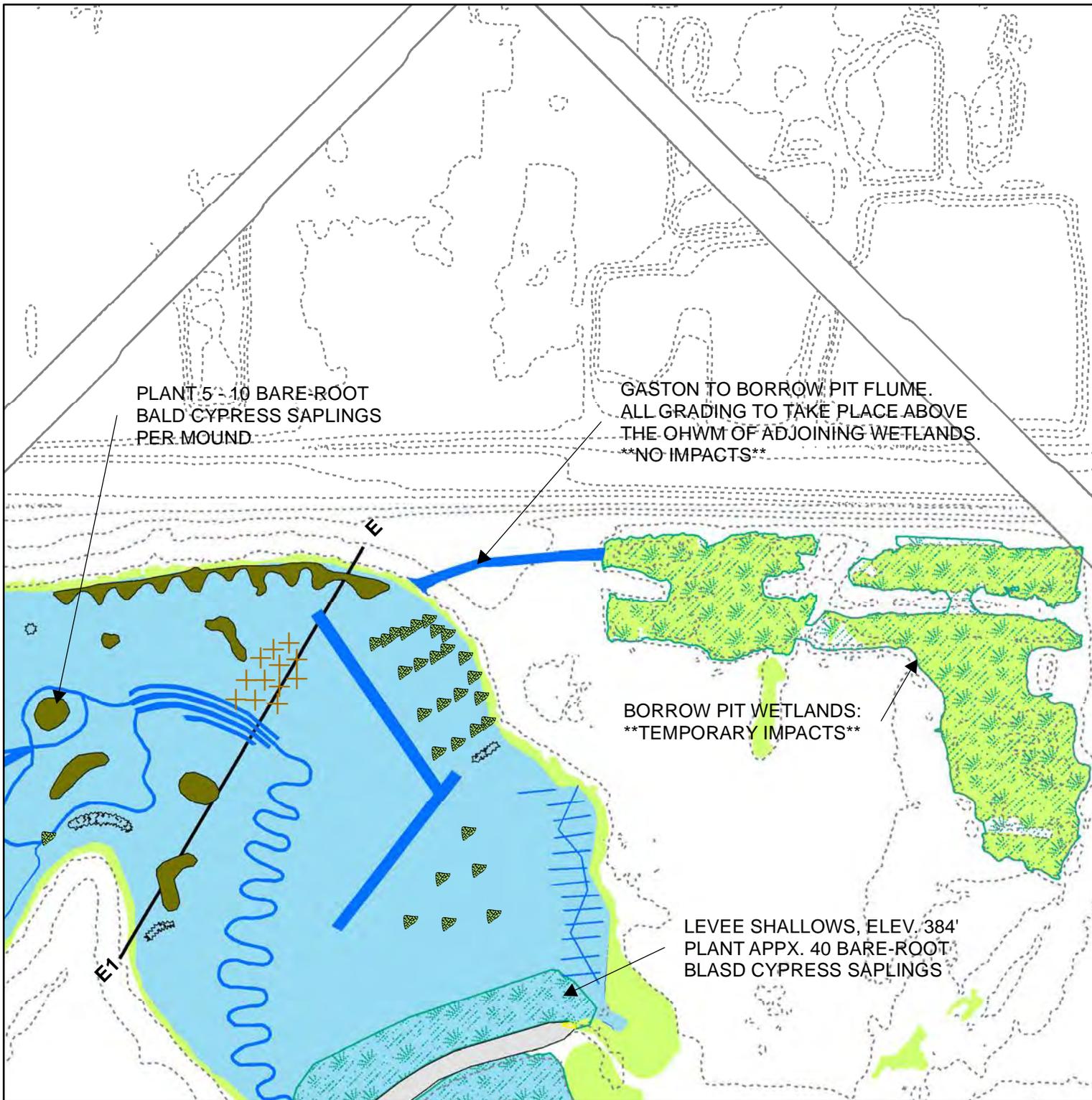
C1



- LEGEND**
- EXISTING GROUND
 - PROPOSED GROUND
 - EXISTING WATER LEVEL
 - PROPOSED WATER LEVEL
 - EXISTING WETLAND AREA
 - PROPOSED WETLAND AREA

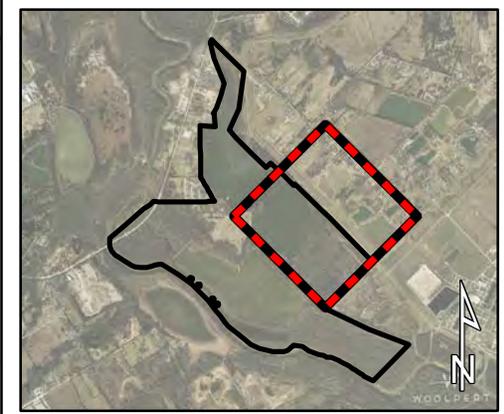
GRID SCALE
 VERTICAL: 1'
 HORIZONTAL: 25'

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Trezevant Marsh - Chambers 3 & 4 Profile C - C1
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Legend

	Gate Valve Structure		Existing Contour
	Levee Vegetated		Proposed Wetland
	Levee (Gravel Road)		Temporary Wetland Impacts
	Sub-Surface Channels		Vertical Log Structures
	Mounds		Brushpiles
	Existing Wetland		Riprap
	Existing Open Water		



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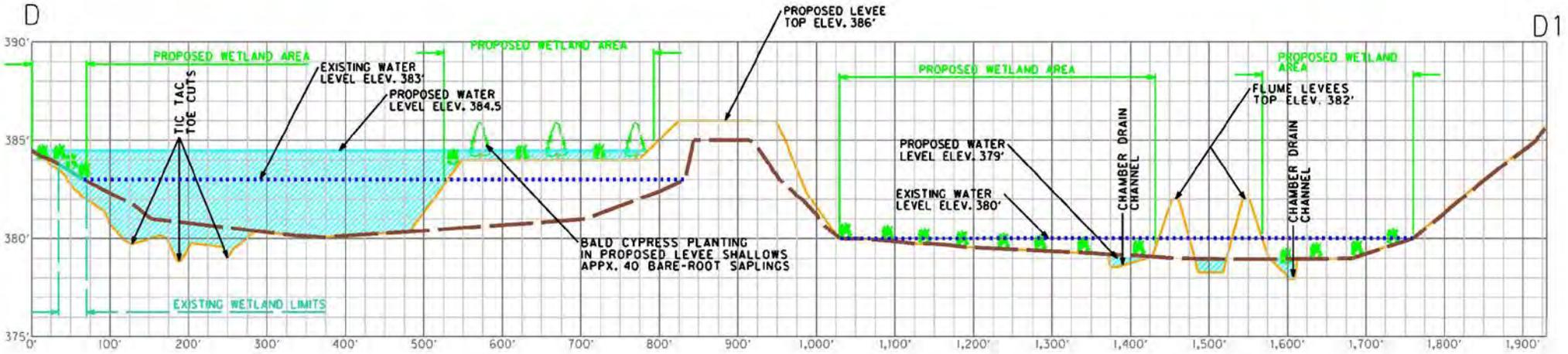
Date: 04/2017 AVO: 31867

Gaston Lake and Borrow Pits Aquatic Habitat Enhancement Plan

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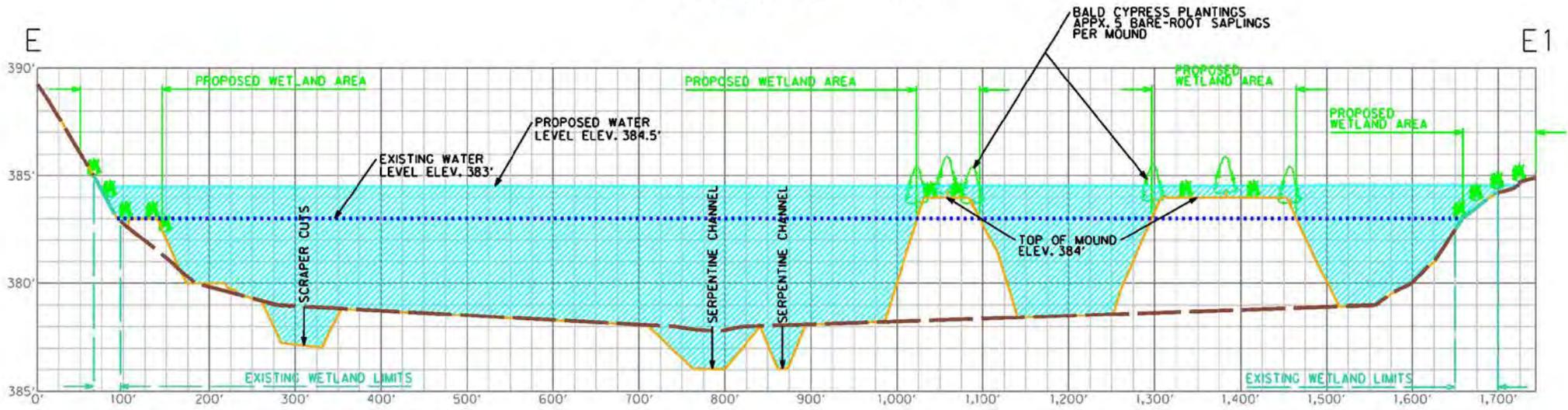
PROFILE D - D1



- | | | |
|-----------------------|--|-------------------|
| LEGEND | | GRID SCALE |
| EXISTING GROUND | | VERTICAL: 1' |
| PROPOSED GROUND | | HORIZONTAL: 25' |
| EXISTING WATER LEVEL | | |
| PROPOSED WATER LEVEL | | |
| EXISTING WETLAND AREA | | |
| PROPOSED WETLAND AREA | | |

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Trezvant Marsh and Gaston Lake Profile D - D1
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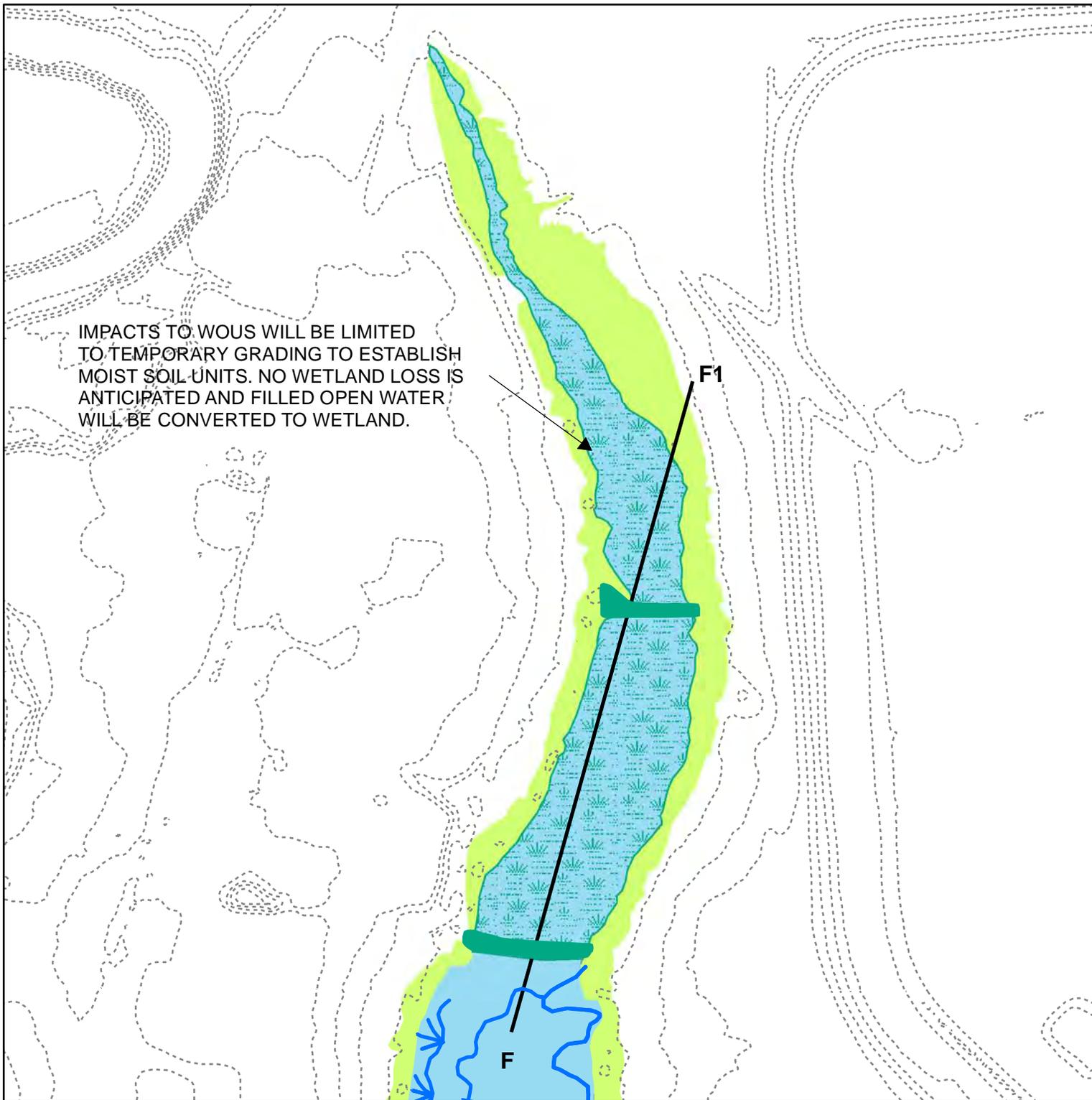
PROFILE E - E1



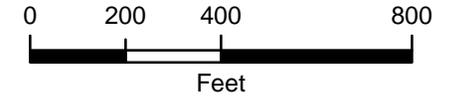
- | LEGEND | | GRID SCALE | |
|-----------------------|-------|-------------|-----|
| EXISTING GROUND | --- | VERTICAL: | 1' |
| PROPOSED GROUND | — | HORIZONTAL: | 25' |
| EXISTING WATER LEVEL | | | |
| PROPOSED WATER LEVEL | — | | |
| EXISTING WETLAND AREA | --- | | |
| PROPOSED WETLAND AREA | | | |

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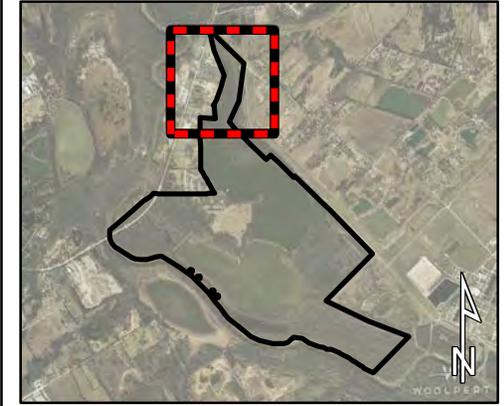


IMPACTS TO WOUS WILL BE LIMITED TO TEMPORARY GRADING TO ESTABLISH MOIST SOIL UNITS. NO WETLAND LOSS IS ANTICIPATED AND FILLED OPEN WATER WILL BE CONVERTED TO WETLAND.



Legend

	Gate Valve Structure		Existing Contour
	Levee Vegetated		Proposed Wetland
	Levee (Gravel Road)		Temporary Wetland Impacts
	Sub-Surface Channels		
	Mounds		
	Existing Wetland		
	Existing Open Water		



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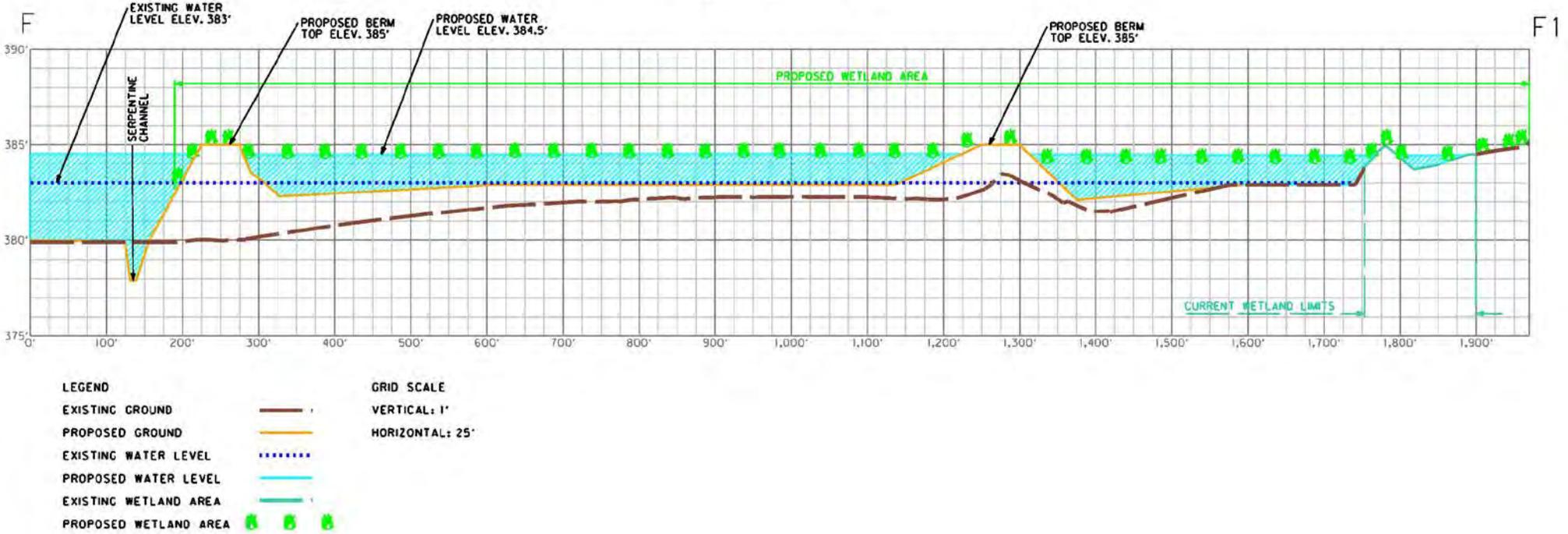
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Gaston Lake Moist Soil Units
Aquatic Habitat Enhancement Plan

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PROFILE F - F1



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Gaston Moist Soil Units Profile F - F1
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