



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

PUBLIC NOTICE

September 12, 2022

United States Army
Corps of Engineers
New Orleans District
Attn: Regulatory Division, RG
7400 Leake Ave.
New Orleans, Louisiana 70118-3651

Project Manager:
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Application #: MVN-2021-00627-MG

Interested parties are hereby notified that a permit application has been received by the New Orleans District of the U.S. Army Corps of Engineers pursuant to: [] Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403); and/or [X] Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344).

JO BLANCHE MITIGATION BANK IN LAFOURCHE PARISH, LA

NAME OF APPLICANT: JMB Partnership, L.L.C., 205 Sage Glenn Lane, Lafayette, Louisiana 70508.

LOCATION OF WORK: Located in Lafourche Parish, approximately 3.9 miles southeast of Thibodaux, Louisiana, (lat. 29.783572, long. -90.746874), as shown within the attached drawings. (Hydrologic Unit Code 08090301, East Central Louisiana Coastal)

CHARACTER OF WORK: JMB Partnership, L.L.C. proposes the degradation of elevated dirt access roads, grading of agricultural drains, removal of culverts, and reforestation of upland forest, bottomland hardwoods and cypress/tupelo swamp in Lafourche Parish. These activities are being conducted for the rehabilitation and re-establishment of surface hydrology for the construction of Jo Blanche Mitigation Bank. The project will be located on a 226.1 acre tract of land located southeast of Thibodaux, Louisiana just north of Louisiana Highway 308.

The comment period on the requested Department of the Army Permit will close **30 days** from the date of this public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit request, and must be submitted so as to be received before or by the last day of the comment period. Letters and/or

comments concerning the subject permit application must reference the Applicant's Name and the Permit Application Number and can be preferably emailed to the Corps of Engineer's project manager listed above or forwarded to the Corps of Engineers at the address above, **ATTENTION: REGULATORY DIVISION, RG, "Brandon Gaspard"**. Individuals or parties may also request an extension of time in which to comment on the proposed work by mail or preferably by emailing the specified project manager listed above. Any request for an extension of time to comment must be specific and substantively supportive of the requested extension and received by this office prior to the end of the initial comment period. The Branch Chief will review the request and the requester will be promptly notified of the decision to grant or deny the request. If granted, the time extension will be continuous and inclusive of the initial comment period and will not exceed a total of 30 calendar days.

Corps of Engineers Permit Criteria

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit 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 the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline 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 U.S. Army Corps of Engineers 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 U.S. Army Corps of Engineers to determine whether to make, modify, condition, 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 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.

The New Orleans District is unaware of properties listed on the National Register of Historic Places near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, historical sites, or data. As deemed necessary, copies of this public notice will be sent to the State Archeologist, State Historic Preservation Officer, and federally listed tribes regarding potential impacts to cultural resources.

Our initial finding is that the proposed work would neither affect any species listed as endangered by the U.S. Departments of Interior or Commerce, nor affect any habitat designated as critical to the survival and recovery of any endangered species.

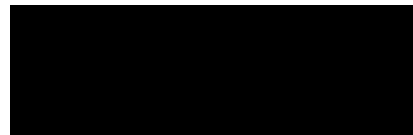
Based on the Information Planning and Consultation (IPaC) tool for Endangered Species in Louisiana, as signed on January 27, 2020, between the U.S. Army Corps of Engineers, New Orleans and the U.S. Fish and Wildlife Service, it has been determined that the project not likely to adversely affect the West Indian Manatee (*Trichechus manatus*).

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal may result in the destruction, alteration, and/or disturbance of **0 acres** of EFH utilized by various life stages of red drum and penaeid shrimp. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Gulf of Mexico. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

Any person may request, (preferably by email to the project manager, or in writing), within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

The applicant has certified that the proposed activity described in the application complies with and will be conducted in a manner that is consistent with the Louisiana Coastal Resources Program. The Department of the Army permit will not be issued unless the applicant receives approval or a waiver of the Coastal Use Permit by the Department of Natural Resources.

You are invited to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.



Martin S. Mayer
Chief, Regulatory Division

Enclosure

Prospectus for the Jo Blanche Mitigation Bank

Lafourche Parish, Louisiana



August 11, 2022

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1.0 INTRODUCTION

JMB Partnership, LLC (JMB and/or Sponsor), submits this Prospectus to the U.S. Army Corps of Engineers - New Orleans District (CEMVN) and the CEMVN Mitigation Banking Interagency Review Team (IRT) in sponsorship of establishing Jo Blanche Mitigation Bank (JBMB and/or Bank). The Sponsor has prepared this Prospectus in accordance with 33 CFR § 332.8(d)(2). The purpose of JBMB is to compensate for unavoidable impacts to Waters of the United States, including wetlands that result from activities authorized by the Department of the Army pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act.

JBMB is currently comprised of agriculture production fields (sugarcane), fallow agriculture fields with crop rows, roads, headlands, and multiple forested habitats such as scrub shrub tallow habitat, soft mast dominant forest, impounded emergent swamp, emergent swamp, and cypress swamp (Attachment A: Figure 15). JBMB has potential to be restored to bottomland hardwoods (BLH) and cypress swamp (CS) habitats through the implementation of re-establishment, rehabilitation, enhancement, and preservation Mitigation Types as defined in the CEMVN Louisiana Wetland Rapid Assessment Method Version 2.0 (LRAM) and the *LRAM Version 2.0 Excel Worksheet*. The Sponsor will restore 116.6 acres to BLH wetlands, 80.8 acres to CS wetlands, and 10.0 acres to upland restoration. The Sponsor will also preserve 18.7 acres of current CS habitat for a total bank acreage of 226.1 acres (Attachment B: LRAMs BLH and CS; Attachment A: Figure 16; and Table 1). JBMB will have long-term protection through financial assurances with long-term escrow accounts and the institution of a conservation servitude.

1.1 Site Location

The property is located approximately 3.9 miles southeast from Thibodaux, Louisiana (Attachment A: Figure 01). The center point of JBMB is located at latitude 29.783572° and longitude -090.746874° in Lafourche Parish, Louisiana (Attachment A: Figure 02). The location includes all or portions of Sections 59, 60, 84, 85, 86 and 109 of Township 15 South, Range 17 East. JBMB is in the Hydrologic Unit Code (HUC) 08090301, East Central Louisiana Coastal within the Barataria Basin.

JBMB topography is generally flat with a gradual downward slope to the northeast with a slightly elevated ridge that bisects the property. The topography has been slightly altered to drain this tract for agricultural use, specifically sugarcane. Elevations derived from state-sponsored LiDAR data range from 0.0' to 10.0' relative to the NAVD88 datum, with elevations between 0' and 7' within the proposed wetland areas (Attachment A: Figure 07). To better define the over 5ft contour and also general site elevations, David A. Waitz Engineering and Surveying Inc. utilized an RTK (Real-Time Kinematics) system to collect topographic survey data across JBMB (Attachment A: Figures 07A & 07B). The DEM (Digital Elevation Model) created from the topographic survey illustrated 52 acres over the 5ft contour within JBMB (Attachment A: Figures 08 & 08A). After site construction is completed, JBMB will contain 42 acres of BLH re-establishment and 10.0 acres of upland restoration that are over the 5ft contour.

Lafourche Parish has a humid, subtropical, marine climate. Lafourche Parish's average annual total precipitation is about 59.35 inches. Of this, about 33 inches, or 60 percent, usually falls in April through September. In winter, the average temperature is 54°F, and the average daily minimum temperature is 44°F. In summer, the average temperature is

81°F and the average daily maximum temperature is 90°F. The sun shines 60 percent of the time in summer and 50 percent in winter (NRCS).

State and Federal jurisdictional boundaries that encompass JBMB include the following: the Louisiana Office of Coastal Management (OCM) Louisiana Coastal Zone, the Natural Resources Conservation Service (NRCS), Mississippi Delta Cotton and Feed Grains Land Resource Region (LRR O), and the Southern Mississippi River Alluvium Major Land Resource Area (MLRA 131A). The JBMB also lies in the Environmental Protection Agency (EPA) designated Mississippi Alluvial Plain (73) Level III Ecoregion, and in two different Level IV Ecoregions: Inland Swamps (73n) and Southern Holocene Meander Belts (73k). According to the Federal Emergency Management Agency (FEMA), portions of JBMB is within the 100-year flood zone.

1.2 Driving Directions

From Canal Blvd in Thibodaux head southeast on LA-308 N along Bayou Lafourche for 4.0 miles, turn left on Bartley Lane N before the railroad bridge, and finally head north on Bartley Lane for 0.1 miles to access the property.

2.0 PROJECT GOALS AND OBJECTIVES

The goal of JBMB is the cumulative re-establishment of 105.3 acres of bottomland hardwood (BLH) and 16.1 acres of cypress swamp (CS), the rehabilitation of 11.3 acres of BLH and 64.7 acres of CS, the preservation of 18.7 acres of CS and the restoration of 10.0 acres of upland in the Barataria Basin watershed (HUC:08090301). The total acreage of JBMB is 226.1. The current and proposed habitat types, proposed mitigation types, and acreage are listed in Table 1 & Attachment A: Figures 16.

The objectives of the Bank are diverse. JBMB is well situated in the Lafourche Basin and is capable of restoring and improving a range of physical, hydrological, biogeochemical, biotic, and atmospheric functions to the watershed. These objectives are as follows:

- Improving downstream water quality and soil compaction by ceasing all agriculture activities within the Bank boundary.
- Restoring soil quality by subsoiling to reduce soil compaction and increase surface water infiltration to improve the success of vegetative plantings.
- Restoring natural tidal flux cycling and flood storage of JBMB by levee and road degradation, and the expansion of hydrologic entrance points. Saturated soils would return natural historic hydric process to the soils.
- Restoring JBMB's topography and vegetative habitats to institute reclamation of the organic material to the system's soil, and filter sediment deposition runoff into Halpin Canal.
- Rebuilding bottomland hardwood and cypress swamp habitats (Attachment A: Table 1) with native wetland trees and emergent species. This will positively affect the physical structure of the area and restore biogeochemical processes in the soil considerably via additional plant and invertebrate detritus. This, in turn, will enhance natural aesthetics of the area.

- Rehabilitating current impounded emergent swamp area by planting cypress trees, chemically controlling invasive species, and restoring natural water flow through the degradation of adjacent impounding roads and levees.
- Preserving the mature cypress swamp portion of JBMB by instituting a conservational servitude and a long-term protection plan.
- Creating a upland buffer by planting trees will preserve the topography of this area and reduce adverse impacts to wetland functions from adjacent development. Restoration will reduce these impacts by moderating storm water runoff, stabilizing soil to prevent erosion, providing habitat for wetland associated species, reducing direct human impact/access to a wetland, and by filtering suspended solids, nutrients, and toxic substances. Restoring the site will provide improved biotic conditions and create habitat for a multitude of mammals, reptiles, insects, and hundreds of species of migratory birds.
- Ensuring the quality of JBMB habitat through annual vegetation monitoring, noxious invasive species control, and adaptive management if necessary.
- Providing long-term protection through financial assurances with long-term escrow accounts and the institution of a conservation servitude.

As defined by *The Natural Communities of Louisiana* published in 2009 by the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage program (LNHP): Bottomland Hardwood Forests are forested, alluvial wetlands occupying broad floodplain areas that flank large river systems. BLH forests may be called fluctuating water level ecosystems characterized and maintained by a natural hydrologic regime of alternating wet and dry periods. These forests support distinct assemblages of plants and animals.

As defined by *The Natural Communities of Louisiana* published in 2009 by the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage (LNHP) program, bald cypress (*Taxodium distichum*) Swamps are forested, alluvial swamps growing on intermittently exposed soils. The soils are inundated or saturated by surface water or groundwater on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands. There is a low floristic diversity. *Taxodium distichum* (bald cypress) is the dominant overstory species. Many aquatic food webs depend on the input of allochthonous material in the form of leaf litter or other organic debris that the wetland forest provides. Net primary productivity of swamp forests seems to be increased by periodic flooding or increased water flow and decreased by slow water movement or stagnation.

Table 1: Mitigation Plan Summary Proposed Mitigation and Habitat Type

<u>Current Habitat</u>	<u>Proposed Habitat</u>	<u>Proposed Mitigation Type</u>	<u>Acres</u>
Non-wet Agricultural Fields Over 5ft Contour & Non-wet Elevated Dirt Roads Over 5ft Contour	Bottomland Hardwoods	Re-Establishment	42
Non-wet Agricultural Fields & Non-wet Elevated Dirt Roads	Bottomland Hardwoods LDNR	Re-Establishment	63.3
Wet Soft Mast Forest	Bottomland Hardwoods LDNR	Rehabilitation	11.3

BLH Habitat: 116.6

Non-wet Agricultural Fields & Non-wet Elevated Dirt Roads	Cypress Swamp LDNR	Re-Establishment	16.1
Wet Fallow Fields, Wet Scrub Shrub with Tallow, wet Soft mast Forest, Impounded Emergent Swamp, & Wet Emergent Swamp	Cypress Swamp LDNR	Rehabilitation	64.7
Wet Cypress Swamp	Cypress Swamp	Preservation	18.7

CS Habitat: 99.5

Non-wet Agricultural Fields	Hardwoods	Upland Restoration	10.0
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Upland Buffer: 10.0**Subtotal Non-Mitigation Acreage: 10.0****Subtotal Mitigation Acreage: 216.1****TOTAL MITIGATION BANK ACREAGE: 226.1****3.0 ECOLOGICAL SUITABILITY OF SITE/BASELINE CONDITIONS**

This section describes the ecological suitability of the site to achieve the objectives of the proposed mitigation bank, including the physical, chemical, and biological characteristics of the Bank site and how that site will support the planned types of aquatic resources and functions, as stated in 33 CFR 332.8(d)(2)(vii)(B). This section provides the baseline/current site conditions on and adjacent to the proposed site.

3.1 Land Use

3.1.1 Historical Land Use

Prior to hydrologic modifications by the first European settlers, JBMB was hydrological influenced by riverine flooding and meandering, rainfall, sheet flow, and ebb and flow of tides. It is believed the mechanized clearing and hydrologic alteration of this site began around the turn of the 19th century with the clearing of woody vegetation to increase cropland acreage. Local farm history, as well as historical aerial photographs, dictate this site was farmed for sugarcane through the 1900 to today (Attachment A: Figure 02A, 02B, 02C, 02D, 02E, and 02F). Aerial imagery from 1961 reveals the crop rows and agricultural drains that were used primarily for sugarcane (*Saccharum officinarum*) production (Attachment A: Figure 02A). Around the turn of the 21st century, sugarcane production ceased on some tracts due to the site's wet conditions which were not conducive to agriculture production (Attachment A: Figure 02E). In the 2010's more previously farmed fields were left fallow due to wet conditions. Local farm history also indicated that the swamp areas in the northern portion of the property were utilized for recreational harvesting of crawfish throughout the 21st century (Attachment A: Figure 02F).

3.1.2 Existing/Current Land Use

Currently, the following habitats occur within JBMB: 113.0 acres of Non-wet Agricultural Fields, 13.8 acres of Non-wet Elevated Dirt Roads, 13.5 acres of Wet Fallow Fields, 6.7 acres of Wet Scrub Shrub with Tallow, 19.4 acres of Wet Soft Mast Forest, 24.6 acres of Impounded Emergent Swamp, 11.7 acres of Emergent Swamp, 18.7 acres of Cypress Swamp, 3.8 acres of Unnamed Agricultural Drainage Canal, and 0.9 acres of Other Waters (Attachment A: Figures 02F and Figure 15). The land use surrounding a one-mile radius of JBMB consists of 2,124 acres of forested habitat that includes 275 acres of Lafourche Crossing Mitigation Bank, 1,779.7 acres of agricultural land in production, 832.5 acres of residential/commercial development, 157.8 acres of pasture, and 39.5 acres of waters (Attachment A: Figure 4).

3.2 Soils

According to Lafourche Parish Soil Survey (1984) and USDA Web Soil Survey of the subject property, the following soils are found to occur:

- Barbary muck 0 to 1 percent slopes (BB). The Barbary series consists of very deep, very poorly drained, very slowly permeable soils. These soils formed in recent, slightly fluid to very fluid clayey sediments that have been deposited in water and are continuously saturated and flooded. These soils are mainly on low, broad, ponded backswamps of the lower Mississippi River Alluvial Plain. Slope is less than 1 percent.
- Cancienne silt loam 0 to 1 percent slopes (Cm) and Cancienne silty clay loam 0 to 1 percent slopes (Co). The Cancienne series consists of very deep, level to gently undulating, somewhat poorly drained mineral soils that are moderately slowly permeable. These soils formed in loamy and clayey alluvium. They are on high and intermediate positions on natural levees and deltaic fans of the Mississippi River and its distributaries. Slopes range from 0 to 3 percent.
- Fausse-Schriever association (FA). Fausse series consists of very deep, very poorly drained, very slowly permeable soils that formed in clayey alluvium. These

soils are in low, ponded backswamp areas of the lower Mississippi River alluvial plain. Slopes are less than 1 percent.

- Schriever clay 0 to 1 percent slopes (Sk). The Schriever series consists of very deep, poorly drained, very slowly permeable soils that formed in clayey alluvium. These soils are on the lower parts of natural levees and in backswamp areas of the lower Mississippi River alluvial plain. Slopes range from 0 to 3 percent.

Table 2: NRCS Soil Survey of Terrebonne Parish, Louisiana JBMB Data

<u>Map Unit Symbol</u>	<u>Soil Name</u>	<u>Natural Drainage</u>	<u>Hydric Rating</u>	<u>Acres in Project Area</u>
BB	Barbary muck, 0 to 1 percent slopes, frequently flooded	Very poorly drained	Hydric	18.1
Cm	Cancienne silt loam, 0 to 1 percent slopes	Somewhat poorly drained	Predominantly non-hydric	62.0
Co	Cancienne silty clay loam, 0 to 1 percent slopes	Somewhat poorly drained	Hydric	25.0
FA	Fausse-Schriever association	Very poorly drained	Partially hydric	40.1
Sk	Schriever clay, 0 to 1 percent slopes, rarely flooded	Poorly drained	Predominantly hydric	80.9

3.3 Hydrology

3.3.1 Contributing Watershed

The Barataria Basin is located immediately south and west of New Orleans, Louisiana. The basin is bounded on the north and east by the Mississippi River from Donaldsonville to Venice, on the south by the Gulf of Mexico, and on the west by Bayou Lafourche. The basin contains approximately 1,565,000 acres. Portions of nine parishes are found in the basin: Assumption, Ascension, St. James, Lafourche, St. John the Baptist, St. Charles, Jefferson, Plaquemines, and Orleans. The basin is divided into nine subbasins: Fastlands, Des Allemands, Salvador, Central Marsh, Grande Cheniere, L'Ours, North Bay, Bay, and Empire (The Barataria Basin: CWPPRA). Several natural and constructed physiographic features in the Barataria Basin influence habitat distribution, hydrology, land use, and wetland restoration opportunities. Major features include natural and artificial levees of the Mississippi River and Bayou Lafourche, the GIWW, U.S. Highway 90, the central marsh landmass, the chenier complex, and a chain of barrier islands (The Barataria Basin: CWPPRA). The average annual rainfall over the Lafourche Parish is approximately 63.70 inches. Of this, about 53.87 inches (85 percent) usually falls in February through November. During the year, July is the wettest month and October is the driest (Soil Survey of Lafourche Parish). Watershed sources include direct precipitation, surface runoff, high water tables, and tidal flooding (Attachment A: Figures 10 and 10A).

3.3.2 Historical Hydrology and Drainage Patterns

Historically, Mississippi River channel migration, crevasses, and overbank flooding deposited sediment, freshwater, and nutrients in the Barataria Basin, building land and sustaining wetland habitats (The Barataria Basin: CWPPRA). However, the Basin has been closed to river flow since the leveeing of the Mississippi River in the 1930-40s and the closing of the Bayou Lafourche-Mississippi River connection in 1902 (Conner). Ever since construction of the flood control levee along the Mississippi River, rainfall had been the main source of fresh water to the Barataria Basin. Currently, only a small amount of riverine input, designed to mimic a natural crevasse, was introduced into the basin's wetlands through the siphons at Naomi and West Pointe à la Hache and also the Davis Pond freshwater diversion.

Historically, the hydrological influences of JBMB prior to agricultural production were runoff from the neighboring natural ridges from Bayou Lafourche, backwater flooding from the forested wetlands to the north, direct precipitation, and high water tables. Since the turn of the 20th century the hydrology within JBMB has been intensively managed for agriculture through a combination of levees, drainage ditches, drainage pipes, and detention ditches.

3.3.3 Existing/Current Hydrology and Drainage Patterns

The primary drainage feature of JBMB is Unnamed Agricultural Canal that runs along the southeastern boundary. This Canal was constructed to transport excess waters from current and remnant agricultural fields past the natural ridge that bisects the property into the Halpin Canal. Currently all excess waters from secondary drainage features such as the East West Ditch, Southern Slide Gate Canal, and Northern Slide Gate Canal drain into this Canal. Once these excess waters reach the Halpin Canal they flow northward into Bayou Boeuf, which connects into Lac des Allemands. Although these canals are connected to the Gulf of Mexico tidal flux, it is clear water levels within the surrounding Canals are primarily driven by direct precipitation, surface runoff, and backwater flooding. There is an elevated dirt road that parallels the west side of the Unnamed Agricultural Canal which currently isolates the hydrology of JBMB. There is also an elevated access road that parallels southeastern side of the Unnamed Agricultural Canal. This elevated access road prevents excess waters from Lafourche Crossings Mitigation Bank from entering the Unnamed Agricultural Canal. There is also a elevated access road on the western boundary that runs northeast to the Northern Slide Gate Canal that isolates hydrology from the neighboring agricultural fields to the northeast (Attachment A: Figures 13, 13A, 13B, 13C, 13D, 13E, and 13F).

Five distinct hydrologic zones occur within the JBMB boundary (Attachment A: 13F):

The current sources of hydrology within the area labeled "Drains to East West Ditch" includes direct precipitation, surface runoff, and high-water tables (Attachment A: Figure 13F). This area encompasses Non-wet Agricultural Fields and Non-wet Elevated Dirt Road habitats situated between the southern JBMB boundary and the East West Ditch (Attachment A: Figures 13, 13A, and 15). Hydrology in this area has been manipulated for sugarcane farming to drain hydrological inputs quickly. Currently, hydrological sources are forcefully drained by crop rows into drainage ditches and through culverts along headland roads that eventually lead water north into an East West Ditch that then directs water to the deeper/larger Unnamed Agricultural Canal. Water within the Unnamed Agricultural Canal is then conveyed northeast across the natural ridge that bisects the property into the Halpin Canal.

The current sources of hydrology within the area labeled “Drains to Southern Slide Gate Canal” includes direct precipitation, surface runoff, and high-water tables (Attachment A: Figure 13F). This area encompasses Non-wet Agricultural Fields, Non-wet Elevated Dirt Road, Wet Fallow Fields, Wet Scrub Shrub with Tallow, Wet Soft mast Forest, and Southern Slide Gate Canal habitats that are situated north of the east-west running ditch and south of the natural ridge tracts that bisects the property (Attachment A: Figures 13, 13B, and 15). Hydrology in this area has been manipulated for sugarcane farming to drain hydrological sources quickly. However, most of the sugarcane production within this area has ceased due to wet conditions that are not conducive to agriculture production. Currently, hydrological sources are forcefully drained by current and remnant crop rows, culverts, and ditches that direct water either south or north to the Southern Slide Gate Canal. Water depth within this Canal is controlled by a landowner-operated slide gate within the Non-wet Elevated Dirt Road to the southeast of the canal. This slide gate can be either opened to drain water into the Unnamed Agricultural Canal or closed to prevent flooding from the Unnamed Agriculture Canal during high water events, such as high tides or backwater flooding. The farmer will occasionally de-water the Southern Slide Gate Canal utilizing a portable lift pump during extreme flooding events. After waters from the Southern Slide Gate Canal enter the Unnamed Agricultural Canal, it is conveyed north across the natural ridge that bisects the property into the Halpin Canal.

The current sources of hydrology within the area labeled “Drains to Northern Slide Gate Canal,” includes direct precipitation, surface runoff, and high water tables (Attachment A: Figure 13F). This area encompasses Non-wet Ag Fields, Non-wet Elevated Dirt Road, Wet Fallow Ag Fields with Rows, Wet Soft mast Forest, and Northern Slide Gate Canal habitats situated north of the natural ridge and south of Impounded Forest (Attachment A: Figures 13, 13C, and 15). Hydrology in this area is manipulated for sugarcane farming to drain hydrological inputs quickly. However, most of the sugarcane production within this area has ceased due to wet conditions that are not conducive to agriculture production. Currently, hydrological inputs are force drained by current and remnant crop rows, culverts, and ditches that direct water north to the Northern Slide Gate Canal. Water depth within this Canal is controlled by a landowner-operated slide gate within the Non-wet Elevated Dirt Road to the southeast of the canal. This slide gate can be either opened to drain water into the Unnamed Agricultural Canal or closed to prevent flooding from the Unnamed Agriculture Canal during high water events such as high tides or backwater flooding. The farmer will occasionally de-water the Northern Slide Gate Canal utilizing a portable lift pump during extreme flooding events. After waters enter the Unnamed Agricultural Canal, they are conveyed north into the Halpin Canal.

The current sources of hydrology within the area labeled “Impounded” include direct precipitation with additional sources from surface runoff, high water tables, and in extreme circumstances, tidal flooding (Attachment A: Figure 13F). This area encompasses the Impounded Emergent Swamp habitat situated north of the Northern Slide Gate Canal and south of the Halpin Canal (Attachment A: Figures 13, 13D, and 15). The Sponsor has observed higher surface water levels compared to water levels in the Halpin Canal. This area is hydrologically isolated mainly due to blockage by the elevated access roads to the south, southeast, and southwest and partially due to the irregular remnant spoil along the Halpin Canal to the north

The current sources of hydrology within the area labeled “Tidal” include direct precipitation, high water tables, and tidal flooding (Attachment A: Figure 13F). This area encompasses the Emergent Swamp and Cypress Swamp habitats situated north of Halpin

Canal and south of JBMB northern most boundary (Attachment A: Figures 13, 13E, and 15). Hydrology in this area is directly connected to the Gulf of Mexico tidal flux driven by surrounding canals.

3.3.4 Jurisdictional Wetlands

The Sponsor conducted a wetland delineation of the property that includes JBMB, which was then approved by the CEMVN as a preliminary jurisdictional determination (MVN-2021-000627-SG) on September 15, 2021 (Attachment D). The said wetland delineation includes additional acreage that is not within the proposed JBMB boundary. It is important to note the approved preliminary jurisdictional determination (MVN-2021-000627-SG) does not cover the entirety of the JBMB. Because of this the Sponsor conducted a second wetland delineation on the eastern portion of the Bank (MVN-2021-00627.1-SG). The CEMVN approved this preliminary jurisdictional determination on January 20, 2022 (Attachment D). The two wetland delineations reveal the JBMB boundary contains approximately 94.6 acres of wetlands, 126.8 acres of uplands, and 4.7 acres of other waters (Attachment A: Figure 18).

3.4 Vegetation

3.4.1 Historical Plant Community

Based on comparison to reference sites with similar soil, geology, topography, and potentially similar historical/current habitat type, such as the adjacent Lafourche Crossings Mitigation Bank nearby Greenwood Mitigation Bank (MVN-2016-01564-MS) and Laurel Valley Coastal Mitigation Bank (MVN-2013-02798-MB) (Attachment A: Figures 19). According to the Natural Communities of Louisiana (LDWF 2009), prior to agricultural production JBMB would have likely consisted of bottomland hardwoods and cypress swamp habitats. USFWS lists three different NWI habitat classifications within the Project Area: palustrine forested broad-leaved deciduous temporary flooded partially /ditched (PFO1Ad), palustrine forested broad-leaved deciduous seasonally flooded (PFO1C), palustrine forested needle-leaved deciduous broad-leaved deciduous semi permanently (PFO2/1F) and palustrine forested needle-leaved deciduous broad-leaved deciduous seasonally flooded (PFO1/2C) (Attachment A: Figure 11).

3.4.2 Existing Plant Community

Multiple habitats were found to occur at JBMB. Habitat investigations and data from the Sponsor-performed wetland delineation revealed the following habitats at JBMB (Attachment A: Figure 15).

The area defined as “Non-wet Agricultural Fields” was observed to have non-wet conditions. This area is currently managed for sugarcane production. The topography is altered by crop rows, culverts, and ditches that re-route water to either the East West Ditch, Southern Slide Gate Canal, or the Northern Slide Gate Canal where it eventually flows into the Unnamed Agricultural Canal. This area also contains headland access roads between sugarcane fields that are at natural grade. These headland roads contain culverts to drain excess water from sugarcane fields. Dominant vegetative species observed within the herb stratum include: sugarcane (*Saccharum officinarum*), FACU.

The area defined as “Non-wet Elevated Dirt Road” was observed to have non-wet conditions. This areas vegetation is frequently mowed and treated with herbicide to provide access for vehicles and farm equipment. All elevated dirt roads at JBMB were constructed utilizing material excavated from the creation of the paralleling canals and

ditches. Dominant vegetative species observed within the herb stratum include: Perennial ryegrass (*Lolium perenne*), FACU; white clover (*trifolium repens*), FACU; and bahiagrass (*Paspalum notatum*) FACU.

The area defined as “Wet Fallow Fields” was observed to have wet conditions. Sugarcane production in this area was abandoned in the late 2010’s due to wet conditions. These fallow fields over time developed from a monoculture to a early successional herbaceous stratum with residual sugarcane. Remnant agriculture planting rows remain and continue to influence hydrology in this area. Dominant vegetative species observed within the shrub stratum include: black willow (*Salix nigra*), OBL. Dominant vegetative species observed within the herb stratum include: goldenrod (*Solidago altissima*), FACU; flatsedge (*Cyperus virens*), FACW and sugarcane (*Saccharum officinarum*), FACU.

The area defined as “Wet Scrub Shrub with Tallow” was observed to have wet conditions. Sugarcane production in this area was abandoned in the early 2010’s due to wet conditions. These fallow fields over time developed into a sparse shrub scrub habitat dominated by early successional shrub and herbaceous species. Remnant agriculture planting rows remain and continue to influence hydrology in this area. Dominant vegetative species observed within the shrub stratum include: red maple (*Acer rubrum var. drummondii*), FAC; baccharis (*Baccharis halimifolia*), FAC; black willow (*Salix nigra*), OBL; and Chinese tallow (*Triadica sebifera*), FAC. Dominant vegetative species observed within the herb stratum include: large-flower primrose-willow (*Ludwigia grandiflora*), OBL; sugarcane (*Saccharum officinarum*), FACU; and common rush (*Juncus effusus L.*), OBL.

The area defined as “Wet Soft Mast Forest” was observed to have wet conditions. Sugarcane production in this area was abandoned in the 2000’s due to wet conditions. These fallow fields over time developed into a scrub like forest dominated by early successional soft mast tree species with minimal herbaceous cover because of inundation and tree canopy coverage. Remnant sugar cane rows, culverts, and ditching continue to influence hydrology in this area. Dominant vegetative species observed within the sapling/shrub stratum include: American elm (*Ulmus americana L.*), FAC; red maple (*Acer rubrum var. drummondii*), FAC; pumpkin ash (*Fraxinus profunda*), OBL; and black willow (*Salix nigra*), OBL. Dominant vegetative species observed within the herb stratum include: common rush (*Juncus effusus L.*), OBL; and wax myrtle (*Morella cerifera*), FAC.

The area defined as “Impounded Emergent Swamp” was observed to have wet conditions. This habitat overall was observed to be highly stressed due to high water levels and long periods of inundation. The hydrology of this area is isolated because of a remnant agricultural levee along the Halpin Canal and elevated access roads to the southeast, southwest, and northeast of this habitat. The tree stratum was sparsely dominant with approximately 15 foot tall highly stressed or dead trees. Dominant vegetative species observed within the tree stratum include: red maple (*Acer rubrum var. drummondii*), FAC; Chinese tallow (*Triadica sebifera*), FAC; black willow (*Salix nigra*), OBL; and pumpkin ash (*Fraxinus profunda*), OBL. Dominant vegetative species observed within the herb stratum include: green flatsedge (*Cyperus virens*), FACW; lizard’s tail (*Saururus cernuus*), OBL; and dwarf palmetto (*Sabal minor*), FACW.

The area defined as “Emergent Swamp” was observed to have wet conditions. This habitat overall was observed to be stressed due to high water levels and long periods of inundation. The tree stratum was sparsely dominant with approximately 20 foot tall stressed trees. Dominant vegetative species observed within the tree stratum include: red maple (*Acer rubrum var. drummondii*), FAC; Chinese tallow (*Triadica sebifera*), FAC; black

willow (*Salix nigra*), OBL; and pumpkin ash (*Fraxinus profunda*), OBL. Dominant vegetative species observed within the herb stratum include: green flatsedge (*Cyperus virens*), FACW; lizard's tail (*Saururus cernuus*), OBL; and dwarf palmetto (*Sabal minor*), FACW.

The area defined as "Cypress Swamp" was observed to have wet conditions. The habitat was observed to be a healthy and thriving cypress swamp with an average of 60 percent canopy coverage. The hydrology in this area is directly connected to the Gulf of Mexico tidal flux via its connections to the surrounding canals. Dominant vegetative species observed within the tree stratum include: bald cypress (*Taxodium distichum*), OBL and red maple (*Acer rubrum var. drummondii*), FAC. Dominant vegetative species observed within the herb stratum include: lizard's tail (*Saururus cernuus*), OBL; pickerelweed (*Pontederia cordata*), OBL; and cattail (*Typha latifolia*), OBL.

3.5 General Bank Need

The proposed Bank, through reforestation of agricultural production land to forested wetlands, is expected to restore, provide, and enhance certain biogeochemical processes including attenuation, transformation, and storage of pollutants. Wetland ecological benefits to the watershed from re-forestation include increased nesting, feeding, foraging, denning and loafing habitat functions for wetland and aquatic species through both desirable canopy re-establishment, and increased desirable native wetland vegetative cover in the ground cover and shrub/sapling strata. Through hydrological restoration, increased wetland hydroperiods will provide greater storage volumes within the Lafourche Basin, and provide increased biogeochemical and habitat benefits to aquatic species, as well as refuge during drier years within the restored depressional area.

The proposed JBMB will directly address several identified needs, which include the following:

The Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) *Basin Plan*:

- Supporting short-term strategy is to consider site-specific, small-scale projects in all subbasins where there is a critical need for wetlands protection or restoration, or a significant opportunity for wetlands creation. In the short-term, demonstration and pilot projects must also be conducted to develop, or test methods and approaches needed for implementing long-term strategies.
- Achieving no net loss of wetlands in the basin.

The Lafourche Parish Comprehensive Resiliency Plan:

- Support and maintain existing marsh management projects in the area to maximize retention of freshwater within marshes and swamps without excessive flooding of vegetation.
- Invest in infrastructure improvements, from improved roads and levees to restored wetlands.
- Restore the region's natural hydrologic function, where possible.
- Preserve wetlands and areas along bayous and other waterways.

Coastal Protection and Restoration Authority of Louisiana: Louisiana's Comprehensive Master Plan for a Sustainable Coast (2017).

- Promote a sustainable coastal ecosystem by harnessing the natural processes of the system.
- Providing a sustainable long-term solution for coastal protection and restoration.

4.0 ESTABLISHMENT OF THE MITIGATION BANK

This section describes how the mitigation bank will be established, as stated in 33 CFR 332.8(d)(2) (ii); the technical feasibility of the proposed mitigation bank, as stated in 33 CFR 332.8(d)(2) (iv); and the assurance of sufficient water rights to support the long-term sustainability of the mitigation bank, as stated in 33 CFR 332.8(d)(2)(vii)(A).

4.1 Site Restoration Plan

This section provides information on the proposed soils, hydrologic, and vegetative work that was determined to be necessary for restoration, enhancement, and/or preservation of the proposed site.

This Bank will provide the cumulative re-establishment of 105.3 acres of BLH and 16.1 acres of CS, the rehabilitation of 11.3 acres of BLH and 64.7 acres of CS, the preservation of 18.7 acres of CS, and the restoration of 10.0 acres of upland buffer in the Barataria Basin watershed (HUC 08090301). The current and proposed habitat types, proposed mitigation types, and acreages are listed in Attachment A: Table 1 & Attachment A: Figures 15 & 16. In order to achieve the goals and objectives of the Bank, and to meet all requirements stated in 33 CFR 332.8; in summary, the Sponsor will cease sugarcane production, chemically control invasive species, subsoil non-forested re-establishment and rehabilitation planting areas, restore natural hydrology and allow for the natural recruitment of wet herbaceous plants, reforest historical BLH and CS habitat, preserve CS swamp, and restore and maintain buffer habitat along the southern boundary. Also, the Sponsor will implement effective short-term and long-term management strategies.

4.1.1 Soils/Hydrologic Work

Over the course of the land's conversion from its natural state to managed agricultural land, modifications such as elevated dirt access roads, headland roads, ditches, culverts, and canals were installed to control site hydrology. To restore this area's natural hydrology and meet the objectives of JBMB, these modifications must be removed. The Sponsor anticipates no long-term structural management requirements will be needed to assure sustained hydrology and wetland functions at JBMB (Attachment A: Figure 12 & Attachment F).

After all sugarcane production activities have ceased, and prior to seedling plantings, the Sponsor will complete the following tasks to restore natural hydrology at JBMB:

To connect the area south of the natural ridge to the Halpin canal the Unnamed Agricultural Canal will be constructed into a cypress swamp habitat that functions as a swale (Attachment F: Cross Sections I, N, O, P, & Q). This swale is not intended to fully drain the areas south of the natural ridge. This swale will provide hydrologic conveyance during high water to allow draining and to receive back water flooding from the Halpin canal. The swale will start at the eastern point of the Southern Slide Gate Canal, which is the lowest elevation point south of the natural ridge. To achieve this the Sponsor will, utilize material used to create the two paralleling Non-wet Elevated Dirt Road. Using this material, The Unnamed Agricultural Canal will be filled just below grade to carry water over the natural ridge connecting the ebb and flow of the Halpin canal to the southern portion of JBMB. This construction will also connect the Impounded Emergent Swamp to the ebb and flow of the Halpin canal.

To expand sheet flow of the Non-Wet Ag Fields and stop current channelization from the East West Ditch and the Unnamed Agricultural Canal agricultural south of newly created swale will be filled to natural grade (Attachment F: Cross Sections D, E, & F).

To restore sheet flow to the current Non-wet Agricultural Fields, Non-wet Elevated Roads, Wet Fallow Fields, and Wet Scrub Shrub with Tallow the interior cross drainage ditches, rows, culverts, and roads will be removed (Attachment F: Cross Sections A, B, & K). To achieve this, the Sponsor will remove all; culverts then disk plow and chop these areas to natural grade. In order to remove Chinese tallow trees and to reduce competition with planted trees all vegetation within the Wet Scrub Shrub with Tallow habitat will be grubbed prior to disk plowing and chopping. To restore natural sheet flow to the Wet Soft mast Forest the Sponsor will first grub vegetation then fill in remnant sugar cane rows and ditches with earthen material to natural grade (Attachment F: Cross Sections M and H1). The southern non-wet Elevated roads will be degraded into the parallel ditches to natural Non-wet Elevated roads grade (Attachment F: Cross Sections F1 & J).

The Southern and Northern Slide Gate Canal's will be filled to restore natural hydrology (Attachment F: Cross Sections G, H, L, & N). To achieve this, the Sponsor will remove all slides gates and culverts then excavate the earthen material used to create the surrounding Non-wet Elevated Roads into the canals to natural grade.

The berm along the west side of the project boundary will remain to isolate hydrology on JBMB (Attachment F: Cross Sections C). It is important to not this berm is outside of the Bank boundary. The topography within the southern pipeline right-of-way, central electrical and pipeline right-of-way, and the northern pipeline right-of-way are currently at natural grade and supporting herbaceous wetland functions (Attachment F: Cross Sections O). The berm and the rights-of-way's will not affect the Sponsor's ability to restore natural hydrology to JBMB (Attachment A: Figure 12).

After restoration, the Bank's hydrology will be driven by direct precipitation, surface runoff, high water tables, and tidal flooding. Post construction hydrology at JBMB will be bi-directional as it is now connected to the tidal flux of the Gulf of Mexico. Starting south, excess waters from higher elevations will slowly flow northeast across BLH and CS habitats until they reach the lowest elevation point south of the natural ridge where the swale begins. Once these waters reach the swale they will then be conveyed north over the natural ridge. Waters will then be directed northwest into the restored CS habitats that are hydrologically connected to the Halpin canal. The hydrology of the CS preservation will remain tidal, as there are no hydrological modifications need to sustain the current forested habitat (Attachment A: Figures 14, 14A, 14B, 14C, and 14D).

Hydrological restoration of JBMB will re-establish wetland hydrology to 105.3 acres of BLH and 16.1 acres of CS and rehabilitate the wetland hydrology of 11.3 acres of BLH and 64.7 acres of CS by connecting these once isolated areas to the ebb and flow of the regional hydrology. Also, hydrology will be preserved in the 18.7 acres of the currently cypress swamp. After site construction is completed, JBMB will contain 42 acres of BLH re-establishment and 10.0 acres of upland restoration that are over the 5' contour. Many objectives will be achieved by the hydrologic restoration of the project area. The restoration will increase surface-water retention time for vegetative nutrient uptake and sedimentation. Also, localized and downstream water quality will improve by removing agriculture activities. Restoration will also restore natural hydrologic cycling and flood storage which will inundate soils and return them to their natural historic hydric process.

4.1.2 Vegetative Work

The restoration of JBMB topography and vegetative habitats is expected to institute the reclamation of the organic material to the system's soil and to filter sediment deposition runoff into the surrounding watershed. Also, rebuilding BLH and CS habitats with native wetland trees and emergent species will positively affect the physical structure of the area and will restore biogeochemical processes in the soil considerably via additional plant and invertebrate detritus.

Bottomland Hardwoods

The Sponsor intends to re-establish 105.3 acres BLH and rehabilitate 11.3 acres of BLH by conducting tree plantings and allowing the natural recruitment of appropriate emergent and tree species within the mitigation areas (Attachment A: Figures 16 and 20). The BLH planting will be conducted during the first planting season (December 15 to March 15) following the completion of all soils/hydrological work. Current and fallow agricultural fields will be subsoiled prior to planting. Existing forested areas will not be subsoiled prior to planting. Current Wet Soft Mast Forest north of the southern slide gate canal will be grubbed and ditches will be filled prior to planting. BLH habitat locations and species composition were determined by analyzing lidar data, hydrology data, soil data, LDWF Natural Communities of Louisiana, CRMS data, and species composition of reference sites. Post constriction BLH habitat elevation will range from approximately 2.0 ft to 7.9 ft. The composition of BLH species chosen will match species to the closest extent possible to those on adjacent wetlands with similar soil types. Commercial BLH species will be chosen where appropriate to tolerate the same hydrological conditions as those on the adjacent lands and according to elevations on the proposed site (Attachment C: BLH & UPR Species List). All seedlings must be obtained from a registered, licensed Louisiana nursery grower. The contractor must obtain and provide to DNR/OCM certification from the contracting nursery that plant materials are of a Louisiana ecotype species and have been acclimated to Louisiana climatic and habitable conditions for at least 90 days prior to planting. Bare-root seedlings of mixed BLH species will be planted within BLH re-establishment and rehabilitation tracts at approximately 9' X 9' spacing at a minimum initial stand density of 538 stems per acre. The final target BLH species composition will be 60 percent hard mast and 40 percent soft mast species. Because of anticipated natural recruitment of soft mast species, JBMB will be planted at a 75:35 hard to soft mast ratio. Hard mast species within BLH areas shall comprise of no less than 60 percent or greater than 80 percent of seedlings overall. No individual species will represent more than 20 percent of the vegetative plantings.

Upland Restoration

The 10 acres of upland restoration buffer at JBMB will be planted with seedlings of mixed BLH species, at approximately 9' X 9' spacing at a minimum initial stand density of 538 stems per acre (Attachment D: BLH & UPR Species List). The upland restoration area will be subsoiled prior to planting.

Cypress Swamp

The Sponsor intends to re-establish 16.1 acres CS and rehabilitate 64.7 acres of CS by conducting tree plantings and allow the natural recruitment of appropriate emergent species within the mitigation areas. There will be no plantings within preservation area (Attachment A: Figures 16 and 20). The CS planting will be conducted during the first planting season (December 15 to March 15) following the completion of all soils/hydrological work. Current and fallow agricultural fields will be subsoiled prior to planting. Existing forested areas will not be subsoiled prior to planting.

Current Wet Soft Mast Forest, Wet Fallow Fields, and Wet Scrub Shrub with Tallow habitat will be grubbed and ditches and ag rows will be filled prior to planting. The grubbing is taking place because of anticipated extend hydro periods which will be too long for the current tree species to thrive. Therefore, restoring sheet flow and planting a more water tolerant trees species is essential to restoration these degraded areas.

CS habitat locations and species composition were determined by analyzing lidar data, hydrology data, soil data, LDWF Natural Communities of Louisiana, CRMS data and species composition of reference sites. Post constriction CS habitat elevation will range from approximately 0.5 ft to 2.0 ft. The composition of CS species chosen will match species to the closest extent possible to those on adjacent wetlands with similar soil types. Commercial CS species were chosen to tolerate the same hydrological conditions as those on the adjacent lands and according to elevations on the proposed site (MWP Attachment D: CS Species List). All seedlings will be obtained from a registered, licensed Louisiana nursery grower. The contractor must obtain, and provide to DNR/OCM, certification from the contracting nursery that plant materials are of a Louisiana ecotype species and have been acclimated to Louisiana climatic and habitable conditions for at least 90 days prior to planting. Seedlings of mixed CS species, where appropriate, will be planted at approximately 12' X 12' spacing at a minimum initial stand density of 302 stems per acre.

4.1.3 Noxious Plant Control

The Sponsor intends to use all prudent efforts, physical or chemical to eliminate existing invasive/exotic vegetation present such as Chinese tallow (*Triadica sebiferum*) at JBMB. This may include, but is not limited to, spray on application by helicopter as well as hand spraying by ground field crews. Prior to planting, all Chinese tallow within and immediately surrounding the mitigation boundary will be chemically treated with herbicides and eliminated. The treated tree stems will be left in place to deteriorate naturally within the system. No mechanized land clearing or large logging equipment will be used for exotic eradication. If needed, aerial or ground application of annual/perennial grasses and broadleaf weed herbicides will be used to effectively reduce competition for planted seedlings in re-establishment and rehabilitation areas.

In addition, the Sponsor will control these undesirable/exotic species as part of the maintenance and monitoring plan. Monitoring for exotic and invasive species will occur annually and control techniques will be implemented as needed to sustain long-term undesirable/exotic species presence to 3 percent per acre or less. This may include, but is not limited to, spray on application by helicopter as well as hand spraying by ground field crews. The Sponsor will also control undesirable/exotic species within the right-of-ways that cross the Bank boundary (MWP Attachment A: Figure 9). As the Bank matures, monitoring will continue but exotic species control measures are expected to decline as a steady state self-perpetuating natural ecosystem is established. Funding will be available for any of the above stated maintenance until long term success criteria are met.

4.2 Technical Feasibility

The construction work required to develop the Bank is routine in nature and feasible. The mitigation activities involve primarily reforestation using bare-root seedlings. These activities have long been utilized in wetland restoration and mitigation projects and are proven methods. The Sponsor has the necessary funds and personnel to successfully implement the proposed vegetative plantings. A more specific examination of the technical restoration methods is presented in Section 4.0 of this Prospectus.

4.3 Current Site Risk

At this time there are no right-of-ways/servitudes, liens, or oil and gas leases within the Bank boundary. In preparation for this project design the Sponsor has reviewed a preliminary title. A title opinion and survey plat will be provided with the anticipated Draft MBI submittal.

All the listed right-of-ways (ROW) below are adjacent to the JBMB boundary. Please see Attachment A: Figure 9 for easement locations.

The southernmost ROW that bisects JBMB, is a gas pipeline owned by Shell Pipeline Company LP. This ROW is maintained by bush hogging typically once a year to prevent the growth of woody species. The existing gas pipeline will not negatively affect the hydrological goals of JBMB. The topography within this ROW is currently at natural grade that is supporting a herbaceous wetland that provides edge habitat for wildlife.

The centrally located ROW is a powerline with a paralleling gas pipeline ROW that bisects JBMB. The powerline belongs to Entergy Louisiana, LLC. The gas pipeline belongs to Williams Transcontinental Gas Pipe Line Company, LLC. This ROW is maintained by bush hogging typically once a year to prevent the growth of woody species. The ROW will not negatively affect the hydrological goals of JBMB. The topography within this ROW is currently at natural grade that is supporting a herbaceous wetland that provides edge habitat for wildlife. Existing powerlines and gas pipeline will not negatively affect the hydrological goals of JBMB.

The northernmost ROW that bisects JBMB, is a gas pipeline owned by Texas Eastern Transmissions. This ROW is maintained by bush hogging typically once a year to prevent the growth of woody species. The existing gas pipeline will not negatively affect the hydrological goals of JBMB. The topography within this ROW is currently at natural grade that is supporting a herbaceous wetland that provides edge habitat for wildlife.

Along the Halpin canal there is an 100ft Lafourche parish clean out servitude. This servitude will not affect the hydrological goals of JBMB. Louisiana Statute RS 38:113 states: the various levee and drainage districts shall have control over all public drainage channels or outfall canals within the limits of their districts which are selected by the district, and for a space of one hundred feet on both sides of the banks of such channels or outfall canals, and one hundred feet continuing outward from the mouth of such channels or outfall canals, whether the drainage channels or outfall canals have been improved by the levee or drainage district, or have been adopted without improvement as necessary parts of or extensions to improved drainage channels or outfall canals, and may adopt rules and regulations for preserving the efficiency of the drainage channels or outfall canals.

Louisiana Department of Natural Resources (LDNR) Strategic Online Natural Resources Information System (SONRIS) revealed an oil well location that was drilled by Schlumberger Limited in 1952 (serial number: 45140). According to SONRIS this well was plugged and abandoned on August 07, 1967.

4.4 Long-Term Sustainability of the Site

Due to its location and project design, the proposed Mitigation Bank has a very high likelihood of success. JBMB will be restored to the types of communities that were historically present in the project area. Long-term viability and sustainability of JBMB will

be ensured through active annual monitoring, adaptive management, invasive species control, and long-term maintenance. The natural hydrologic and landscape processes that have been altered for agriculture production will be reversed by a hydrological connection to the natural ebb and flow of the Barataria Basin System, tying JBMB to this region's natural hydrologic processes. No weirs or structures will be required to maintain the JBMB post-restoration hydrologic regime, so structural maintenance will not be an issue. Similarly, the reliance on the system's natural versus engineered hydrology will ensure that the restored habitats are subject to a regionally-appropriate, natural hydro-period. A long-term management plan will be included within the mitigation banking instrument. It will detail a long-term management plan and the associated costs, as well as identify a funding mechanism in accordance with 33 CFR 332.7(d).

5.0 PROPOSED SERVICE AREA

Due to JBMB location within the Barataria Basin, the Sponsor suggests the primary service area be the Barataria Basin. The Barataria Basin is made up of the East Central Louisiana Coastal (HUC: 08090301). This service area will provide offsets for unavoidable impacts to wetlands and "Waters of the United States". Use of JBMB beyond this area will be determined by the CEMVN on a case-by-case basis (Attachment A: Figure 17).

6.0 OPERATION OF THE MITIGATION BANK

This section describes how the proposed Bank will be operated, as required by 33 CFR 332.8(d)(2)(ii), and provides details on the proposed ownership arrangements and long-term management strategy for the mitigation bank, as required by 33 CFR 332.8(d)(2) (v).

6.1 Project Representatives

6.1.1 Sponsor and Operations Manager

JMB Partnership, LLC
203 Main Street
Franklin, Louisiana 70538
POC: Aaron Landry
(337) 205-6285
aaron@jmbcompanies.com

6.1.2 Landowner

Crossing Development, L.L.C.
203 Main Street
Franklin, Louisiana 70538
POC: Russell Walters
(337) 522-7207
russell@jmbcompanies.com

6.2 Qualifications of the Sponsor

The Sponsor, JMB Partnership, LLC is a subsidiary of the JM Burguières Co., Limited, which is a family legacy partnership established in 1877. The Sponsor has 144 years of land management experience in Louisiana, Texas, and Florida that includes wetland mitigation banking, conservation mitigation banking, sugarcane production, mineral

mining, and cattle ranching. The Sponsor's established mitigation banking business currently manages ten wetland mitigation banks in Louisiana: Cypremort-Teche, Cypress Creek, Bee Bayou, Kilgore Plantation, Marine Bayou, Nabours "No Hope", Big Darbonne Bayou, Cedar Grove, Bull Island, and Cedar Grove Amendment One. JMB also currently manages five wetland mitigation banks in Florida: Emeralda, Kissimme Ridge, Mangrove Point, Wiggins Prairie, and Trails End. Also, two conservation mitigation banks in Florida: Lake Wales Ridge and Lake Wales Ridge Sullivan Tract. JMB has a qualified technical staff that has multiple years of experience in wetland science, land management, and permitting.

6.3 Proposed Long-Term Ownership and Management Representatives

Crossing Development, L.L.C will own the property encompassing the 226.1 acre JBMB. JMB Partnership, LLC will serve as the mitigation service provider (Sponsor) and the long-term steward of JBMB. The Implementation as a mitigation bank (i.e. Conservation Servitude filing and implementation of the mitigation work plan) will be completed by the Sponsor.

6.4 Site Protection

Pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 et seq., a perpetual conservation servitude will be placed on the 226.1 acre JBMB. This servitude will be held by a conservation-oriented 501(c)(3) organization to be determined. The conservation servitude will be binding to and run with the title of the property. This conservation servitude will prohibit activities that would reduce the quality and quantity of the restored/enhanced wetlands, such as clear cutting, the discharge of fill, construction activities, cattle grazing, or other agricultural activities.

The servitude will also specify permissive activities such as hunting, fishing, recreational use, and mineral exploration given that the activity does not negatively affect the functions and values of the re-established, rehabilitated, enhanced, and preserved wetlands.

6.5 Long-Term Strategy

A long-term maintenance and protection escrow account will provide funding for long-term boundary maintenance and site protection in accordance with 33 CFR § 332.7 (d) into perpetuity. These long-term maintenance and site protection activities will be conducted by the Sponsor. The conservation easement will protect the site from any activities that would diminish the quality of restored wetlands on the site. No structures are proposed or would be necessary to assure hydrologic or vegetative restoration.

7.0 REFERENCES

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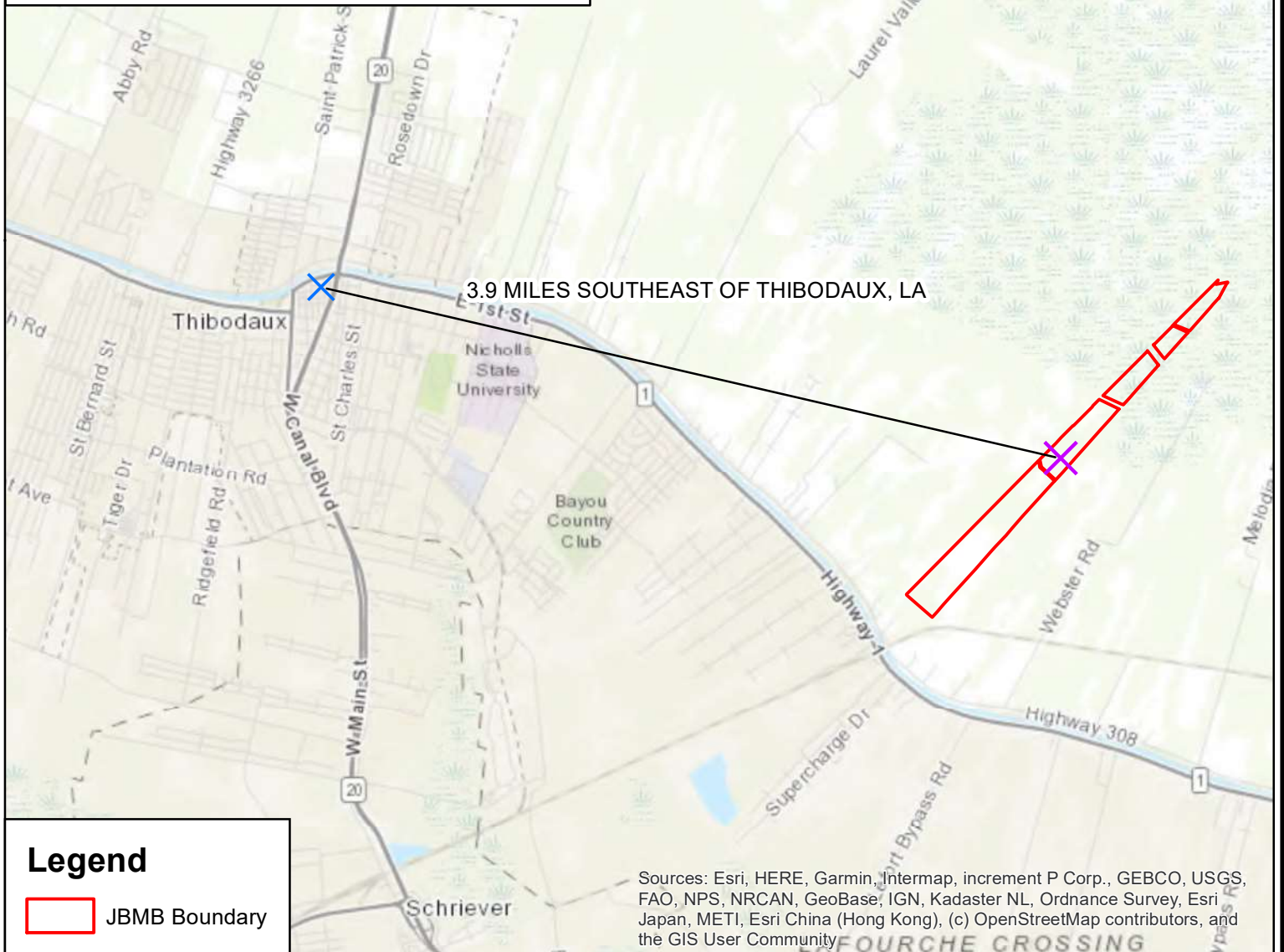
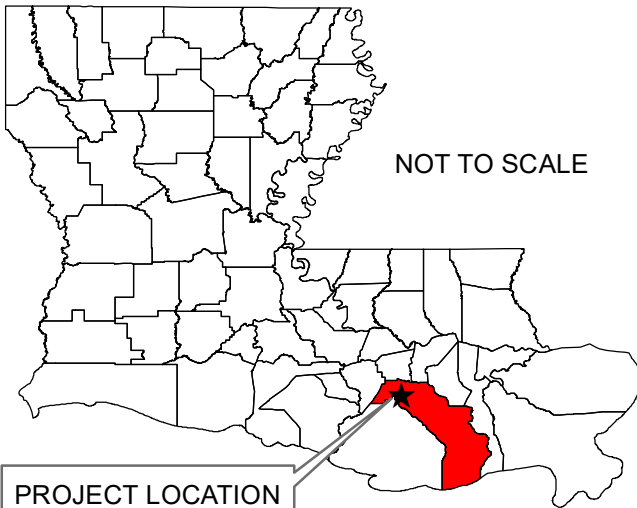
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Attachment A:
Maps and Exhibits



JO BLANCHE MITIGATION BANK

PROJECT VICINITY EXHIBIT

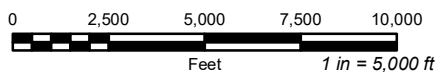
LAFORCHE PARISH, LA

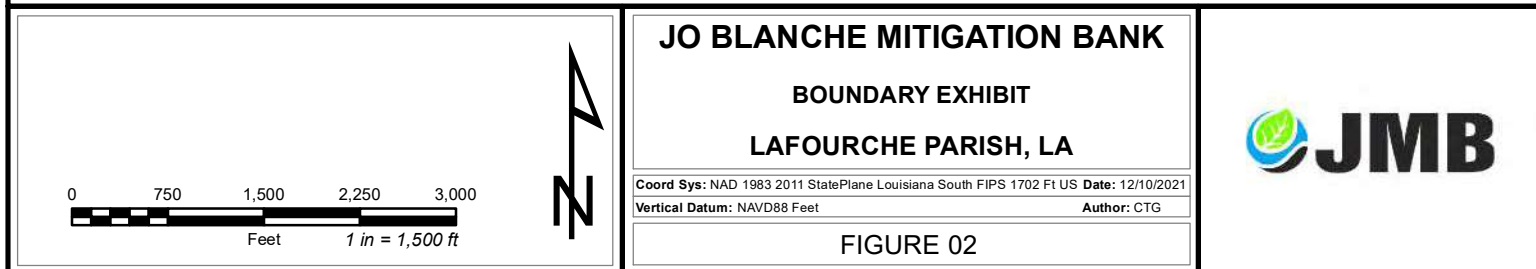
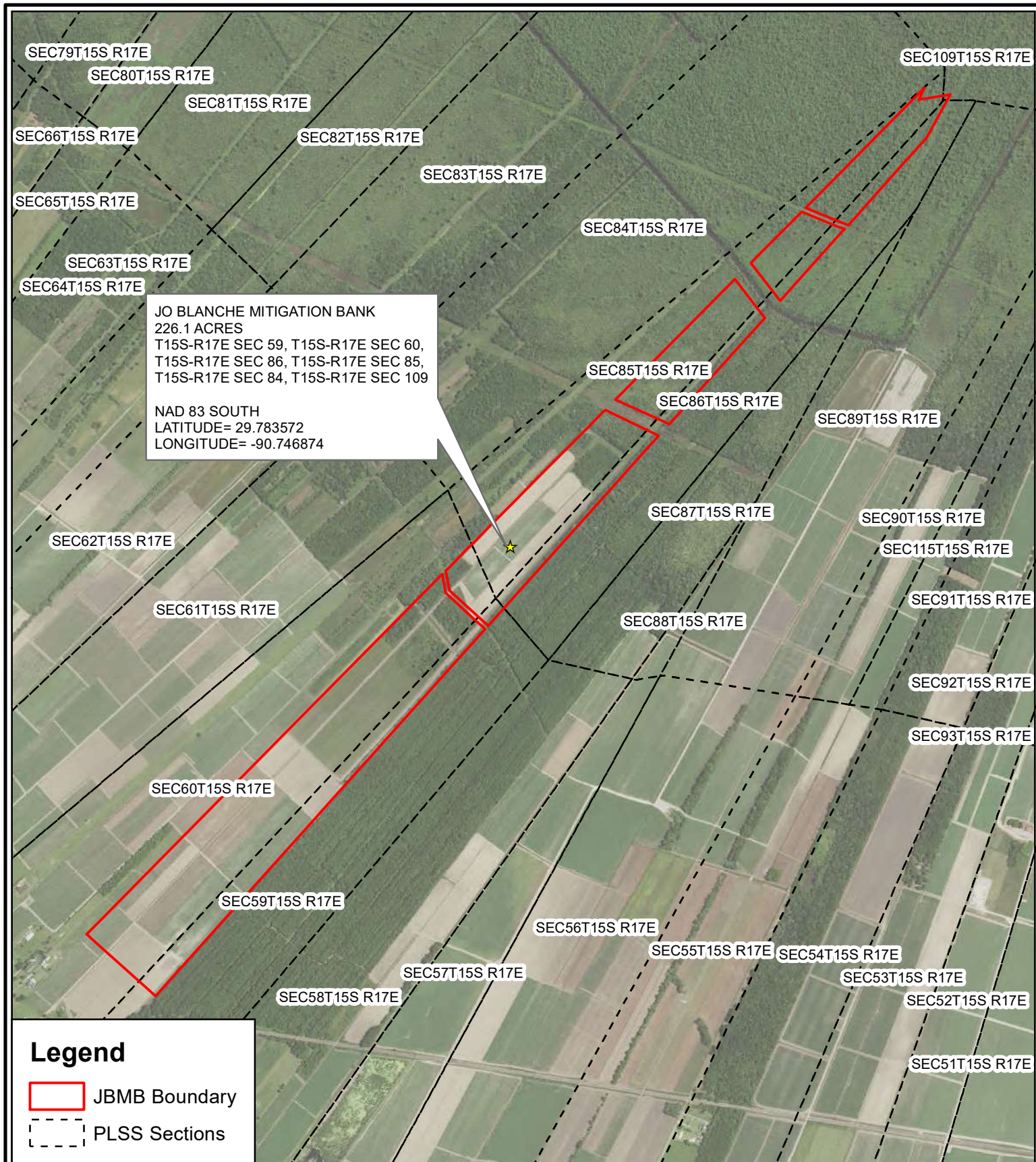
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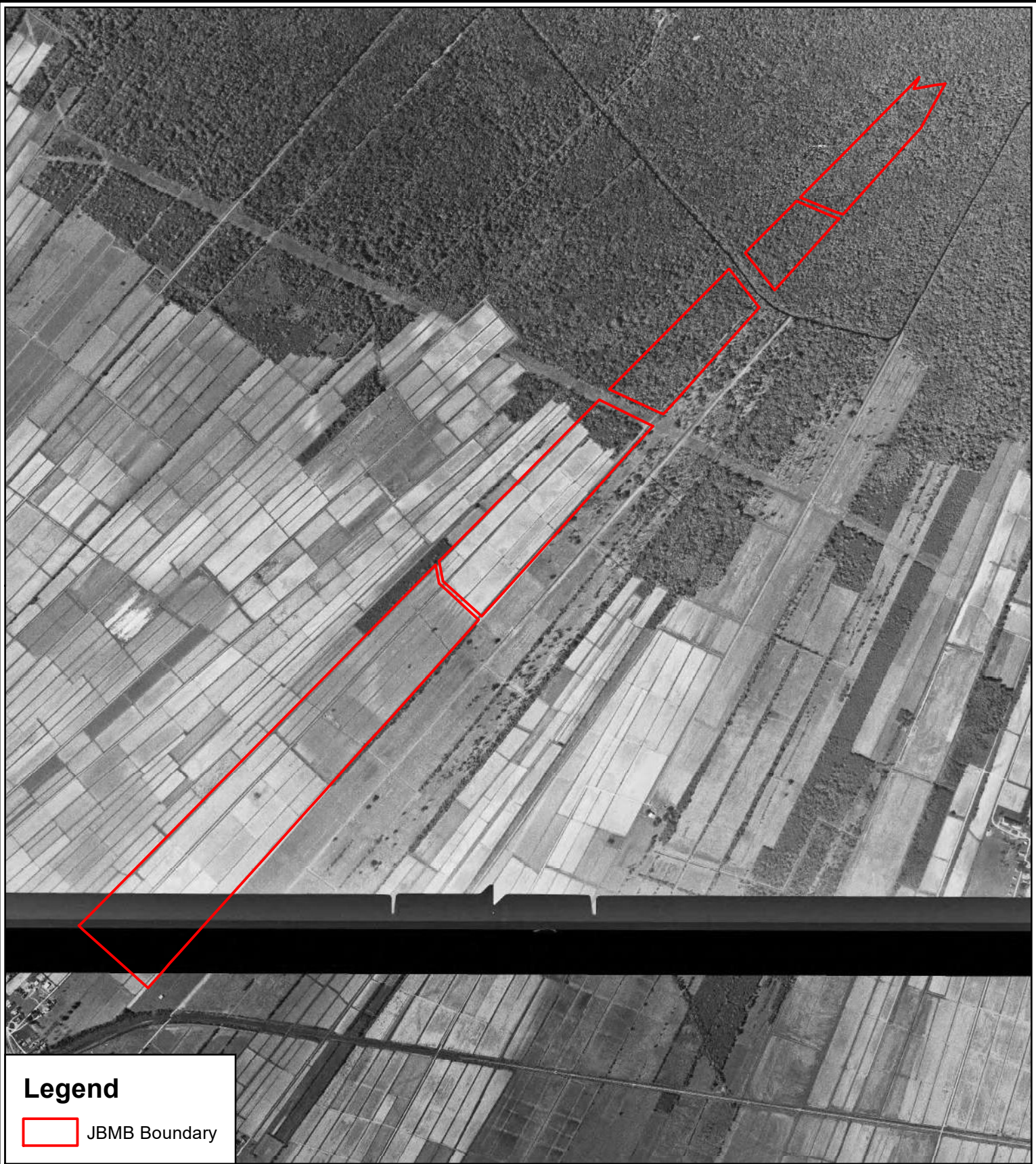
Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 01







Legend

 JBMB Boundary

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

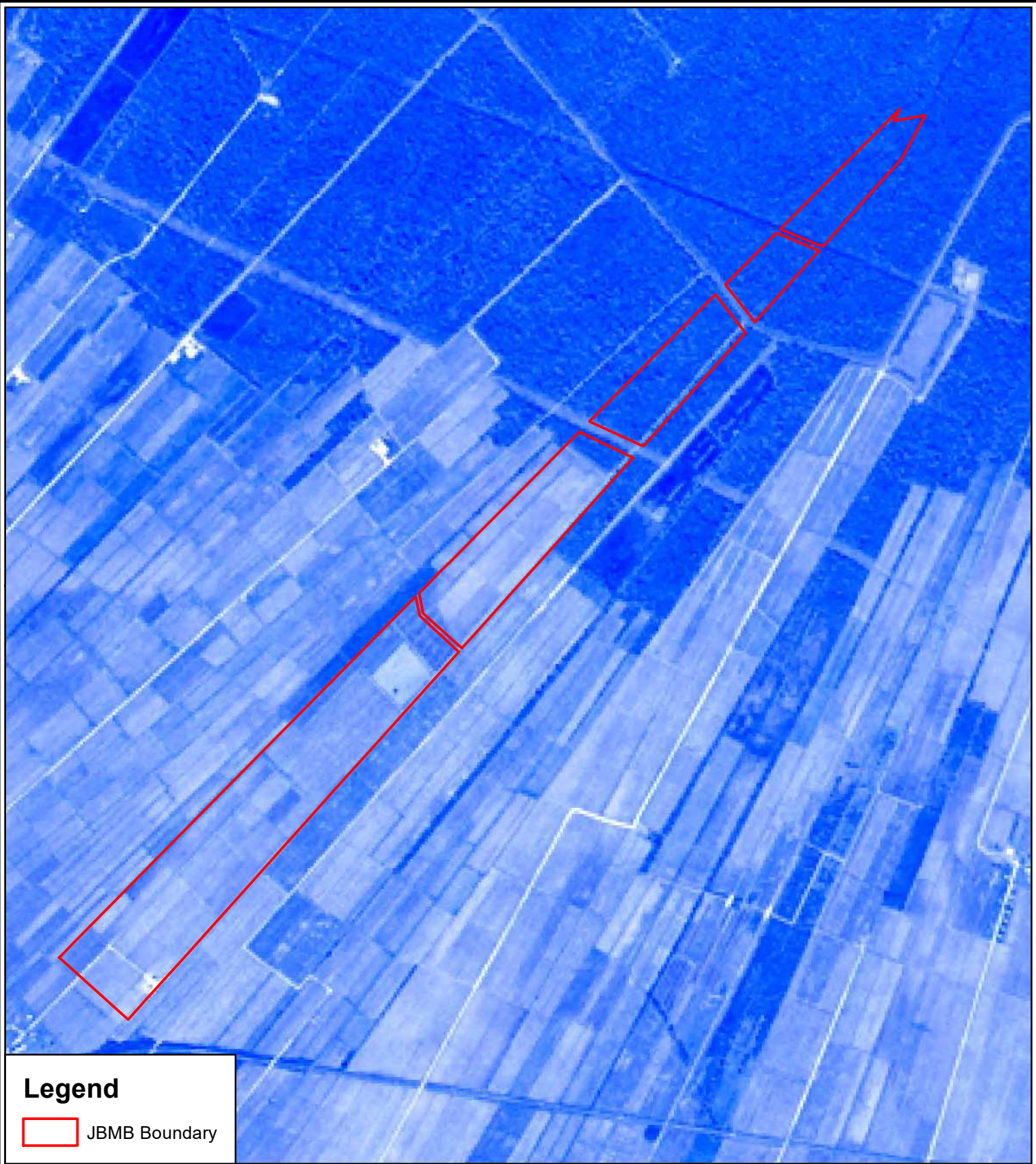
1961 HISTORIC IMAGERY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/18/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 02A





Legend

 JBMB Boundary

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

1972 HISTORIC IMAGERY EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/18/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 02B





Legend

 JBMB Boundary

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

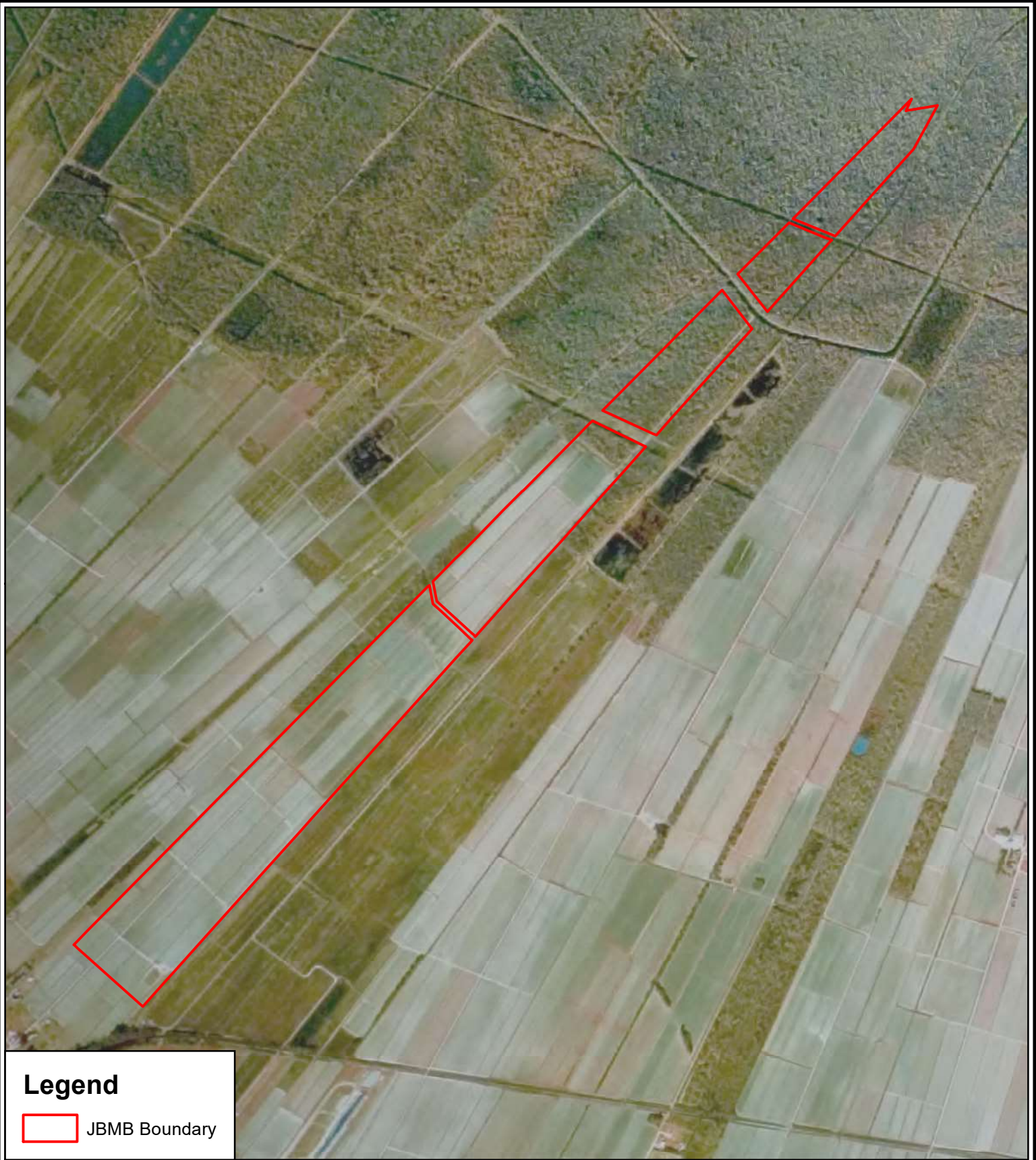
1994 HISTORIC IMAGERY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/18/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 02C





Legend

 JBMB Boundary

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

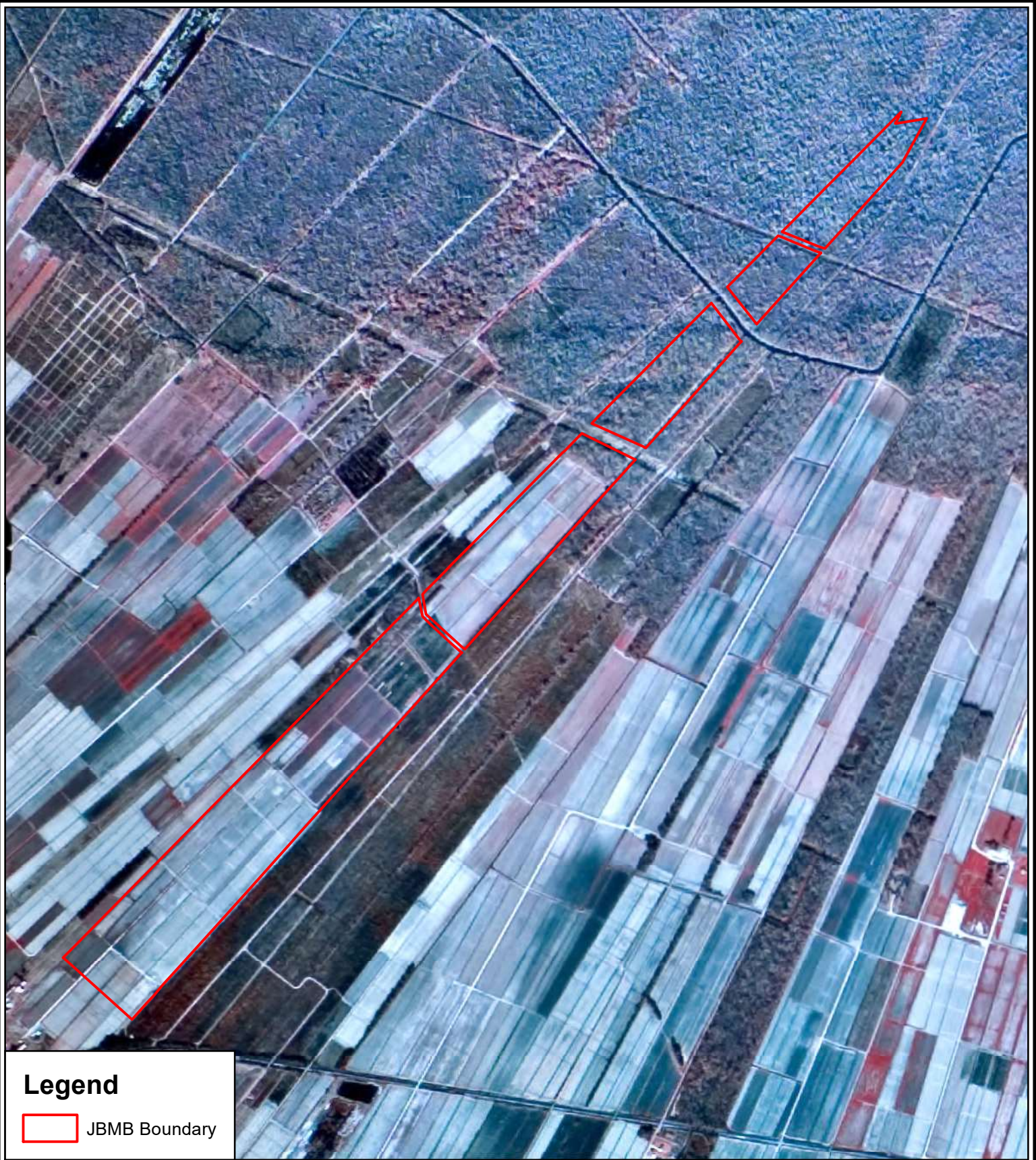
1998 HISTORIC IMAGERY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 02D





Legend

 JBMB Boundary

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

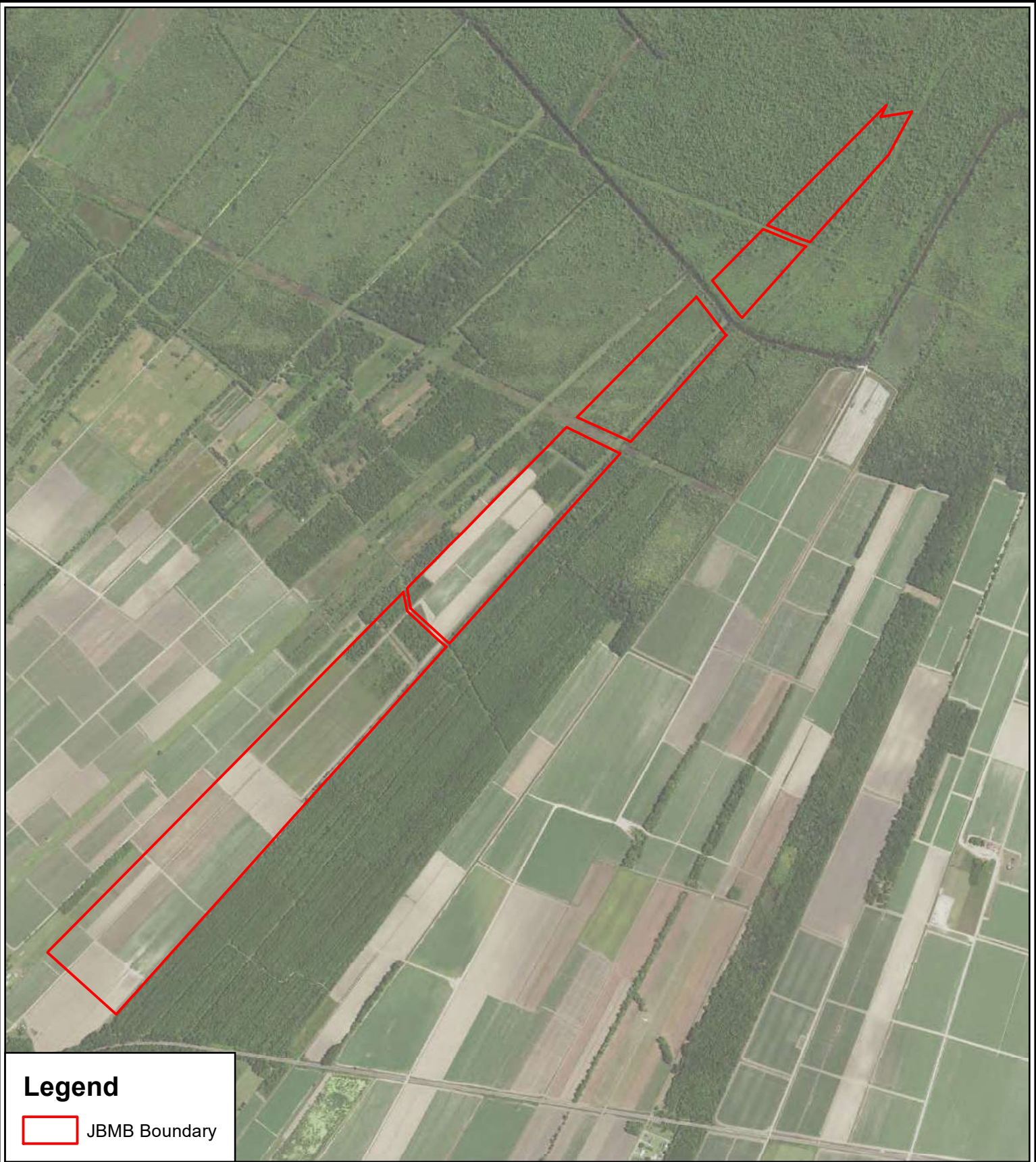
2004 CIR IMAGERY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 02E





Legend

 JBMB Boundary

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

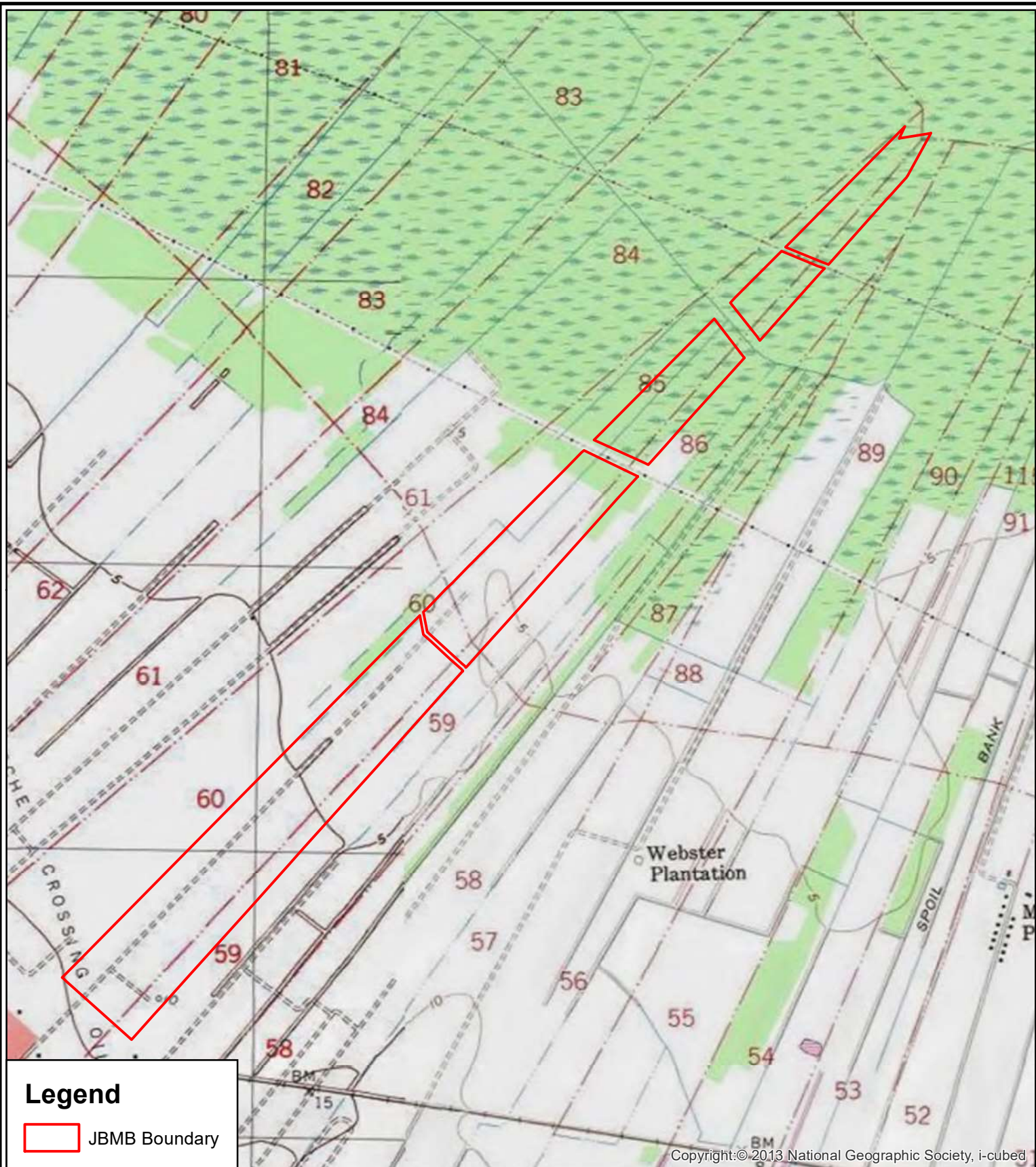
2019 IMAGERY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 02F





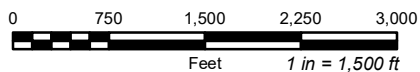
JO BLANCHE MITIGATION BANK

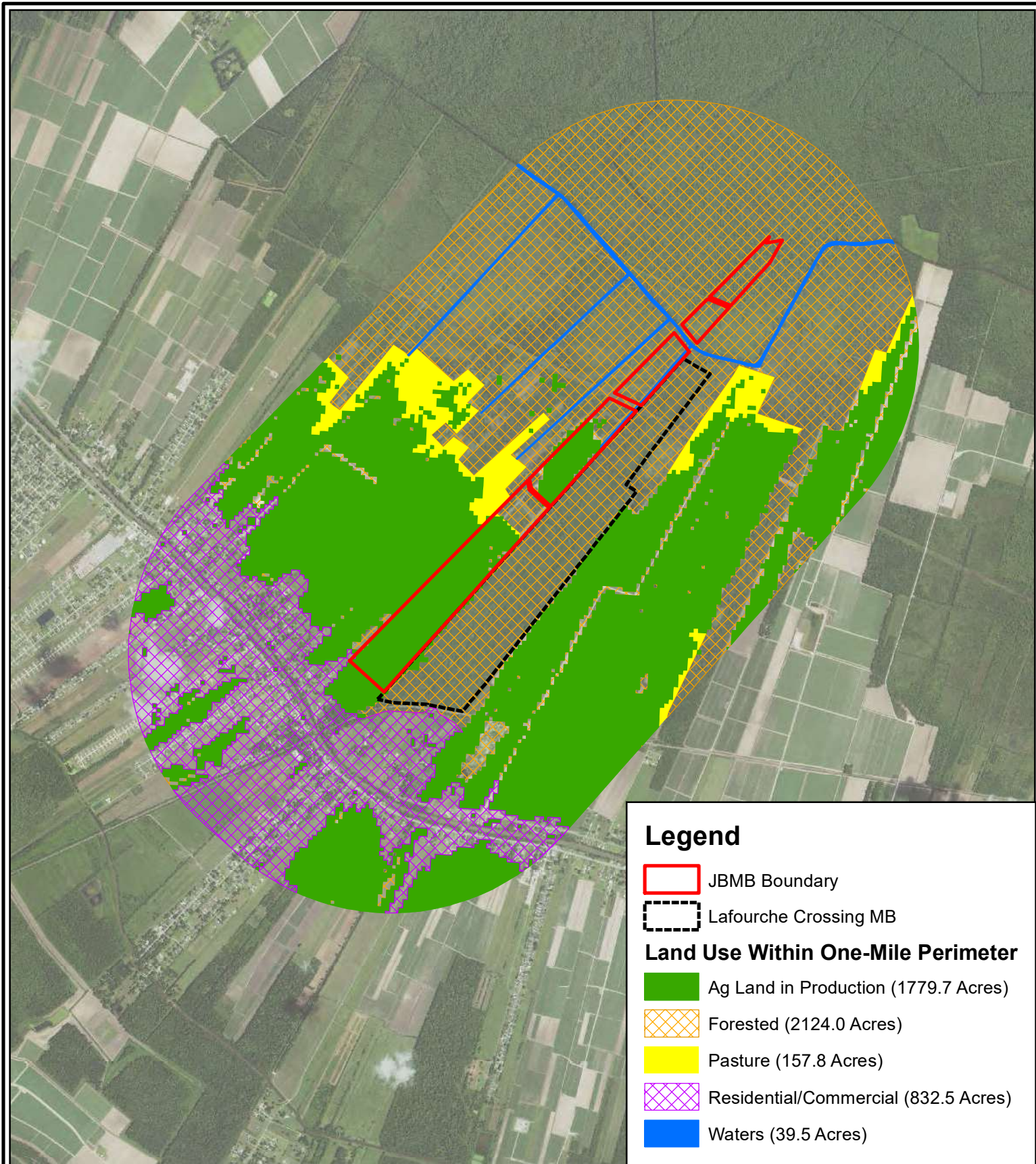
USGS 7.5 MINUTE QUADRANGLE EXHIBIT

LAFORCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 03





JO BLANCHE MITIGATION BANK

LAND USE EXHIBIT

LAFOURCHE PARISH, LA

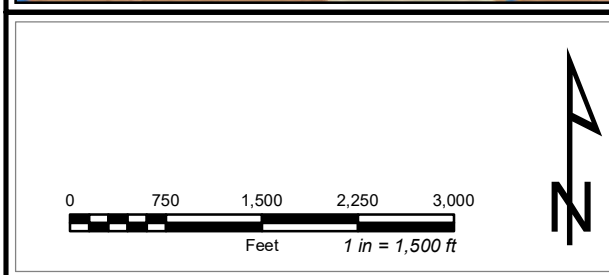
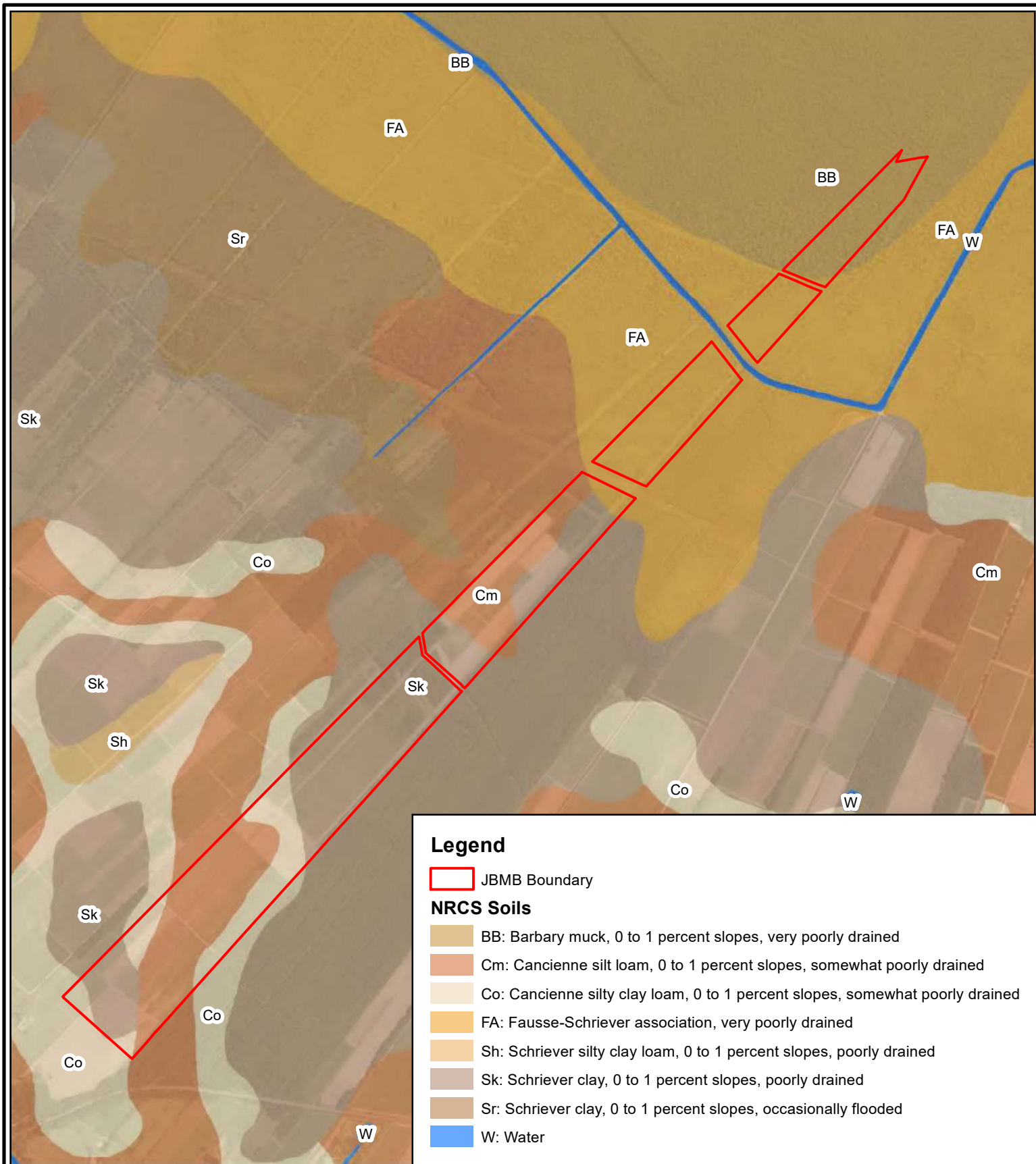
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 04



0 1,500 3,000 4,500 6,000
Feet 1 in = 3,000 ft





JO BLANCHE MITIGATION BANK

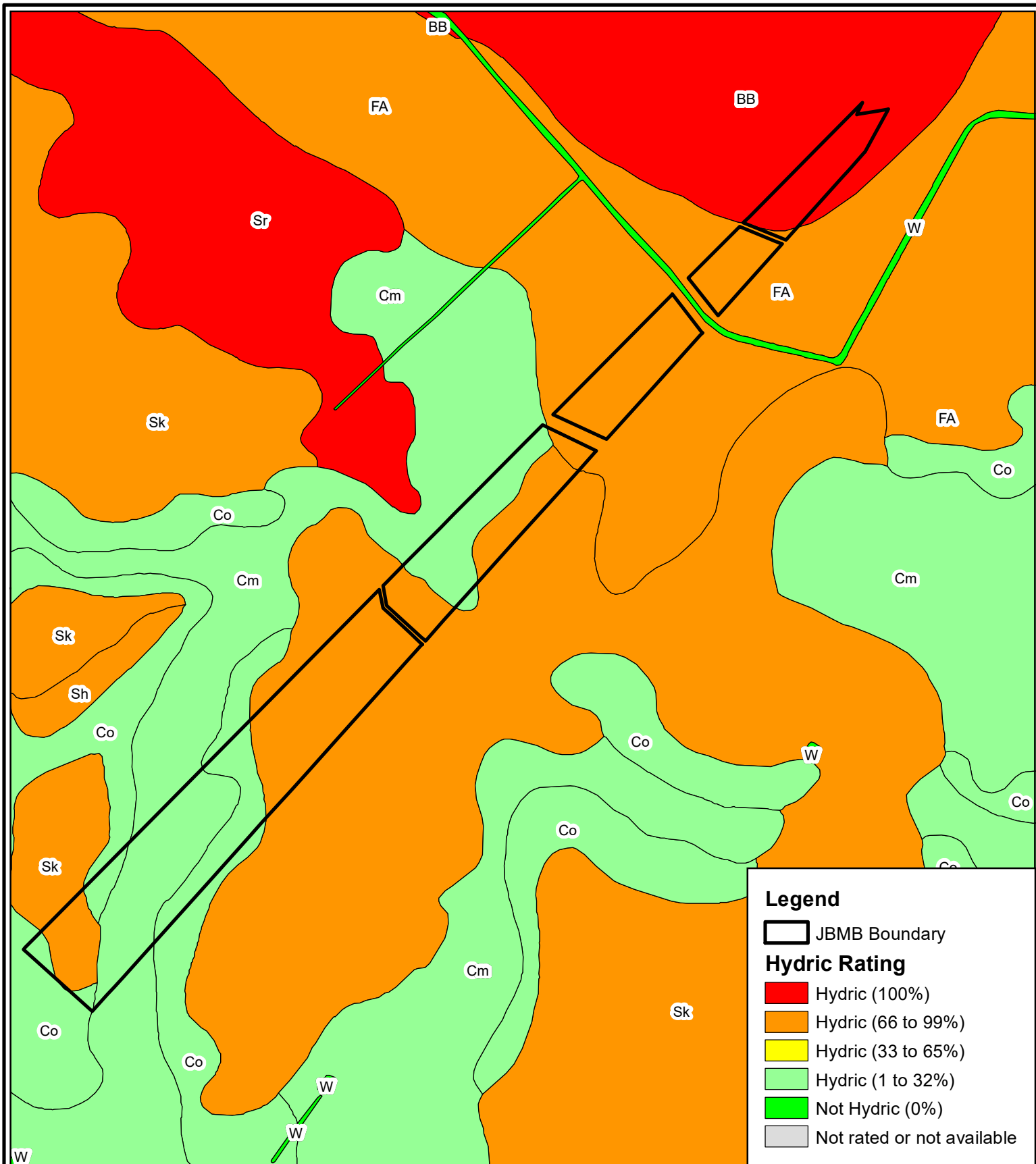
NRCS SOILS EXHIBIT

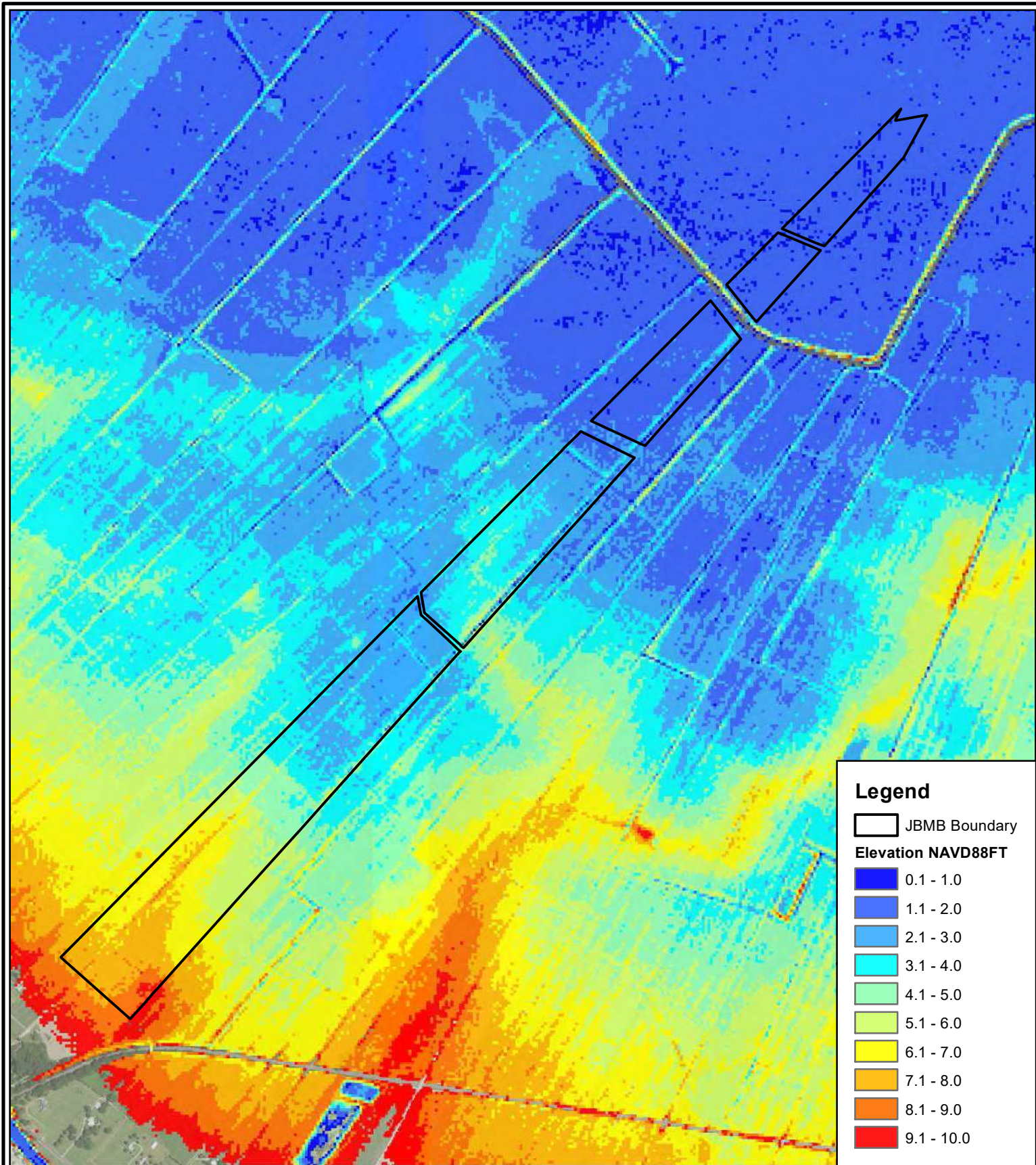
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 05







0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft

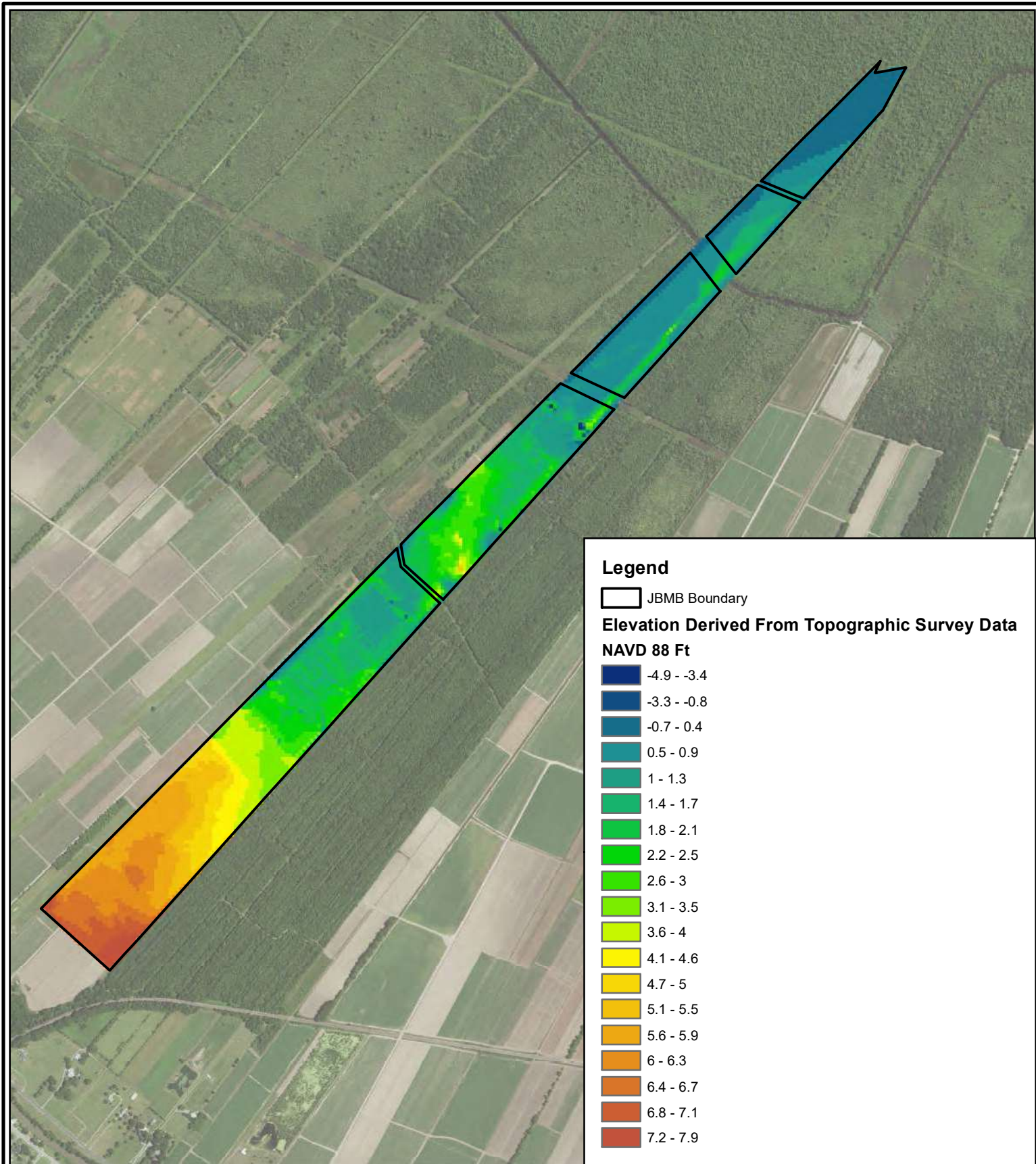


JO BLANCHE MITIGATION BANK
ELEVATION EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 07





Digital Elevation Model (DEM) Created in ArcPro
Topo Points Collected in State Plane 83 South
Vertical Datum: NAD 88FT

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft

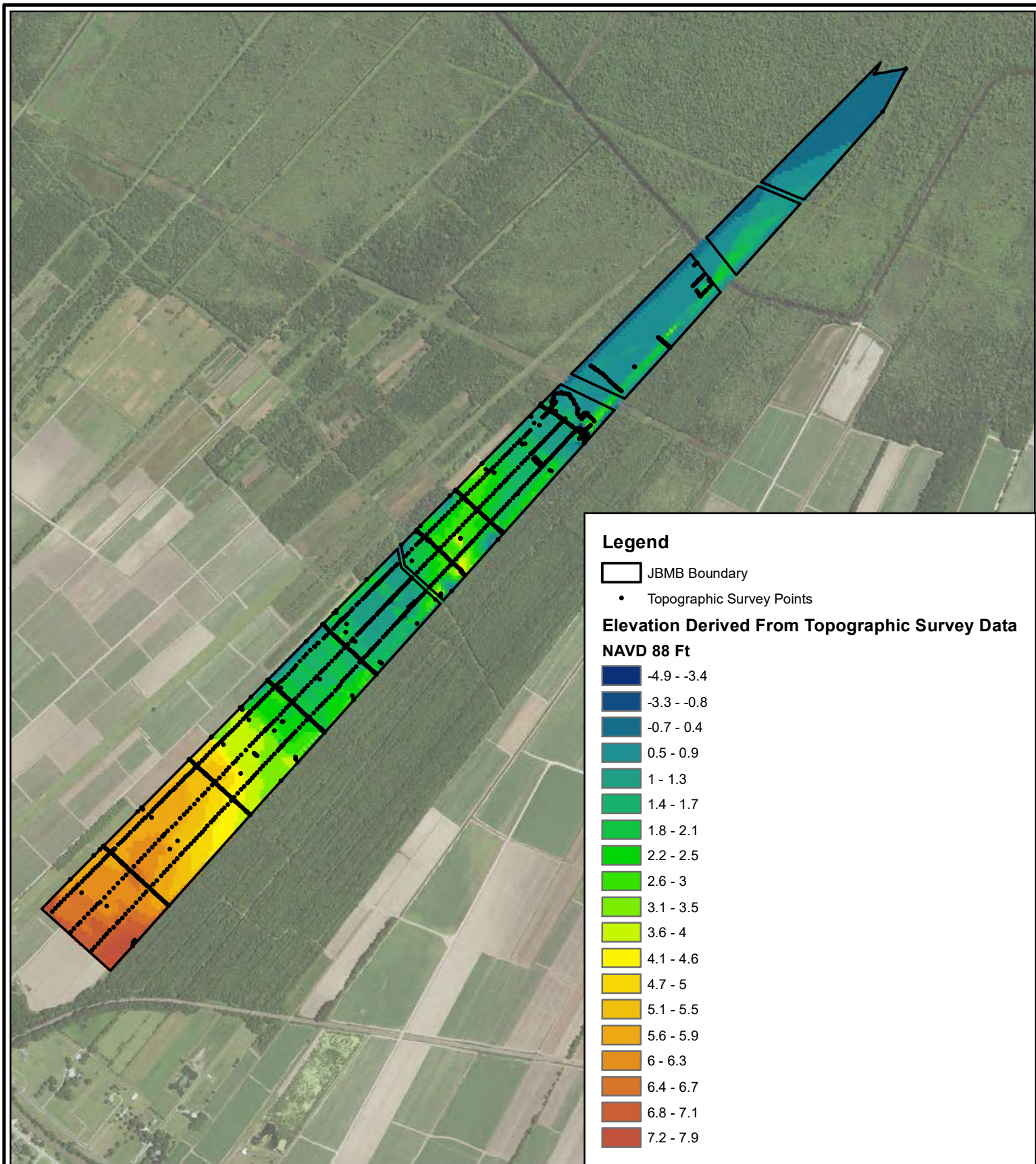


JO BLANCHE MITIGATION BANK
ELEVATION DERIVED FROM
SURVEYOR EXHIBIT
LAFORCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
Vertical Datum: NAVD88 Feet Author: RDB

FIGURE 07A





Digital Elevation Model (DEM) Created in ArcPro
Topo Points Collected in State Plane 83 South
Vertical Datum: NAD 88FT

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft

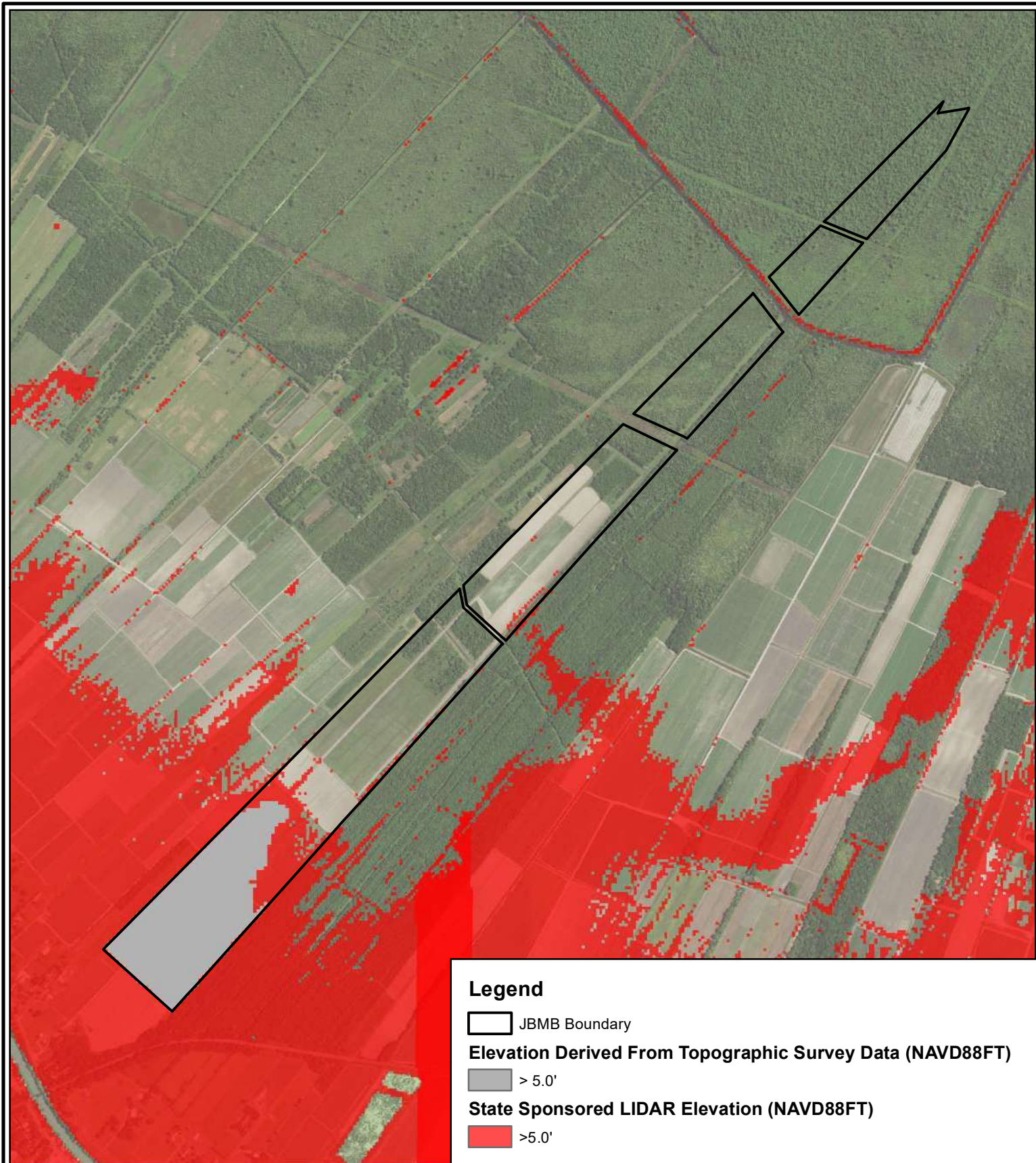


JO BLANCHE MITIGATION BANK
ELEVATION DERIVED FROM
SURVEYOR EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 07B





Legend

 JBMB Boundary

Elevation Derived From Topographic Survey Data (NAVD88FT)

 > 5.0'

State Sponsored LIDAR Elevation (NAVD88FT)

 >5.0'

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

SURVEYOR TOPOGRAPHIC ELEVATION DATA
VS. STATE SPONSORED LIDAR DATA FOR 5FT
CONTOUR EXHIBIT

LAFOURCHE PARISH, LA

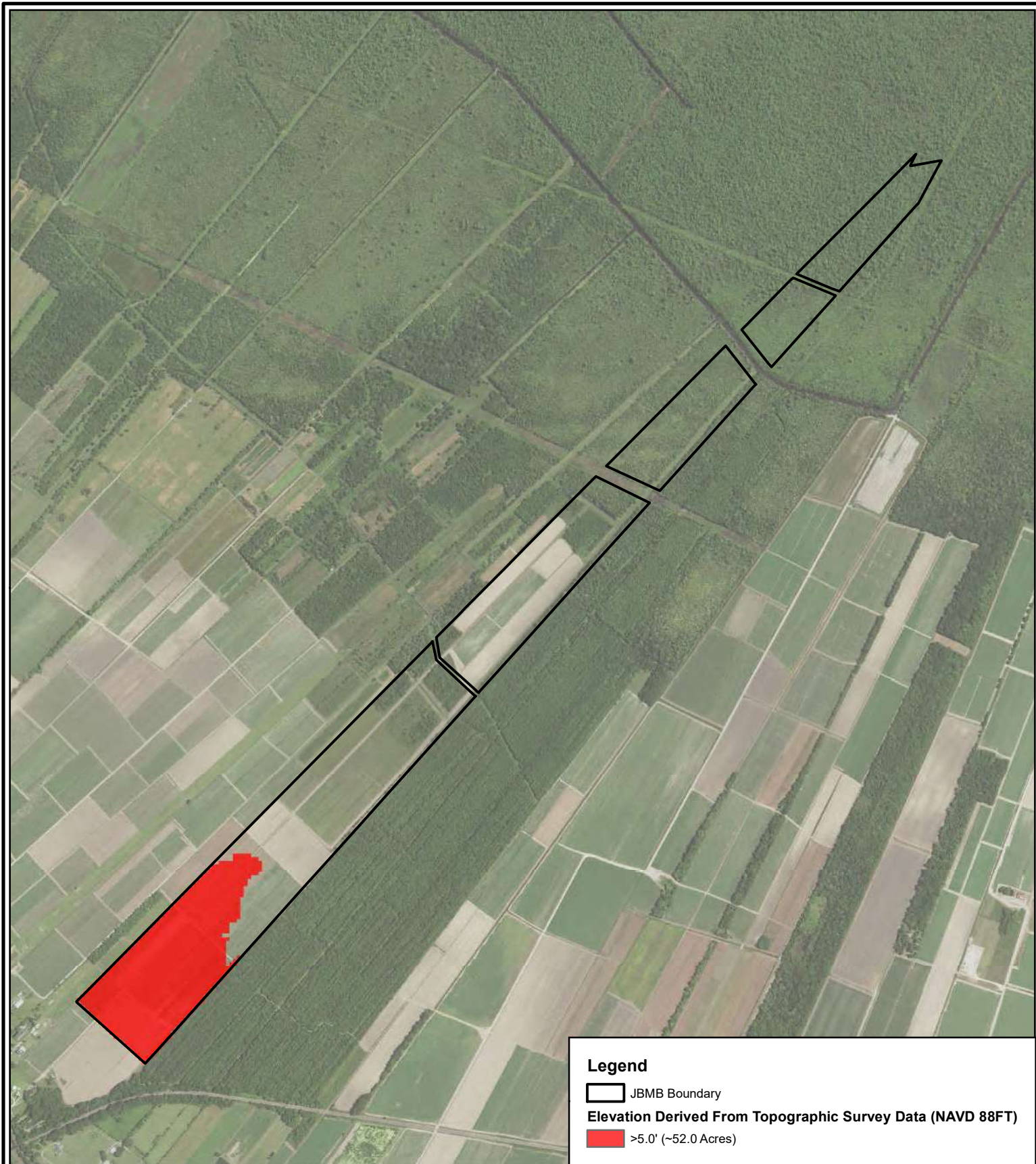
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022

Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 08





Legend

JBMB Boundary

Elevation Derived From Topographic Survey Data (NAVD 88FT)

>5.0' (~52.0 Acres)

Digital Elevation Model (DEM) Created in ArcPro
Topo Points Collected in State Plane 83 South
Vertical Datum: NAD 88FT

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK FIVE FOOT CONTOUR DERIVED FROM SURVEYOR EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
Vertical Datum: NAVD88 Feet Author: RDB

FIGURE 08A





Digital Elevation Model (DEM) Created in ArcPro
Topo Points Collected in State Plane 83 South
Vertical Datum: NAD 88FT

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft

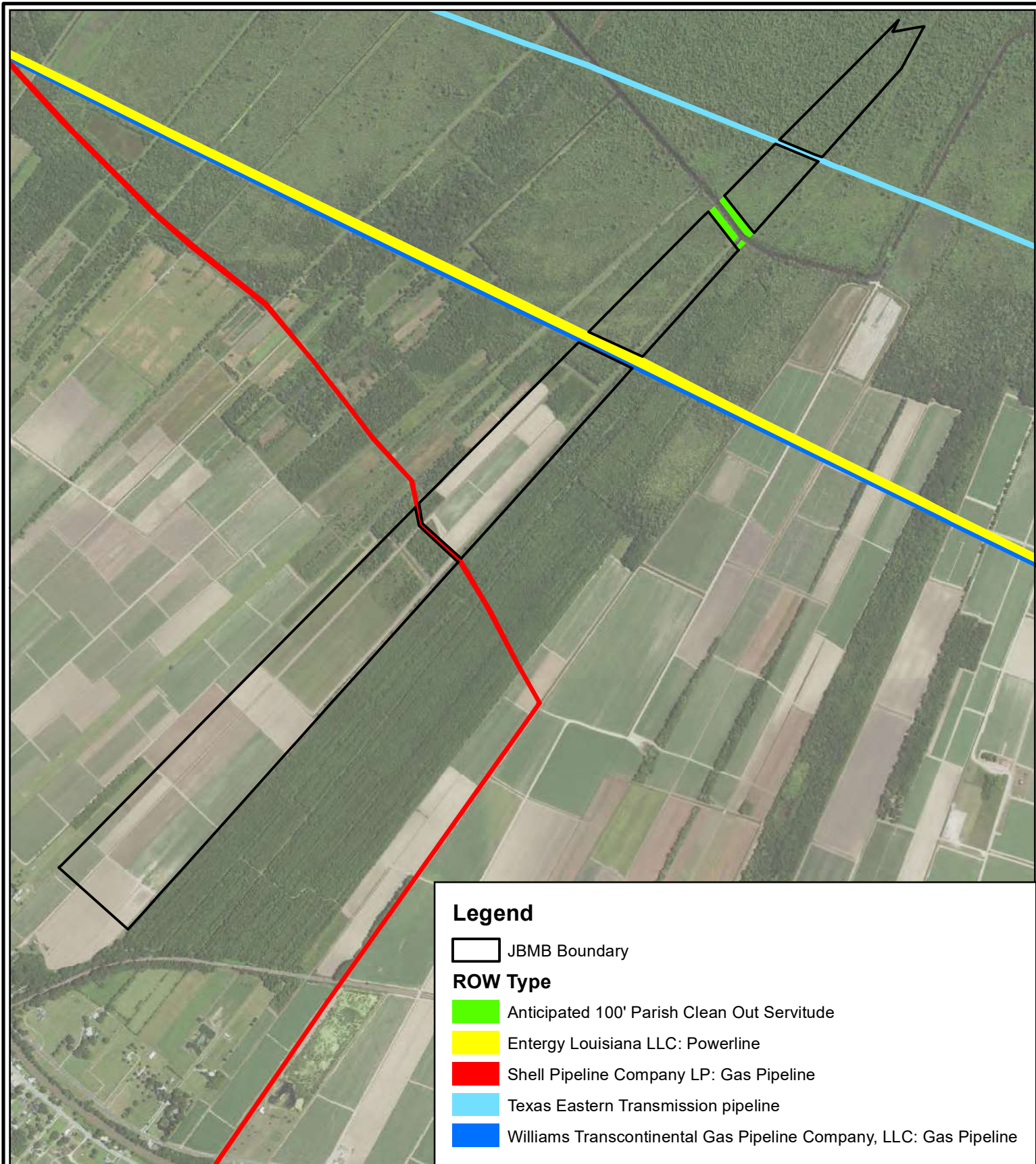


JO BLANCHE MITIGATION BANK **TOPOGRAPHIC DERIVED FIVE FOOT** **CONTOUR EXHIBIT** **LAFORCHE PARISH, LA**

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 08B






Legend


 JBMB Boundary


ROW Type

 Anticipated 100' Parish Clean Out Servitude

 Entergy Louisiana LLC: Powerline

 Shell Pipeline Company LP: Gas Pipeline

 Texas Eastern Transmission pipeline

 Williams Transcontinental Gas Pipeline Company, LLC: Gas Pipeline

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

R.O.W. AND EASEMENT EXHIBIT

LAFOURCHE PARISH, LA

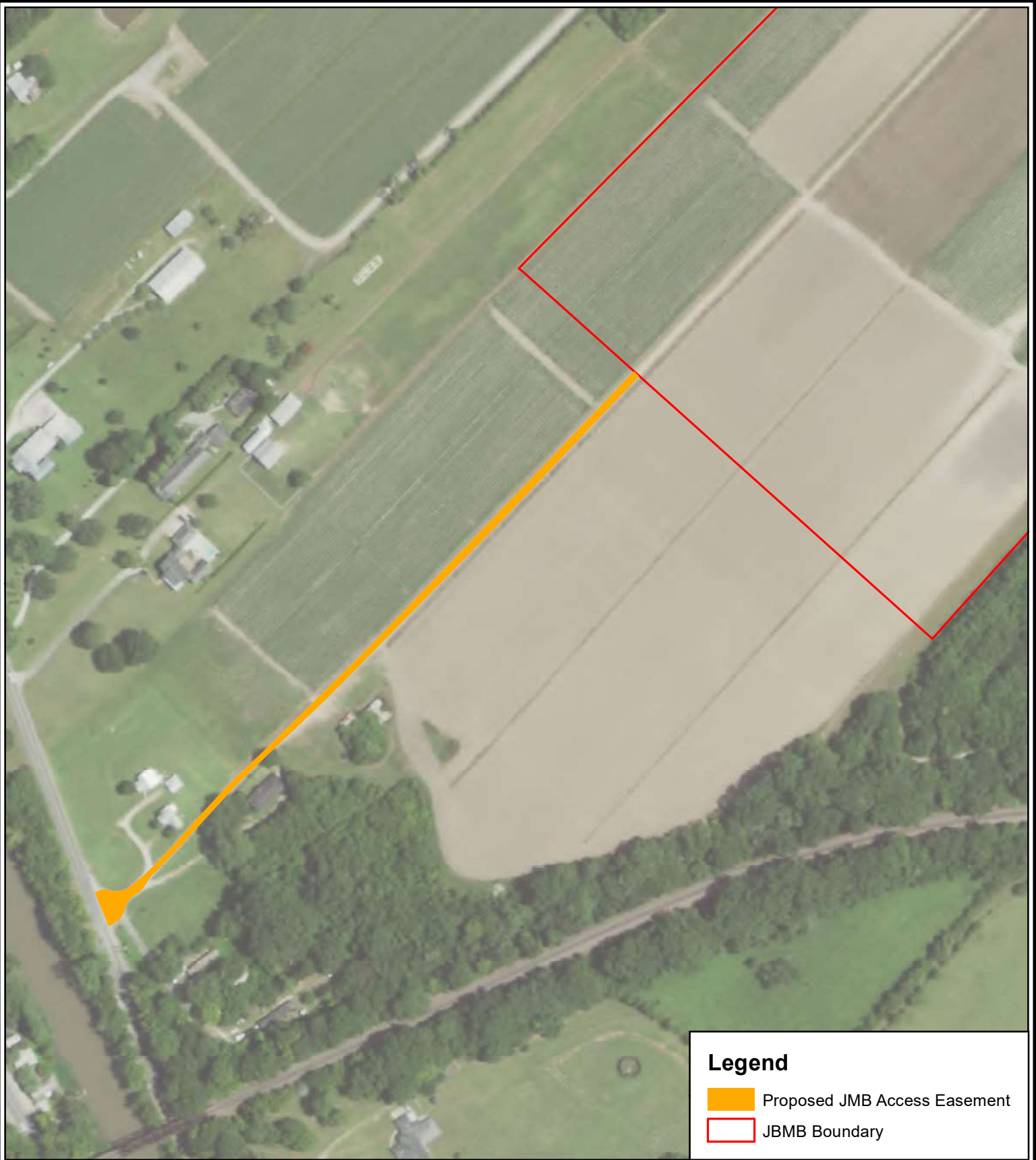
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 12/14/2021

Vertical Datum: NAVD88 Feet



Author: CTG

FIGURE 09





Legend

-  Proposed JMB Access Easement
-  JBMB Boundary

0 125 250 375 500
Feet 1 in = 250 ft

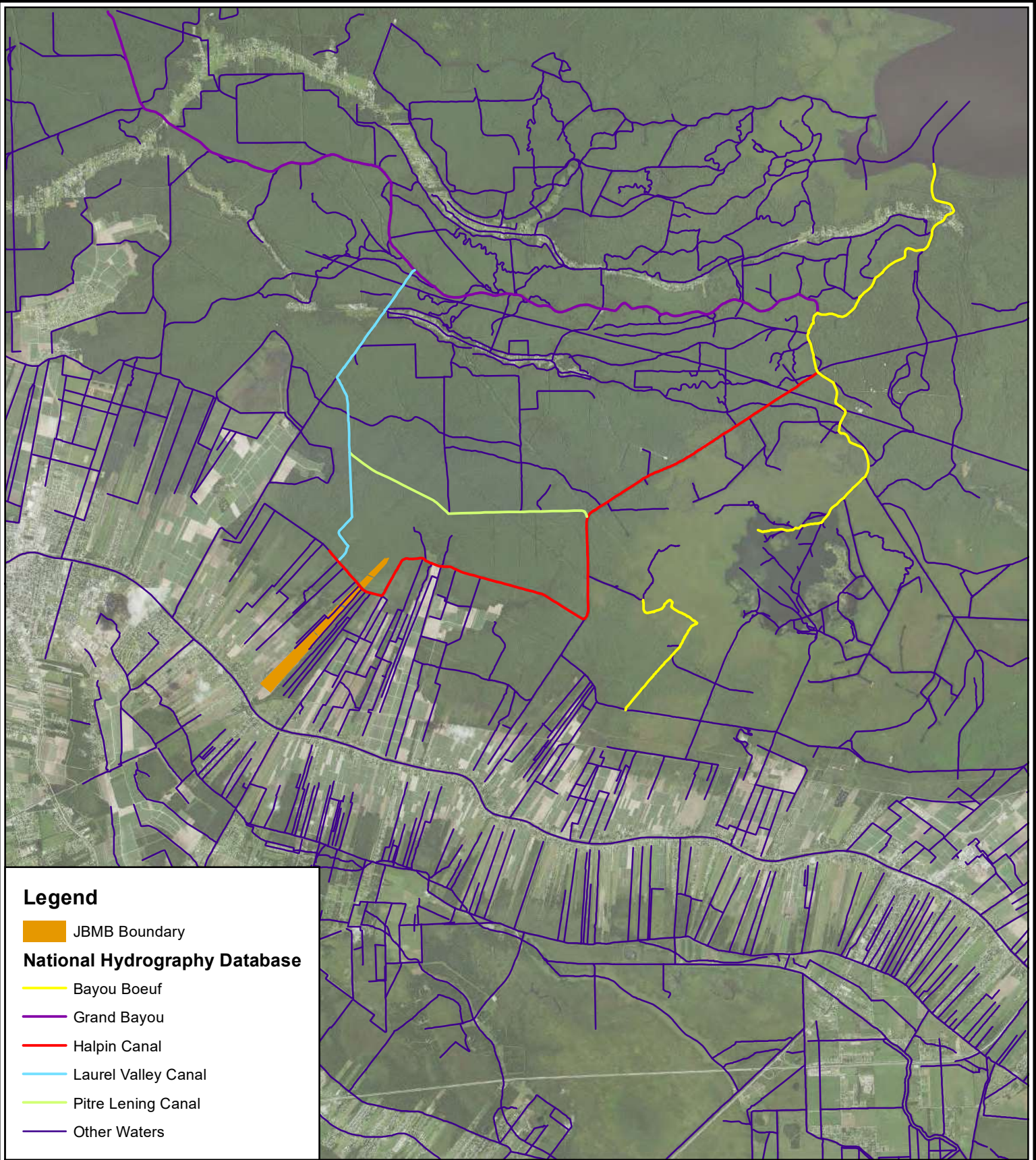


JO BLANCHE MITIGATION BANK PROPOSED ACCESS EASEMENT EXHIBIT LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/30/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 09A






Legend

 JBMB Boundary


National Hydrography Database


 Bayou Boeuf

 Grand Bayou

 Halpin Canal

 Laurel Valley Canal

 Pitre Lening Canal

 Other Waters

0 5,000 10,000 15,000 20,000
Feet 1 in = 10,000 ft

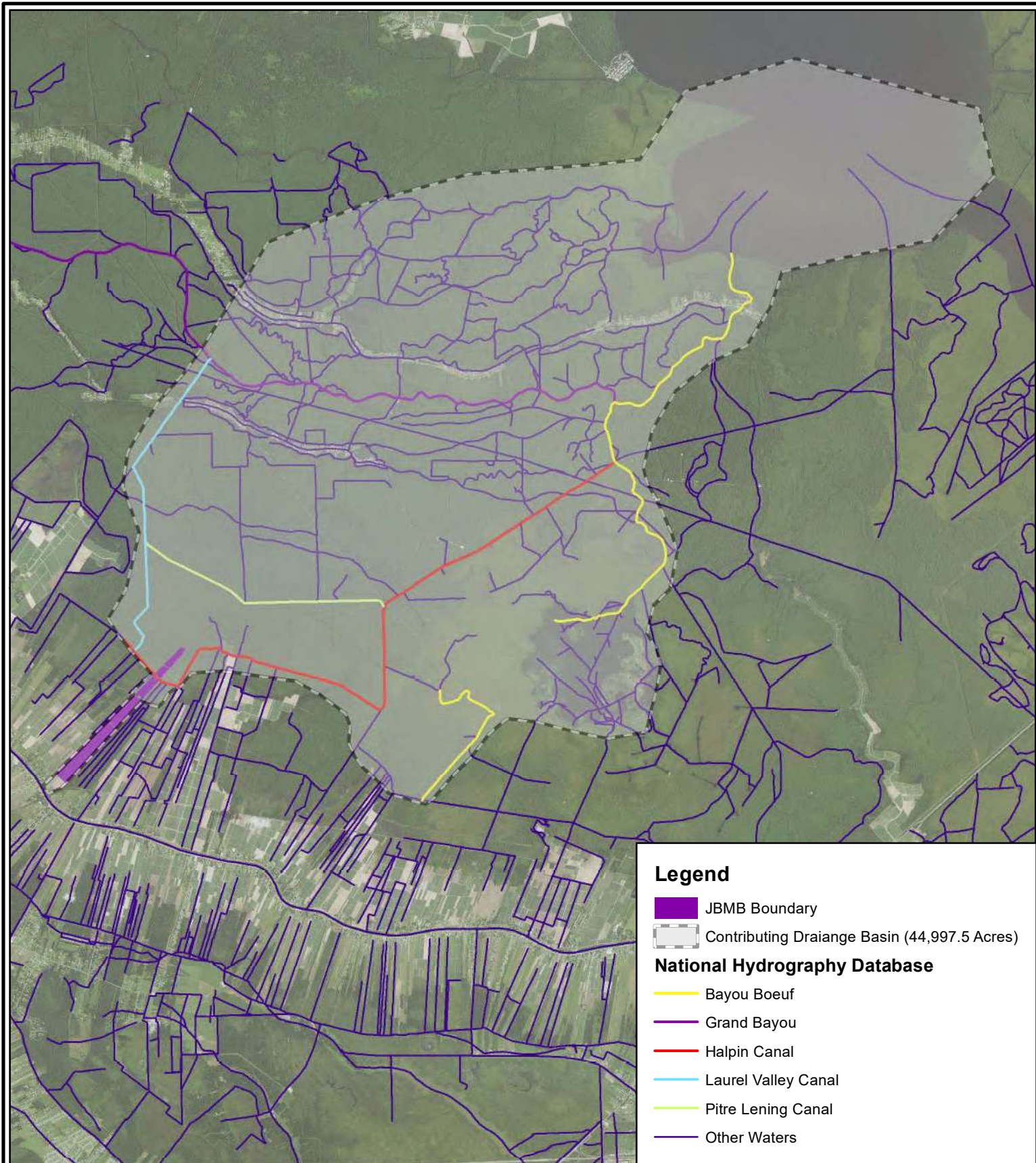


JO BLANCHE MITIGATION BANK
NATIONAL HYDROGRAPHY DATABASE EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 12/10/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 10





Legend

- JBMB Boundary
- Contributing Drainage Basin (44,997.5 Acres)

National Hydrography Database

- Bayou Boeuf
- Grand Bayou
- Halpin Canal
- Laurel Valley Canal
- Pitre Lening Canal
- Other Waters

0 5,000 10,000 15,000 20,000
Feet 1 in = 10,000 ft

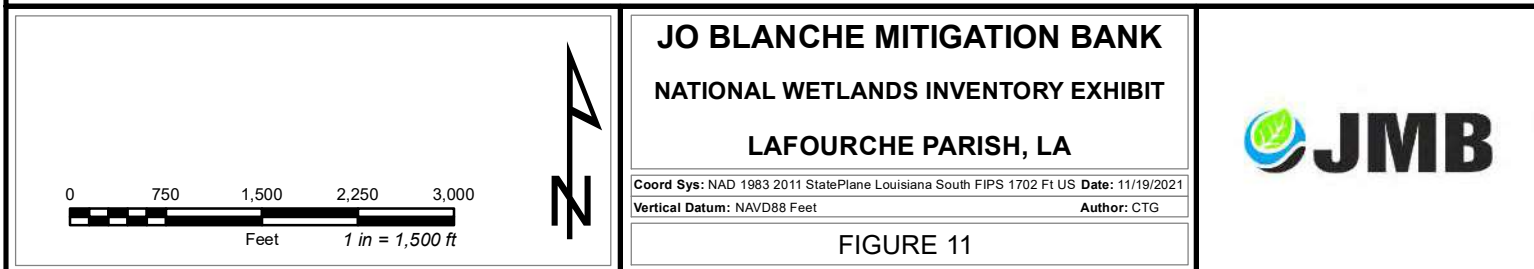
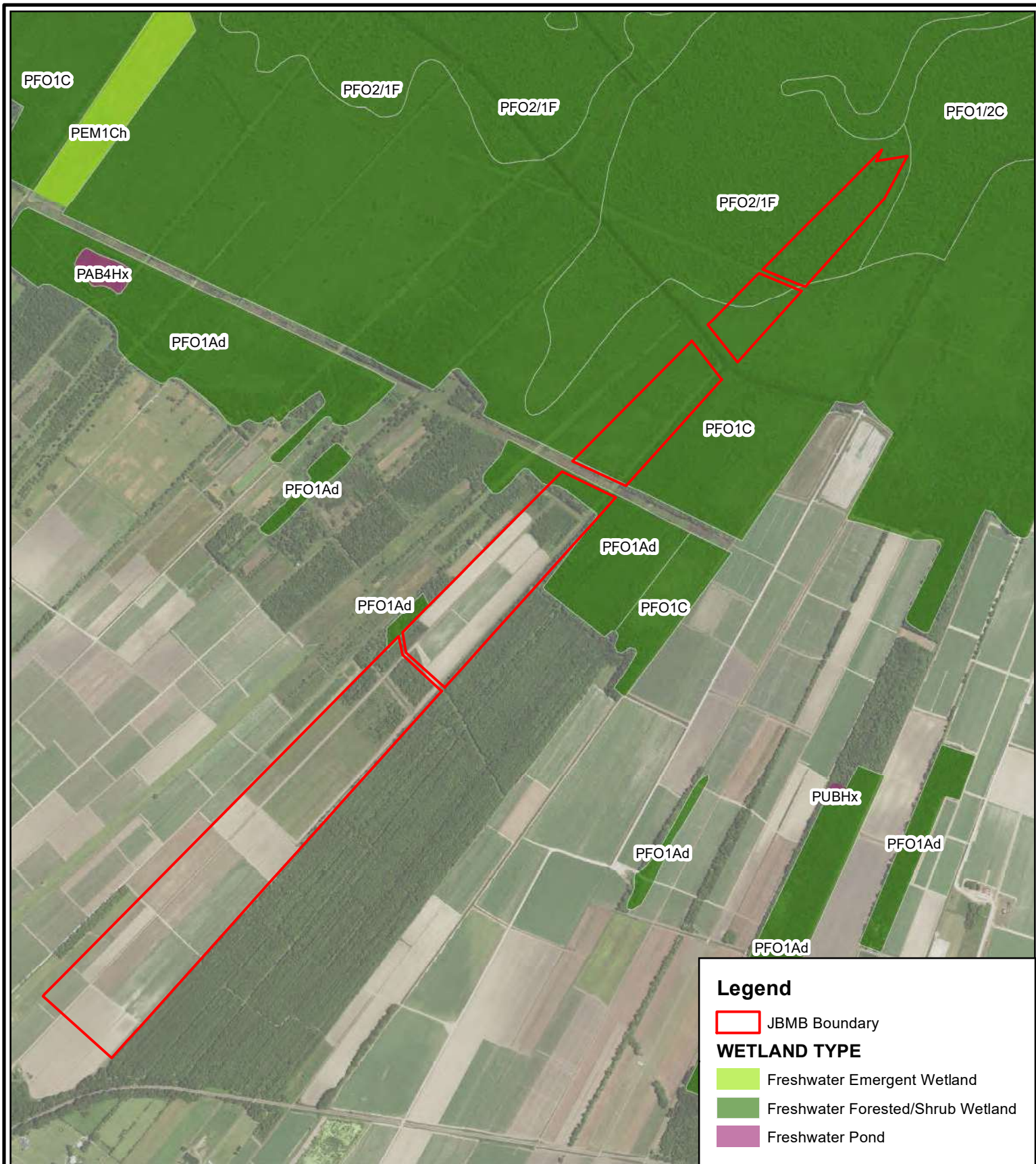


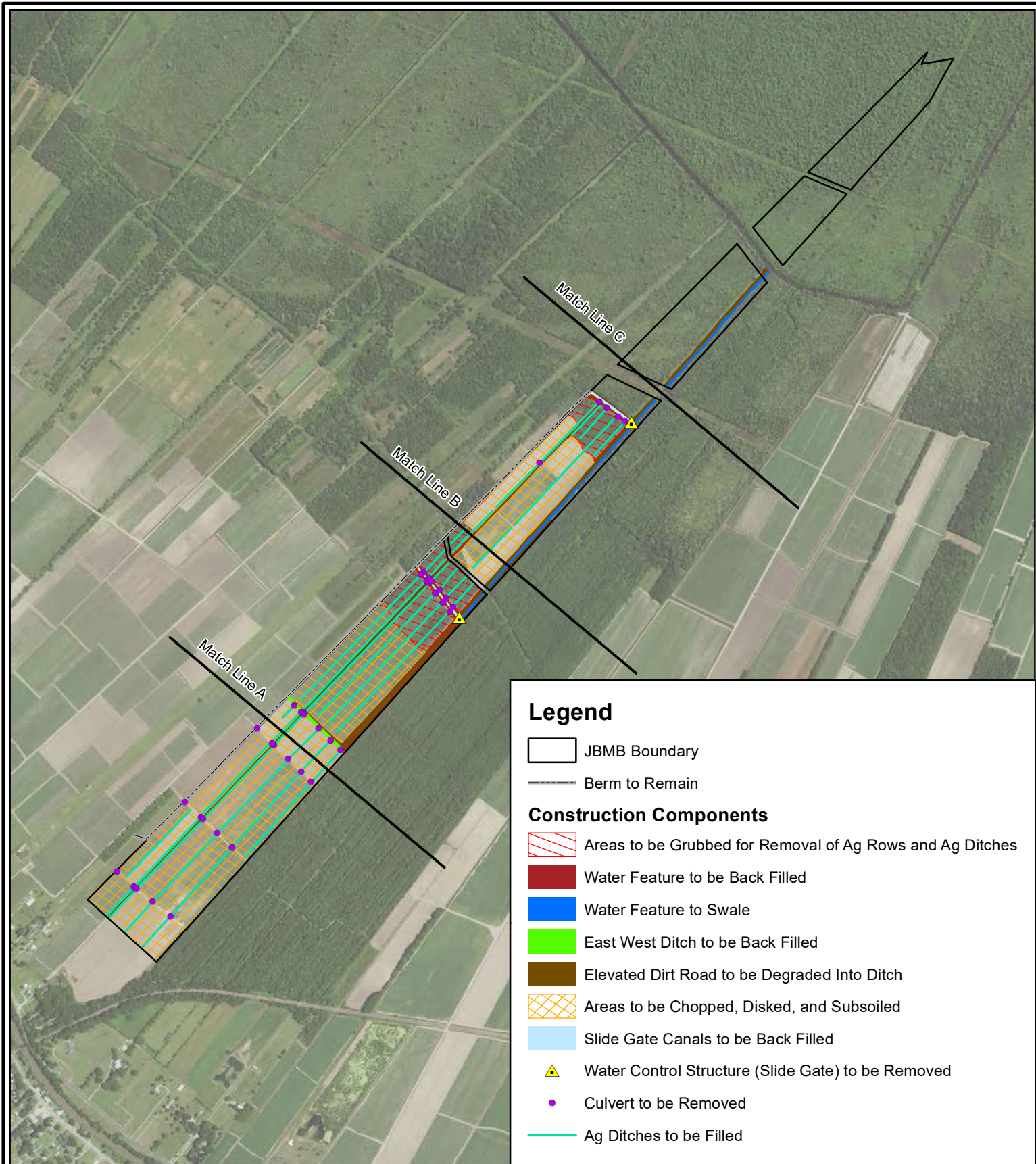
JO BLANCHE MITIGATION BANK CONTRIBUTING DRAINAGE BASIN EXHIBIT LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/19/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 10A







0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft

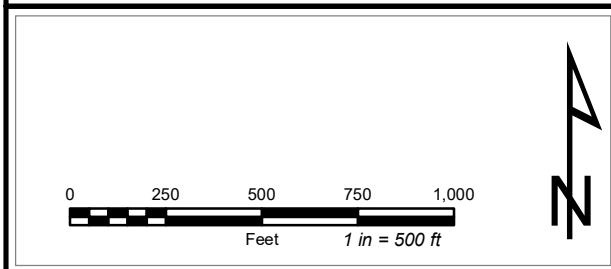
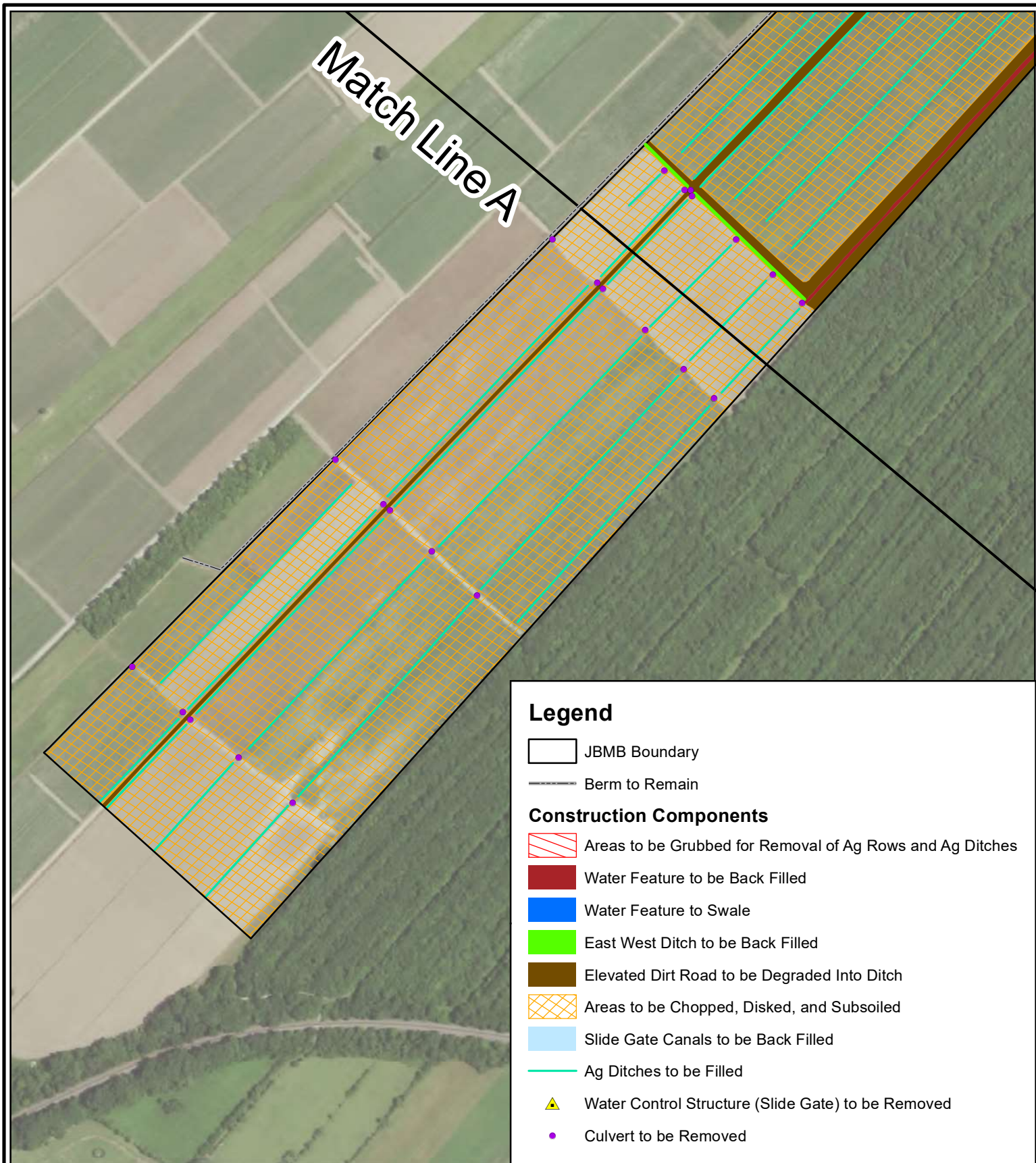


JO BLANCHE MITIGATION BANK
PROPOSED CONSTRUCTION EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 12



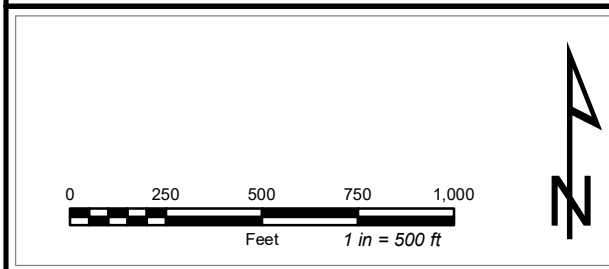
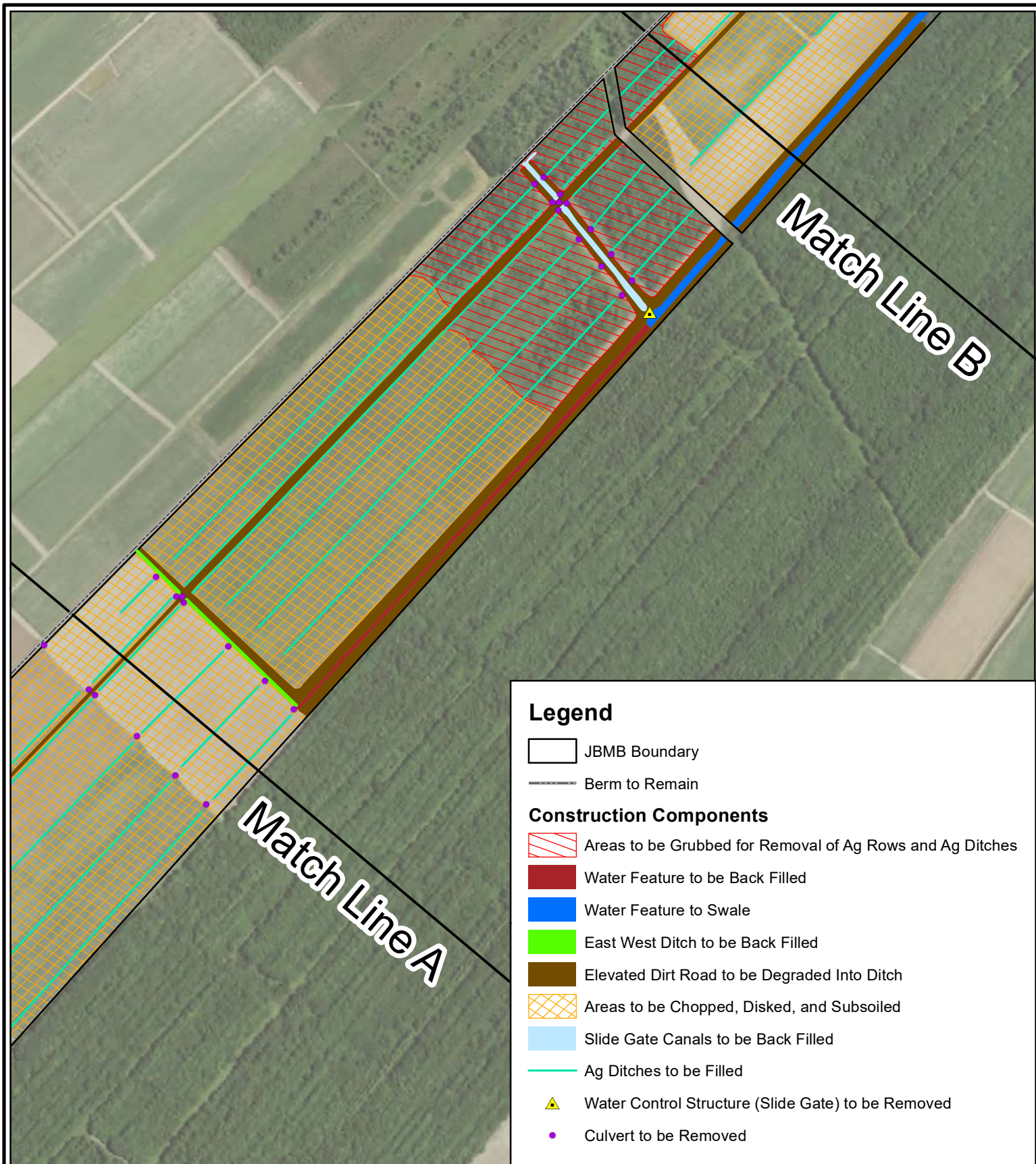


JO BLANCHE MITIGATION BANK
PROPOSED CONSTRUCTION EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
 Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 12A



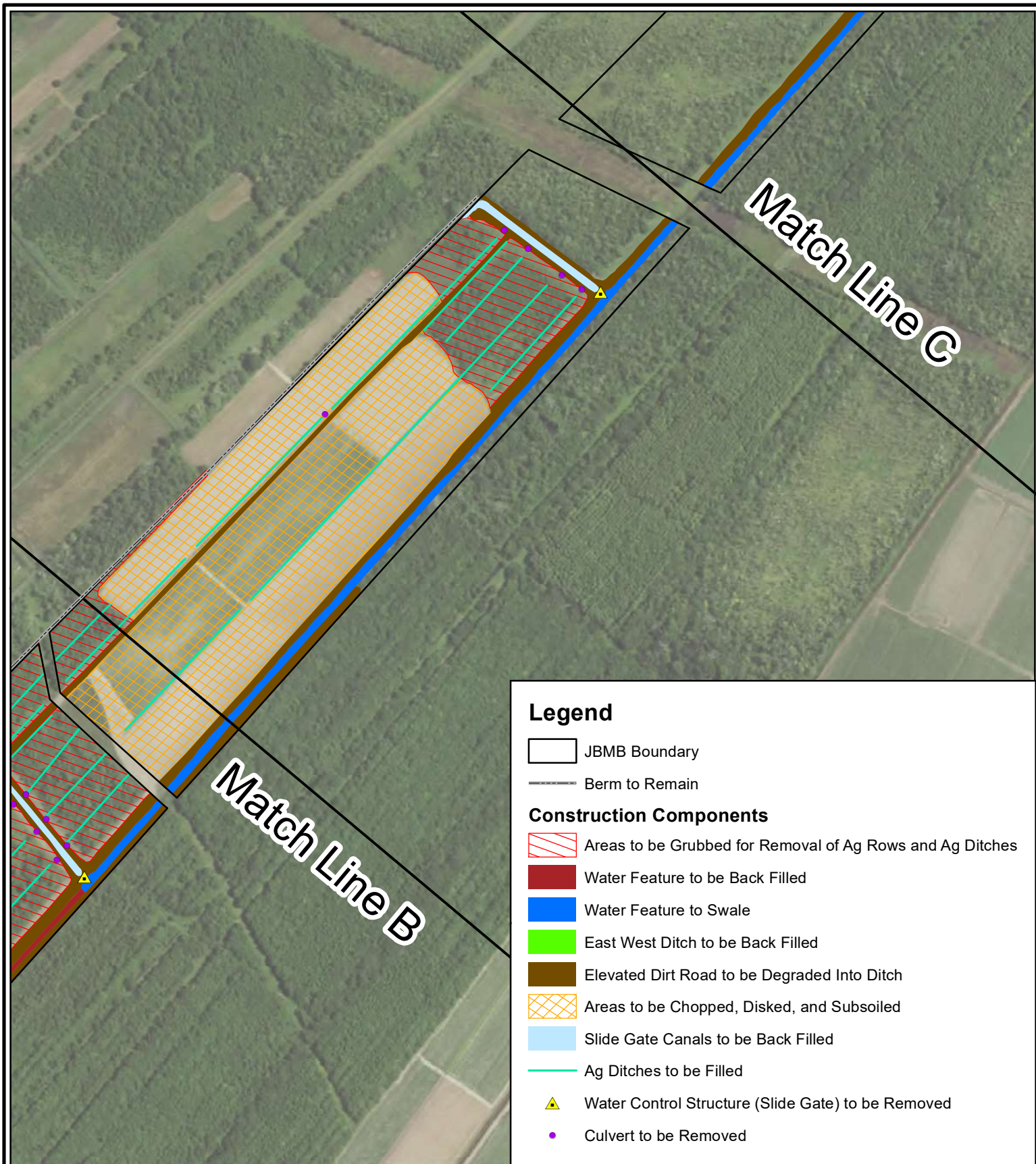


JO BLANCHE MITIGATION BANK
PROPOSED CONSTRUCTION EXHIBIT
LAFORCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
 Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 12B





0 250 500 750 1,000
Feet 1 in = 500 ft



JO BLANCHE MITIGATION BANK

PROPOSED CONSTRUCTION EXHIBIT

LAFOURCHE PARISH, LA

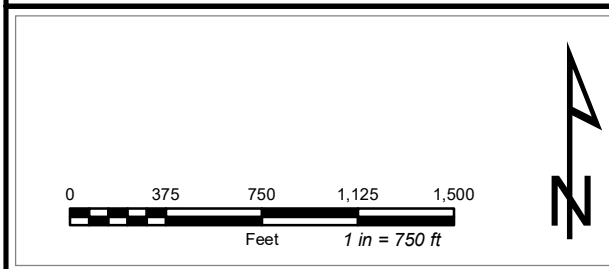
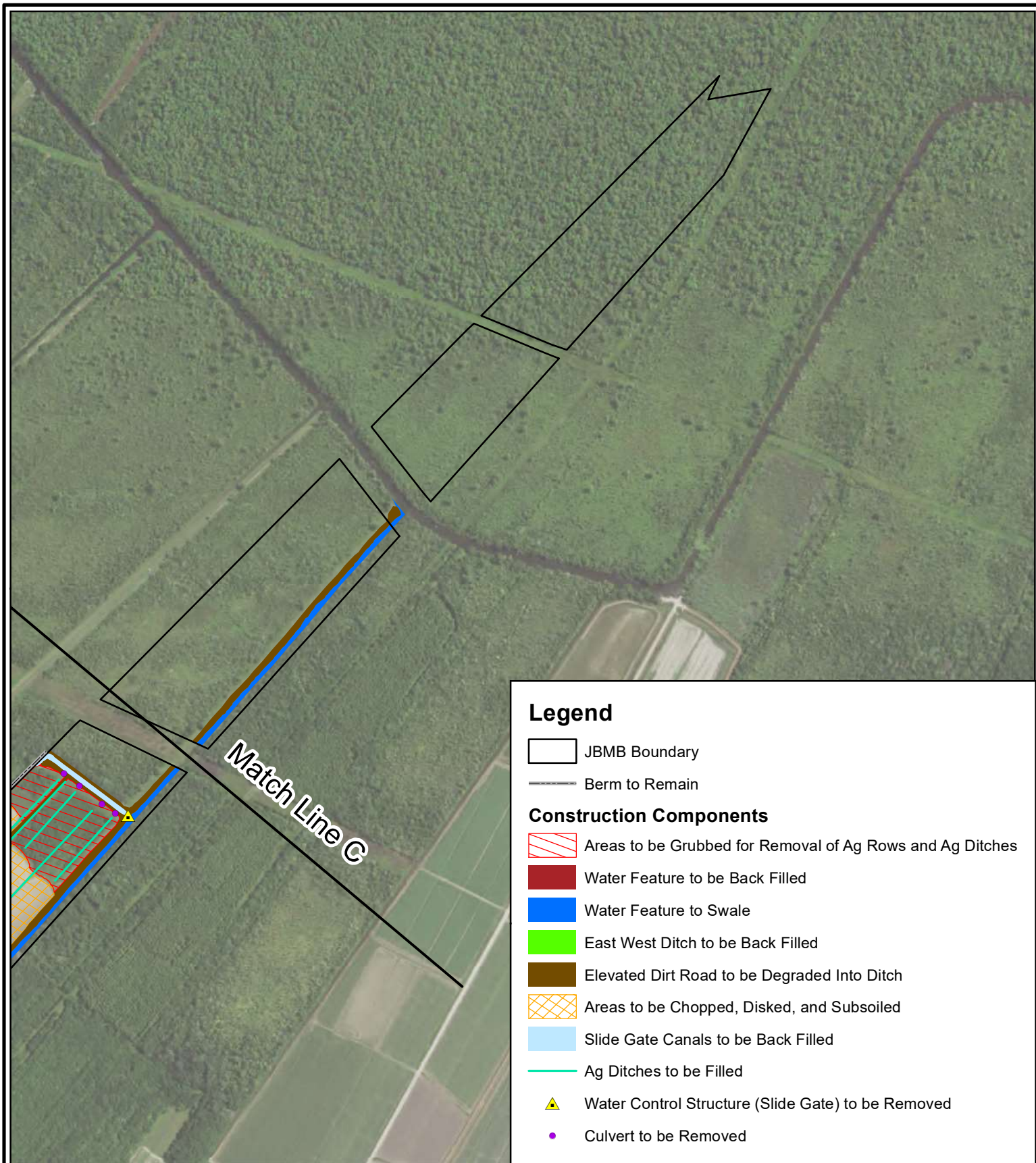
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022

Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 12C



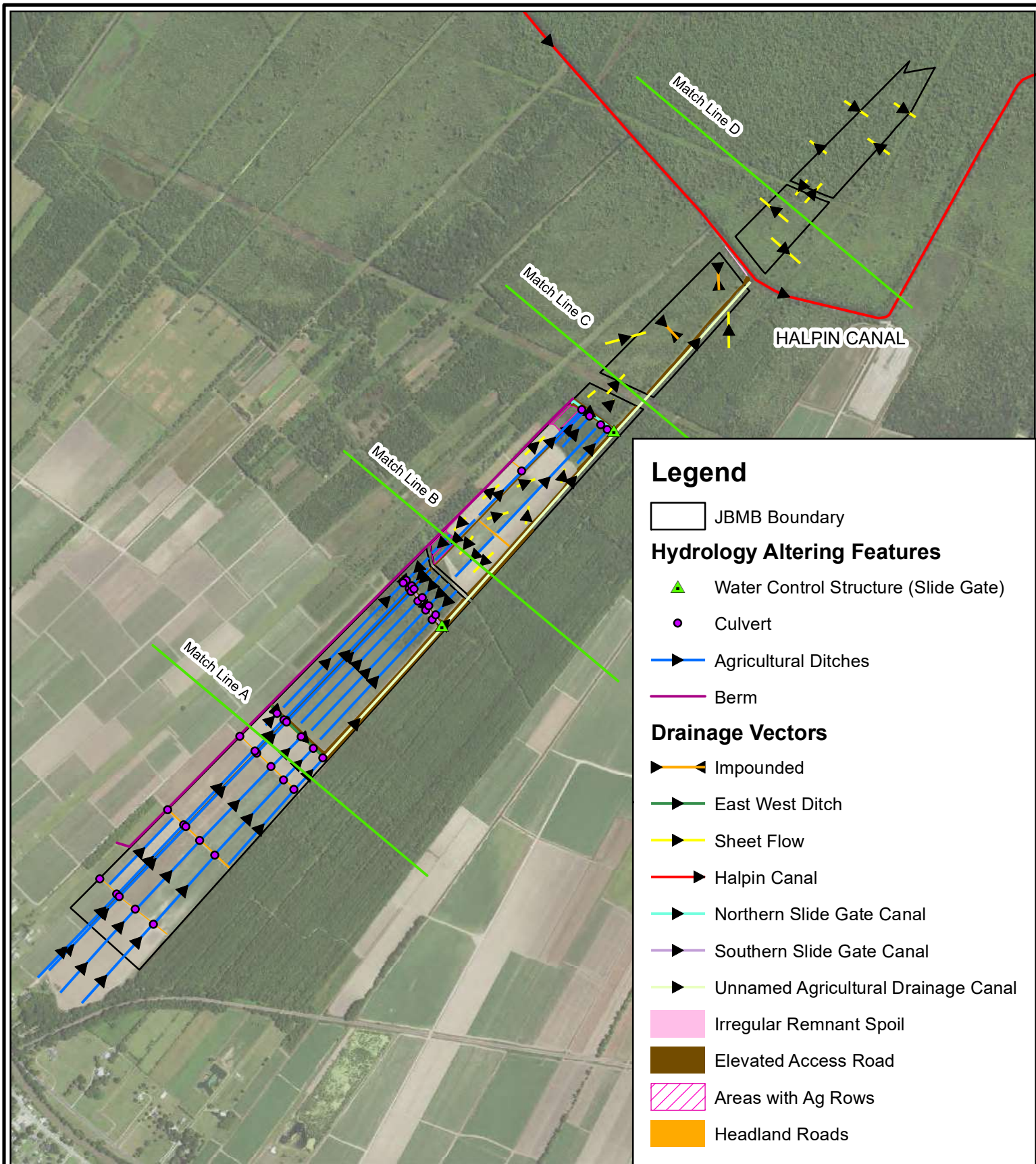


JO BLANCHE MITIGATION BANK
PROPOSED CONSTRUCTION EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/26/2022
 Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 12D





0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

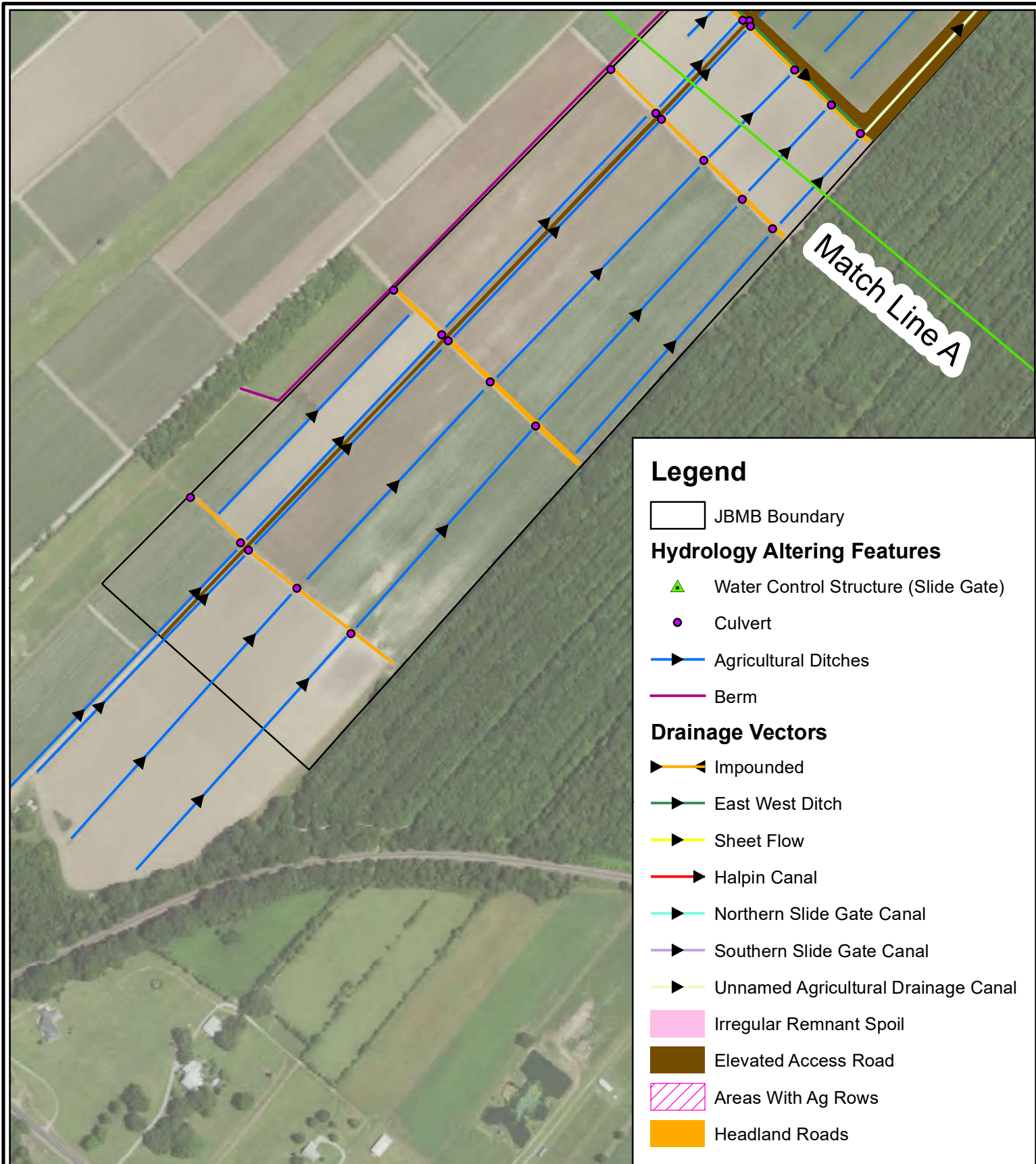
CURRENT SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 13





0 250 500 750 1,000
Feet 1 in = 500 ft



JO BLANCHE MITIGATION BANK

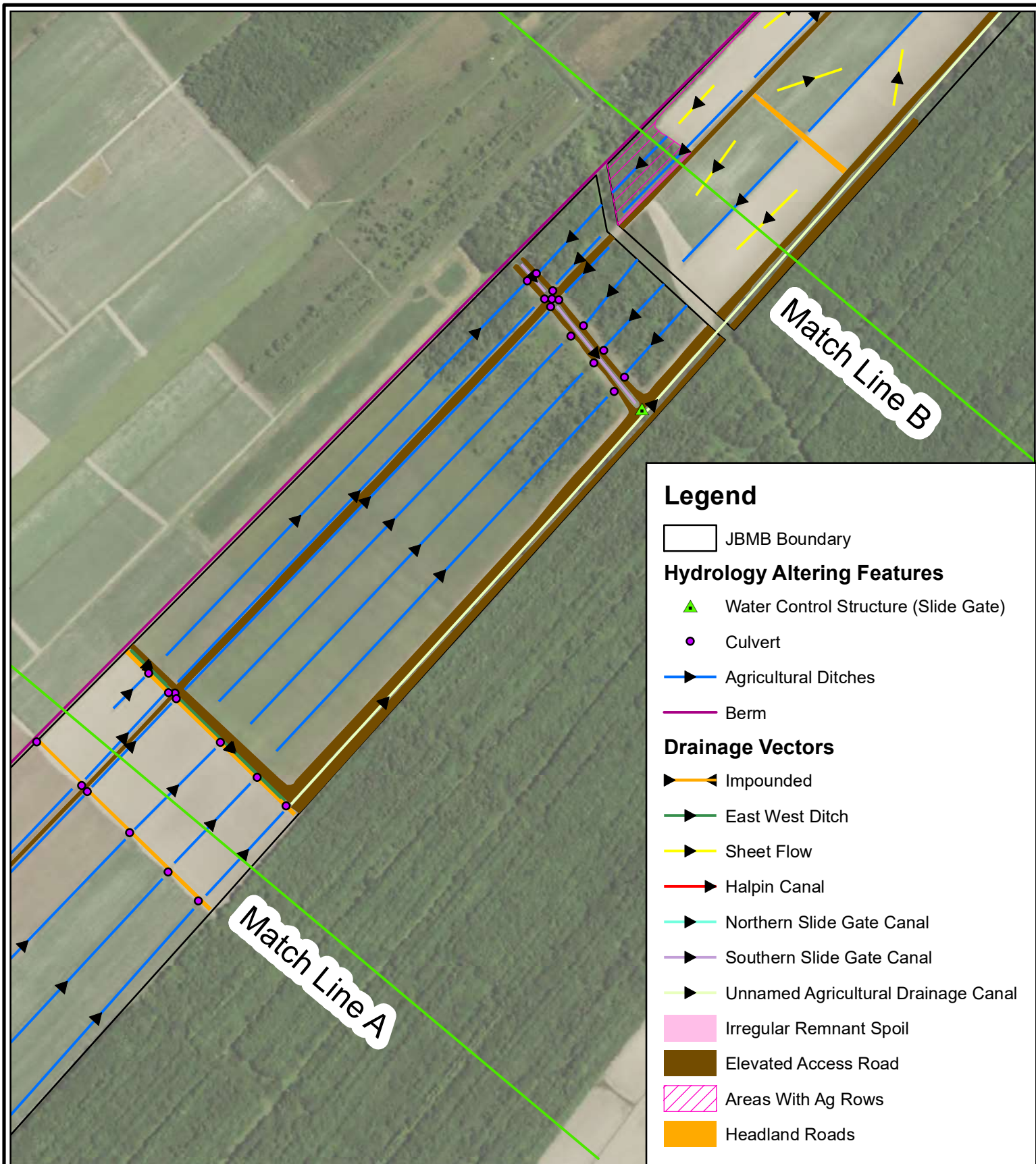
CURRENT SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 13A





0 250 500 750 1,000
Feet 1 in = 500 ft



JO BLANCHE MITIGATION BANK

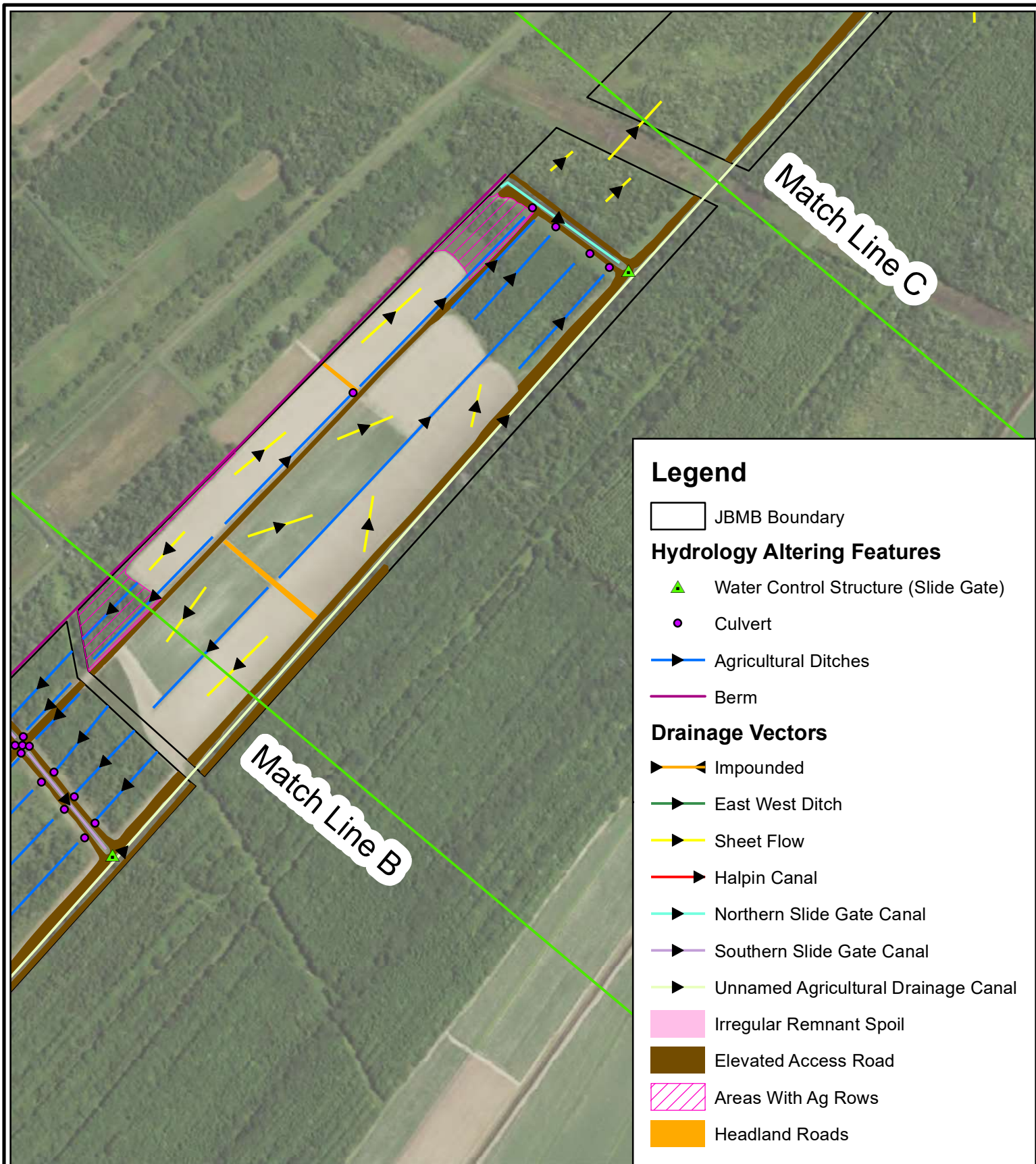
CURRENT SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 13B





0 250 500 750 1,000
Feet 1 in = 500 ft



JO BLANCHE MITIGATION BANK

CURRENT SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

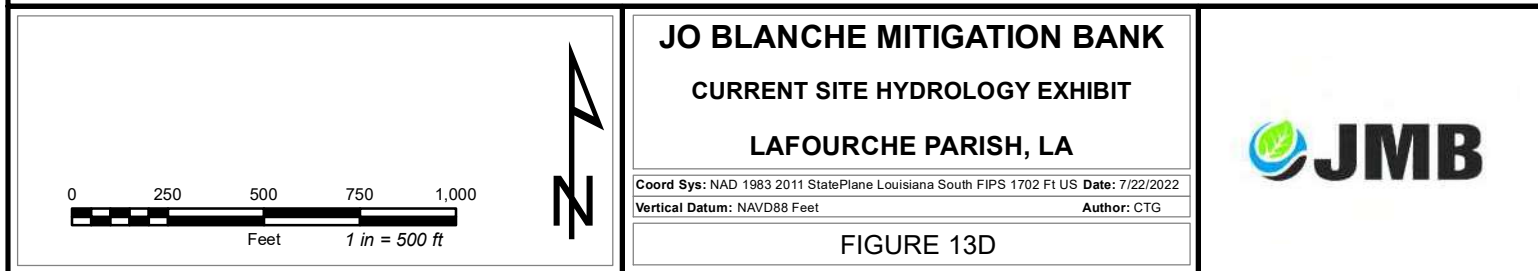
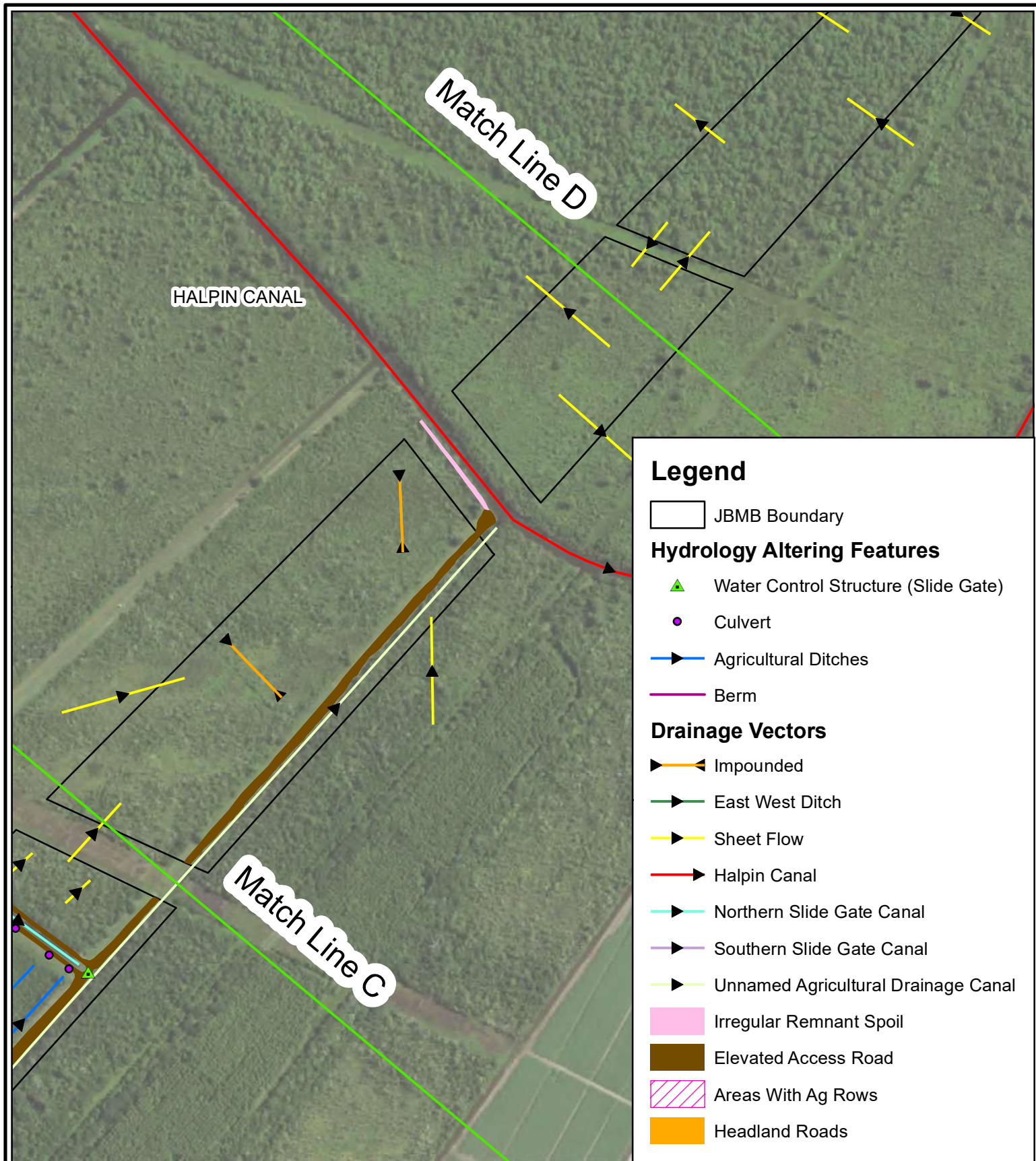
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022

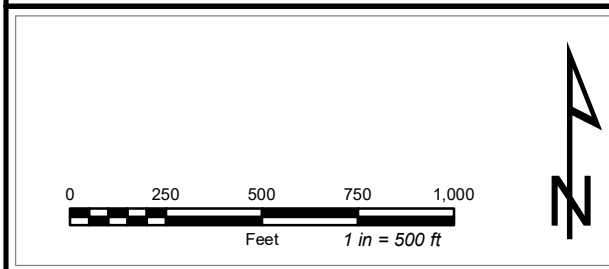
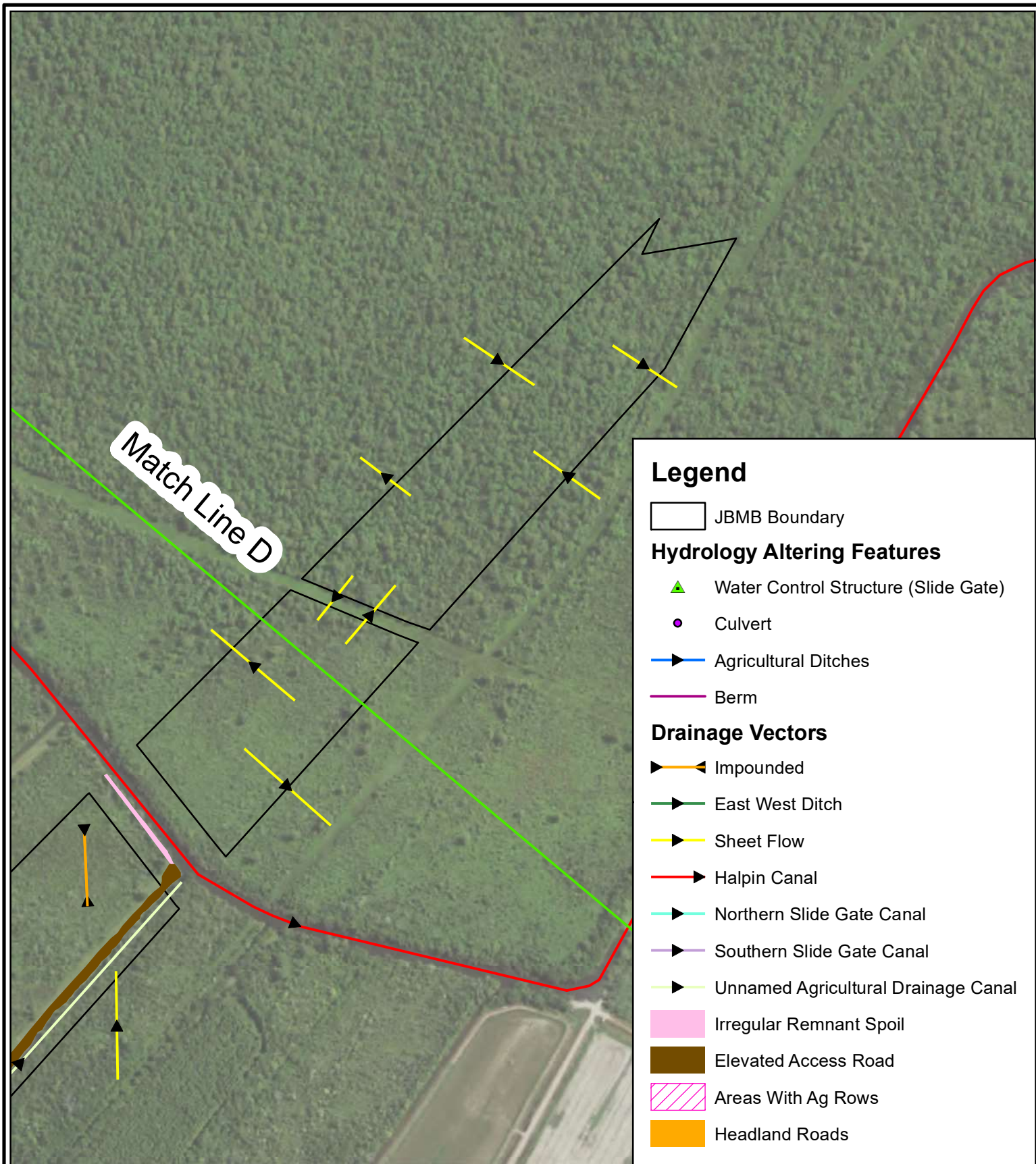
Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 13C







JO BLANCHE MITIGATION BANK

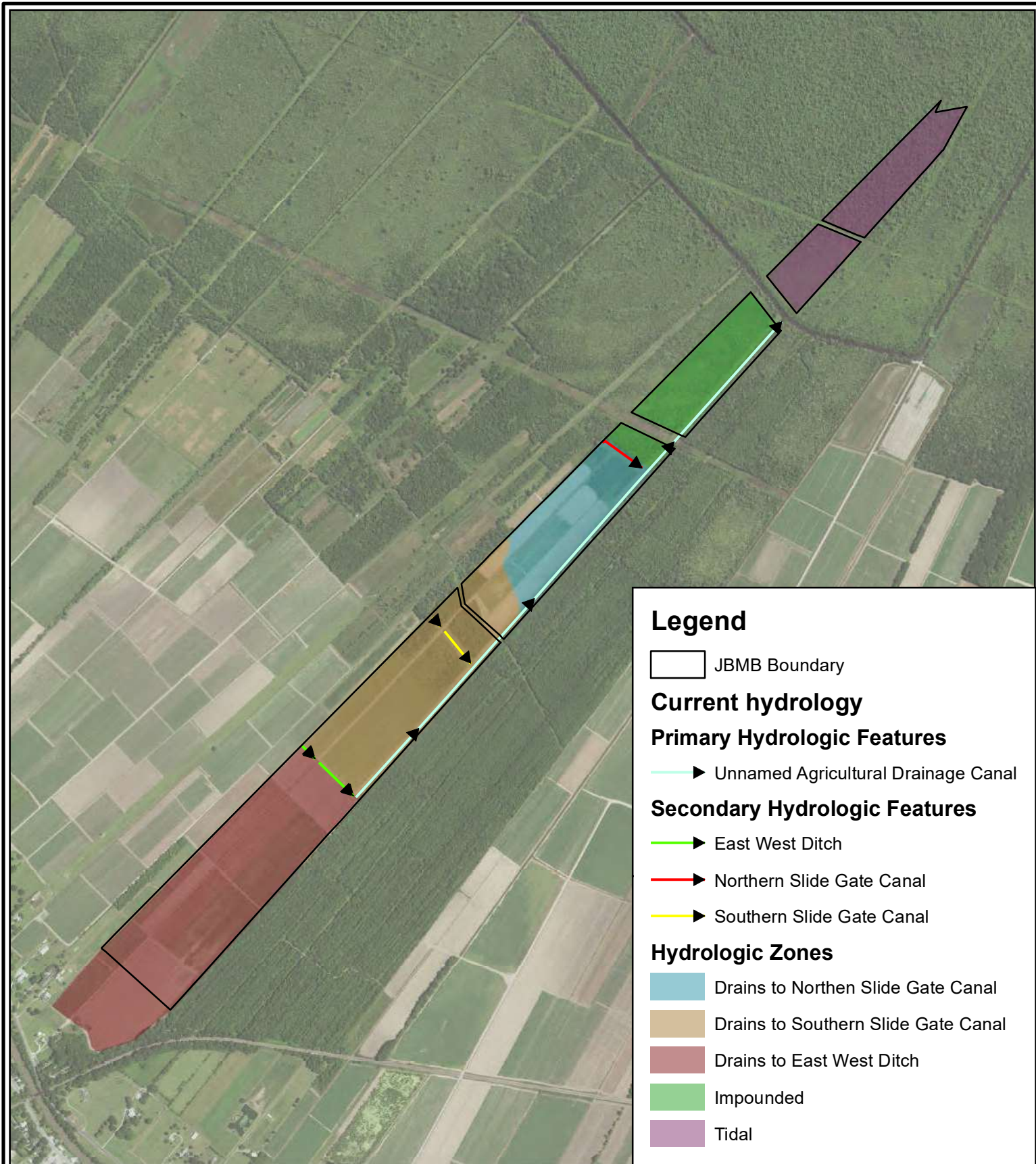
CURRENT SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 13E





0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

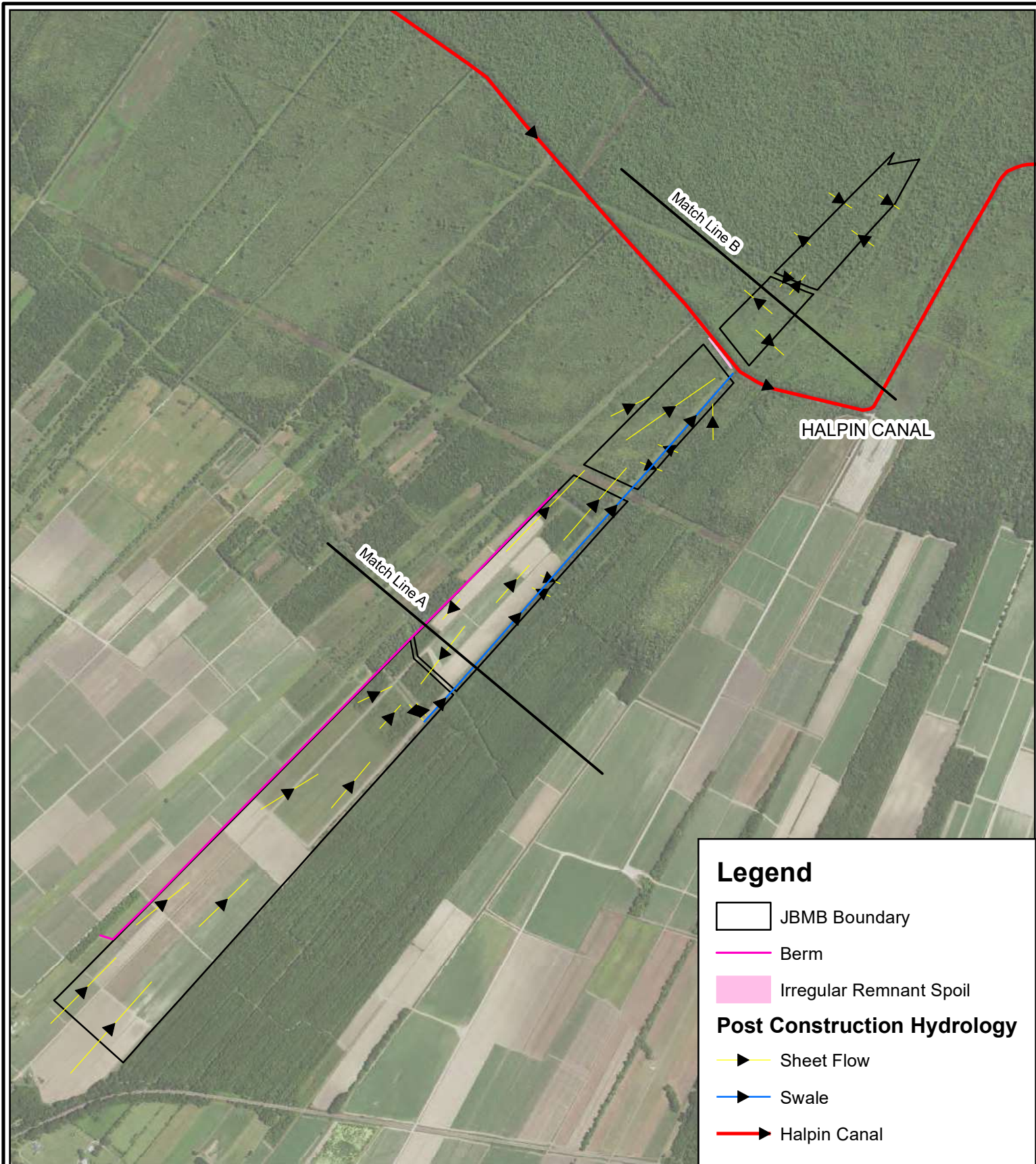
EXISTING HYDROLOGIC ZONES EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 12/10/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 13F





0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

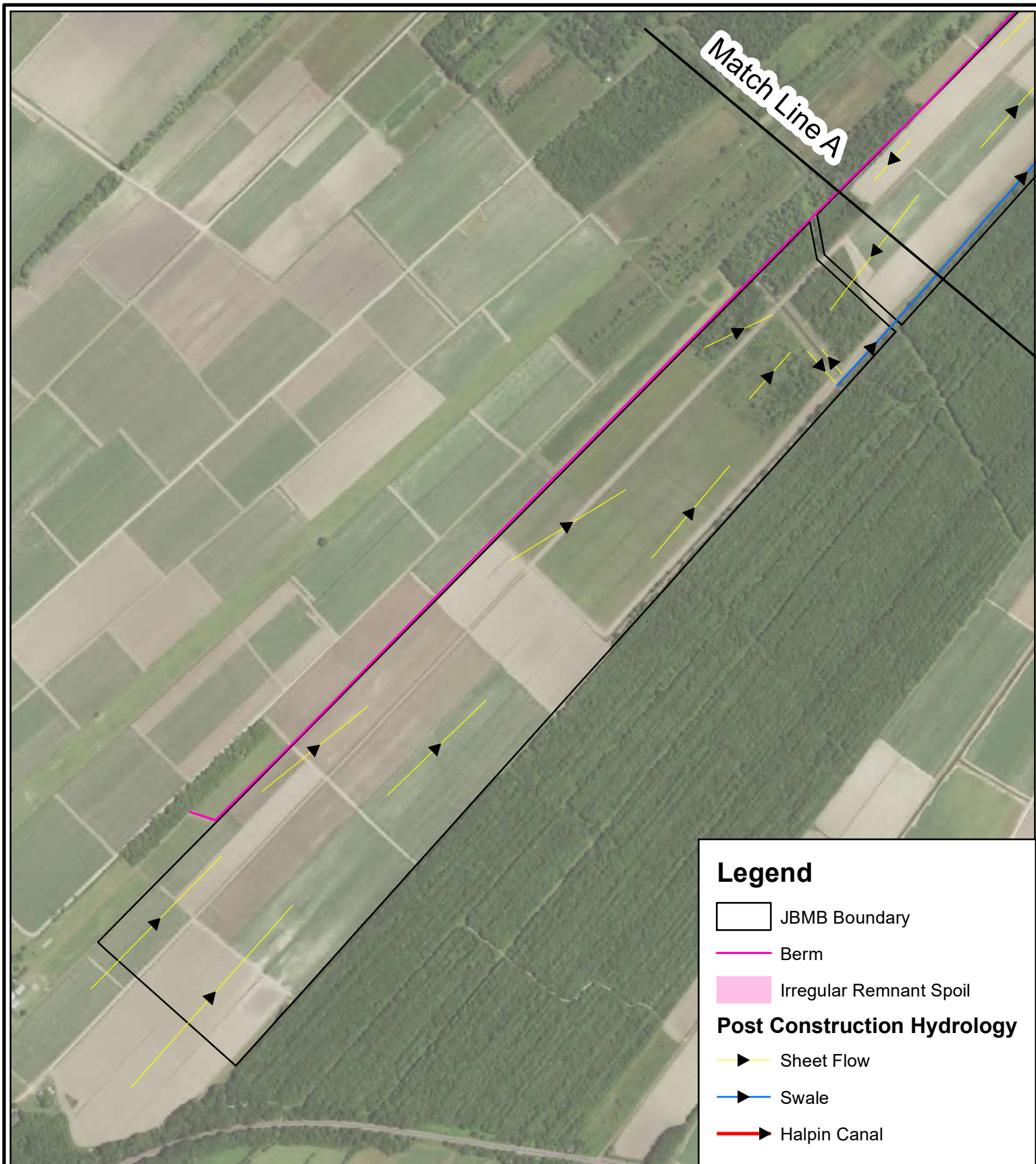
PROPOSED SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 14





0 375 750 1,125 1,500
Feet 1 in = 750 ft



JO BLANCHE MITIGATION BANK

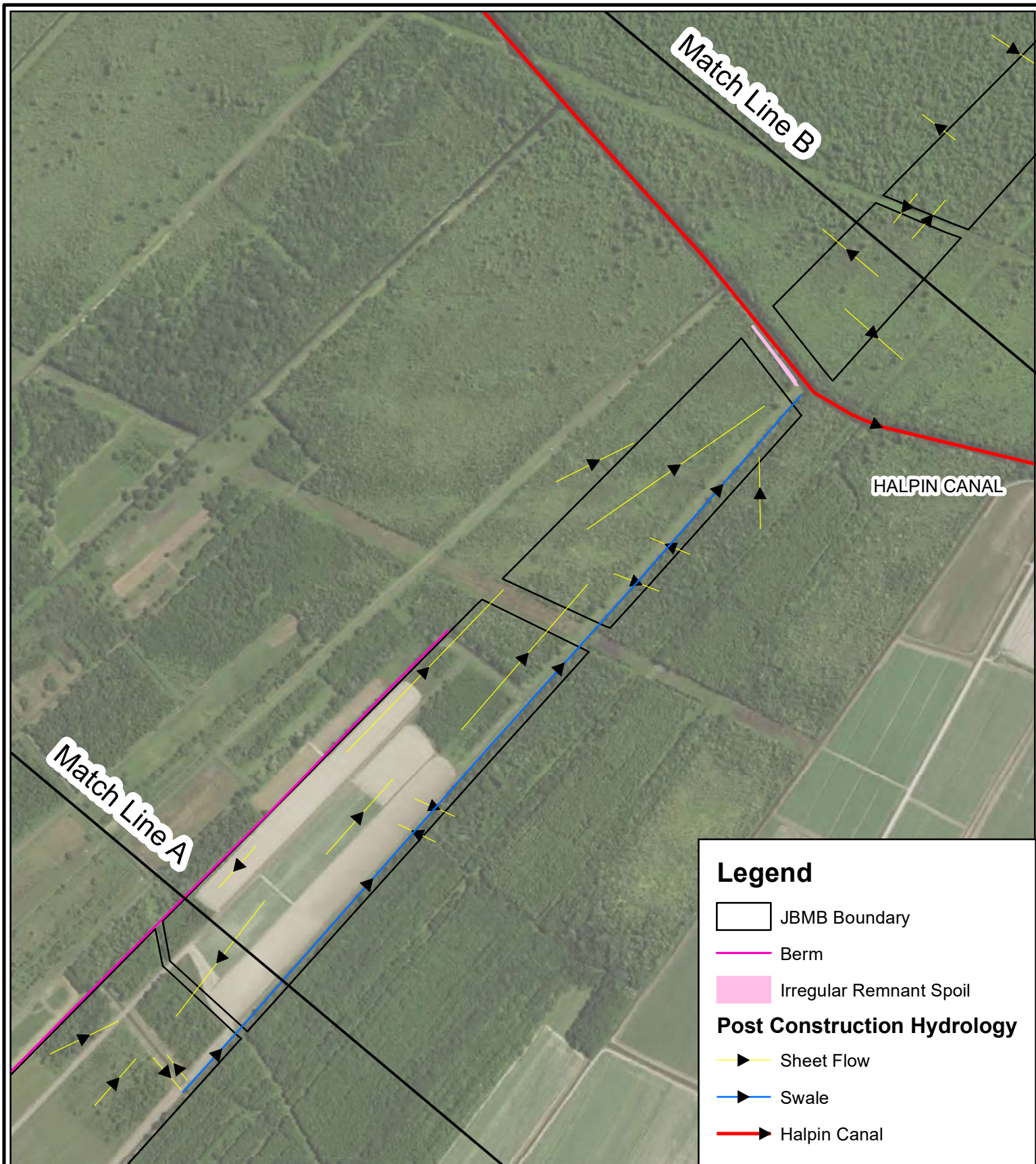
PROPOSED SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 14A





0 375 750 1,125 1,500
Feet 1 in = 750 ft



JO BLANCHE MITIGATION BANK

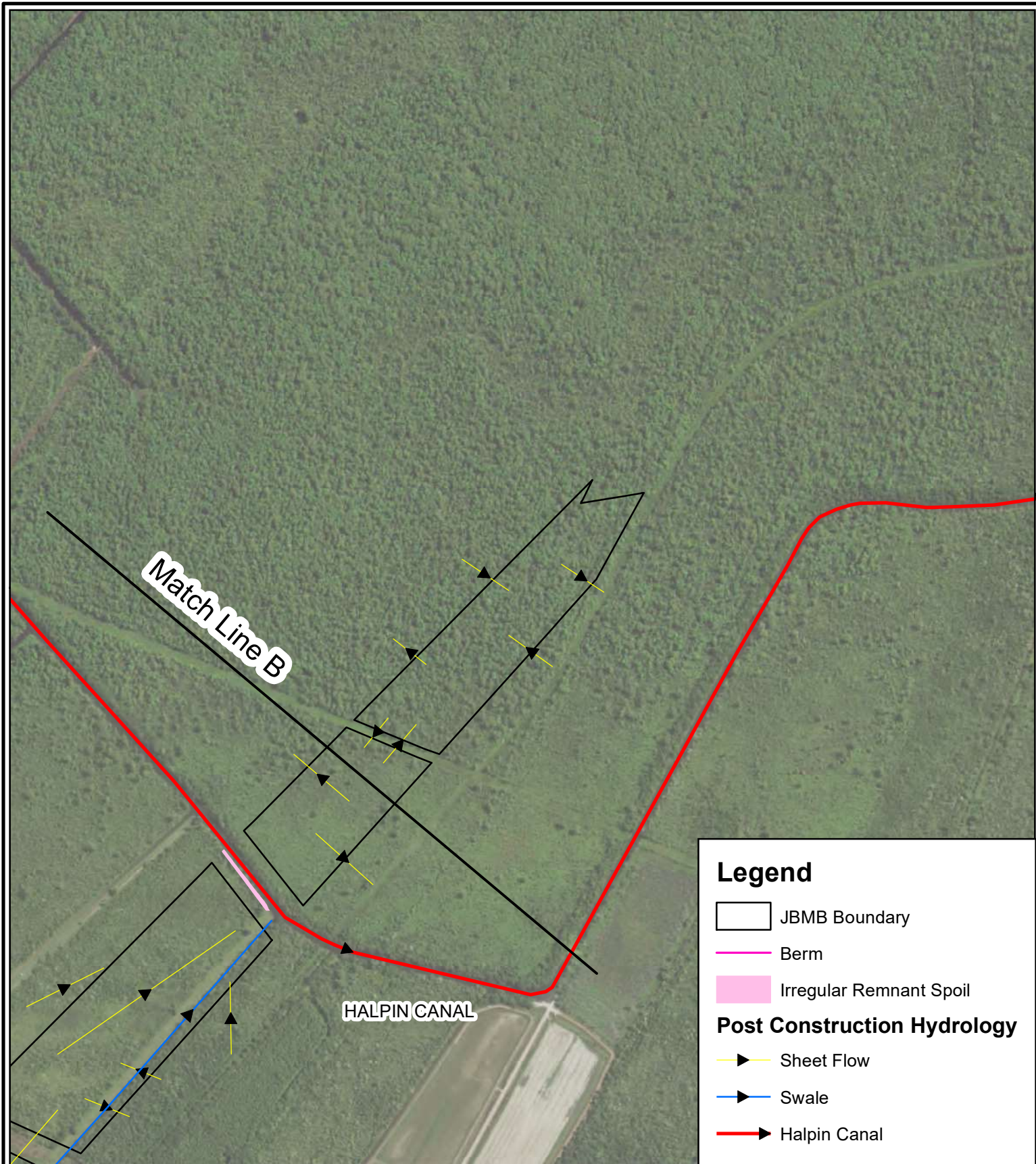
PROPOSED SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 14B





0 375 750 1,125 1,500
Feet 1 in = 750 ft



JO BLANCHE MITIGATION BANK

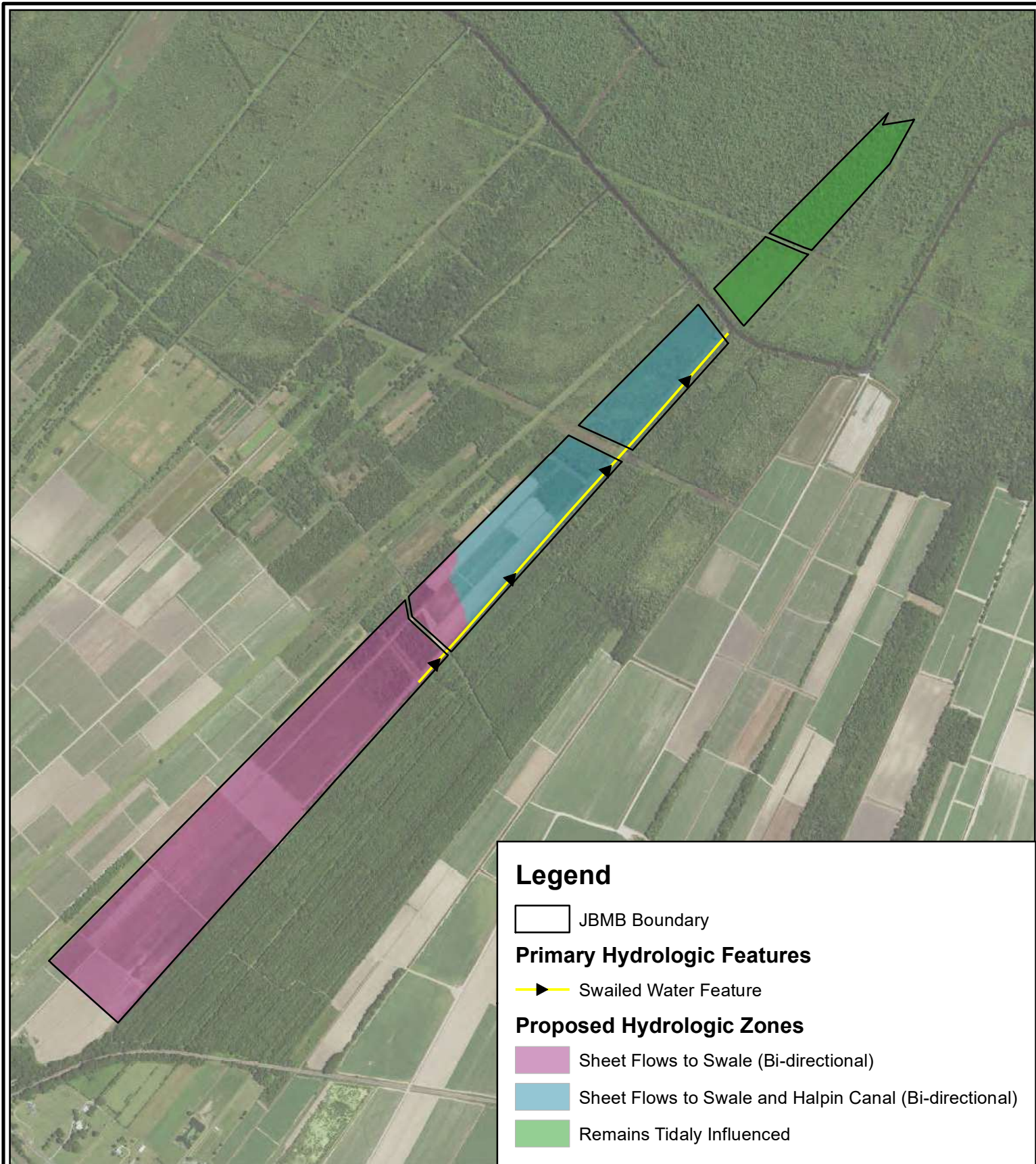
PROPOSED SITE HYDROLOGY EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 14C






Legend


 JBMB Boundary


Primary Hydrologic Features

 Swaled Water Feature

Proposed Hydrologic Zones

 Sheet Flows to Swale (Bi-directional)

 Sheet Flows to Swale and Halpin Canal (Bi-directional)

 Remains Tidal Influenced

0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

PROPOSED HYDROLOGIC ZONES EXHIBIT

LAFOURCHE PARISH, LA

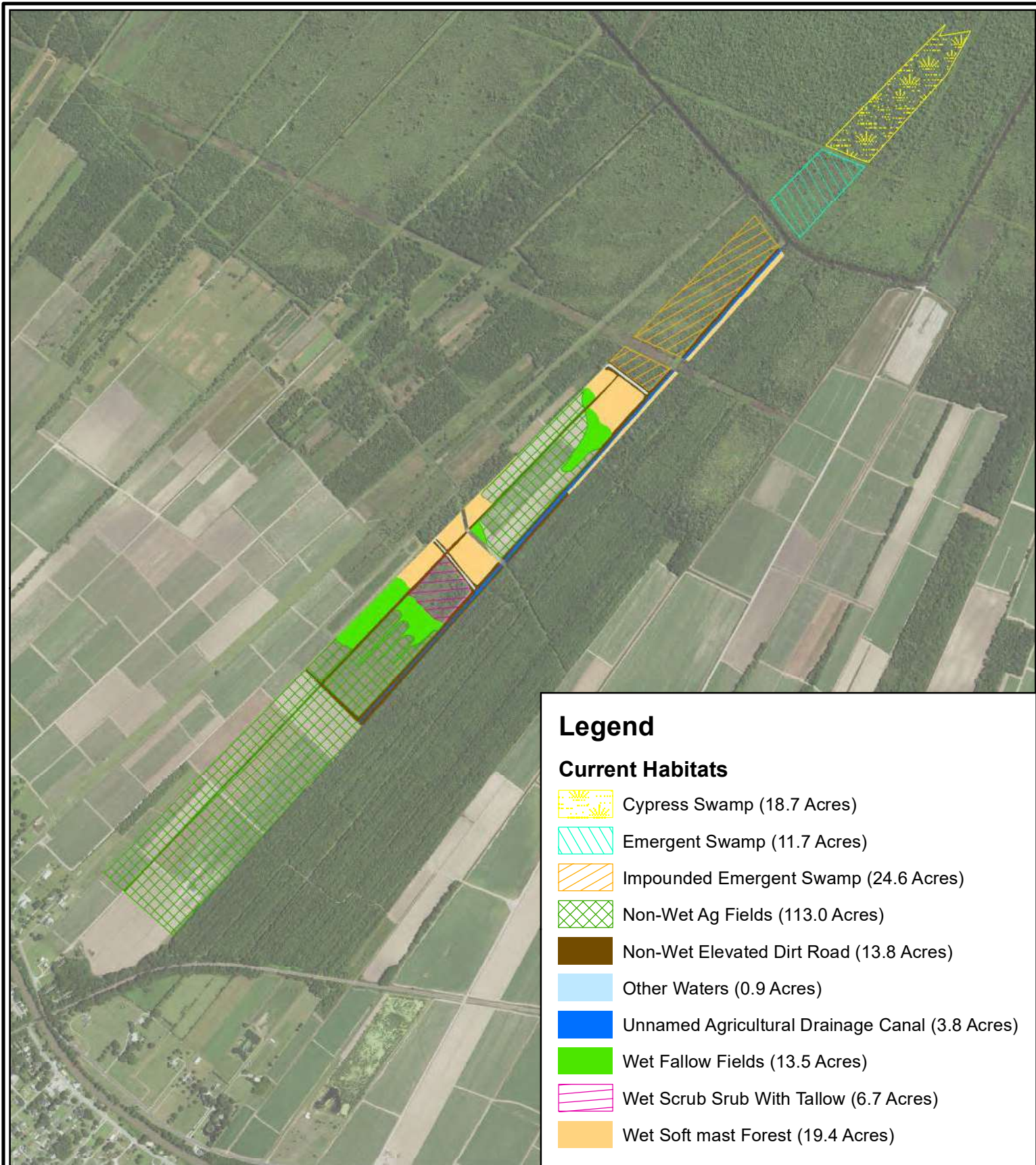
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022

Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 14D





0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

CURRENT HABITATS EXHIBIT

LAFORCHE PARISH, LA

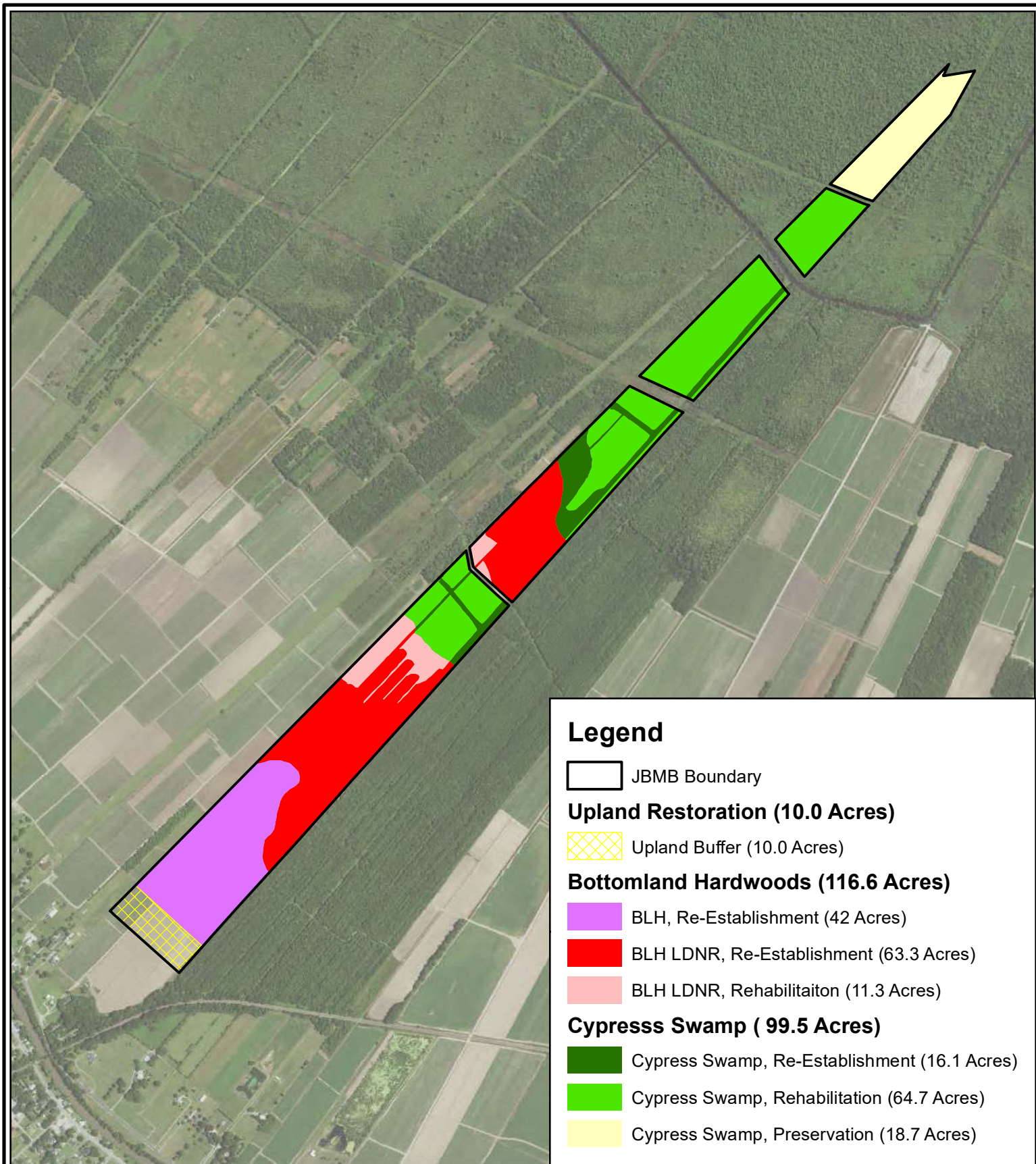
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 12/13/2021

Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 15





0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

PROPOSED HABITATS EXHIBIT

LAFOURCHE PARISH, LA

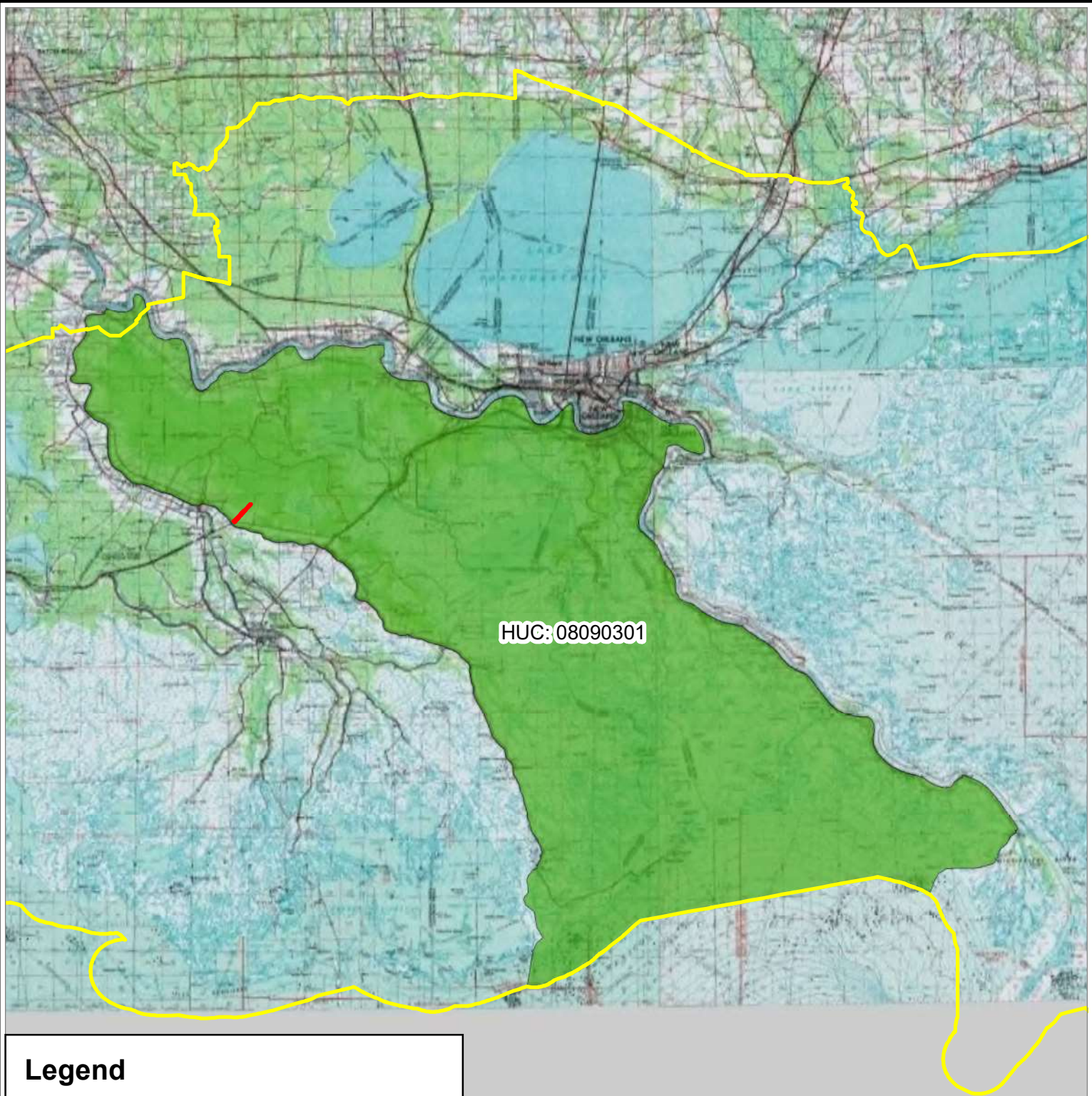
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 3/2/2022

Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 16





Legend

- JBMB Boundary
- State Coastal Zone Boundary
- Primary Service Area: Barataria Basin

Copyright:© 2013 National Geographic Society, i-cubed

0 7.5 15 22.5 30
Miles

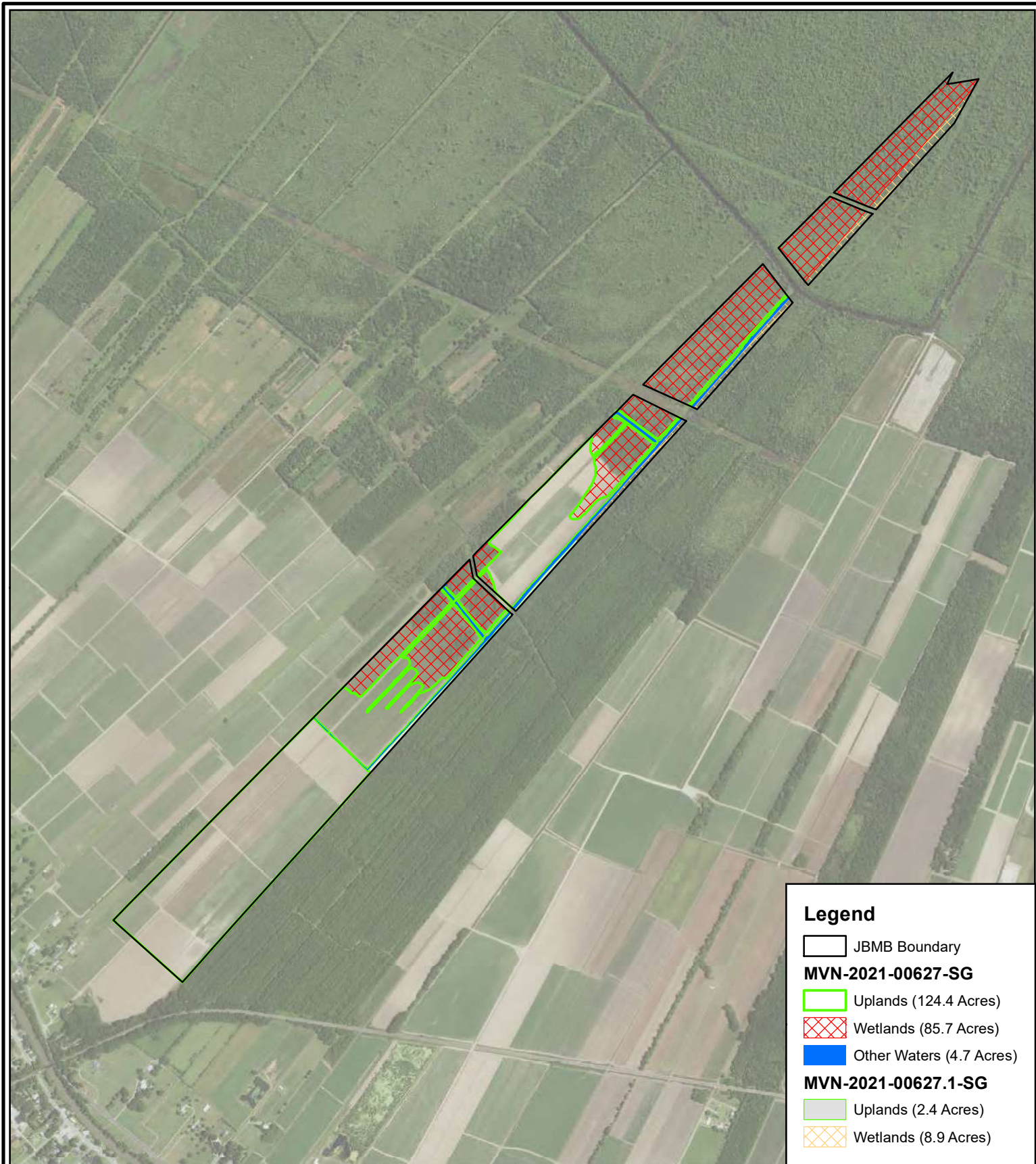


JO BLANCHE MITIGATION BANK SERVICE AREA EXHIBIT LAFOURCHE PARISH, LA







Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/22/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 17





Legend

-  JBMB Boundary
- MVN-2021-00627-SG**
-  Uplands (124.4 Acres)
-  Wetlands (85.7 Acres)
-  Other Waters (4.7 Acres)
- MVN-2021-00627.1-SG**
-  Uplands (2.4 Acres)
-  Wetlands (8.9 Acres)

0 750 1,500 2,250 3,000
Feet 1 in equals 1,500 ft



JO BLANCHE MITIGATION BANK WETLAND DETERMINATION EXHIBIT LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 3/2/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 18





Legend

- JBMB Boundary
- Lafourche Crossing MB

0 2,500 5,000 7,500 10,000
Feet 1 in = 5,000 ft



JO BLANCHE MITIGATION BANK

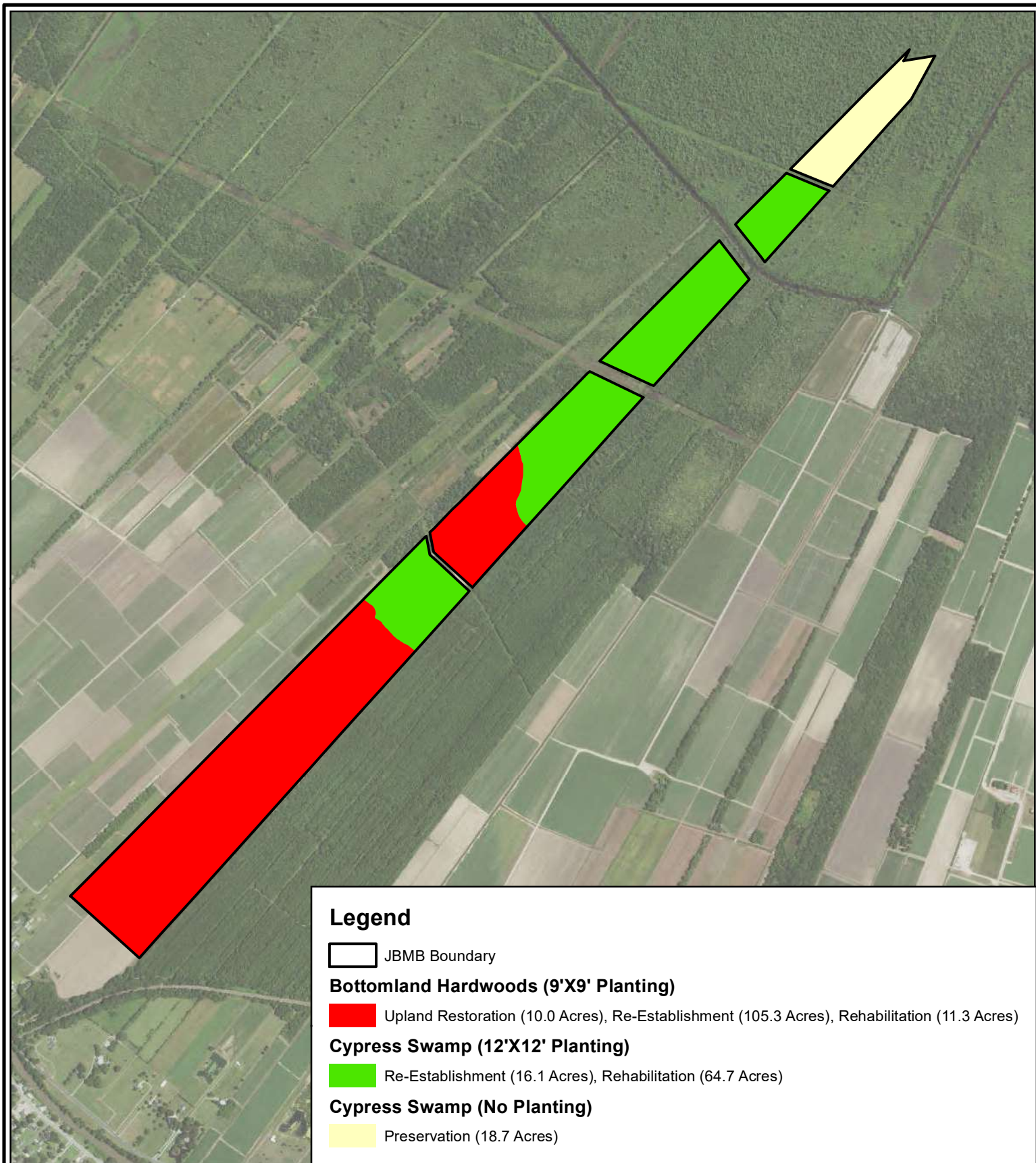
REFERENCE SITE EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 11/22/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 19





0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

PROPOSED PLANTING EXHIBIT

LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/22/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 20



Attachment B:

Assessment Methods (LRAM)

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #		Bank Name	
Acres Mitigation	116.6	Jo Blanche Mitigation Bank	
Watershed Basin	Barataria		

Mitigation Factors	Area 1		Area 2		Area 3		Area 4		Area 5		Area 6		Area 7		Area 8	
	Mitigation Type	Re-Est	Rehab	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Management	None	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Negative Influences	Low	Low	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Size	>500	>500	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Buffer / Upland	Restored	Restored	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		6.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sum:		0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area:		105.4	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sum x Area Affected:		685.1	61.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Σ Mitigation: 746.7
Mitigation Potential: 6.4

COMMENTS

Mitigation Type	Bottomland Hardwood.
Management	None: No long-term structural management requirements will be needed to assure sustained hydrology and wetland functions at JBMB.
Negative Influences	Low negative influences: powerline and pipelines ROW are emergent wetlands.
Size	>500: JBMB is 226.1 total acres which is adjacent to the 275 acre Lafourche Crossings Mitigation Bank. Combined protected acreage is 501.1
Buffer/Upland	Restored: 10 acres of upland buffer to be restored.

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #		Bank Name	
Acres Mitigation	99.5	Jo Blanche Mitigation Bank	
Watershed Basin	Barataria		

Mitigation Factors	Area 1		Area 2		Area 3		Area 4		Area 5		Area 6		Area 7		Area 8	
	Mitigation Type	Re-Est	Rehab	Preser			Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Management	None	None	None	0.4	0.0	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Negative Influences	Low	Low	Low	0.0	0.0	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		-0.5	-0.5	-0.5	-0.5	0.0	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Size	>500	>500	>500	>500	0.5	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Buffer / Upland	Restored	Restored	Restored	Restored	0.0	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.5	0.5	0.5	0.0	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Sum:	6.5	5.5	5.5	0.9	0.0	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
	Area:	16.1	64.7	18.7												
Sum x Area Affected:		104.7	355.9	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Σ Mitigation: 477.3
Mitigation Potential: 4.8

COMMENTS

Mitigation Type	Cypress Swamp
Management	None: No long-term structural management requirements will be needed to assure sustained hydrology and wetland functions at JBMB.
Negative Influences	Low negative influences: powerline and pipelines ROW are emergent wetlands.
Size	>500: JBMB is 226.1 total acres which is adjacent to the 275 acre Lafourche Crossings Mitigation Bank. Combined protected acreage is 501.1
Buffer/Upland	Restored: 10 acres of upland buffer to be restored.

Attachment C:
BLH, CS, and UPL Species

**Tree Species to be Planted in Bottomland Hardwood
and
Upland Restoration Areas**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Hard mast/ Soft mast</u>	<u>Wetland Indicator Status</u>	<u>Composition</u>
<i>Quercus phellos</i>	willow oak	Hard mast	FACW	<15%
<i>Quercus lyrata</i>	overcup oak	Hard mast	FACW	<15%
<i>Quercus texana</i>	nuttall oak	Hard mast	FACW	<15%
<i>Quercus michauxii</i>	swamp chestnut oak	Hard mast	FACW	<15%
<i>Carya illinensis</i>	pecan	Hard mast	FACU	<15%
<i>Carya aquatica</i>	bitter pecan	Hard mast	OBL	<15%
<i>Celtis laevigata</i>	sugarberry	Soft mast	FACW	<15%
<i>Acer rubrum</i>	red maple	Soft mast	OBL	<15%
<i>Diospyros virginiana</i>	common persimmon	Soft mast	FAC	<15%
<i>Ulmus americana</i>	american elm	Soft mast	FAC	<15%
<i>Fraxinus pennsylvanica</i>	green ash	Soft mast	FACW	<15%
<i>Taxodium distichum</i>	cypress	Soft mast	OBL	<15%

Tree Species to be Planted in Cypress Swamp Areas

<u>Scientific Name</u>	<u>Common Name</u>	<u>Hard mast/ Soft mast</u>	<u>Wetland Indicator Status</u>	<u>Composition</u>
<i>Taxodium distichum</i>	cypress	Soft mast	OBL	<80%
<i>Nyssa sylvatica var biflora</i>	blackgum tupelo	Soft mast	OBL	<10%
<i>Nyssa aquatica</i>	tupelo gum	Soft mast	OBL	<10%
<i>Fraxinus pennsylvanica</i>	green ash	Soft mast	FACW	<5%
<i>Cephalanthus occidentalis L.</i>	common buttonbush	Soft mast	OBL	<5%

Attachment D:

Preliminary Jurisdictional Determinations



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

September 22, 2021

Regulatory Division
Jurisdiction and Enforcement Branch

Mr. Caleb Goff
JMB Partnership, LLC
205 Sage Glenn Lane
Lafayette, LA 70508

Dear Mr. Goff:

Reference is made to your request, on behalf of Jo Blanche Corp, for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Section 17, Township 15 South, Range 17 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this property is identified as a ± 262.4 acre site east of Highway 1, located near Thibodaux.

Based on review of recent maps, aerial photography, soils data, and the delineation report provided with your request, we have determined that part of the property contains wetlands and non-wetland waters that may be subject to Corps' jurisdiction. The approximate limits of the wetlands and non-wetland waters are designated in red and blue, respectively, on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into waters of the U.S.

Additionally, federal projects are known to exist in this area that may require further engineering review prior to the initiation of any activities on this site. For more information, please contact Mr. Robert Morgan of our Operations Division at (504) 862-2320.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

Please be advised that this property is in the Louisiana Coastal Zone and a Coastal Use Permit may be required prior to initiation of any activities on this site. For additional information, contact Ms. Christine Charrier, Office of Coastal Management, Louisiana Department of Natural Resources at (225) 342-7953.

You and your client are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date. Additionally, this determination is only valid for the identified project or individual(s) only and is not to be used for decision-making by any other individual or entity.

Should there be any questions concerning these matters, please contact Mr. Jon Barmore at (504) 862-1704 and reference our Account No. MVN-2021-00627-SG. If you have specific questions regarding the permit process or permit applications, please contact our Central Evaluation Branch at (504) 862-1581.

Sincerely,

A black rectangular redaction box covering the signature of Martin S. Mayer.

for Martin S. Mayer
Acting Chief, Regulatory Division

Enclosures

**US Army Corps of Engineers
Preliminary Jurisdictional Determination**

NOT PART OF DETERMINATION

NOT PART OF DETERMINATION

NOT PART OF DETERMINATION

USACE

In House, 15 September 2021

BOTANIST Mr. Jon Barmore

FOR JMB Partnership, LLC

ACCOUNT # MVN-2021-00627-SG



Wetlands



Non-wetland waters



JD Review Area

0 1,000 2,000 3,000
Feet 1 in equals 1,500 ft



**JO BLANCHE CORP.
JURISDICTIONAL DETERMINATION
WETLAND DELINEATION EXHIBIT
LAFOURCHE PARISH, LA**

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 9/14/2021
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 09





DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

January 20, 2022

Regulatory Division
Jurisdiction and Enforcement Branch

Mr. Caleb Goff
JMB Companies, Inc.
205 Sage Glenn Lane
Lafayette, LA 70508

Dear Mr. Goff:

Reference is made to your request, on behalf of Crossing Development, LLC, for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Section 17, Township 15 South, Range 17 East, Lafourche Parish, Louisiana (enclosed map). Specifically, this property is identified as a 12 acre site north of Highway 308 located near Thibodaux, LA.

Based on review of recent maps, aerial photography, soils data, and the delineation report provided with your request, we have determined that part of the property contains wetlands and non-wetland waters that may be subject to Corps' jurisdiction. The approximate limits of the wetlands and non-wetland waters are designated in red and blue, respectively, on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into waters of the U.S.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

Please be advised that this property is in the Louisiana Coastal Zone and a Coastal Use Permit may be required prior to initiation of any activities on this site. For additional information, contact Ms. Christine Charrier, Office of Coastal Management, Louisiana Department of Natural Resources at (225) 342-7953.

You and your client are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date. Additionally, this determination is only valid for the identified project or individual(s) only and is not to be used for decision-making by any other individual or entity.

Should there be any questions concerning these matters, please contact Mr. Jon Barmore at (504) 862-1704 and reference our Account No. MVN-2021-00627-1-SG. If you have specific questions regarding the permit process or permit applications, please contact our Central Evaluation Branch at (504) 862-1581.

Sincerely,

A large black rectangular redaction box covering the signature of Martin S. Mayer.

for Martin S. Mayer
Chief, Regulatory Division

Enclosures

US Army Corps of Engineers
Preliminary Jurisdictional Determination

NOT PART OF DETERMINATION

NOT PART OF DETERMINATION

P-01

P-02

P-03

NOT PART OF DETERMINATION

USACE

IN HOUSE, 20 JANUARY 2021

BOTANIST MR. JON BARMORE

FOR Crossing Development LLC

ACCOUNT # MYN-2021-00627.1-SG



Wetlands



Non-wetland waters



JD Review Area



Previous Determination

0 1,000 2,000 3,000
Feet
1 in equals 1,500 ft



CROSSING DEVELOPMENT LLC.
JURISDICTIONAL DETERMINATION
WETLAND DETERMINATION EXHIBIT
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US **Date:** 11/17/2021
Vertical Datum: NAVD88 Feet **Author:** CTG

FIGURE 08



Attachment E:
Observation Photos



Figure 1: Aerial Image of “East West Ditch” Facing West



Figure 2: Aerial Image of “East West Ditch” Facing Northeast



Figure 3: Aerial Image of “Unnamed Agricultural Canal” Facing Northeast



Figure 4: Enhanced Aerial Image of “Unnamed Agricultural Canal” Facing Northeast



Figure 05: Aerial Image of “Southern Slide Gate Facing North



Figure 06: Aerial Image of “Southern Slide Gate Facing Southeast



Figure 07: Ground View of “Southern Slide Gate Canal” Facing Northwest



Figure 08: Typical Slide Gate Structure Located at the Intersection of the “Southern Slide Gate Canal” and “Unnamed Agricultural Canal”



Figure 09: Aerial Image of “Northern Slide Gate Canal” Facing Northeast



Figure 10: Aerial Image of “Northern Slide Gate Canal” Facing East



Figure 11: Ground View of “Northern Slide Gate Canal” Facing West



Figure 12: Typical Culvert and Elevated Dirt Road Found on Site



Figure 13: Aerial Image of “Williams Transcontinental Gas Pipeline Company, LLC and Entergy Powerline” Right of Way



Figure 14: Ground View of “Williams Transcontinental Gas Pipeline Company, LLC and Entergy Powerline” Right of Way



Figure 15: Aerial Image of "Shell Pipeline Company LP Pipeline" Right of Way



Figure 16: Ground View of "Shell Pipeline Company LP Pipeline" Right of Way



Figure 17: Aerial Image of "Texas Eastern Transmission" Right of Way



Figure 18: Aerial Image of “Proposed Mitigation Bank” Facing Northeast



Figure 19: Aerial Image of “Proposed Mitigation Bank” Facing Northeast



Figure 20: Aerial Image of “Proposed Mitigation Bank” Facing Northeast



Figure 21: Aerial Image of “Proposed Mitigation Bank” Facing Northeast



Figure 22: Aerial Image of “Proposed Mitigation Bank” Facing Northeast

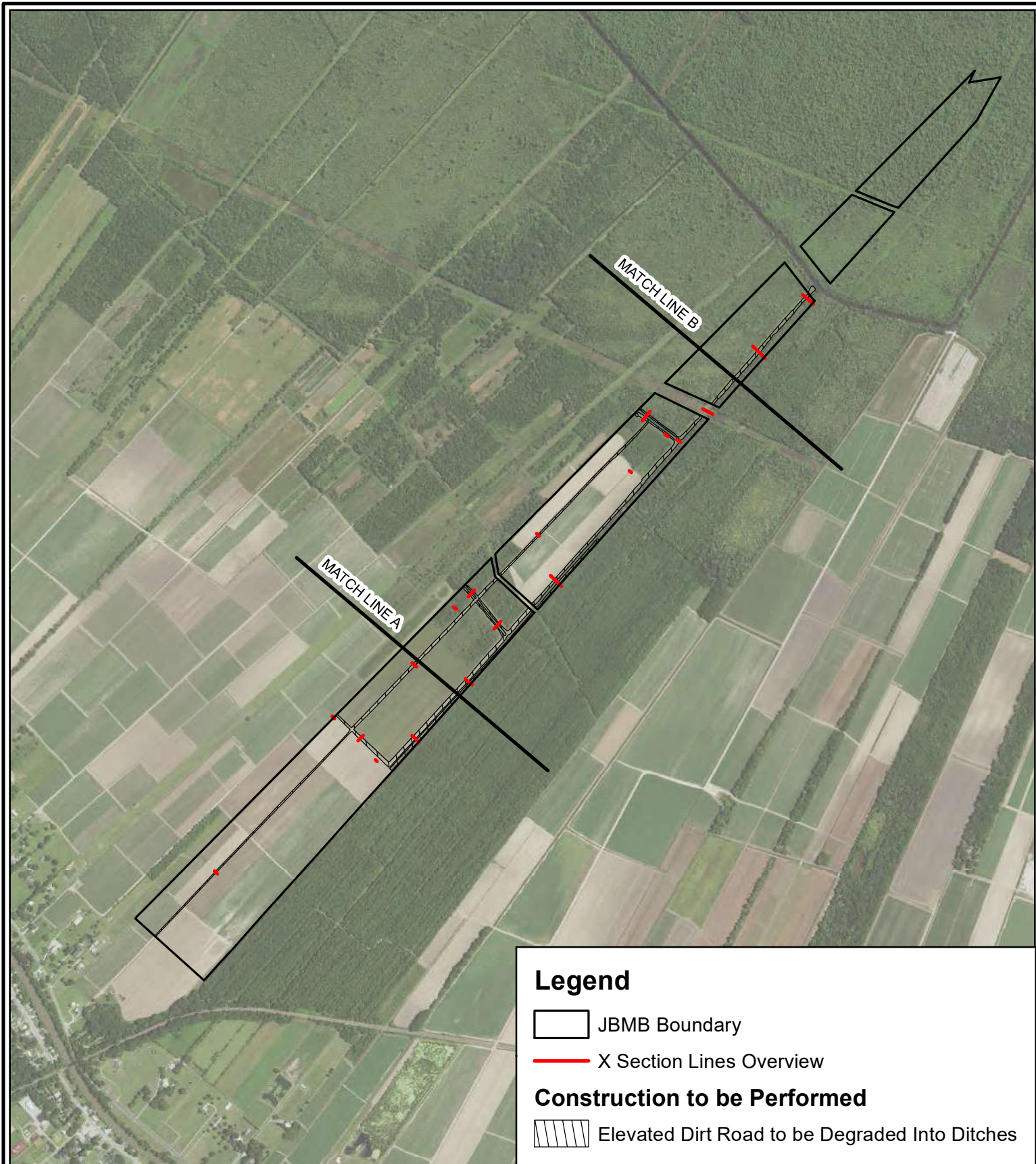


Figure 23: Aerial Image of “Proposed Mitigation Bank” Facing Northeast



Figure 24: Aerial Image of “Proposed Mitigation Bank” Facing Northeast

Attachment F:
Cross Sections



0 750 1,500 2,250 3,000
Feet 1 in = 1,500 ft



JO BLANCHE MITIGATION BANK

CROSS SECTION OVERVIEW EXHIBIT

LAFORCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/21/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 01





0 250 500 750 1,000
Feet
1 in = 500 ft



JO BLANCHE MITIGATION BANK

CROSS SECTION OVERVIEW EXHIBIT

LAFOURCHE PARISH, LA

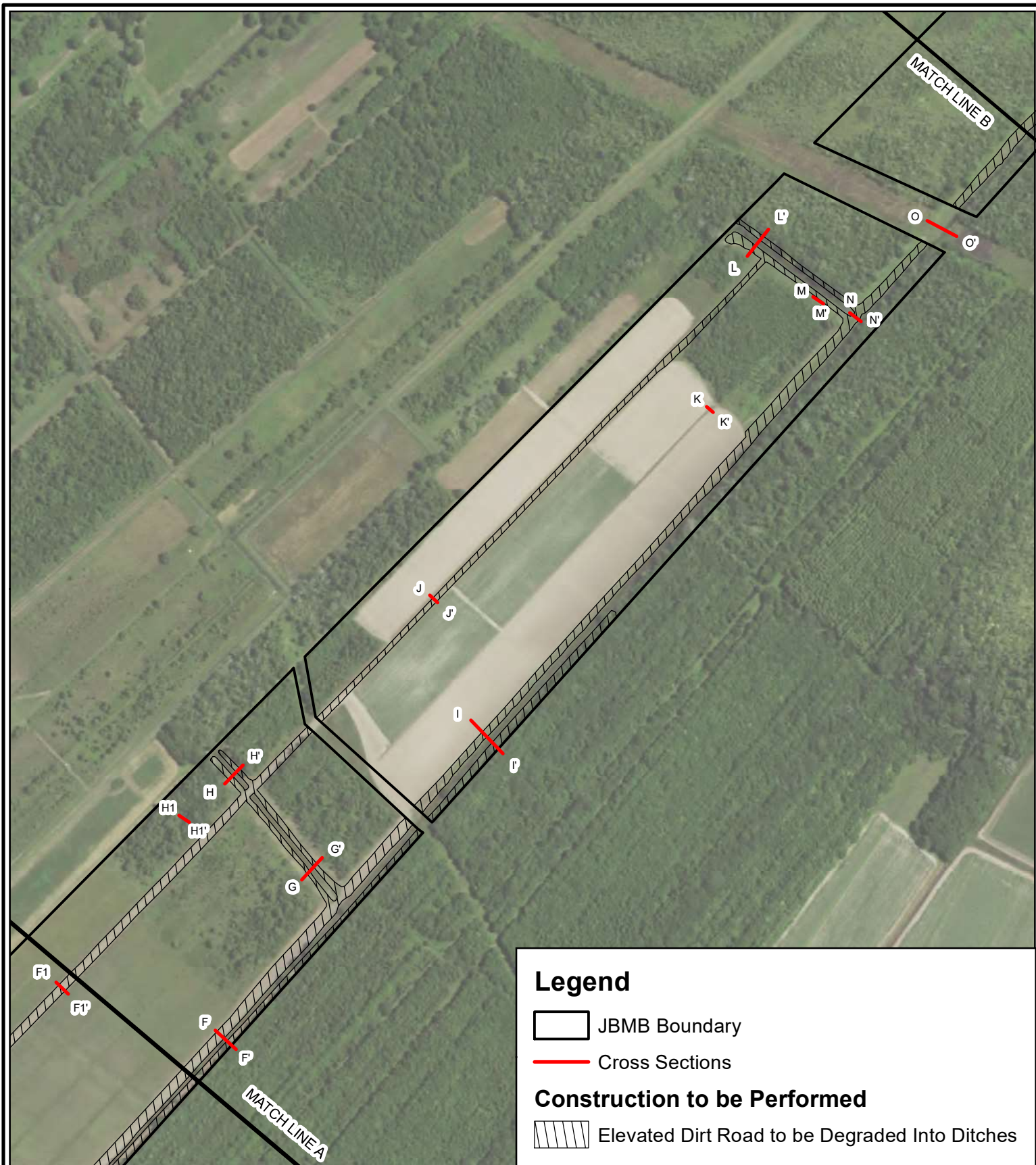
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/21/2022

Vertical Datum: NAVD88 Feet

Author: CTG

FIGURE 01A





0 250 500 750 1,000
Feet
1 in = 500 ft



JO BLANCHE MITIGATION BANK

CROSS SECTION OVERVIEW EXHIBIT

LAFOURCHE PARISH, LA

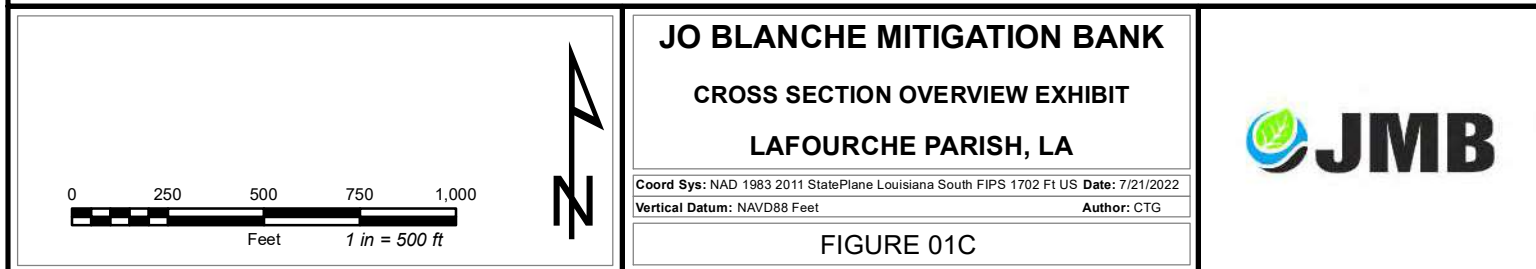
Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/21/2022

Vertical Datum: NAVD88 Feet

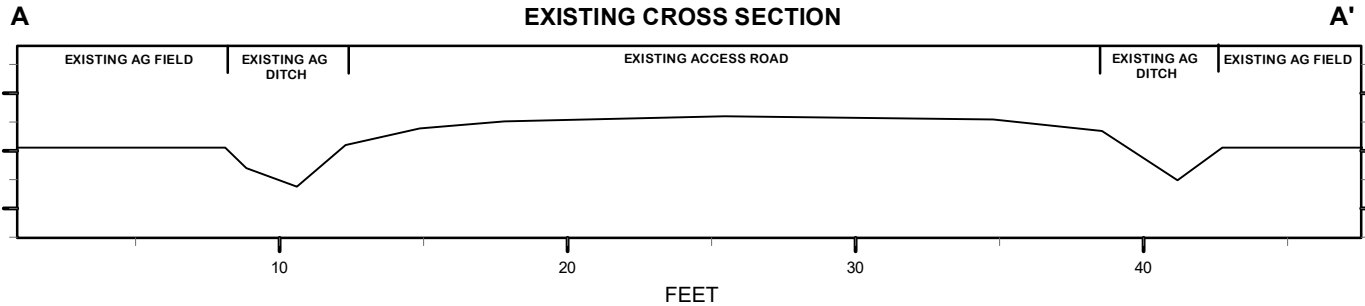
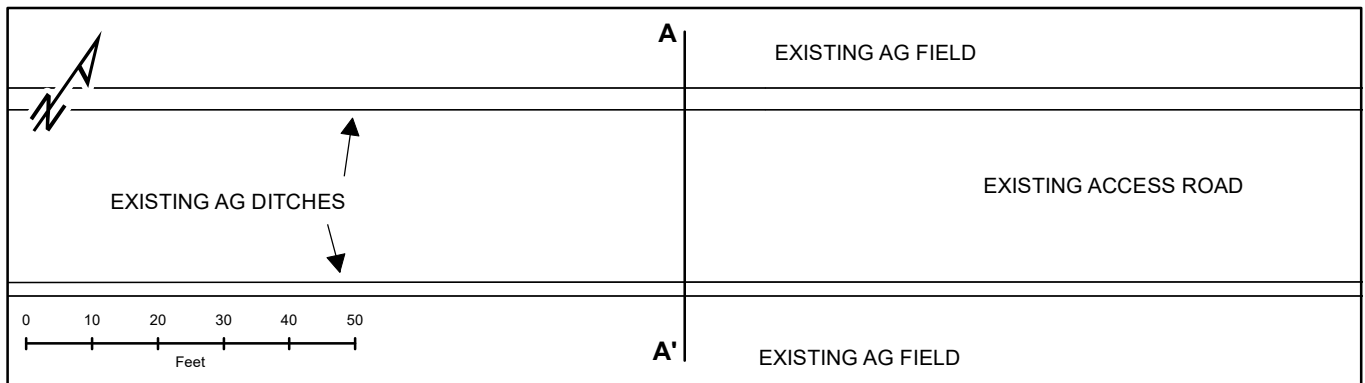
Author: CTG

FIGURE 01B

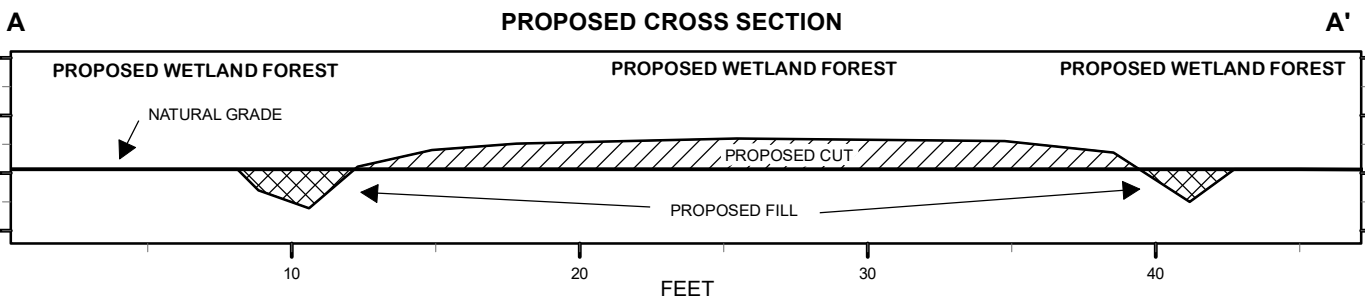
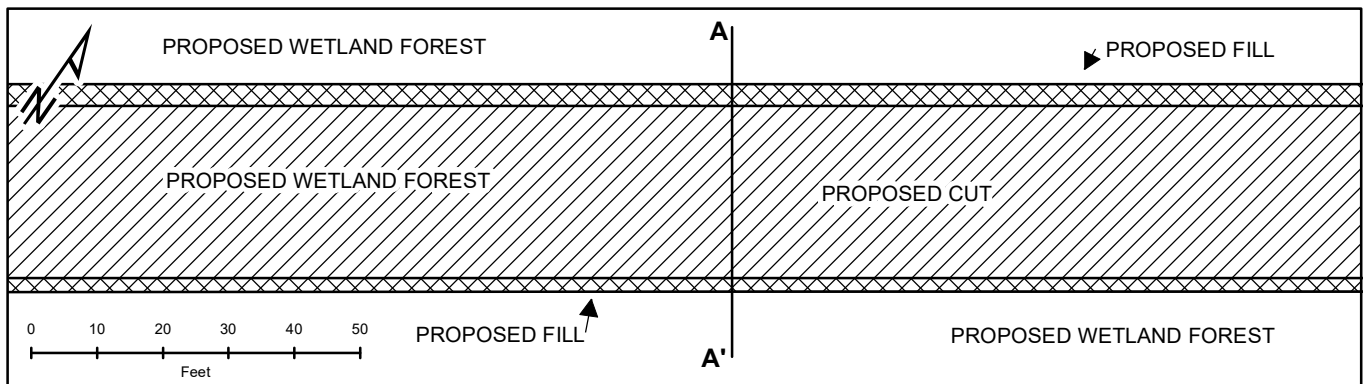




EXISTING PLAN VIEW



PROPOSED PLAN VIEW



JO BLANCHE MITIGATION BANK

CROSS SECTION A EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

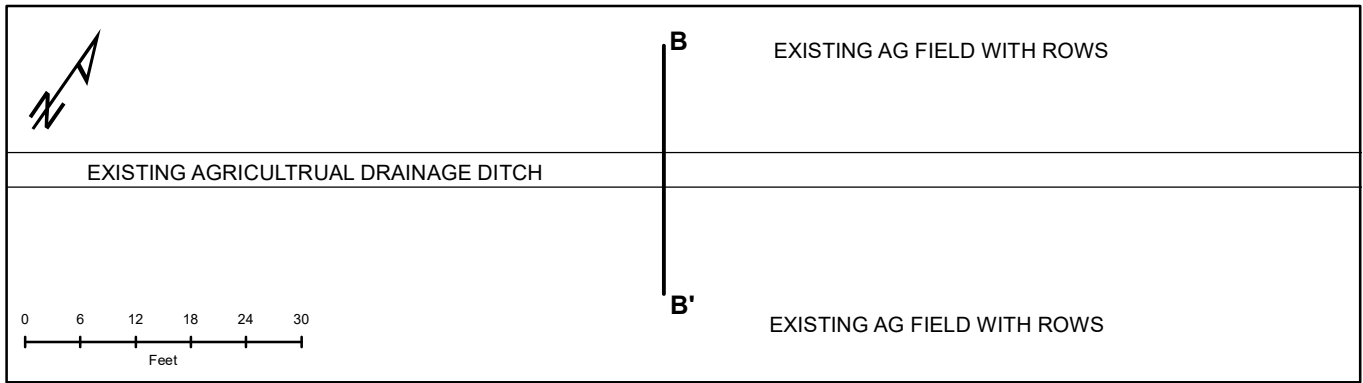
Date: 02/10/2022

Author: CTG

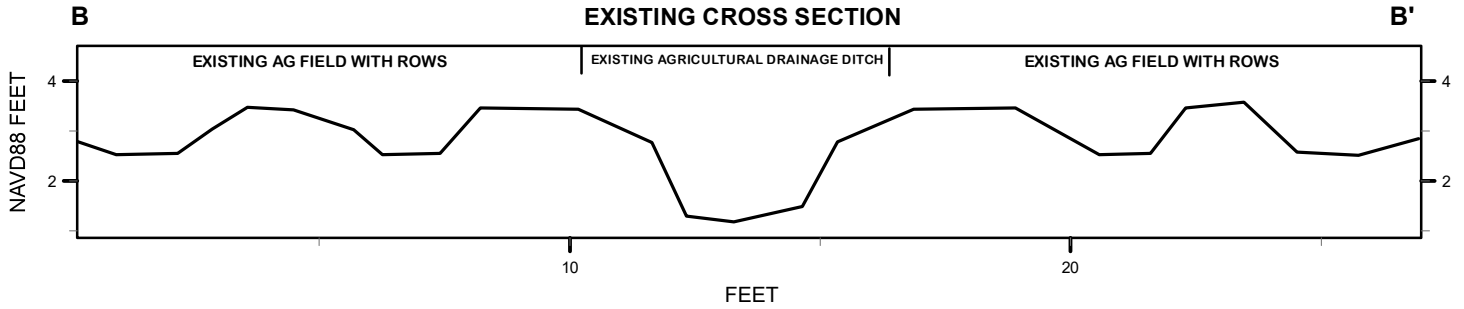
FIGURE 02



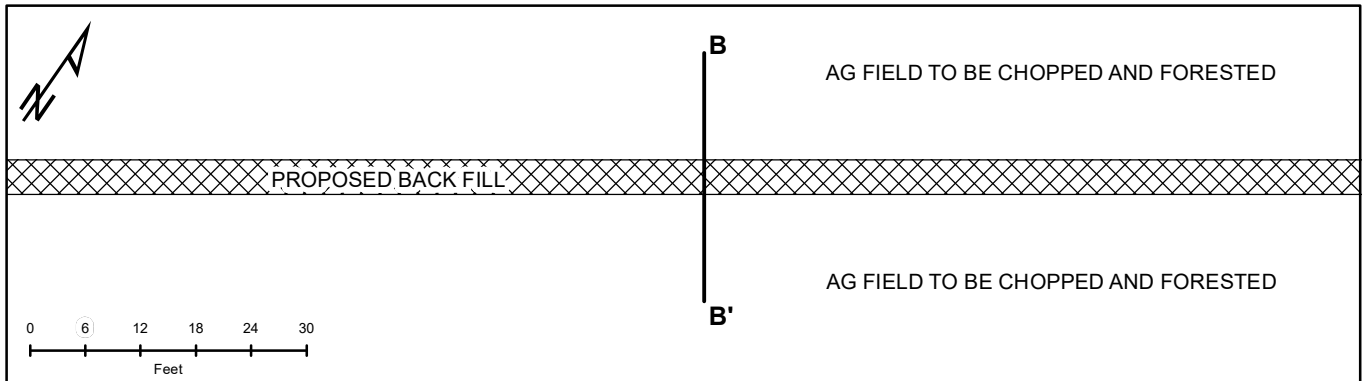
EXISTING PLAN VIEW



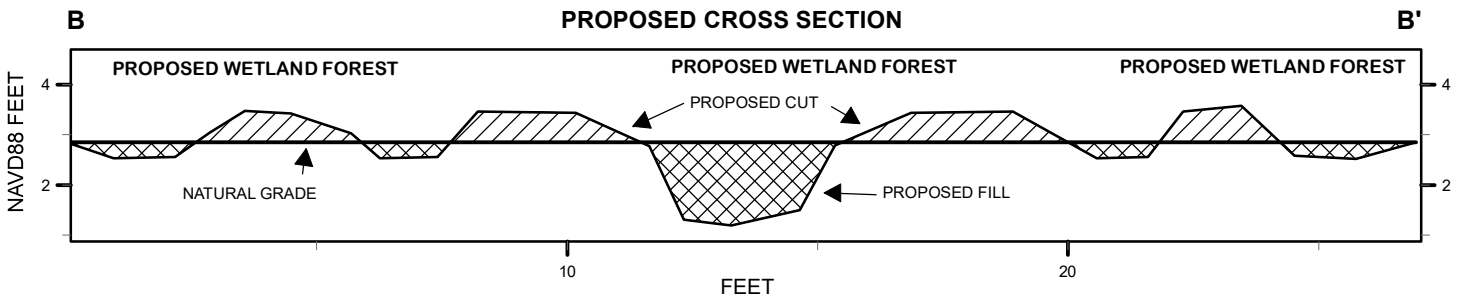
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION B EXHIBIT TYPICAL OF FIELD AGRICULTURAL DITCHES

LAFOURCHE PARISH, LA

Drawing No.:

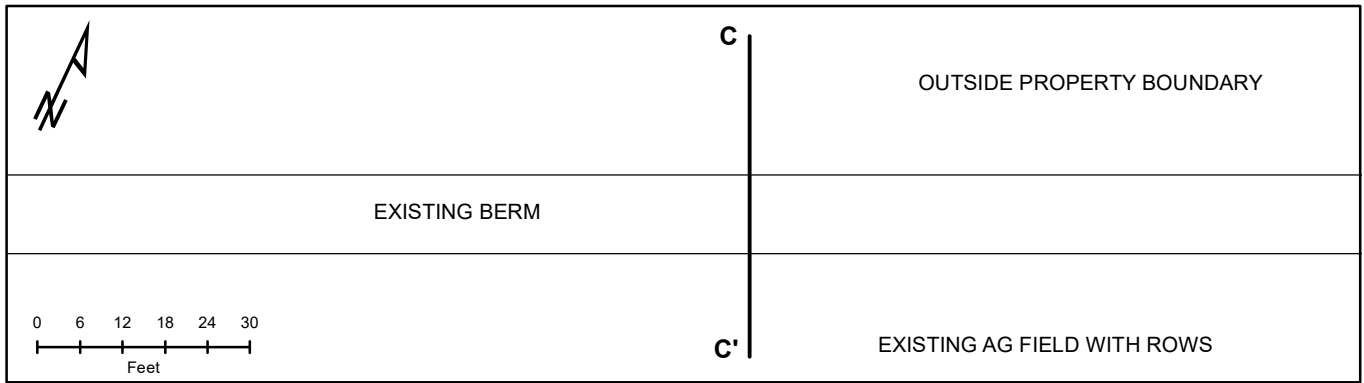
Date: 02/25/2022

Author: CTG

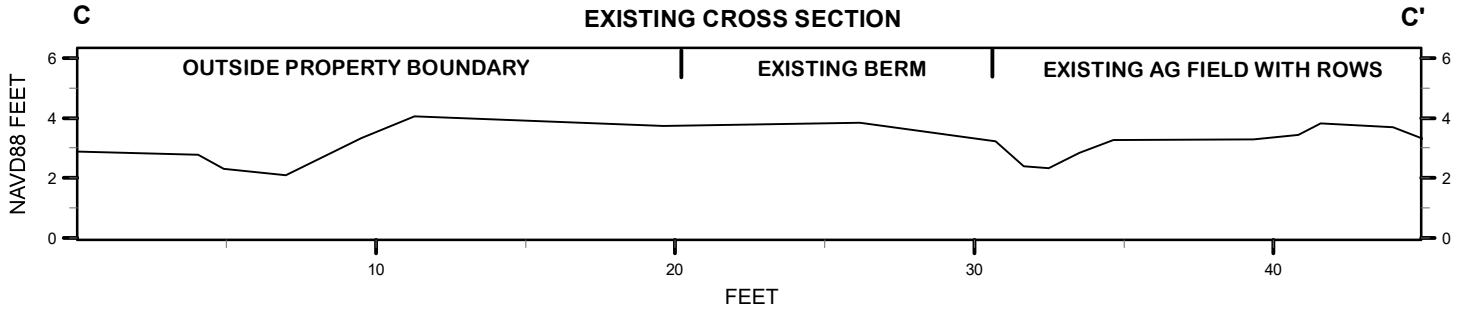
FIGURE 03



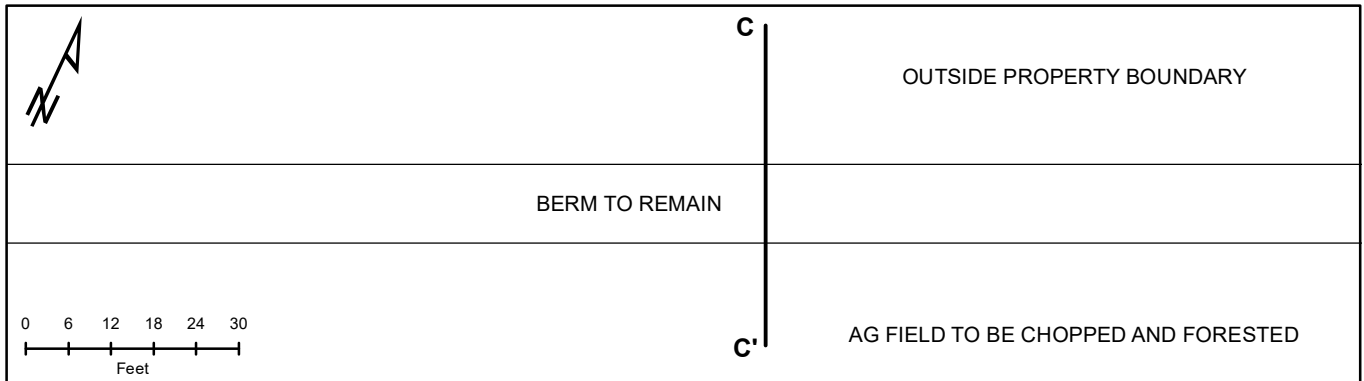
EXISTING PLAN VIEW



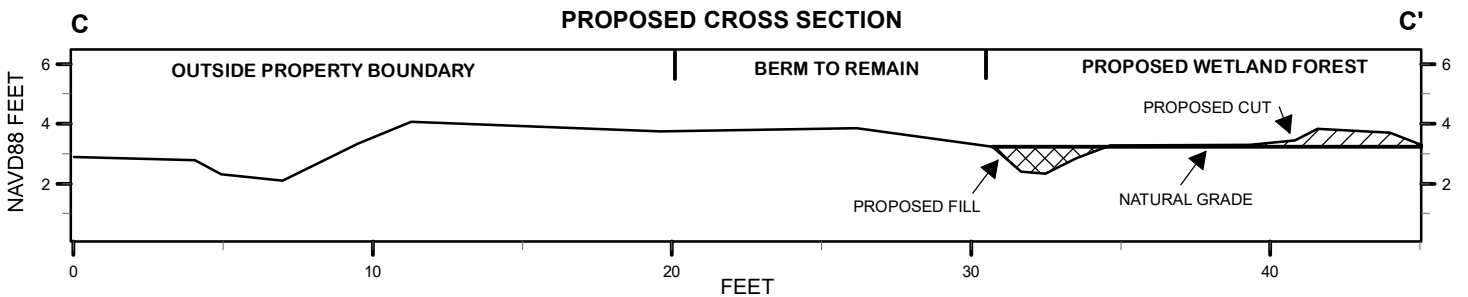
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION C EXHIBIT TYPICAL OF NORTHERN BERM

LAFOURCHE PARISH, LA

Drawing No.:

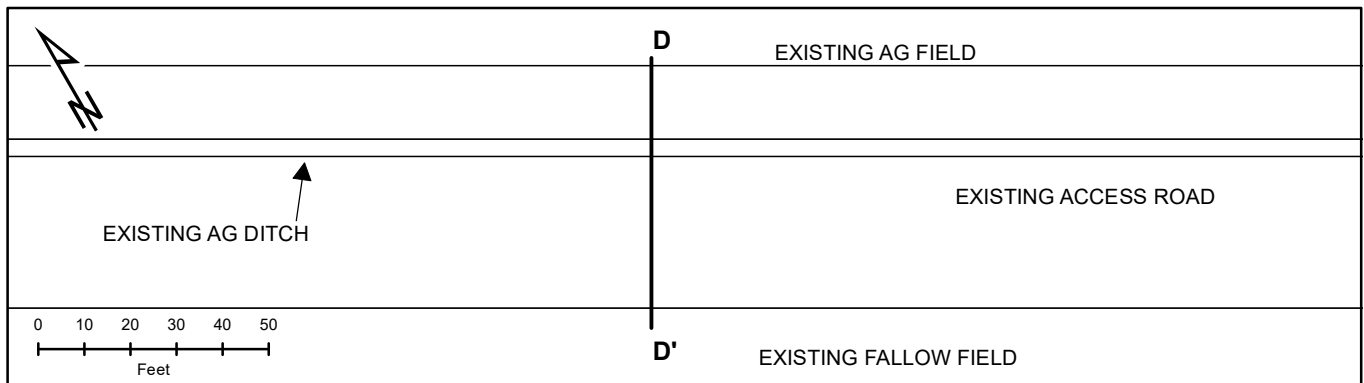
Date: 02/25/2022

Author: CTG

FIGURE 04



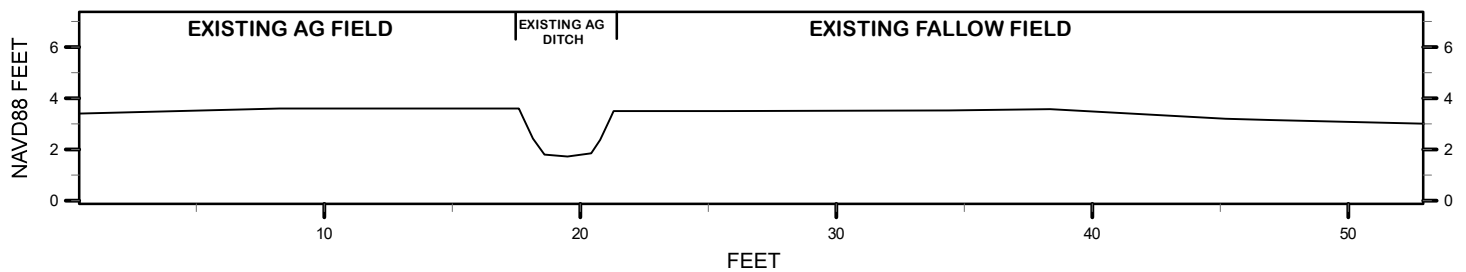
EXISTING PLAN VIEW



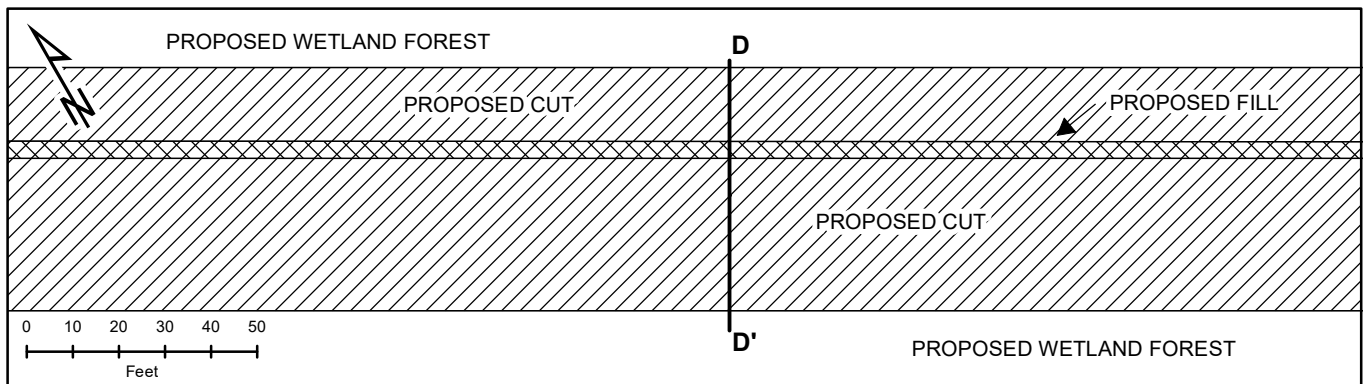
D

EXISTING CROSS SECTION

D'



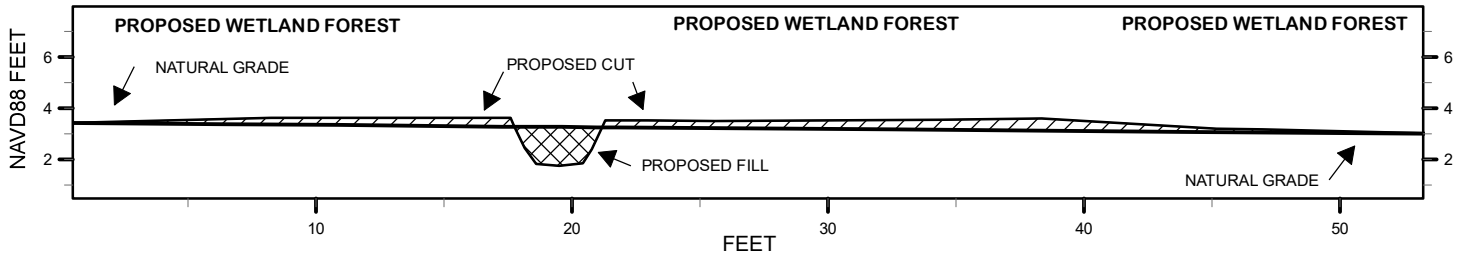
PROPOSED PLAN VIEW



D

PROPOSED CROSS SECTION

D'



JO BLANCHE MITIGATION BANK

CROSS SECTION D EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

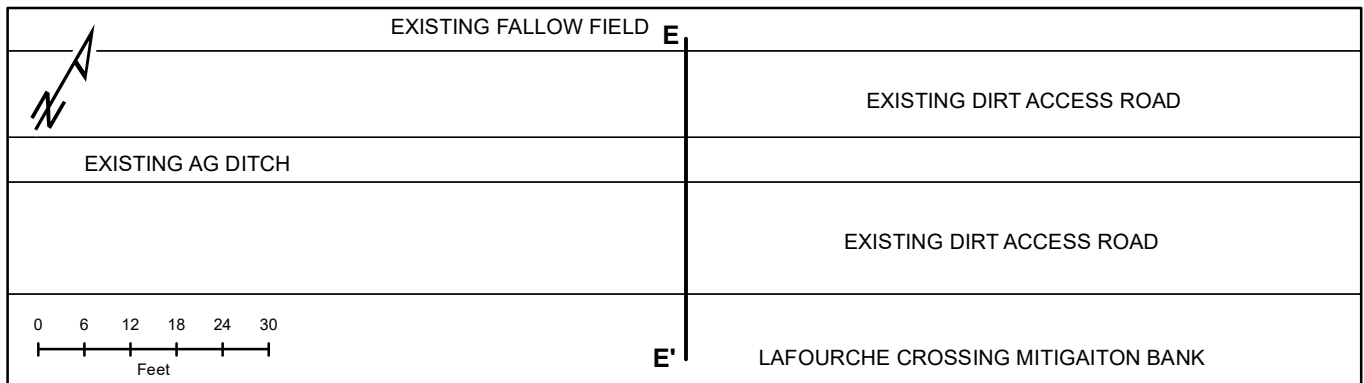
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Author: CTG

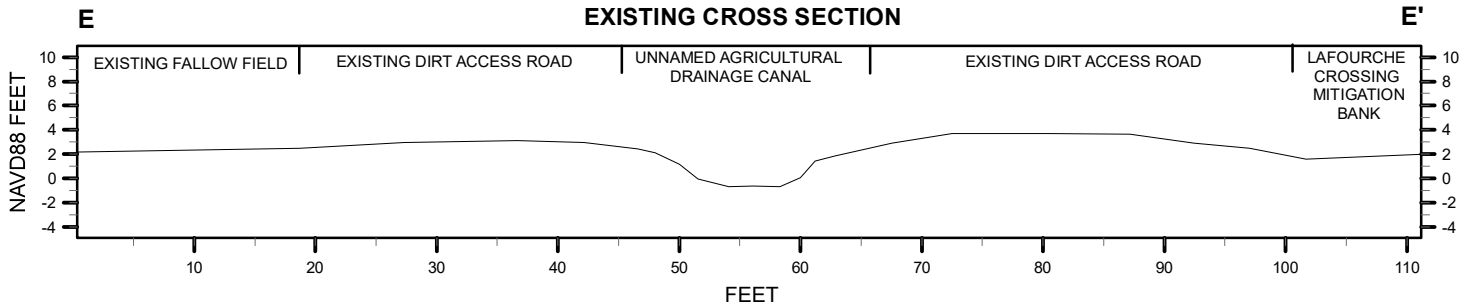
FIGURE 05



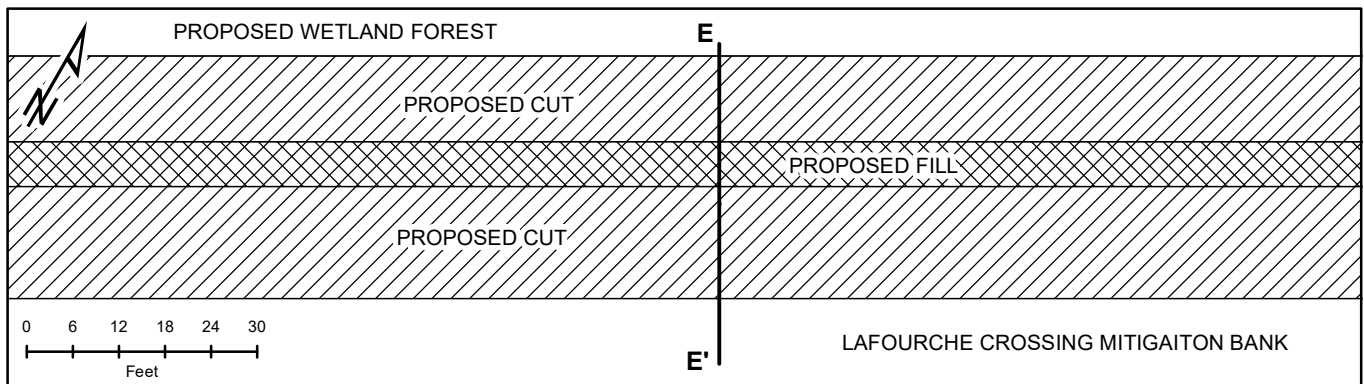
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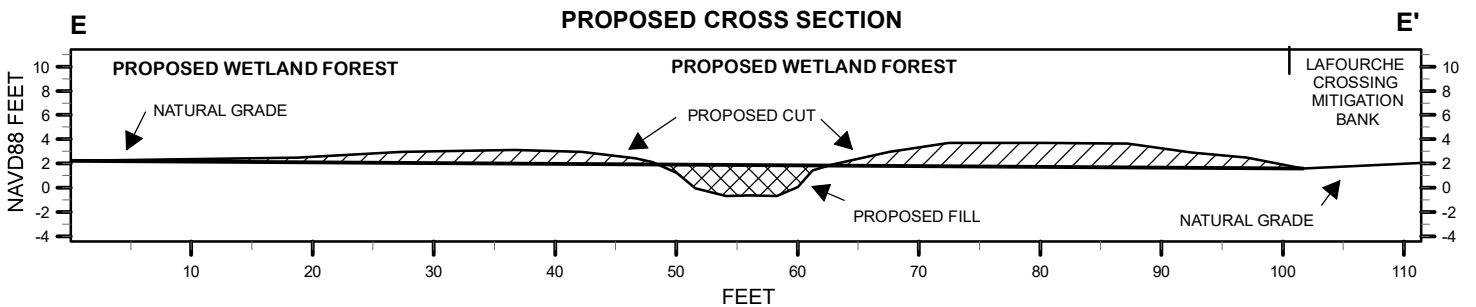
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION E EXHIBIT LAFOURCHE PARISH, LA

Drawing No.:

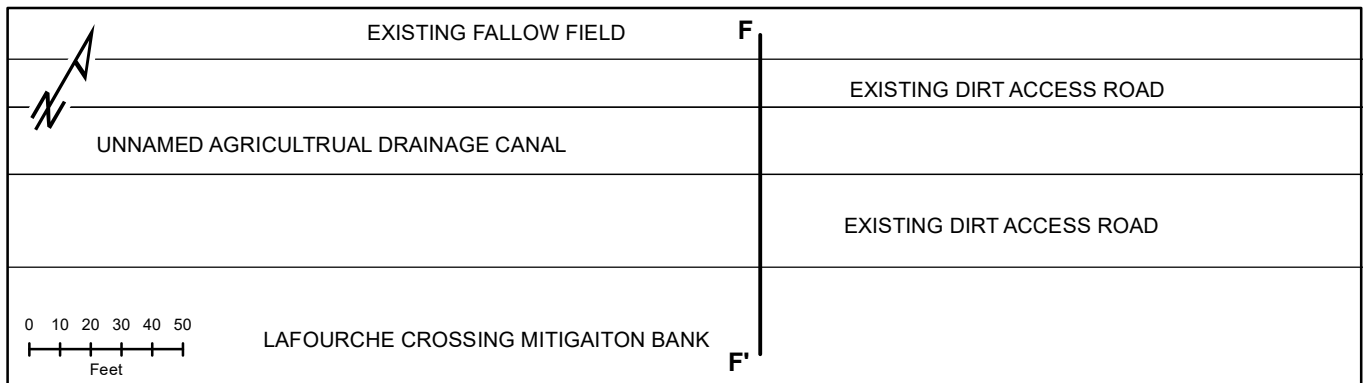
Date: 02/17/2022

Author: CTG

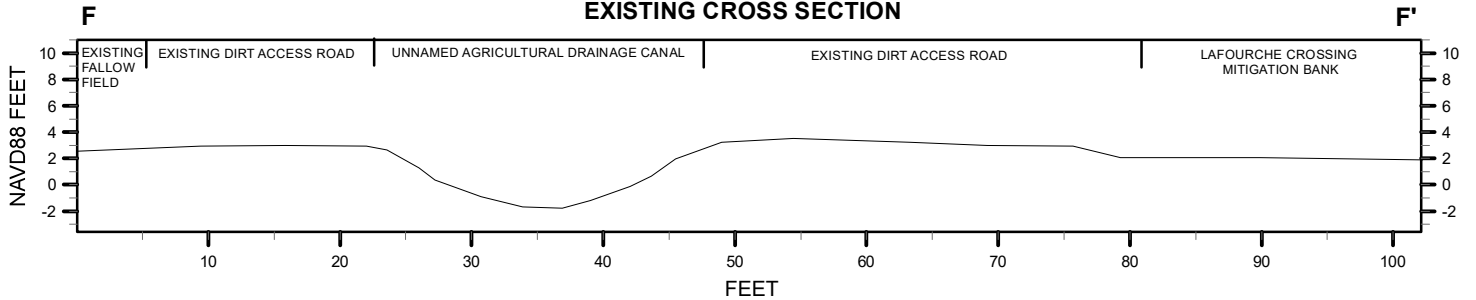
FIGURE 06



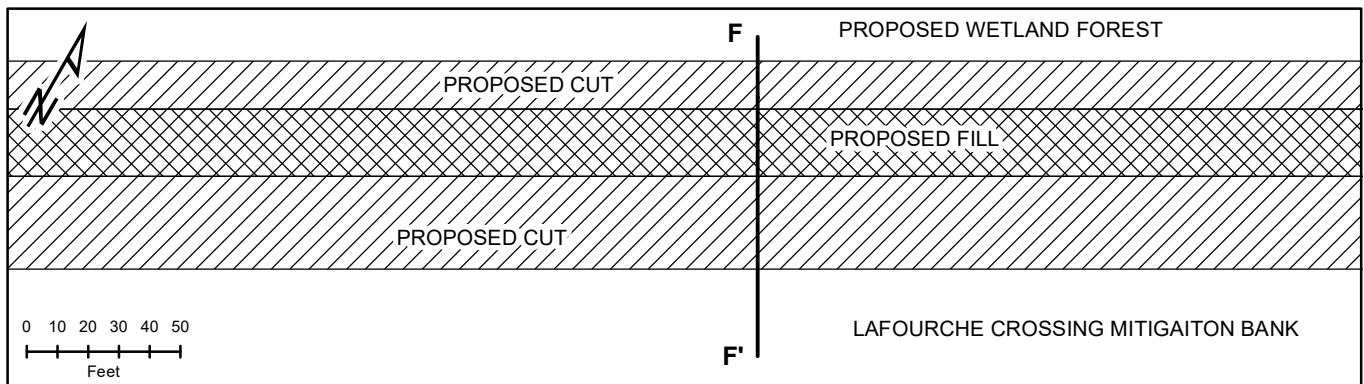
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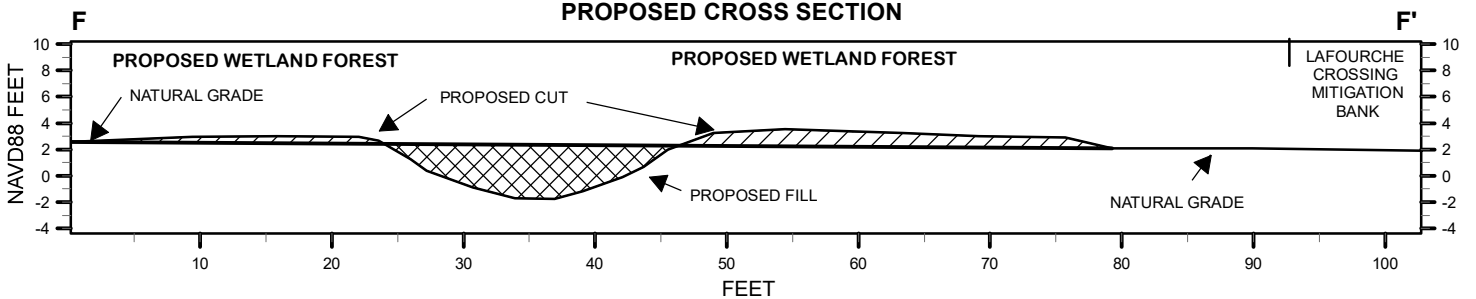
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION F EXHIBIT LAFOURCHE PARISH, LA

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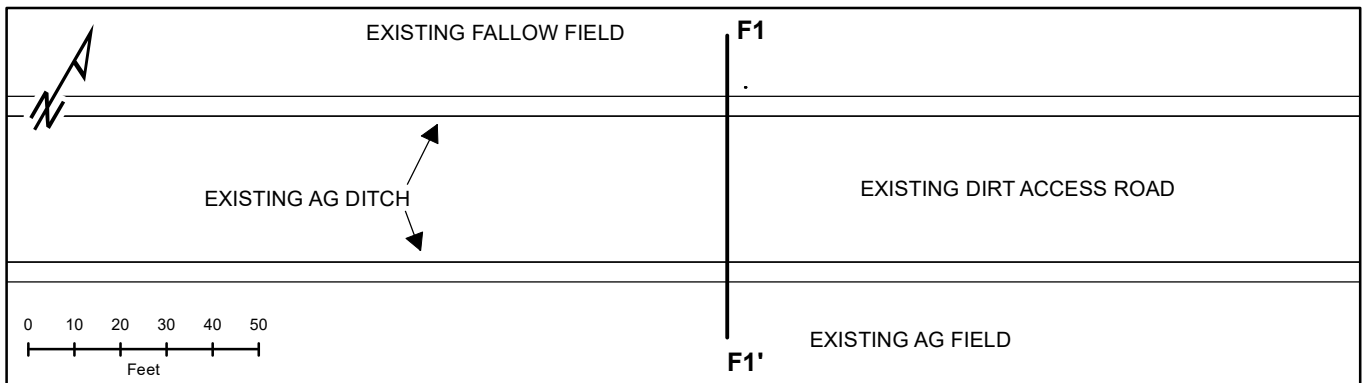
Date: 02/21/2022

Author: CTG

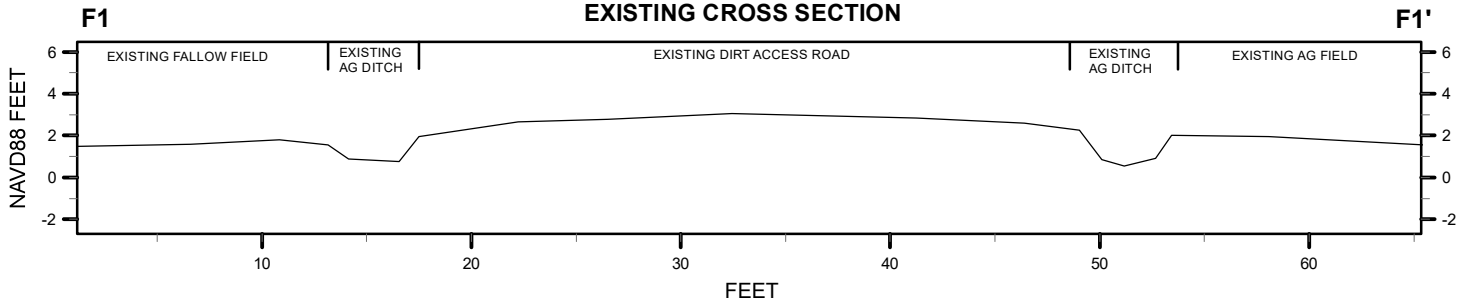
FIGURE 07



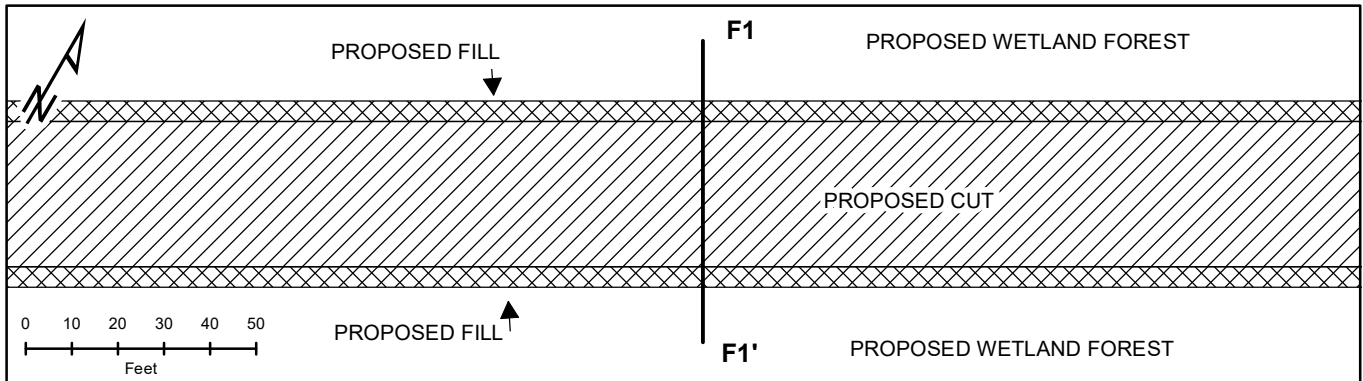
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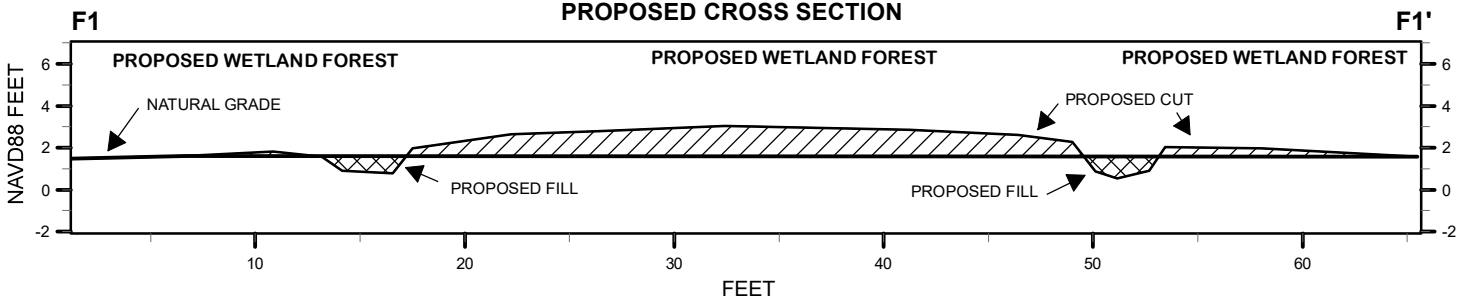
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION F1 EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

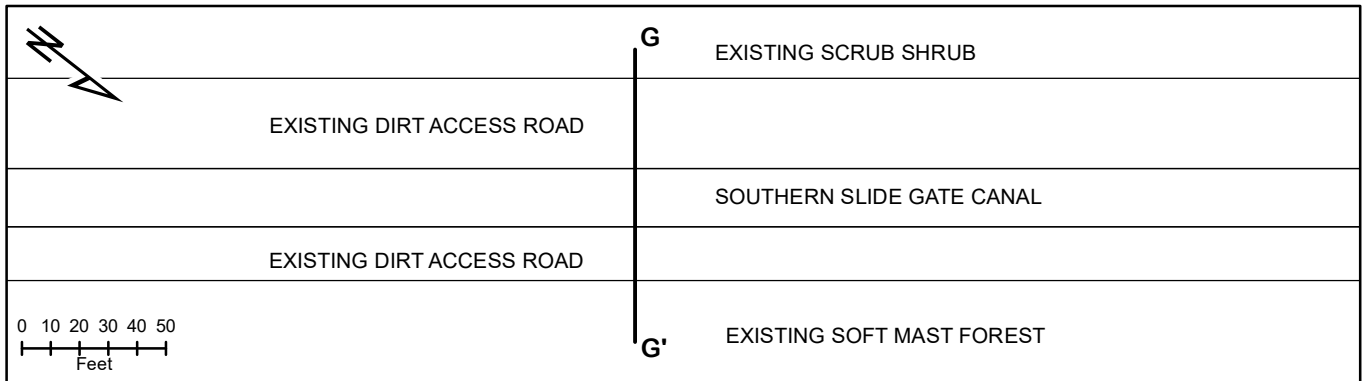
Date: 02/28/2022

Author: CTG

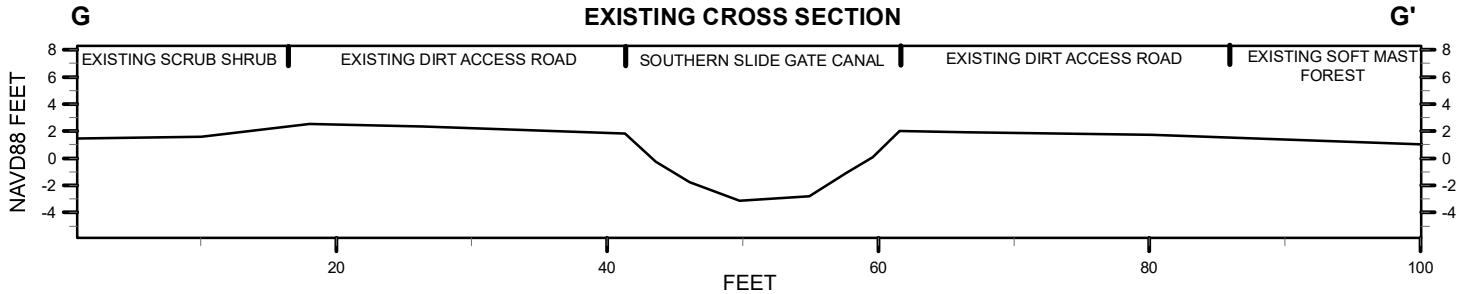
FIGURE 08



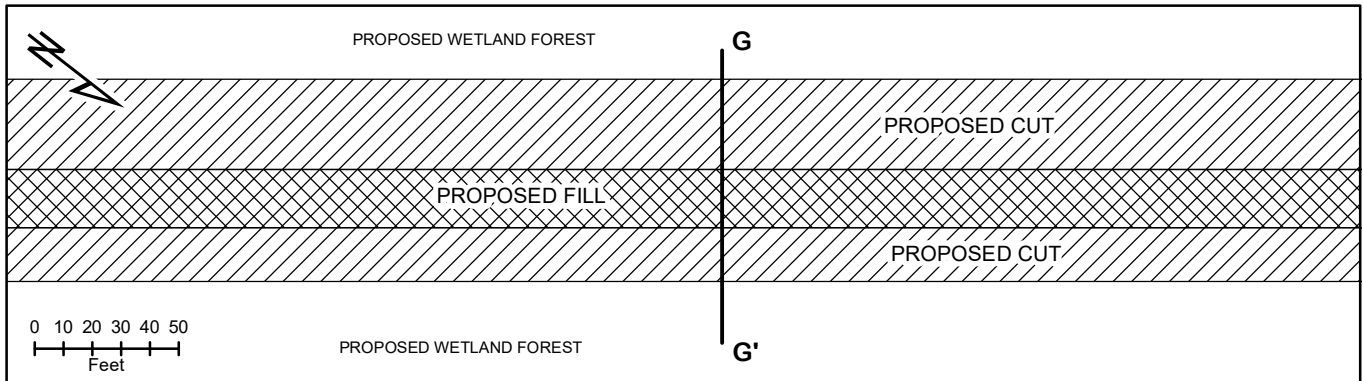
EXISTING PLAN VIEW



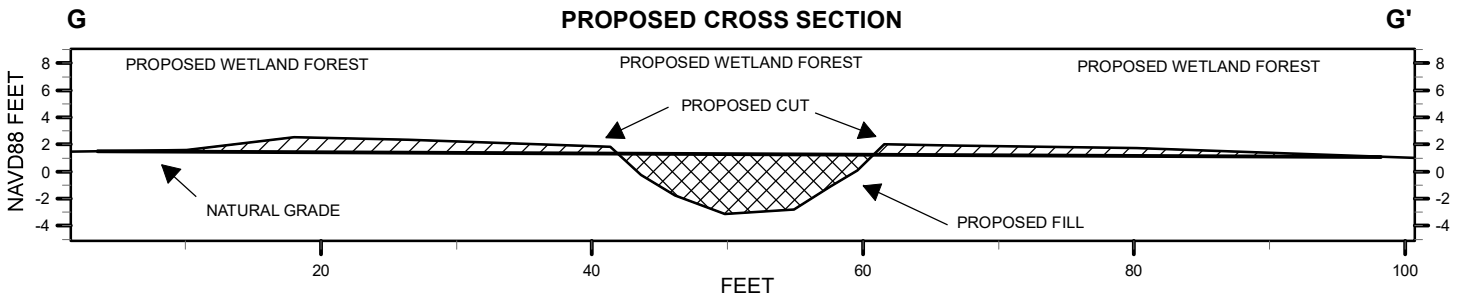
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION G EXHIBIT LAFORCHE PARISH, LA

Drawing No.:

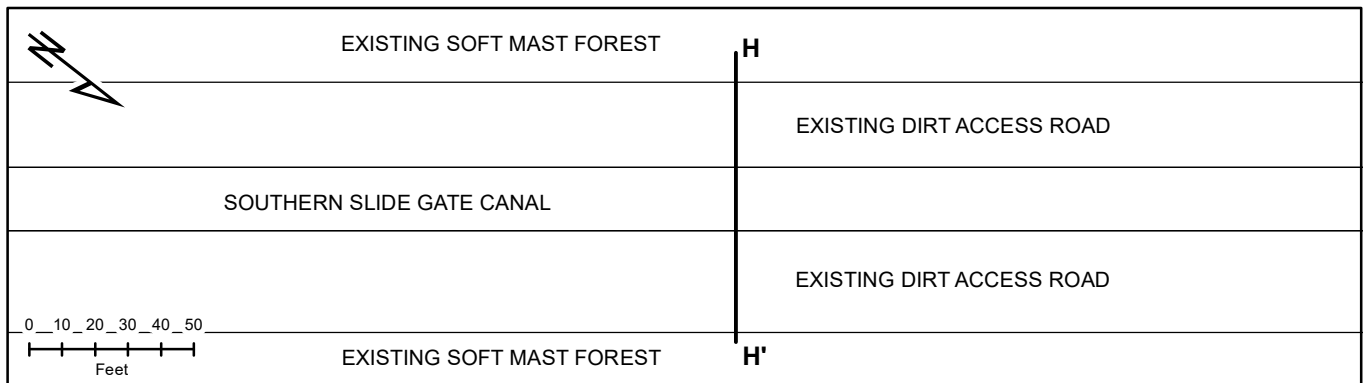
Date: 2/21/2022

Author: CTG

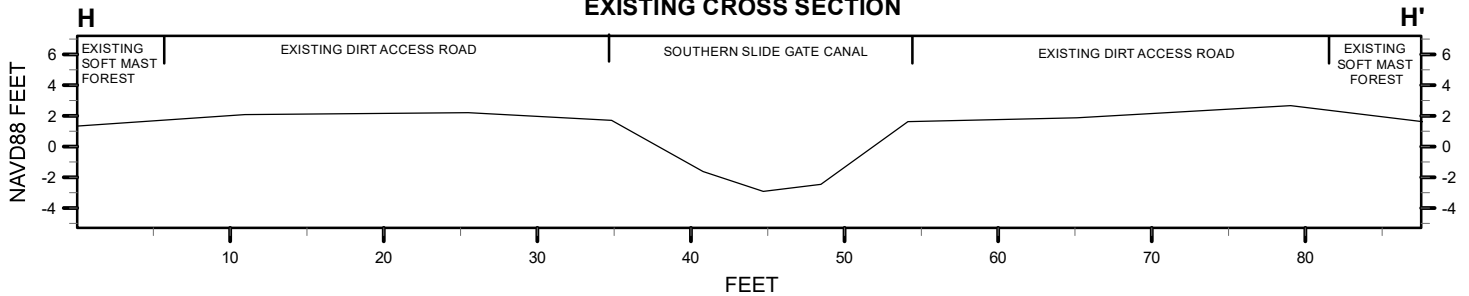
FIGURE 09



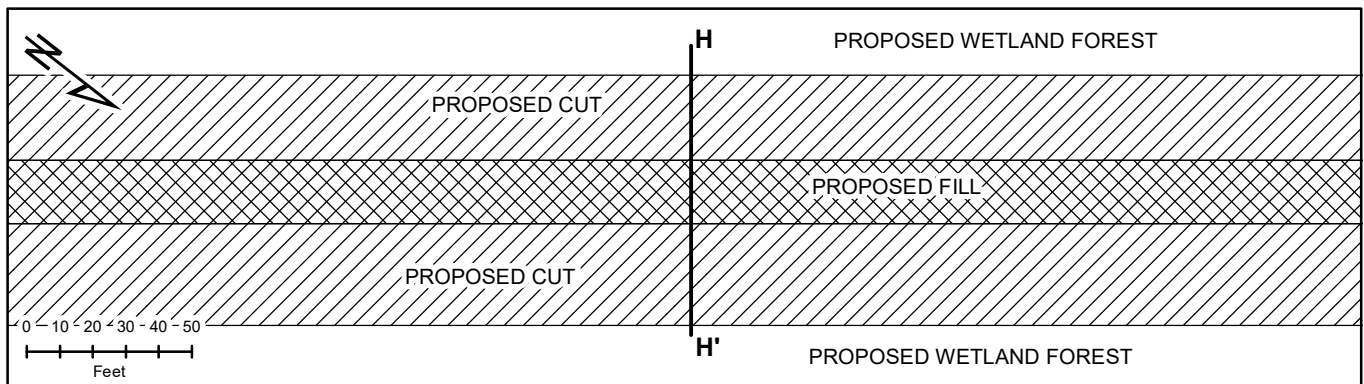
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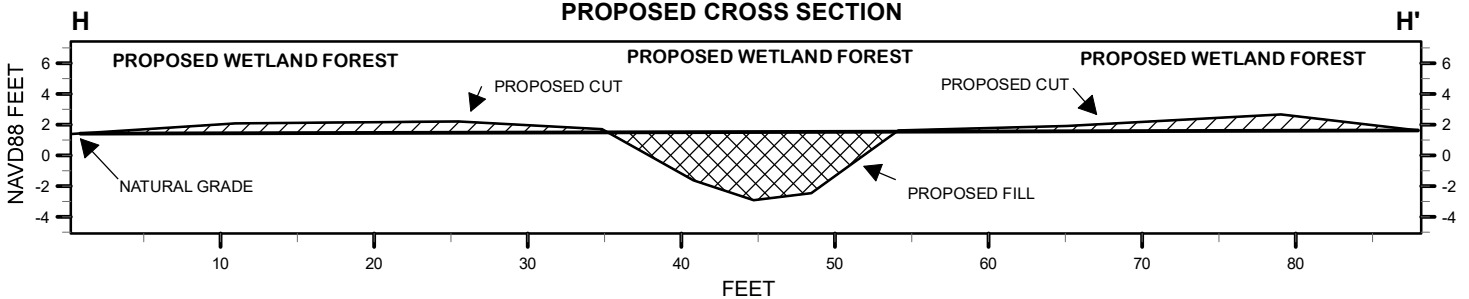
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION H EXHIBIT LAFOURCHE PARISH, LA

Drawing No.:

Date: 02/21/2022

Author: CTG

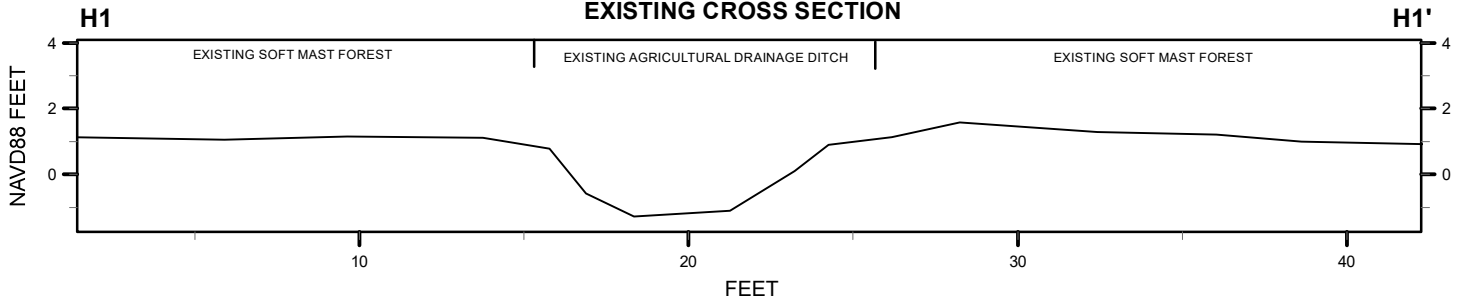
FIGURE 10A



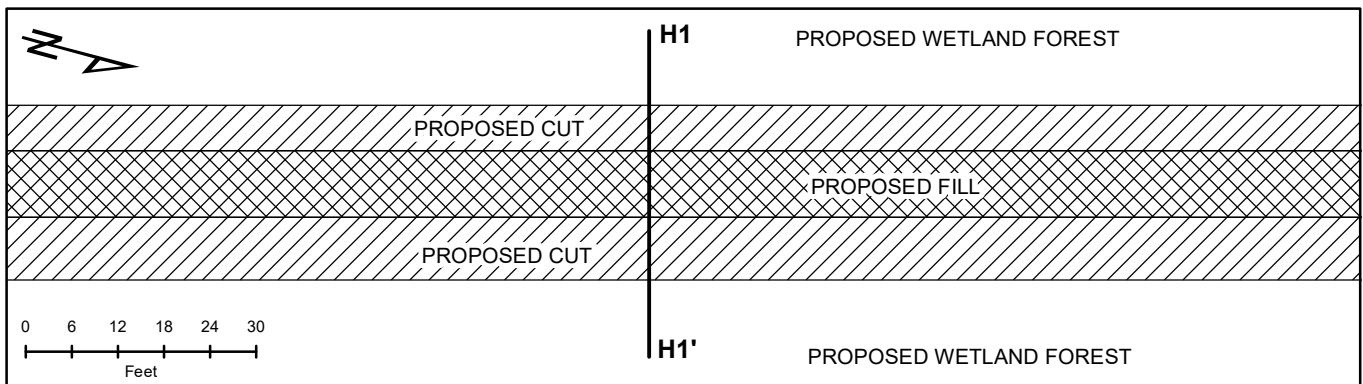
EXISTING PLAN VIEW



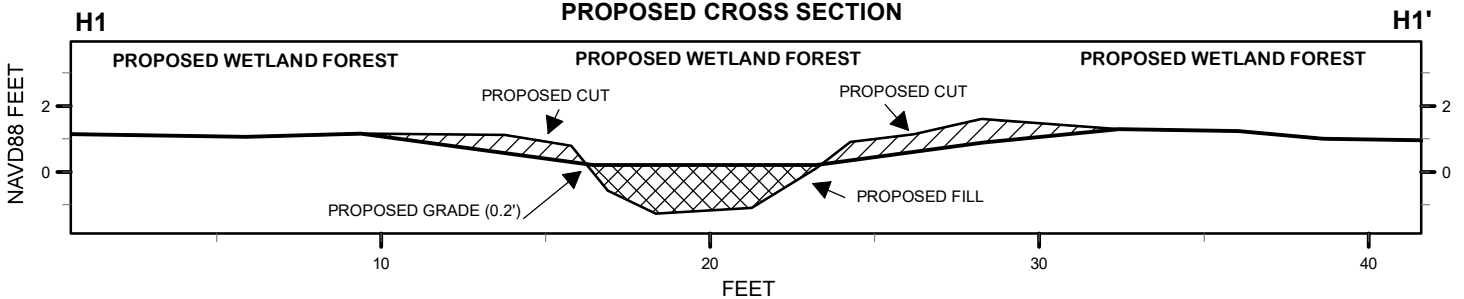
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION H1 EXHIBIT
TYPICAL FOR FORESTED AGRICULTURAL DITCHES

LAFOURCHE PARISH, LA

Drawing No.:

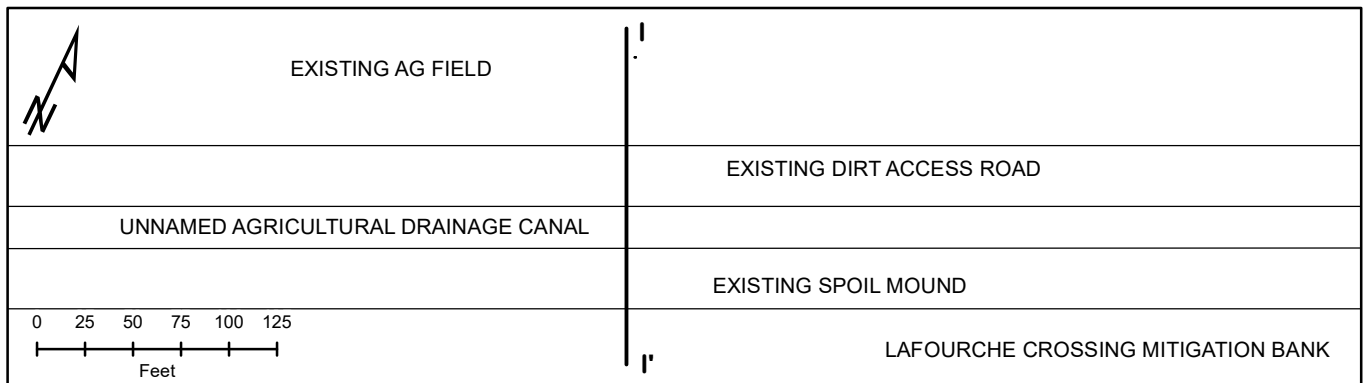
Date: 02/25/2022

Author: CTG

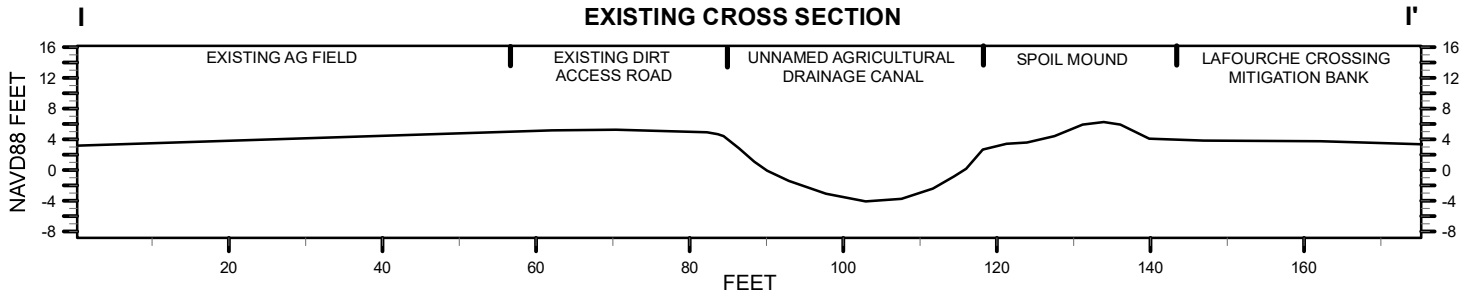
FIGURE 10B



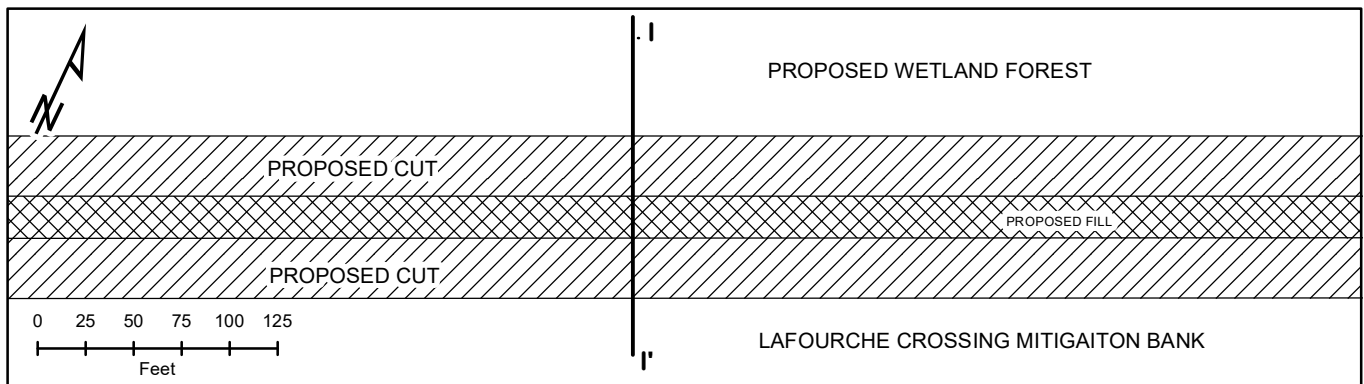
EXISTING PLAN VIEW



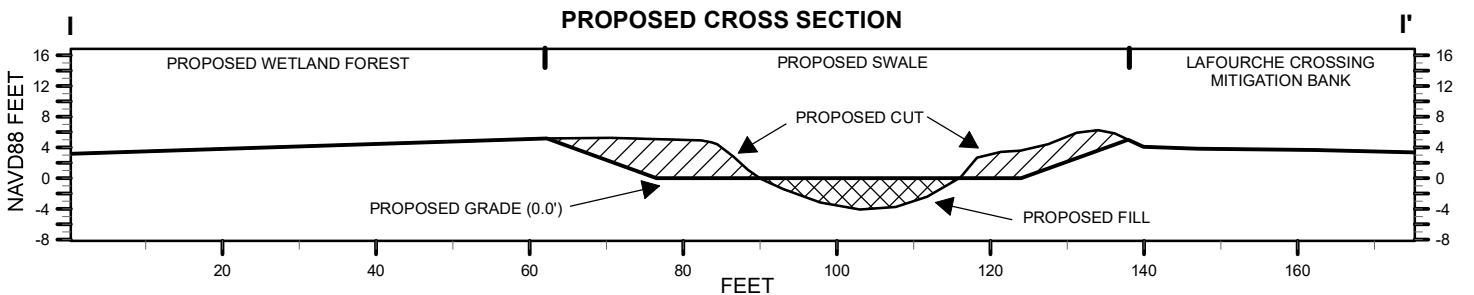
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION I EXHIBIT LAFOURCHE PARISH, LA

Drawing No.:

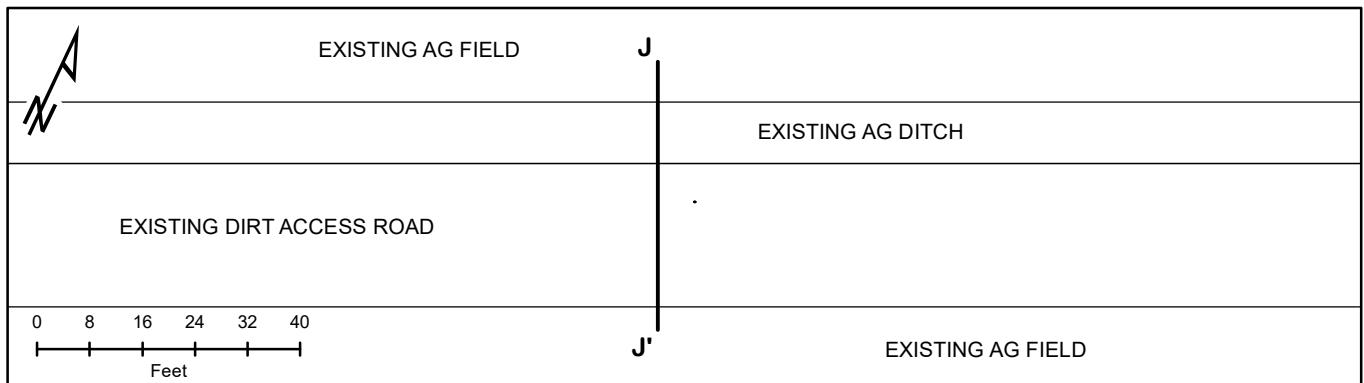
Date: 02/16/2022

Author: CTG

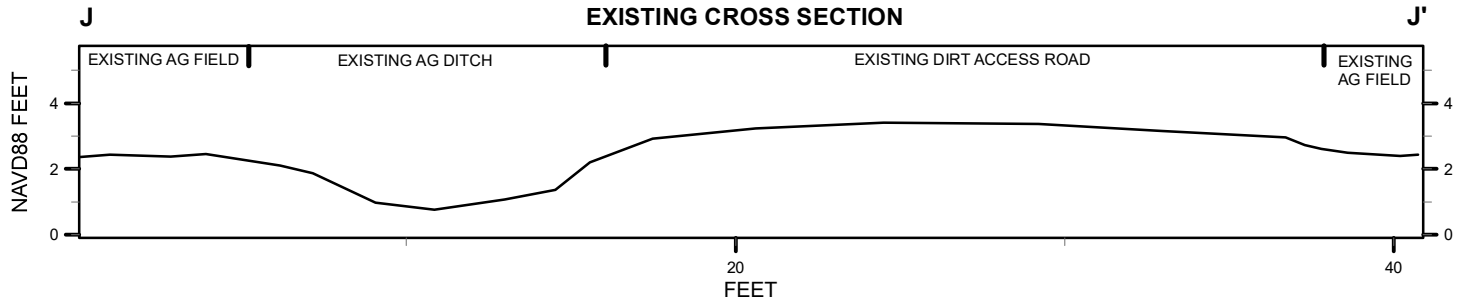
FIGURE 11



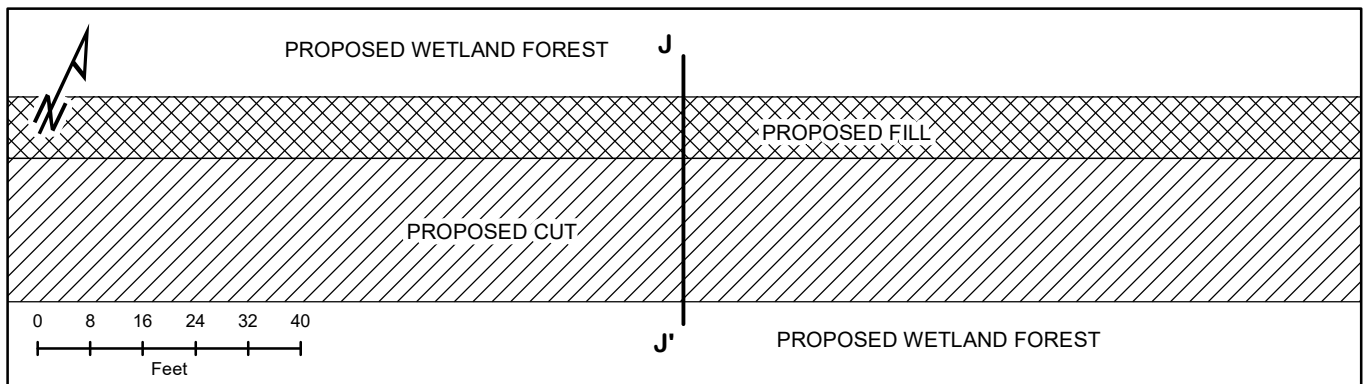
EXISTING PLAN VIEW



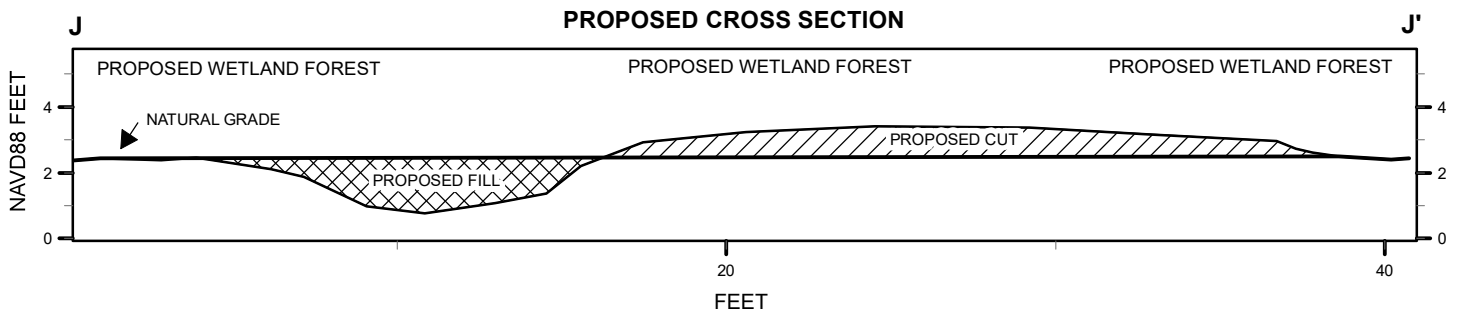
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION J EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

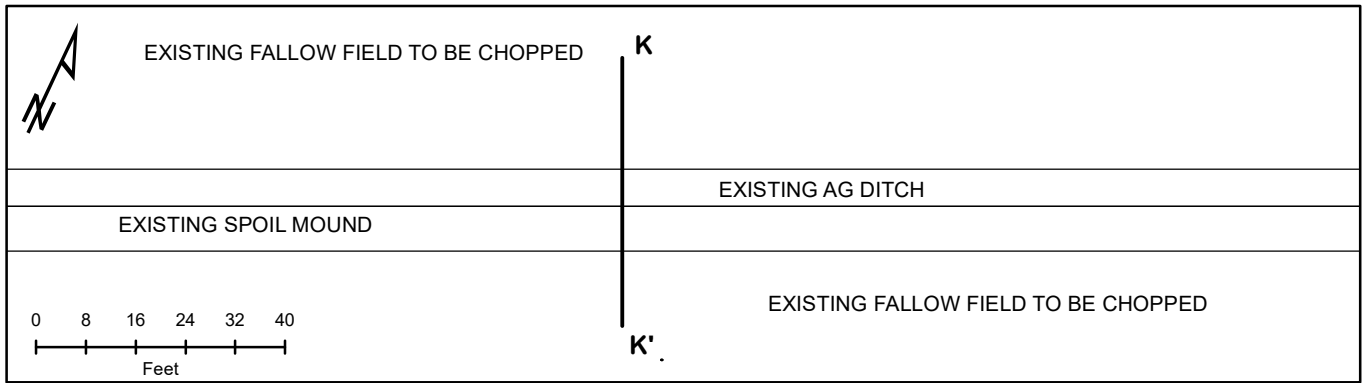
Date: 02/28/2022

Author: CTG

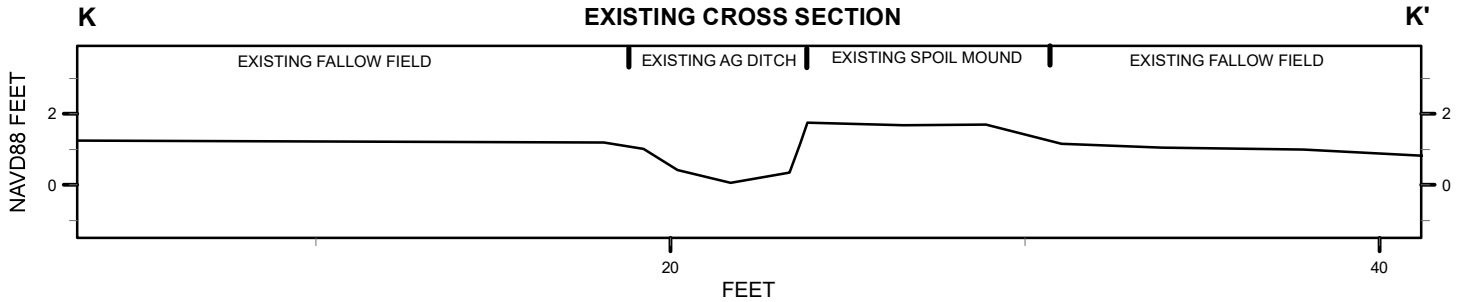
FIGURE 12



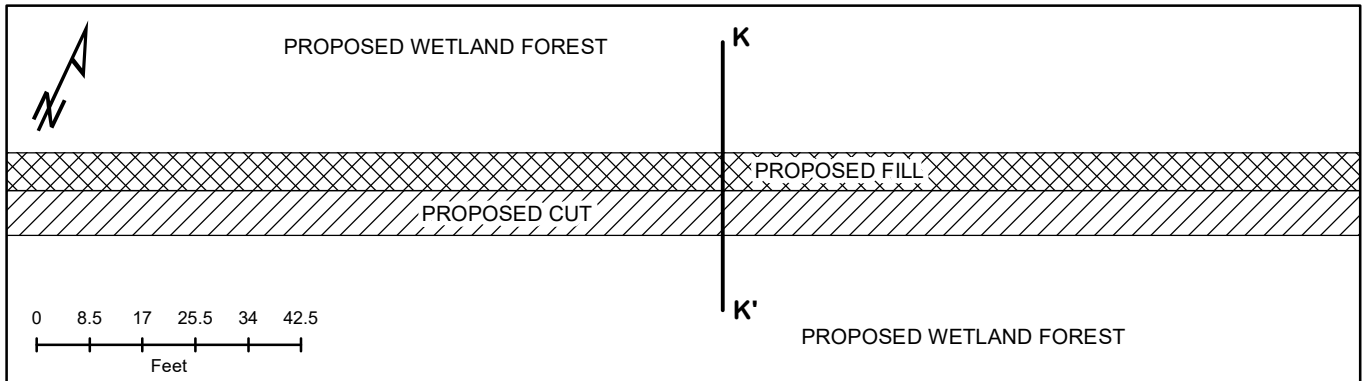
EXISTING PLAN VIEW



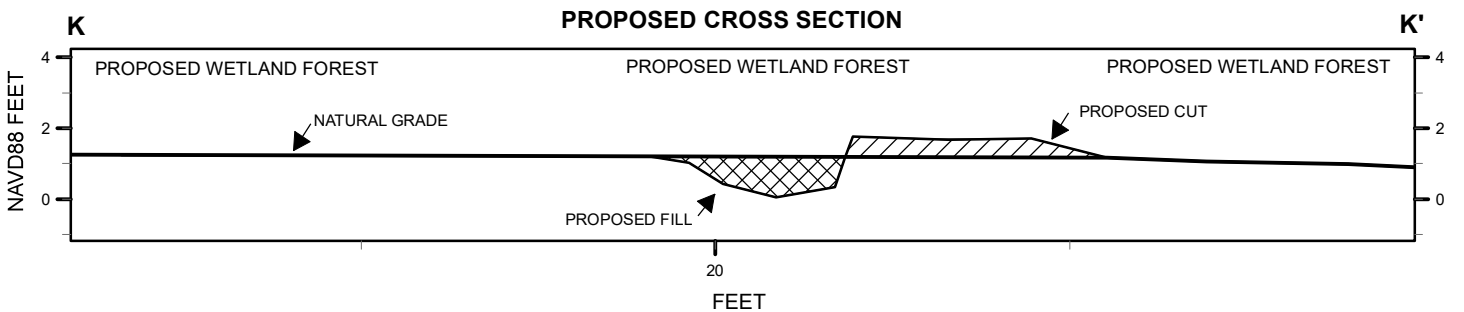
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION K EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

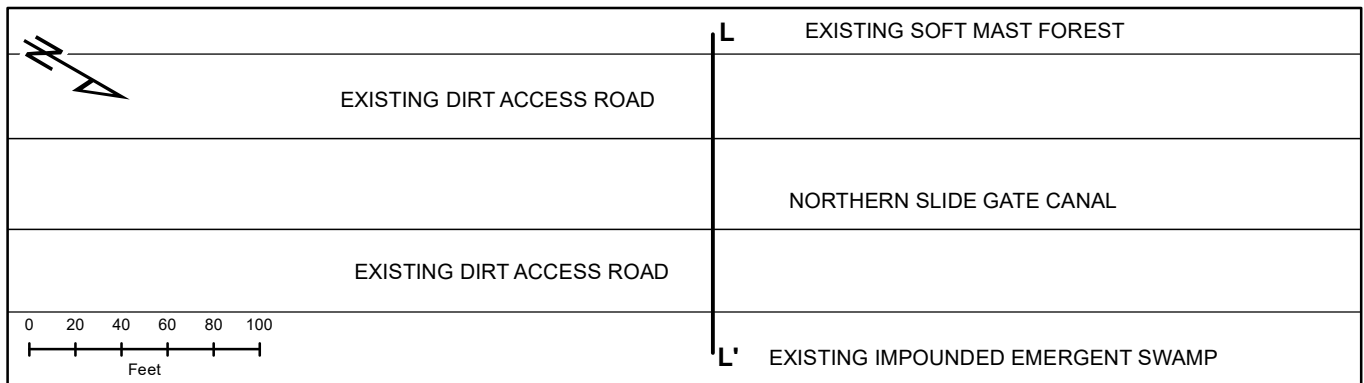
Date: 02/28/2022

Author: CTG

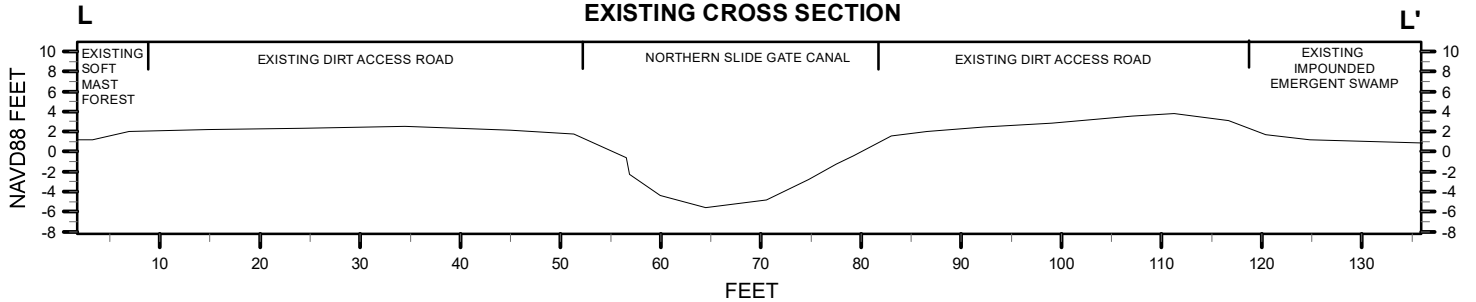
FIGURE 13



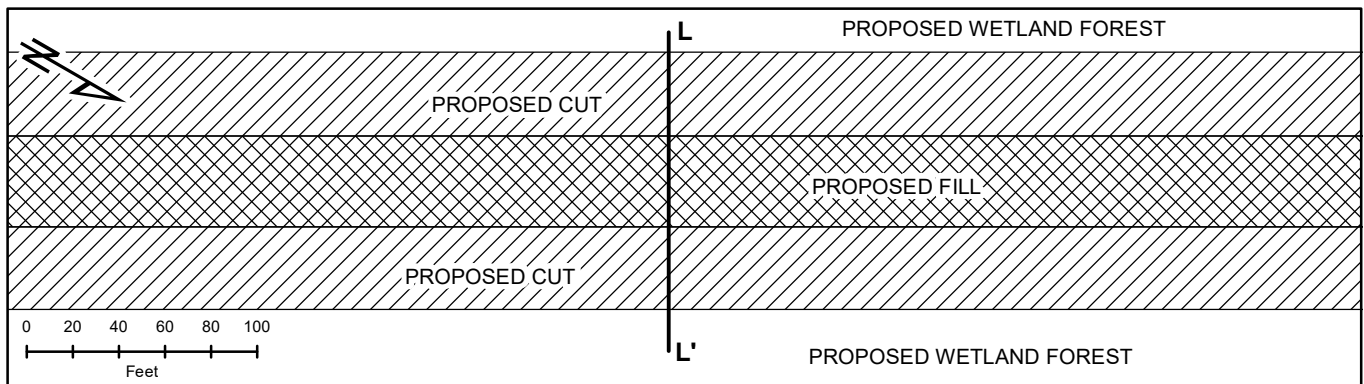
EXISTING PLAN VIEW



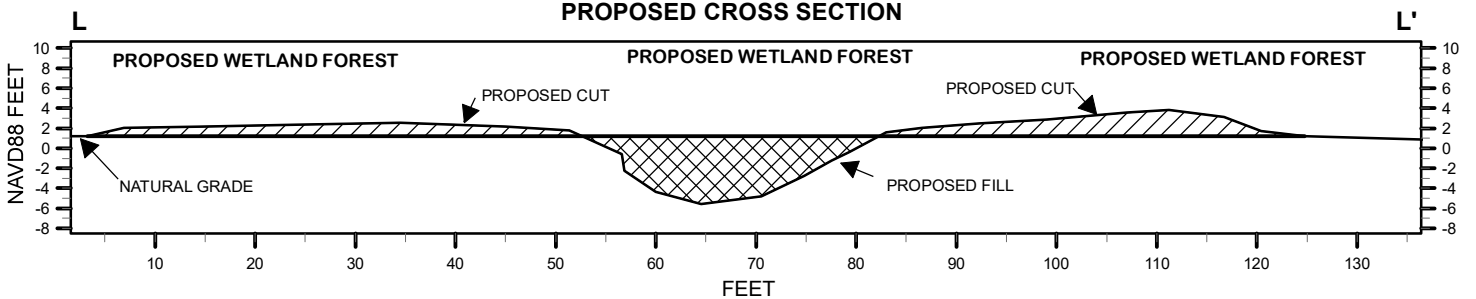
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION L EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

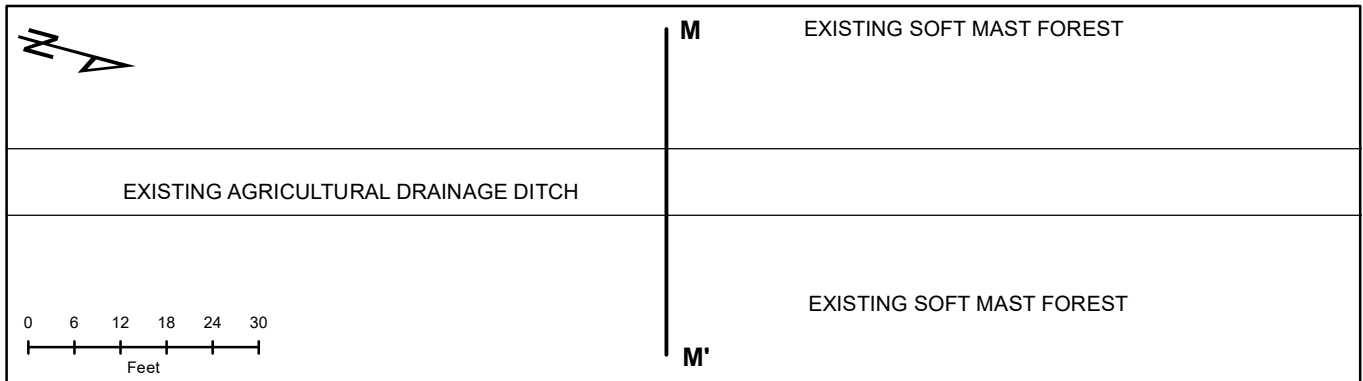
Date: 02/22/2022

Author: CTG

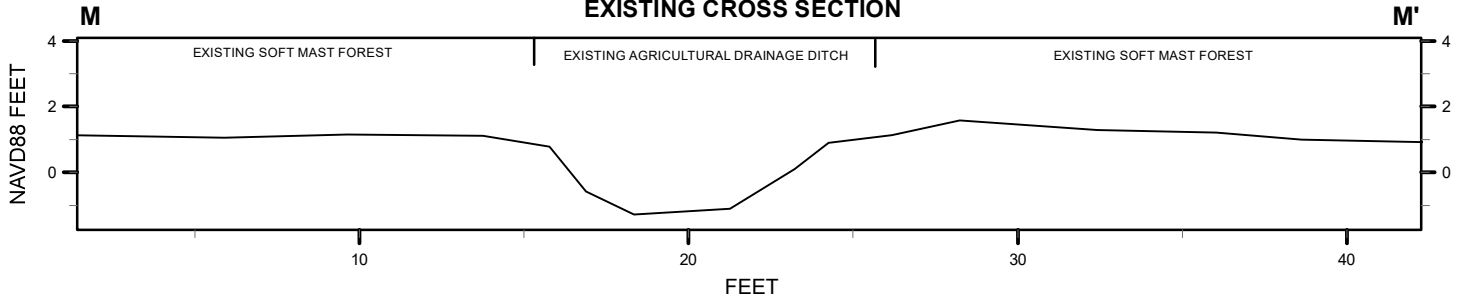
FIGURE 14



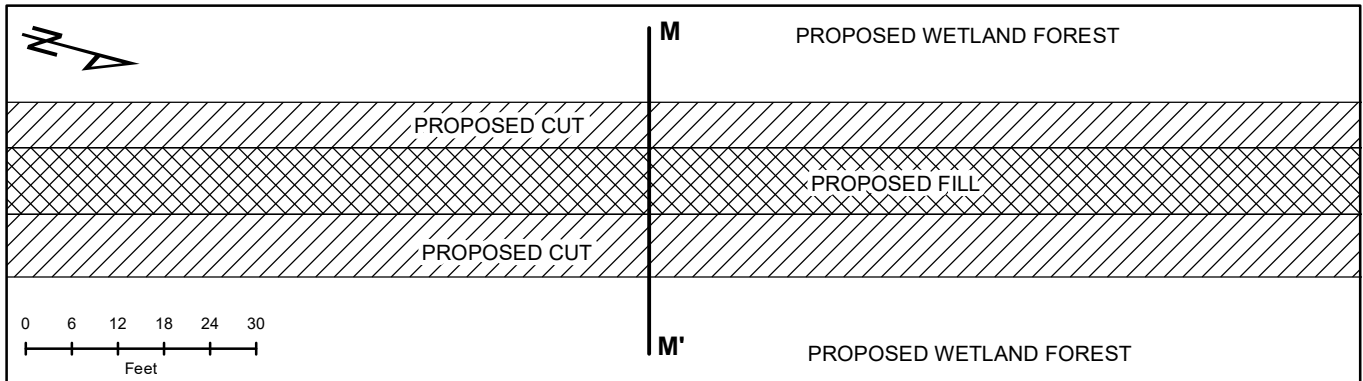
EXISTING PLAN VIEW



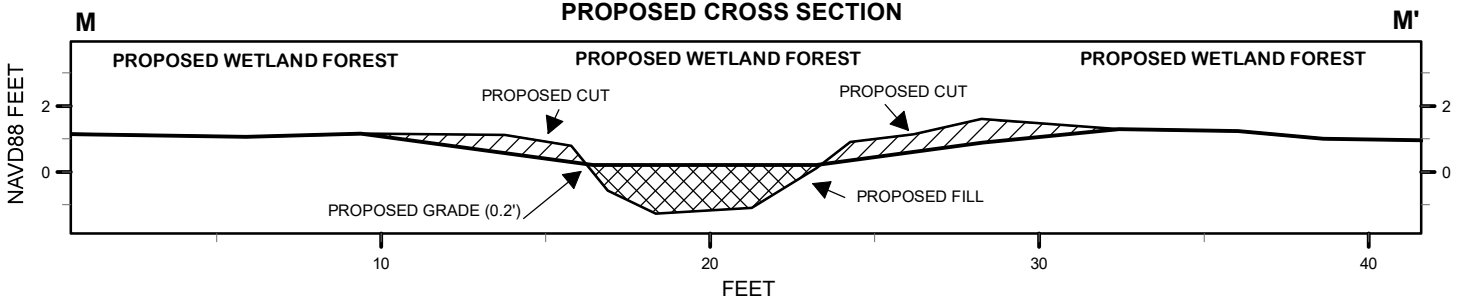
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION M EXHIBIT
TYPICAL FOR FORESTED AGRICULTURAL DITCHES

LAFOURCHE PARISH, LA

Drawing No.:

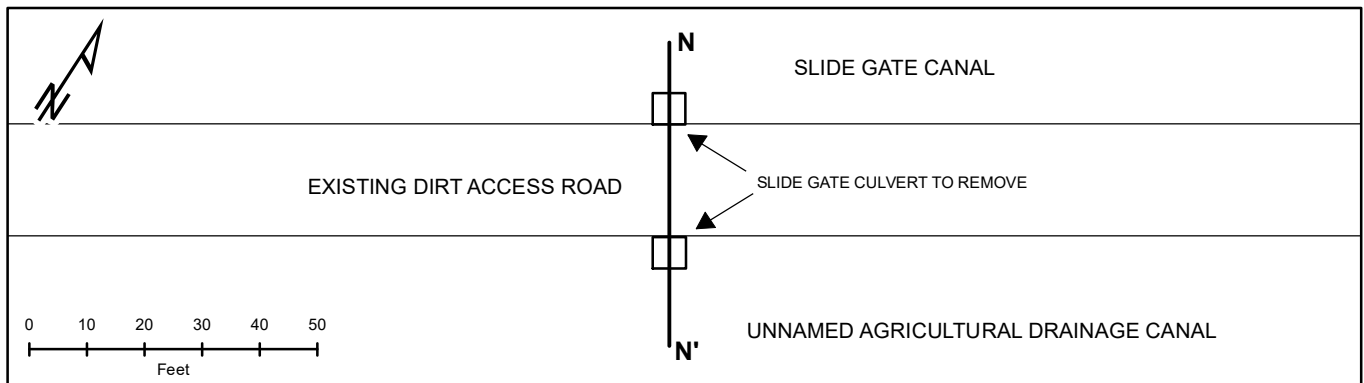
Date: 02/25/2022

Author: CTG

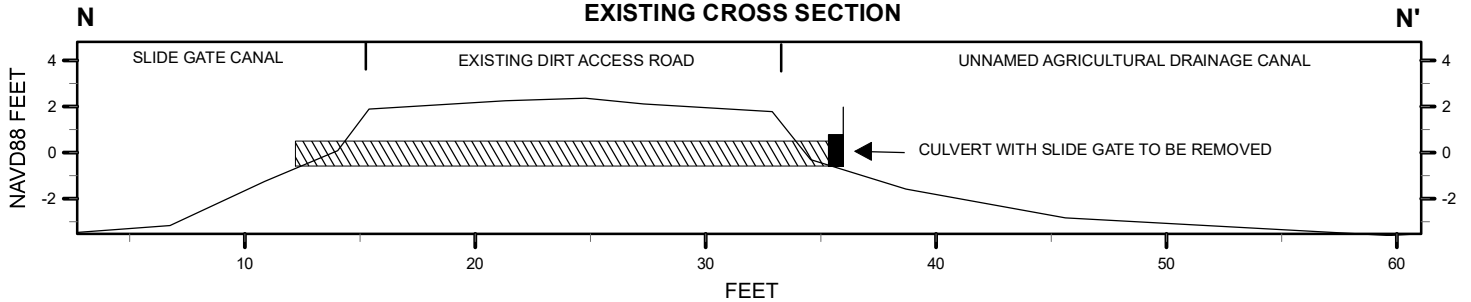
FIGURE 15



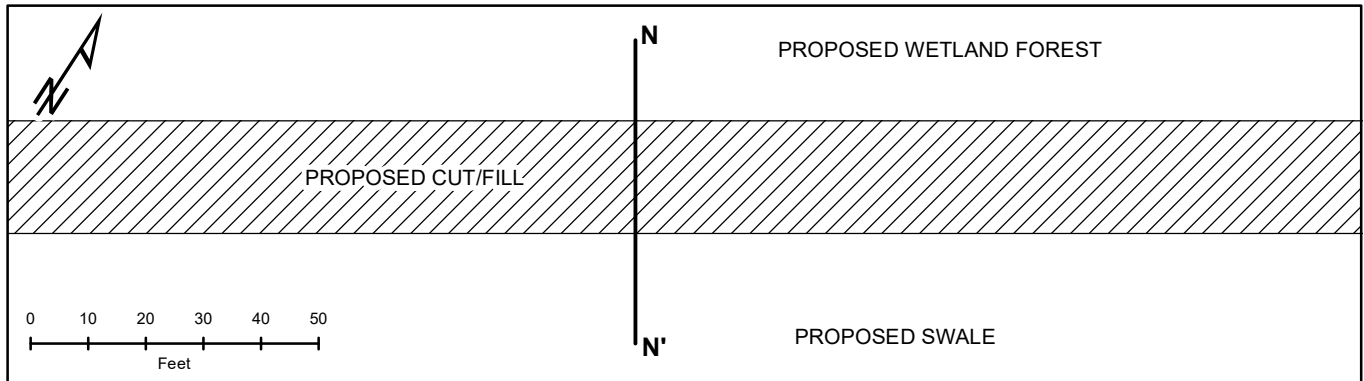
EXISTING PLAN VIEW



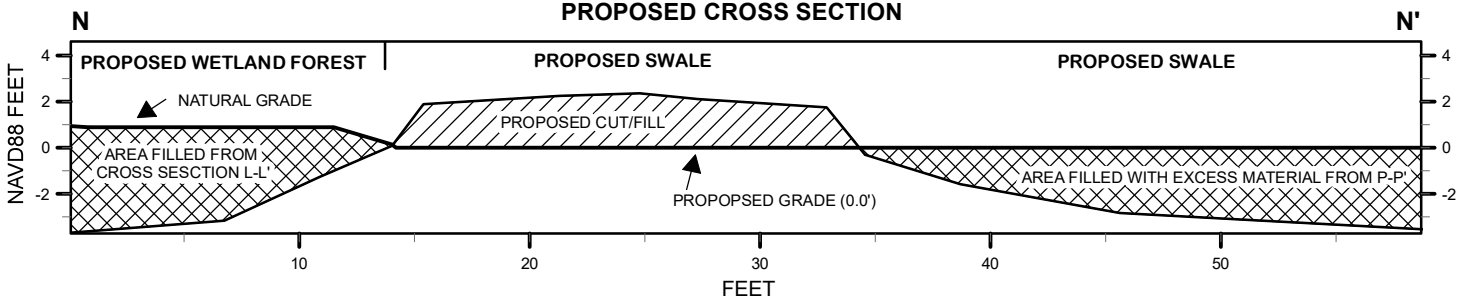
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION N EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

Date: 02/22/2022

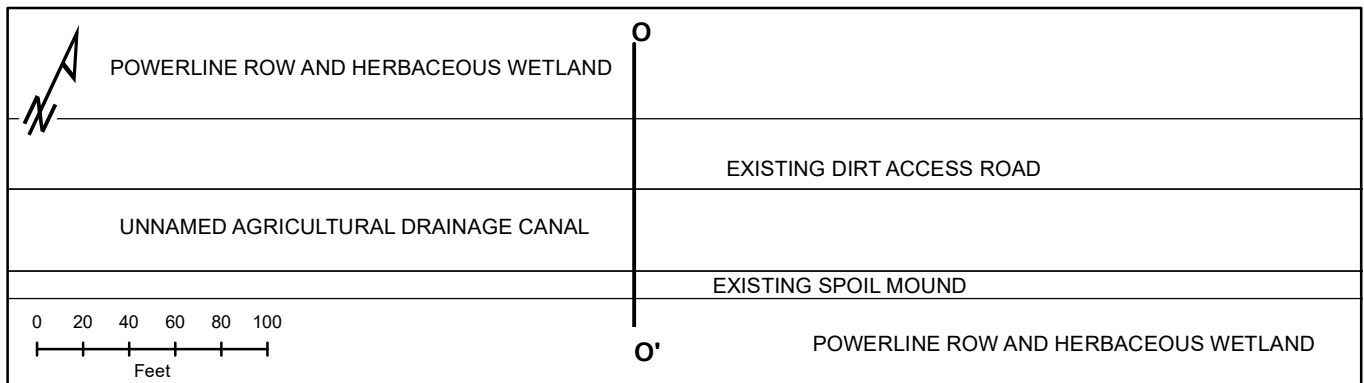
Author: CTG

FIGURE 16

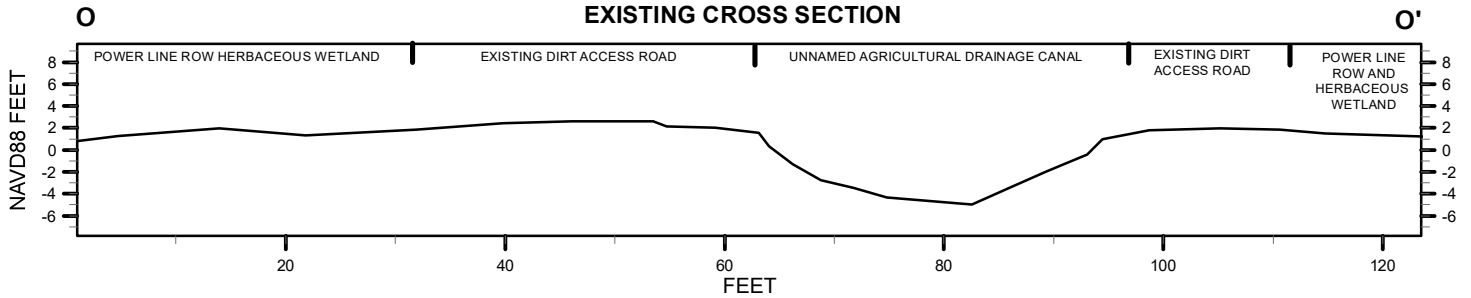


**TYPICAL FOR SOUTHERN AND NORTHERN
SLIDE GATE CANAL CULVERT REMOVALS.
MATERIAL TO BE CUT AND RE-FILLED IN
PLACE OF CULVERT.**

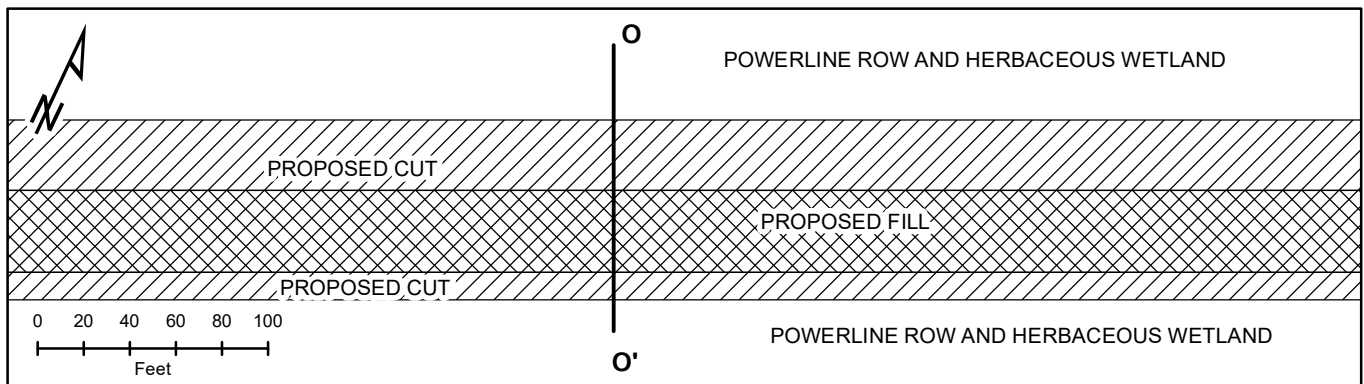
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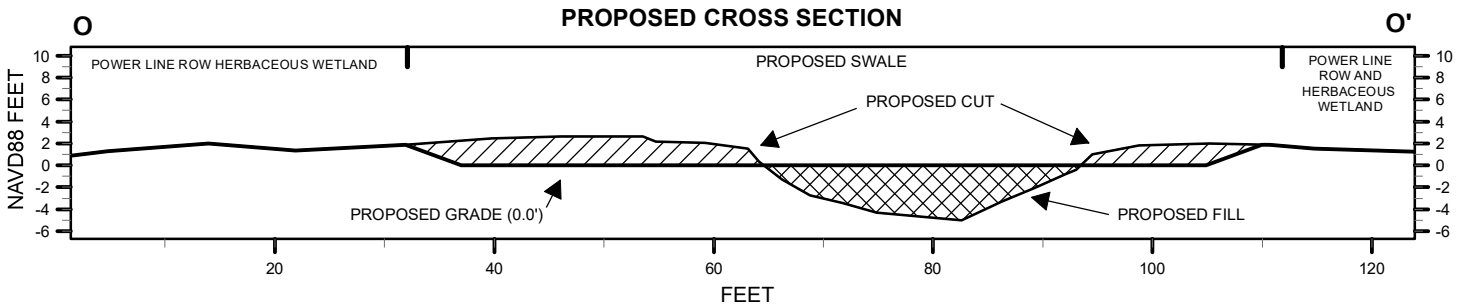
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION I EXHIBIT

LAFOURCHE PARISH, LA

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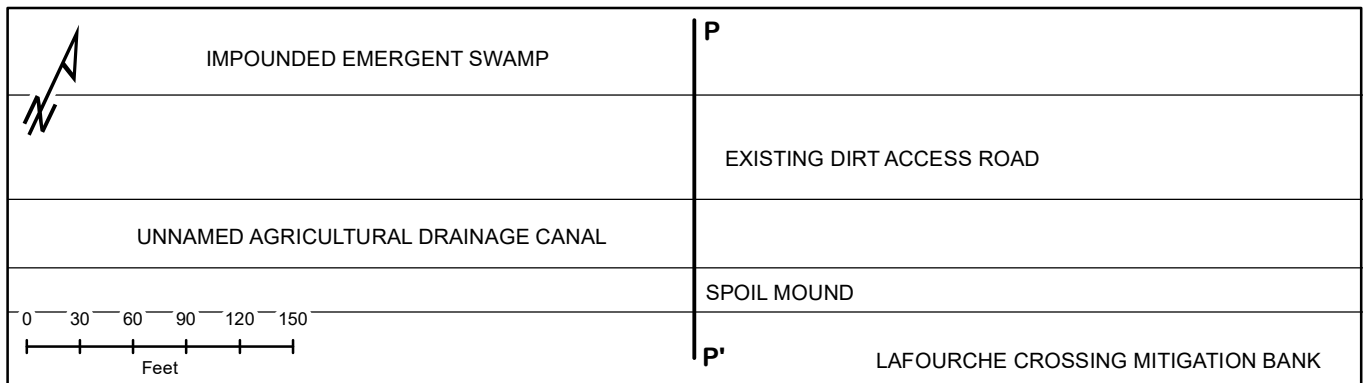
Date: 02/28/2022

Author: CTG

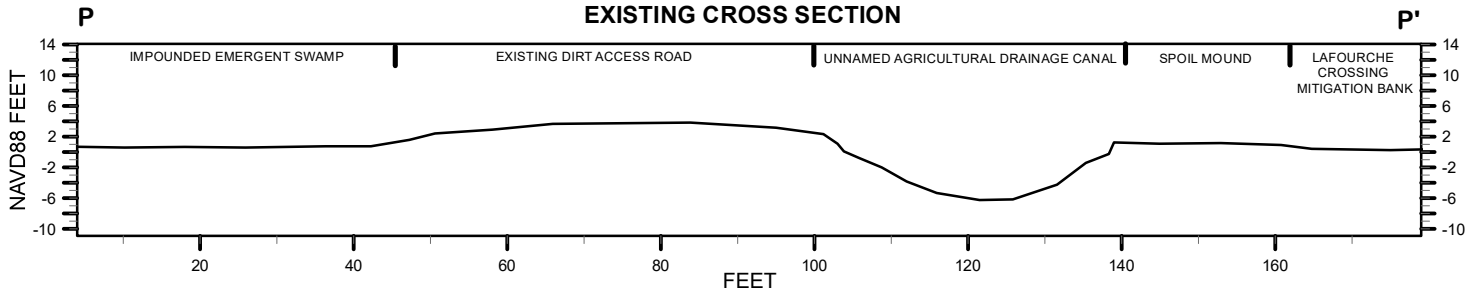
FIGURE 17



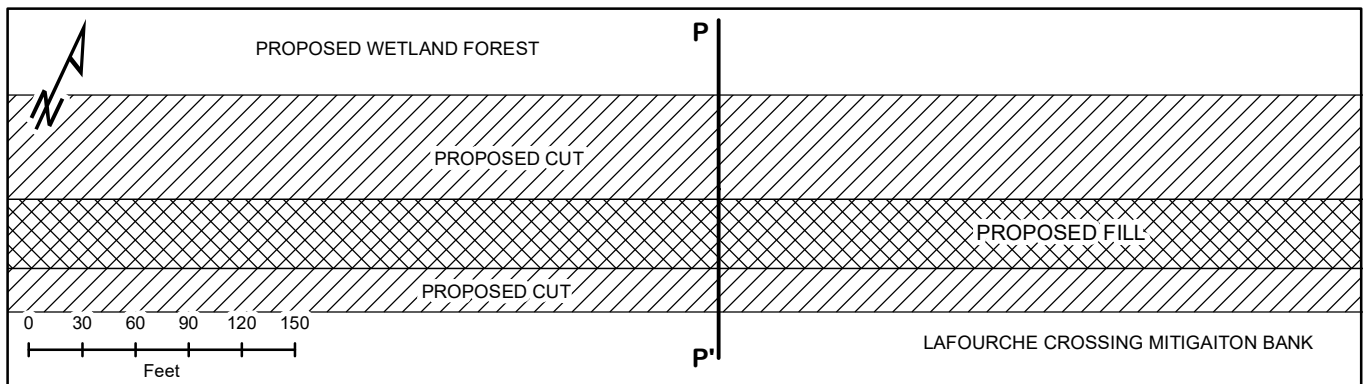
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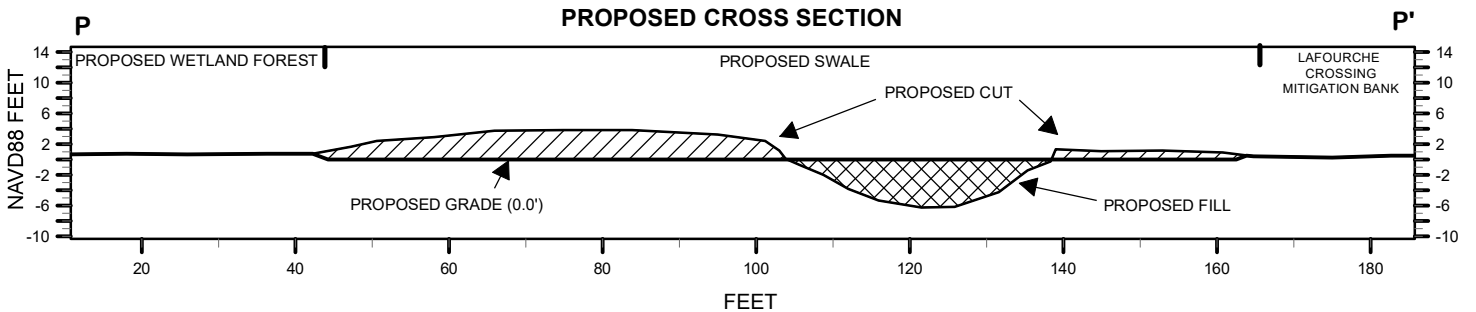
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION P EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

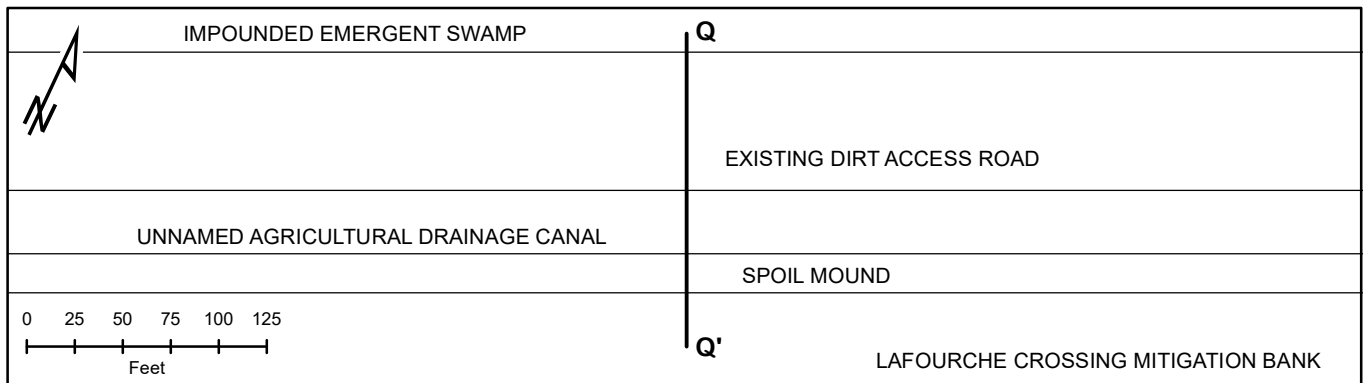
Date: 7/21/2022

Author: CTG

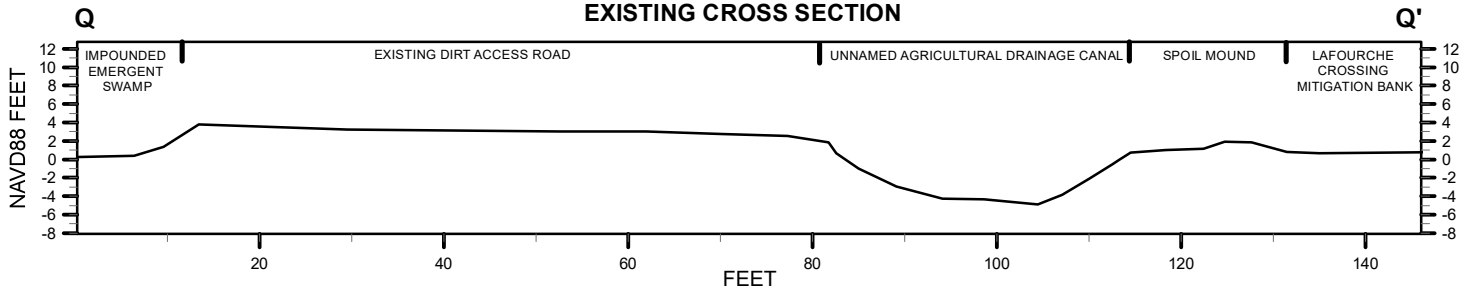
FIGURE 18



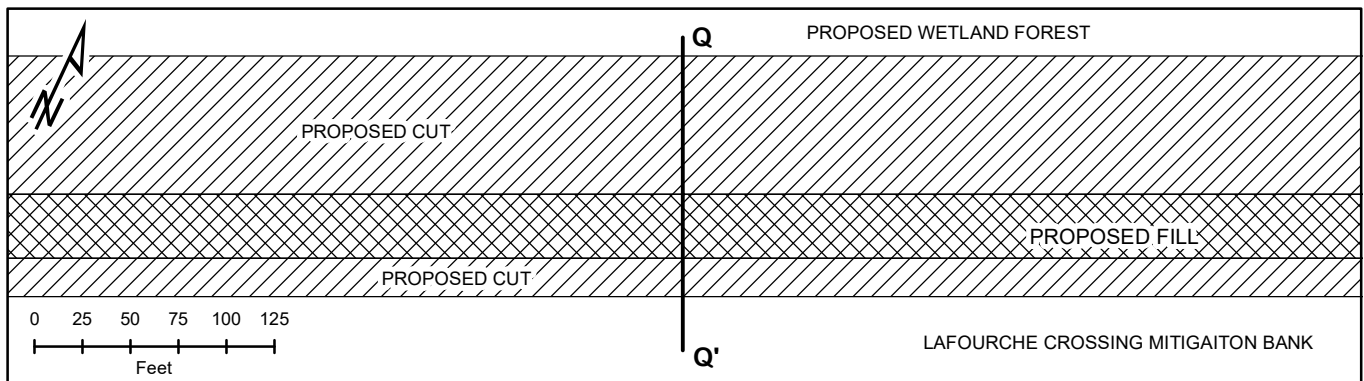
EXISTING PLAN VIEW



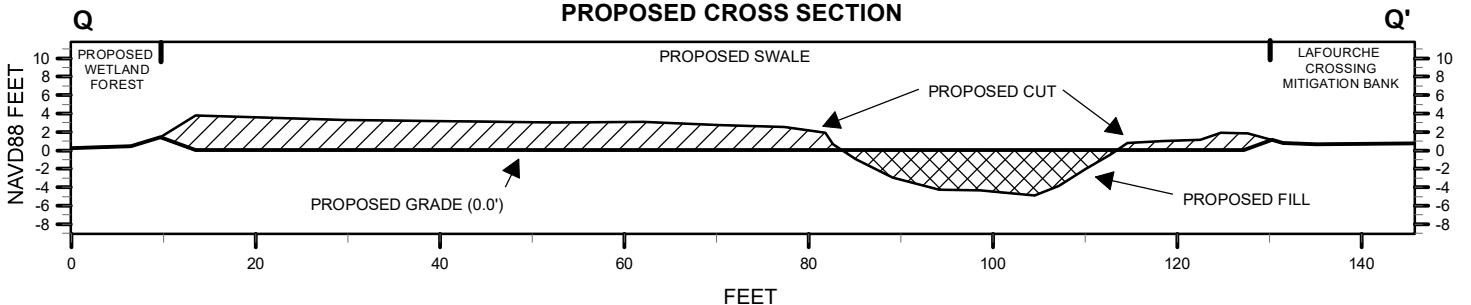
EXISTING CROSS SECTION



PROPOSED PLAN VIEW



PROPOSED CROSS SECTION



JO BLANCHE MITIGATION BANK

CROSS SECTION Q EXHIBIT

LAFOURCHE PARISH, LA

Drawing No.:

Date: 7/21/2022

Author: CTG

FIGURE 19



Feature: Unnamed Agricultural Drainage Canal -> Swale						
Cross Section	Length (Ft.)	Cut Material Area (Sq. Ft.)	Cut Material Volume (Cu. Yds.)	Fill Area (Sq. Ft.)	Fill Volume (Cu. Yds.)	Under Fill(-)/Over Fill (+)
I-I'	2420	148	13257	67	6041	7215
O-O'	1596	91	5366	92	5420	-53
P-P'	1301	212	10213	135	6482	3730
Q-Q'	100	239	888	97	362	526
TOTALS	5417	689	29723	391	18305	11419
Excess cut material (~53 Cu. Yds.) will be used to fill remainder of Cross Section O-O'. A portion (~145 Cu. Yds.) of the remaining cut material will be used to finish filling the Northern Slide Gate Canal. The remaining excess fill material (~11,274 Cu. Yds.) will be transported to the front of the property and spread evenly, outside the bank boundary, in a non-wetland area.						

Feature: Unnamed Agricultural Drainage Canal -> Backfilled to Natural Grade						
Cross Section	Length (Ft.)	Cut Material Area (Sq. Ft.)	Cut Material Volume (Cu. Yds.)	Fill Area (Sq. Ft.)	Fill Volume (Cu. Yds.)	Under Fill(-)/Over Fill (+)
E-E'	907	83	2803	24	807	1996
F-F'	1089	40	1613	58	2339	-726
TOTALS	1996	123	4416	82	3145	1270
Excess cut material (~1270 Cu. Yds.) will be transported to the front of the property and spread evenly, outside the bank boundary, in a non-wetland area.						

Feature: East West Ditch -> Backfilled to Natural Grade						
Cross Section	Length (Ft.)	Cut Material Area (Sq. Ft.)	Cut Material Volume (Cu. Yds.)	Fill Area (Sq. Ft.)	Fill Volume (Cu. Yds.)	Under Fill(-)/Over Fill (+)
D-D'	869	13	402	4	129	274
TOTALS	869	13	402	4	129	274
Excess cut material (~270 Cu. Yds.) will be transported to the front of the property and spread evenly, outside the bank boundary, in a non-wetland area.						

Feature: Southern Slide Gate Canal -> Backfilled to Natural Grade						
Cross Section	Length (Ft.)	Cut Material Area (Sq. Ft.)	Cut Material Volume (Cu. Yds.)	Fill Area (Sq. Ft.)	Fill Volume (Cu. Yds.)	Under Fill(-)/Over Fill (+)
G-G'	518	43	825	56	1074	-249
H-H'	179	35	232	50	331	-99
TOTALS	697	78	1057	106	1406	-349
Excess cut material from degrading the Dirt Access Road (~349 Cu. Yds.) will be brought in to finish filling the Southern Slide Gate Canal to natural grade.						

Feature: Northern Slide Gate Canal -> Backfilled to Natural Grade						
Cross Section	Length (Ft.)	Cut Material Area (Sq. Ft.)	Cut Material Volume (Cu. Yds.)	Fill Area (Sq. Ft.)	Fill Volume (Cu. Yds.)	Under Fill(-)/Over Fill (+)
L-L'	558	113	2335	120	2480	-145
TOTALS	558	113	2335	120	2480	-145
Excess cut material from creating the Swale (~145 Cu. Yds.) will be brought in to finish filling the Northern Slide Gate Canal to natural grade.						

Feature: Dirt Access Road -> Degraded to Natural Grade						
Cross Section	Length (Ft.)	Cut Material Area (Sq. Ft.)	Cut Material Volume (Cu. Yds.)	Fill Area (Sq. Ft.)	Fill Volume (Cu. Yds.)	Under Fill(-)/Over Fill (+)
A-A'	3258	24	2896	5	603	2293
F1'F1'	2427	42	3775	5	449	3326
J-J'	2485	15	1381	12	1104	276
TOTALS	8170	81	8052	22	2157	5895
A portion of the excess cut material (~349 Cu. Yds.) will be used to finish filling the Northern Slide Gate Canal to natural grade. The remaining excess cut material (~5546 Cu. Yds.) will be transported to the front of the property and spread evenly, outside the bank boundary, in a non-wetland area.						

Construction Totals						
Length (Ft.)	Cut Material Area (Acres)	Cut Material Volume (Cu. Yds.)	Fill Area (Acres)	Fill Volume (Cu. Yds.)	Under Fill (-)/Over Fill (+)	
17707	14	45985	3	27622	18363	

**JO BLANCHE MITIGATION BANK
CUT/FILL CALCULATIONS EXHIBIT
TERREBONNE PARISH, LA**

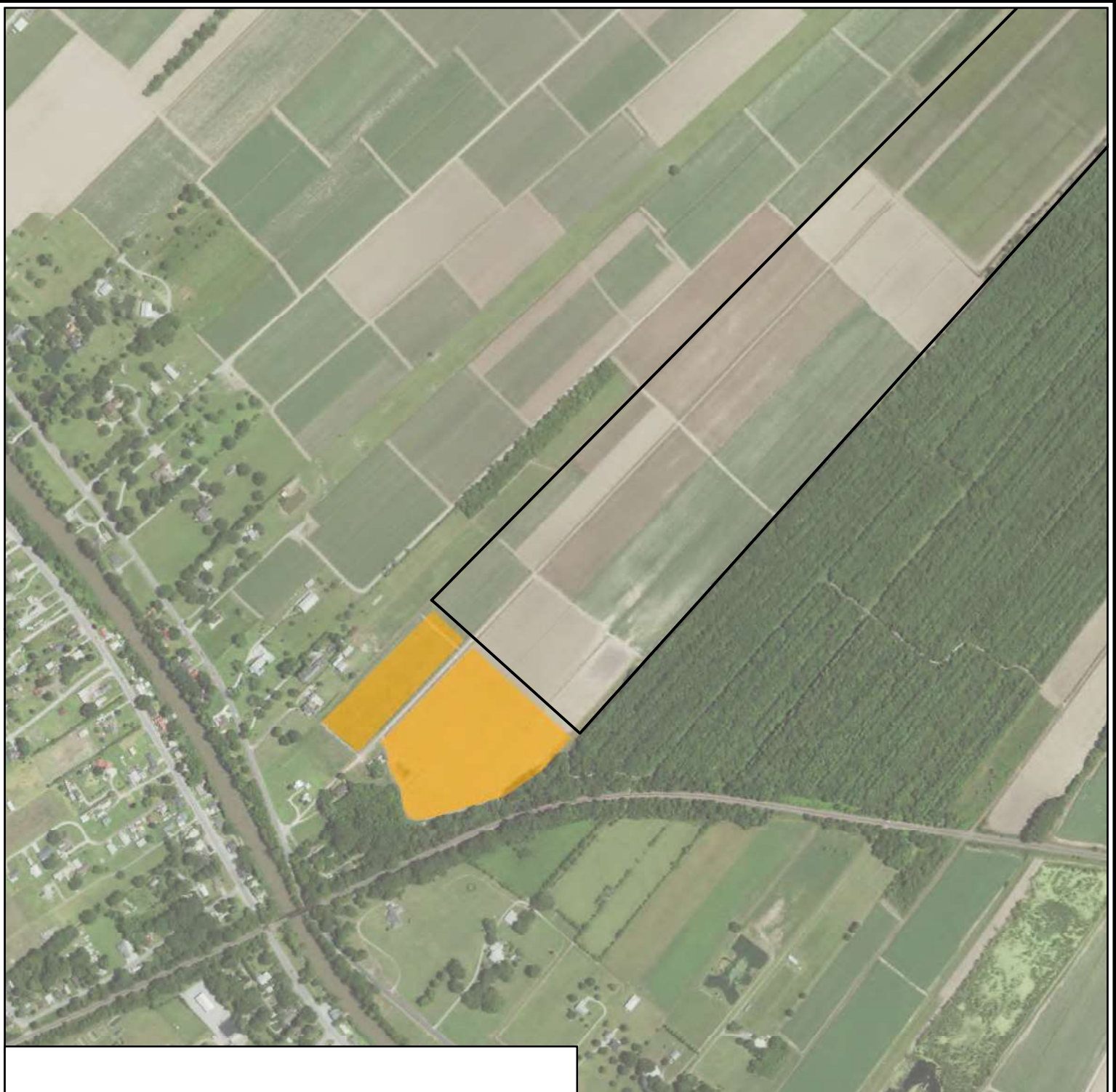
Drawing No.:

Date: 02/28/2022

Author: CTG

FIGURE 20







EXCESS CUT MATERIAL: 18,360 Cu. Yds. (495,720 Cu. Ft.)

DEPOSIT AREA: 17 ACRES (740,520 Sq. Ft.)

*PER WETLAND DETERMINATION MVN-2021-00627-SG
THE DISPOSAL AREA HAS BEEN CLASSIFIED AS NON-WET*

Legend

-  Jo Blanche Mitigation Bank
-  deposit area for excess cut material

0 375 750 1,125 1,500
Feet 1 in = 750 ft



JO BLANCHE MITIGATION BANK

EXCESS CUT MATERIAL DISPOSAL AREA EXHIBIT

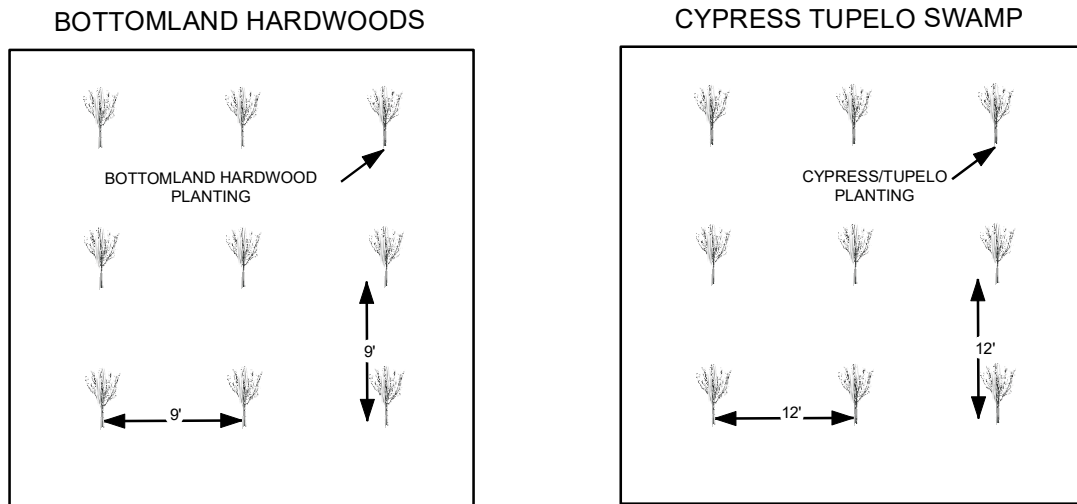
LAFOURCHE PARISH, LA

Coord Sys: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Ft US Date: 7/21/2022
Vertical Datum: NAVD88 Feet Author: CTG

FIGURE 21



VEGETATIVE PLANTING



NOTES:

BOTTOMLAND HARDWOODS TO BE PLANTED
AT 9 FOOT SPACING. PROPOSED TREE
DENSITY IS 538 TREES PER ACRE.

CYPRESS/TUPELO TO BE PLANTED
AT 12 FOOT SPACING. PROPOSED TREE
DENSITY IS 302 TREES PER ACRE.

JO BLANCHE MITIGATION BANK PLANTING EXHIBIT TERREBONNE PARISH, LA

Drawing No.:

Date: 02/28/2022

Author: CTG

FIGURE 22

