DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

4/6/2020

Operations Division
Regulatory Branch
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SUBJECT: MVN 2020-00300-MS

PUBLIC NOTICE

Public Notice Purpose: Pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403) and Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344), the U.S. Army Corps of Engineers, New Orleans District, Regulatory Branch is soliciting comments from all interested parties on the development, utilization and long-term management of a proposed mitigation bank. The purpose of this mitigation bank is to provide compensatory mitigation for unavoidable impacts to wetland resources, including other waters of the United States, that result from projects authorized through the Department of the Army permit program.

PROPOSED CHURCH BRANCH MITIGATION BANK IN LIVINGSTON PARISH

NAME OF APPLICANT: Church Branch Mitigation, LLC, 111 North Oak Street, Suite 200, Hammond, Louisiana 70401

LOCATION OF WORK: The 329.3 acre proposed site is located in Sections 16, 17, 20, 21 and 40, Township 8 South, Range 6 East, approximately 2 miles west of Killian, Louisiana. The site is centered on the point 30.349514° N, -90.617095° W, located in Hydrologic Unit Codes 08070202 and 08070203, as shown in the attached prospectus.

CHARACTER OF WORK: Site restoration shall be accomplished through cessation of silvicultural activities, hydrological restoration and afforestation of the native vegetative community. This includes removal of undesirable vegetative species, burning for site preparation and replanting of appropriate species in order to generate bottomland hardwood credits that could be used as compensation for unavoidable impacts to wetlands associated with Department of the Army (DA) permits authorized under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Additional details of the mitigation plan are included in the attached prospectus.

The Corps of Engineers is soliciting written comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties. The comment period will close **30 days** from the date of this public notice advertisement.

Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this prospectus. Letters must reference the applicant's name and the subject number, be addressed and mailed to the above address,
ATTENTION: REGULATORY BRANCH.

You are requested 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 Branch

Enclosure

Prospectus for the Proposed Church Branch Mitigation Bank

Livingston Parish, Louisiana

March 12th, 2020

Sponsor:
Church Branch Mitigation, LLC
111 North Oak Street
Suite 200
Hammond, Louisiana, 70401

Agent:
ELOS Environmental, LLC.
Attn: Brittany Berthelot
43177 E. Pleasant Ridge Road
Hammond, Louisiana 70403

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1. Introduction

ELOS Environmental, LLC (ELOS) has prepared the following prospectus to establish the proposed Church Branch Mitigation Bank (CBMB). The CBMB is a 329.3-acre proposed mitigation bank located approximately 2 miles west of Killian, in Livingston Parish, Louisiana (**Appendix A: Figure 1**). The proposed bank is comprised of 327.0 acres of wetlands, 1.8 acres of other waters, and 0.5 acres of non-wetlands as shown on **Appendix A: Figure 2.** The proposed bank will provide compensatory mitigation for unavoidable impacts to "Waters of the United States"

The proposed bank was historically a bottomland hardwood forest (BLH) located in the southern part of Livingston Parish nested between the Tickfaw and Amite Rivers. However, since the 1940s, the proposed bank has been used for silviculture, and has been converted into a mono-culture loblolly pine (*Pinus taeda*) plantation. Areas of the proposed bank not converted to pine plantation have become encroached by the invasive Chinese tallow (*Triadica sebifera*) tree. Therefore, the purpose of the proposed bank is to restore this degraded wetland habitat such that it may provide the aquatic resource functions expected from a thriving BLH forest by restoring the historic vegetative composition that existed on site prior to the implementation of silviculture activities.

1.1 Site Location

The proposed CBMB is located within the Amite and Tickfaw watersheds, both of which are contained within the greater Lake Pontchartrain Basin Watershed. Natural elevations on the site range from 6 feet in the creek bottoms to 16 feet on the northern portion (**Appendix A: Figure 3**). The CBMB occupies Sections 16, 17, 20, 21, and 40 of Township 08 South, Range 06 East with the following coordinates roughly representing the center point of the proposed bank: Latitude 30.349514 North, and Longitude 90.617095 West. The proposed bank is located entirely within the geographic limits of the Louisiana Coastal Zone Boundary, approximately 2 miles west of Killian, Louisiana. Two waterways traverse the site: Church Branch and an unnamed tributary of Bayou Barbary, both of which eventually drain into the Amite River southwest of the site.

Directions to CBMB are as follows: From the intersection of LA 22 and LA 444 in Killian, Louisiana, follow LA 444 going west for approximately 1.22 miles. Turn left onto the Church Branch Road, and travel approximately 0.3 miles to the gated entrance of the site.

2. Project Goals and Objectives

A majority of the proposed CBMB is a planted pine plantation managed for commercial timber production. Hardwood areas on the site that have not been successfully converted to pine plantation are being encroached by invasive species (Chinese tallow). Two access roads contained within the site will be

maintained at grade and are included as non-mitigation features. Enhancement of the site will provide additional wetland functions and values not currently recognized under existing conditions and land use.

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), BLH 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 associated with particular landforms, soils, and hydrologic regimes. They are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife, and are important in regulation of flooding and stream recharge.

The goal of CBMB is to enhance 326.6 acres of BLH within the Lake Pontchartrain Basin watershed through the removal of undesirable vegetation including commercial pine stems and invasive species, reforestation of the native BLH vegetative community, increasing species diversity providing habitat for both resident and migratory wildlife, and reducing nonpoint source pollution through the cessation of silviculture activities.

The existing land uses and proposed mitigation types are summarized in **Table 1** below. The proposed mitigation habitats are based on the existing vegetative community, historical land use, soils, and elevation data. **Appendix A: Figure 4** depicts the proposed mitigation habitat types.

Table 1. Existing Habitat Types, Land Use, and Mitigation Types

Baseline Condition	Mitigation Habitat and Type	Mitigation Acres
Pine Plantation	BLH Enhancement	233.5
Young Pine Plantation	BLH Enhancement	46.2
Tallow Encroached Wetland Forest	BLH Enhancement	46.9
Other Waters	Other Waters	1.8
Existing Roads	Existing Roads	0.9
Total Mitigation Acreage		**326.6**
Total Conservation Servitude Acreage		**329.3**

The overall goal of enhancement of 326.6 acres of BLH forest will be accomplished through the following objectives.

1) Establishment of a sustainable BLH forested habitat through the removal of commercially planted pine stems and reforestation with a selection of native species typical of a natural BLH forested wetland habitat;
2) Elimination and prevention of the proliferation of non-native invasive species (Chinese tallow) through chemical and physical measures;

3) Cessation of silviculture activities on site to aid in increasing species diversity, reducing nonpoint source pollution and increase nutrient and contaminant uptake;
4) Provide additional areas of large, preserved, contiguous blocks of habitat for plant and wildlife species native to BLH wetland forests;
5) Ensuring long-term viability and sustainability of BLH habitat through active and adaptive management such as invasive species control, long-term maintenance, and long-term monitoring;
6) Providing long-term protection of the site through the execution of a perpetual-term conservation servitude over the site;
7) Establishing financial assurances to cover annual expenditures associated with construction and establishment of the bank, as well as long-term maintenance and management;

3. Ecological Suitability of the 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 function, 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.

The site is ecologically suited to support a BLH wetland habitat based on location, historic hydrology, soil types, and lack of anthropogenic influences on surrounding properties. CBMB is situated in the southern portion of Livingston Parish, and surrounded entirely by undeveloped forested wetlands, including the proposed Killian Bayou Mitigation Bank that lies adjacent to CBMB's eastern boundary and will restore 542-acres of primarily pine plantation back into a sustainable BLH wetland habitat. These characteristics of the site provide the ideal conditions for the establishment of a mitigation bank that will provide additional areas of large contiguous forested wetland habitat to support resident and migratory wildlife native to bottomland hardwood ecosystems.

3.1 Land Use

The site is primarily a forested wetland habitat like the majority of the area that surrounds the site (**Appendix A: Figure 5**). A small portion of the site was harvested for timber in 2018, but was replanted with loblolly pine in January 2020. Adjoining the site to the east is the proposed Killian Bayou Mitigation Bank which consists of over 500 acres of managed pine plantation that will be restored to native BLH habitat.

3.1.1 Historical Land Use

Historically, land uses on the surrounding properties were dominated by timber production, recreational hunting and trapping, and agriculture. The site has historically been used for timber production and two small areas of the site were most recently harvested in 2018. A review of aerial photographs documents the lack of anthropogenic influence on the site and surrounding properties from present day until at least 1952. The site is undeveloped and forested on the 1952 aerial image (**Appendix A: Figure 6**), and the logging road that exists currently is depicted. Evidence of rural residential development and agriculture along Louisiana Highway 444 (LA 444). The site remains largely unchanged on the 1962 aerial image (**Appendix A: Figure 7**), although the logging road is less visible and the forest canopy appears denser than on the 1952 aerial image. The site remains surrounded entirely by undeveloped, forested land, with rural residential and agriculture remaining the only development along LA 444.

The 1989 aerial image documents a recent timber harvest of the eastern portion of the site (**Appendix A: Figure 8**). This image also depicts areas not harvested for timber, which aligns well with the footprint of the existing hardwoods found on the site currently. The western portion of the site remains densely forested and the logging road on the eastern side of the site is clearly visible since this area has been recently harvested. Adjacent and surrounding areas also remain largely unchanged, although there is evidence of logging on the property that borders the site to the east. The site remains largely unchanged on the 1994 aerial image (**Appendix A: Figure 9**), with evidence of young reforestation on the eastern side of the site and the western portion remaining densely forested. The logging road is less visible than on the 1989 aerial image likely due to the reforestation of the eastern side of the property. Areas bordering the site remain undeveloped and forested. Evidence of recent timber harvesting of surrounding properties to the south exists, confirming the surrounding land use as silviculture. The 1998 aerial image again does not present any significant changes onsite or on the adjacent and surrounding properties (**Appendix A: Figure 10**). The forest on the eastern portion of the site appears more developed, and the western portion of the property remains densely forested.

Evidence of logging on the western portion of the property exists on the 2004 aerial image (**Appendix A: Figure 11**). The forest on the eastern portion of the property appears more developed. Increased development along LA 444 is depicted, but remains rural residential. Properties adjacent to the site also appear to be recently logged. The site appears densely forested on the 2018 aerial image with the exception of one small area south of Church Branch that has been logged (**Appendix A: Figure 12**). The adjacent and surrounding properties remain largely unchanged with some additional rural residential development on the southern side of LA 444.

Review of U.S. Geological Survey (USGS) topographic maps was conducted to document use of the site and surrounding properties prior to aerial imagery. The 1934 topographic map shows that the site is undeveloped with swamp concentrated primarily around Church Branch and the unnamed tributary of Bayou Barbary on the southern portion of the site. The only evidence of development in the surrounding area is a limited number of buildings scattered along the northern side of LA 444 (**Appendix A: Figure 13**). No swamp is depicted on the 1963 topographic map and the logging road that exists on the eastern border of the property appears. The only evidence of development is found along LA 444 with a small increase in number of buildings scattered along either side of the road (**Appendix A: Figure 14**). The 1983 topographic map remains largely unchanged from the 1963 map, although no buildings are mapped along LA 444. Additional logging roads appear on the property to the east (**Appendix A: Figure 15**). Additional historic topographic maps were reviewed, and no significant changes on the site and surrounding properties were found; therefore, these maps were not included in the list of figures.

The current landowner purchased the proposed CBMB property in 1979 from family members. The property has been owned by the current landowner and their family for 60 to 70 years. Logging activity was first implemented on the property in the 1940s. The most recent harvest was conducted in approximately 2004 on the western portion of the site and two areas on the eastern portion of the site were harvested in 2018.

3.1.2 Existing/Current Land Use

The current land use of the site is silviculture. The site is also used for recreational hunting of whitetail deer (*Odocoileus virginianus*) and other small game animals. The CBMB was purchased in 1979 by the previous owner for timber use. Two areas in the northeastern section of the CBMB were last harvested for timber in 2018.

The northern, eastern, western, and southern boundaries of the CBMB are bordered by planted pine for silviculture and undeveloped forestland. Low density rural residential development exists north of the site along LA 444, and residences are present along Golden Street and Music Lane which are found near the site's northeastern and southeastern boundaries respectively, but development does not occur on property directly adjoining the CBMB. The proposed CBMB is adjacent to the proposed Killian Bayou Mitigation Bank which consists of over 500 acres of commercial pine planation that will be restored to native BLH habitat.

3.2 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Soil Survey for Livingston Parish identified three (3) soil map units for the CBMB (**Table 2**). Soils mapped within the proposed bank are both hydric and non-

hydric (**Appendix A: Figure 16**). A majority of the soils on the site are listed as Co: Colyell silt loam, 1 to 3 percent slopes, rarely flooded (183.1 acres). The remainder of the site is composed of Sp: Springfield silt loam, 0 to 1 percent slopes (124.3 acres) and En: Encrow silt loam, 0 to 1 percent slopes, occasionally flooded (22 acres).

Table 2. Site Soils

Map Unit Symbol	Map Unit Name	% Hydric	% Cover
Co	Colyell Silt Loam, 1 to 3 percent slopes	10	55.6
En	Encrow Silt Loam, occasionally flooded	85	6.7
Sp	Springfield Silt Loam	90	37.8

The Colyell silt loam (Co) soil series are level or slightly sloping, somewhat poorly drained non-hydric soils that are rarely flooded and not ponded. These soils are found on stream and fluvio terraces that consist of thin silty loess over Pleistocene silty and clayey fluviomarine deposits formed over late Pleistocene silty and clayey marine deposits. The hydric rating for this soil series is 10 percent. The Springfield silt loam (Sp) soil series are level, poorly drained, hydric soils that are not flooded nor ponded. They consist of loess and are found on terraces on river valleys. These soils have a hydric rating of 90 percent. Encrow silt loam (En) soils are level, poorly drained hydric soils that occasionally flood and are not ponded. These soils consist of loess and are found on terraces on uplands. This soil series have a hydric rating of 85 percent [1].

Logging activity has occurred on site since the 1940s. Impacts to the soil from logging include compaction from logging equipment, reduced productivity within the soil, and a loss of organic matter. The impacts of logging lead to a reduction in water availability and increased runoff. Commercial production of pine makes the soil more acidic. Based on the wetland delineation report provided to the USACE, all of the soils within the enhancement areas of the proposed CBMB exhibit hydric characteristics and were delineated as wetlands.

3.3 Hydrology

3.3.1 Contributing Watershed

The proposed CBMB is located within the boundaries of the Amite and Tickfaw watersheds. The United States Geological Survey (USGS) Hydrologic Unit Code (HUC) for the Tickfaw and Amite watersheds are 08070203 and 08070202 respectively. The Tickfaw watershed is over 731 square miles and includes portions of Tangipahoa, St. Helena, and Livingston parishes in Louisiana, and Amite County, Mississippi. The Amite watershed is over 1,861 square miles and includes portions of Livingston, East Baton Rouge, Ascension, Iberville, East Feliciana, and St. Helena parishes in Louisiana, and Amite County, Mississippi. As shown on **Appendix A: Figure 17**, both watersheds are located within the greater

Lake Pontchartrain Basin Watershed. Church Branch and the unnamed tributary of Bayou Barbary that traverses the southern portion of the site remain largely unaltered natural drainage features that both eventually drain into the Amite River.

3.3.2 Historical Hydrology and Drainage Patterns

Historical drainage patterns were derived from the USGS 1934 Quadrangle Map for Killian, Louisiana. According to historic topographic maps (**Appendix A: Figure 13**) and elevation data (**Appendix A: Figure 3**), the site appears to drain northeast to southwest with a large portion of the site draining into the two water features that run through the western boundaries of the CBMB, which are the upper reach of Church Branch and the headwaters of an unnamed tributary of Bayou Barbary. Both water features continue a southwesterly flow and eventually drain into the Amite River off site.

3.3.3 Existing/Current Hydrology and Drainage Patterns

Surface hydrology on CBMB is primarily driven by precipitation and surface flow from surrounding properties. It is believed that both water features on site directly contribute to frequent inundation on the CBMB as natural processes of headwaters and upper reaches of small drainages. The current drainage pattern of the proposed CBMB is detailed in **Appendix A: Figure 18**.

Church Branch: Flowing from the northeast portion of the CBMB, Church Branch drains towards the west and eventually southwest into the swamps of the Amite River. Church Branch ranges from 12 to 15-feet wide and ranges from no defined channel at its northernmost reach to a channel approximately 1 to 1.5 feet in depth towards the eastern and western CBMB boundaries (**Appendix B: Figures 1** and **3**).

Unnamed Tributary of Bayou Barbary: The water feature in the southwestern portion of the CBMB ranges from 6 to 8-feet wide and ranges from no defined channel to a channel approximately four 1.5 to 2.5 feet in depth (**Appendix B: Figures 1** and **3**). As the channel continues westward and off site, it eventually drains into Bull Run Swamp and Bayou Barbary before emptying into the Amite River.

3.3.4 Jurisdictional Wetlands

A wetland delineation was conducted on site on August 21st and 22nd of 2019 and submitted to the USACE on September 3rd 2019. The results of the wetland delineation can be found in **Appendix A: Figure 2**. A Preliminary Jurisdictional Determination (PJD) was supplied to ELOS on 1/02/2020 (**Appendix C**). The PJD number is MVN-2019-01002-SQ. The PJD confirmed 327 acres on the proposed CBMB are jurisdictional wetlands. During the wetland delineation, all soils were

found to have field indicators sufficient to be considered hydric, and the entire site is delineated as wetlands except for the main logging road.

3.4 Vegetation

3.4.1 Historical Plant Community

The 1934 Springfield topographic map (**Appendix A: Figure 13**) shows the CBMB as undeveloped forest with reaches of swamp roughly following Church Branch and the unnamed tributary of Bayou Barbary across the northern and the southwestern portions of the site. The 1952 and 1962 aerial photographs (**Appendix A: Figures 6** and **7**) show that the area remains undeveloped as uneven aged/natural mixed BLH-pine forest. In the 1989 aerial photograph (**Appendix A: Figure 8**), much of the pine timber in the eastern part of the CBMB was harvested. Restocking of southern yellow pine is evident in the 1994 aerial photograph (**Appendix A: Figure 10**). The 2004 aerial photograph (**Appendix A: Figure 11**) shows significant growth of the pine stands on the eastern side of the CBMB, and evidence that the southwestern portion of the site had been harvested and artificially regenerated with southern yellow pine.

The site shows evidence that it was historically a BLH forest. The most common component would have been BLH wetland. Small pockets of swamp species are also possible within the headwaters and along channels of the natural drains.

Bottomland hardwoods are forested alluvial wetlands found throughout Louisiana, occupying broad floodplains. The natural hydrologic regime that characterizes these habitats is alternating wet and dry periods that follow typical seasonal flooding events. The specific species that make up these communities vary and can be dependent on a number of factors, such as soil type and hydrologic regime. Bottomland hardwoods historically occupied between 6 and 8 million acres in Louisiana. However, only 25 to 50 percent of this estimated acreage is believed to remain [2]. Historical topographic maps and aerial photographs show that the proposed CBMB has remained undeveloped until the beginning of pine silviculture activities sometime in the 1940s.

The proposed CBMB has been managed for timber with the most recent harvest of a portion of the bank occurring sometime in 2018. Regeneration of BLH seedlings has been significantly limited following the harvests. Disturbance of the site during logging activities and lack of regeneration of the natural plant community on the site has allowed for large tracts to become populated with Chinese tallow trees.

3.4.2 Existing Plant Community

Currently, the site is composed of several distinct vegetative communities (**Appendix A: Figure 19**). These communities consist of mature pine plantation, young pine plantation in the pine plantation areas that were harvested in 2018, and

tallow encroached bottomland hardwoods. Chinese tallow can be found throughout the site, and exceeds 10 percent absolute cover in all areas proposed for BLH enhancement.

Species found in the 233.5 acres of mature pine plantation include, but are not limited to loblolly pine, Chinese tallow, water oak *(Quercus nigra),* sweetgum *(Liquidambar styraciflua)*, bottomland post oak *(Quercus similis)*, and red maple *(Acer rubrum)*, in the tree stratum; loblolly pine, Chinese tallow, sweetgum, bottomland post oak, water oak, laurel oak (*Quercus laurifolia*), common persimmon *(Diospyros virginiana)*, red maple, wax myrtle (*Morella cerifera*), yaupon (*Ilex vomitoria*), eastern swamp privet *(Forestiera acuminata)*, dwarf palmetto *(Sabal minor)*, and American beautyberry *(Callicarpa americana)*, in the sapling/shrub stratum; slender woodoats *(Chasmanthium laxum)*, common spikerush (*Eleocharis palustris*), Elliot's beaksedge *(Rhynchospora elliottii)*, hairy primrose-willow (*Ludwigia pilosa*), Chinese tallow, eastern poison ivy *(Toxicodendron radicans)*, Japanese climbing fern *(Lygodium japonicum)*, southern waxy sedge *(Carex glaucescens)*, cypress panicgrass (*Dichanthelium dichotomum*), and tapered rosette grass *(Dichanthelium acuminatum)*, in the herbaceous stratum.

Species found in the 46.2 acres of young pine plantation include, but are not limited to laurel oak, water oak, cherrybark oak (*Quercus pagoda*), and sweetgum in the tree stratum; dwarf palmetto, loblolly pine, laurel oak, white oak (*Quercus alba*), eastern swamp privet, red maple, and yaupon in the sapling/shrub stratum; loblolly pine, Elliott's beaksedge, switchgrass (*Panicum virgatum*), fringed nutrush (*Scleria ciliate*), tapered rosette grass, dogfennel (*Eupatorium capillifolium*), and Chinese tallow in the herbaceous stratum. These 46.2 acres were harvested in 2018 and replanted with loblolly pine seedlings in January of 2020. Therefore, there is little to no existing canopy in this area, with only a few hardwood species remaining after harvesting of commercial pine.

Species found in the Chinese tallow encroached hardwoods include, but are not limited to Chinese tallow, water oak, laurel oak, loblolly pine, spruce pine, and bottomland post oak in the tree stratum; Chinese tallow, laurel oak, water oak, red maple, spruce pine, dwarf palmetto, eastern swamp privet, Chinese privet *(Ligustrum sinese),* and wax myrtle in the sapling/shrub stratum; slender woodoats, Chinese tallow, lizard's tail *(Saururus cernuus)*, southern waxy sedge, water oak, eastern poison ivy, short bristle horned beaksedge (*Rhynchospora corniculate*), and Elliott's beaksedge in the herbaceous stratum.

Human-induced alteration of the site, primarily from silviculture activities for timber management has allowed the site to be infiltrated by Chinese tallow trees. Chinese tallow was found throughout the site, and was observed in all sample plots taken in the tallow encroached hardwoods with coverage observed as high as 45 percent. Chinese tallow was also found in a majority of the pine plantation and young pine plantation sample plots with coverage observed as high as 40 percent.

3.5 General Need for the Project in this Area

BLH forest loss in Louisiana is estimated to be 50 to 75 percent of the original pre-settlement acreage [2]. Since the settlement of the Lake Pontchartrain Basin, new construction, agricultural, and silvicultural practices have substantially reduced the amount of BLH forest within the basin. Much of the BLH forest that can be found consists of replanted and/or restored habitat, with very few old growth examples remaining. The Lake Pontchartrain Basin continues to be an area of increasing development and urbanization, and the basin includes several of the parishes with the most growth in the state from 2010 to 2018 [3]. Therefore, there is a need to protect large, contiguous tracts of wetland habitats from development in the basin. BLH habitats are important for a variety of fauna, maintenance of water quality and important in regulating flooding and stream recharge.

The establishment of the CBMB will provide the following watershed benefits:

- An effective, long-term, readily available means of offering mitigation credits that will serve to compensate for unavoidable wetland impacts within the Lake Pontchartrain Basin Primary Service Area for BLH thereby contributing towards the established “no-net-loss” policy;

- An effective, long-term means for preserving flora and fauna populations within the proposed CBMB footprint by providing habitat that is functionally equivalent to the habitat that has been unavoidably impacted by the permittee;

- An effective means of improving water quality in the Amite and Tickfaw watersheds by reducing sediment and nutrient loading (via the processes of sedimentation and nutrient assimilation), thereby reducing nonpoint source pollution from silvicultural practices which supports the goal of Louisiana’s Nonpoint Source Management Plan (NPSMP); and,

- A high-quality means of market driven habitat preservation and pollution abatement that will provide permittees a stable, convenient way to reduce the financial risk and ecological uncertainty associated with Permittee Responsible Mitigation Projects. Additionally, the permittee can reduce temporal loss of resource functions and services given mitigation banks typically require larger, more ecologically valuable parcels, more rigorous scientific and technical analysis, planning, implementation, and milestone achievement than Permittee Responsible Mitigation Projects.

4. Establishment of a Mitigation Bank

4.1 Site Restoration Plan

Restoration at the proposed CBMB is anticipated to take place in one phase. The site will consist of 326.6 acres intended for bottomland hardwood enhancement in conjunction with 2.7 acres of non-mitigation features, composed of utility roads and Other Waters, which equates to a 329.3-acre CBMB. The restoration activities will include the removal of loblolly pine, eradication of invasive species via herbicide application, and the planting of native wetland BLH species to restore a typical wetland vegetative community on site. Post-project drainage flow patterns are shown in **Appendix A: Figure 20**.

4.2 Soils/Hydrologic Work

To facilitate restoration on the existing 46.2 acres of young pine plantation and 233.5 acres of pine plantation within the CBMB, commercial logging of pine will be conducted. This will be dictated by the suitable weather conditions and the availability of logging contractors. Logging operations will be restricted to times of low soil moisture conditions to avoid rutting during timber removal. Upon the completion of logging of pine, commercial logging will cease on CBMB, unless deemed necessary by the IRT. While no evidence of significant bedding to support pine growth in wetland habitats was found on site, some minimal bedding was observed in several locations. Timber harvesting will degrade to at or near grade any minimal bedding found throughout the site.

4.3 Vegetative Work

Following logging operations, site preparation will begin. A site preparation burn will occur to begin control of unwanted brush and suppress exotics and invasive species in the existing young pine plantation and mature pine plantation.

Chinese tallow will be eradicated using herbicide application in 46.9 acres of Chinese tallow encroached hardwoods since burning would damage existing hardwoods. Chinese tallow absolute cover values currently exceed 10 percent in these areas, with some areas exceeding 45 percent. Eradication of Chinese tallow will be accomplished during the fall by using the hack and squirt method. Clearcast™ will be the selected herbicide for treatment methods. The hack and squirt method is also known as bark injection, and is a process where the bark of target trees is cut using hatchets and herbicide is applied to the damaged area using a backpack sprayer. This method of herbicide application will occur during the late summer to early fall (July to September) to increase the efficacy of the herbicide.

During the first planting season (December 15 through March 15) following a site preparation burn in the existing pine habitats and herbicide application in the existing hardwood habitats, reforestation and interplanting will occur. Restoration

of the CBMB site from the degraded existing habitats to BLH forest is shown on **Appendix B: Figure 2**. Native species selected for planting will be site appropriate in terms of habitat design, soil moisture regime, and species richness. Hard and soft mast species will be planted to achieve an overall CBMB composition, on average, of 60 to 70 percent hard mast species. Tree plantings shall consist of one (1) or two (2) year old bare-root seedlings composed of a mixture of the hard and soft mast species listed in **Table 3**, obtained from a Louisiana registered, licensed nursery grower. If seedlings listed in **Table 3** below are unavailable, substitution may be made. The Sponsor will plant species in such a manner to ensure adequate species diversity and monotypic tree rows will not be established. Sufficient time will be allowed for reserving seedlings from nurseries.

Table 3. Proposed Planting List

Planting Composition of BLH Enhancement Area			
Common Name	**Scientific Name**	**Indictator Status**	**Mast Type**
Laurel Oak	*Quercus laurifolia*	FACW	Hard
Nuttall Oak	*Quercus texana*	FACW	Hard
Willow Oak	*Quercus phellos*	FACW	Hard
Cow Oak	*Quercus michauxii*	FACW	Hard
Cherrybark Oak	*Quercus pagoda*	FACW	Hard
Water Oak	*Quercus nigra*	FAC	Hard
Overcup Oak	*Quercus lyrata*	OBL	Hard
Water Hickory	*Carya aquatica*	OBL	Hard
Red Maple	*Acer rubrum*	FAC	Soft
Persimmon	*Diospyros virginiana*	FAC	Soft
Sweetgum	*Liquidambar styraciflua*	FAC	Soft
Green Ash	*Fraxinus pennsylvanica*	FACW	Soft
American Elm	*Ulmus americana*	FAC	Soft

Planting densities in the existing pine habitats where timber harvest will occur will be no less than 538 stems per acre. Hard mast species will account for 60 to 70 percent of all plantings as natural regeneration of soft mast species is anticipated. Planting densities in the tallow encroached hardwoods species will be less per acre and will be dependent on the residual stand density once Chinese tallow is removed. The composition of plantings in these areas will primarily consist of hard mast species due to the existing seed base of soft mast species and their propensity for rapid regeneration. Species selected for planting in both reforestation areas and inter-plantings will consist of Obligate (OBL), Facultative Wetland (FACW), or Facultative (FAC). Restoration of the site will create a bottomland hardwood habitat consisting of a mosaic of native hard and soft mast species to provide seasonally available forages for a wide range of indigenous and migratory wildlife.

4.4 Technical Feasibility

The location of the proposed CBMB provides the desired conditions (i.e., geology, soils, plants, topography, hydrology, and zoning) to develop and maintain a wetland mitigation bank. ELOS Environmental, LLC, the agent, has an extensive background in wetland ecology, forestry, and regulatory affairs as required by the National Environmental Policy Act (NEPA), Sections 404 and 401 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, Coastal Use Permits, and other regulatory requirements. For over 13 years, ELOS has helped private mitigation banks, federal agencies and parish governments achieve expansion, ecological monitoring, work plan development, and compliance management of wetland mitigation banks. ELOS has assisted with the following wetland mitigation and restoration projects:

- Anderson Canal Mitigation Bank
- Jamestown Mitigation Bank
- Jamestown II Mitigation Bank
- Tchefuncte Umbrella Mitigation Bank
- Bayou Lacombe Mitigation Bank
- Pollard Branch Mitigation Bank
- Muddy Bayou PRMP
- Ollie Mitigation Bank
- Plaquemines Parish East Bank Levee Improvement PRMP

ELOS will work closely with the mitigation bank Sponsor to manage the successful restoration of the CBMB including commercial logging, herbicide application, supplemental planting, sample plot maintenance, and all reporting required by the mitigation bank instrument (MBI). Construction work required to restore CBMB is routine in nature, and is based on currently accepted restoration methods. Additionally, CBMB is adjacent to another mitigation bank that will restore BLH habitat through many of the methods proposed on CBMB. Finally, the CBMB is surrounded by large tracts of undeveloped forested areas, including several BLH habitats indicating a high potential for successful restoration. Furthermore, CBMB will be preserved from future development activities through execution of a conservation servitude over the entire site. With the help of the Sponsor and sound management, the proposed CBMB can restore the productivity of the proposed site.

4.5 Current Site Risks

During the operational life of the proposed CBMB, it is possible that force majeure could play a role in rendering some or all of the CBMB ecologically unfit to serve its stated habitat goals. In this event, it is incumbent upon the Sponsor to restore the functionality of the proposed CBMB to support at least the credits that have been issued, and any released credits not yet sold or transferred. If the balance of credits not yet released are to remain part of the plan, then correcting the

deficiencies resulting from the force majeure event will be required before those potential credits are included in the ledger balance of the proposed CBMB. The mitigation bank review team takes an adaptive management approach to these types of problems, and a conceptual contingency for unavoidable loss from acts of God will be included in the MBI.

However, the Sponsor does not foresee any adverse impacts to the CBMB resulting from continued existence and operation of neighboring land uses. There are no significant existing hydrologic disturbances on or adjacent to the site at the present time. The CBMB has a cumulative 2.7 acres of non-mitigation features. Specifically, the non-mitigation features are roads and Other Waters; the CBMB is otherwise free of encumbrances.

No significant known conditions exist off-site that would impinge upon the Sponsors ability to sustain the use of this parcel as a commercial mitigation bank. The CBMB and adjacent property is within unincorporated land and absent of zoning regulations.

4.6 Long-Term Sustainability of the Site

The CBMB Sponsor shall be the responsible agent for the long-term management of the CBMB, to establish compliance with the Mitigation Work Plan.

The primary long-term strategy of the CBMB is self-sustaining with relatively low maintenance. Monitoring will be established within one year of the official enrollment of the bank, but prior to any management activities. Initial monitoring will establish baseline data, which will be captured in a Base Line Data Report. An “As-Built Report” will be submitted to USACE 60 days following the completion of work performed to enhance the site (e.g., vegetative plantings, commercial logging). After the passing of one year (growing season) from the initial plantings, an Initial Success Criteria Report will be provided to the USACE that documents the success of the hydrology and vegetation relative to the criteria established in the Mitigation Work Plan; also included in this report will be a description of any maintenance or management work conducted on the CBMB after submission of the As-Built Report, and any anticipated maintenance or management work to be conducted prior to attainment of interim success criteria. The Sponsor will provide an Interim Success Criteria Report that documents the success of the hydrology and vegetative plantings four years after successfully meeting the initial success criteria. The Sponsor will monitor the CBMB three years after meeting the interim success criteria until an average canopy coverage of 80 percent is established, and then every five years thereafter to assure attainment of the criteria established in the Mitigation Work Plan.

Adaptive management will be utilized in conjunction with long-term monitoring to address problems that are keeping the project from meeting its performance standards. Furthermore, the Sponsor will establish an escrow account (that will be

funded by credit sales) to fund the long-term maintenance plan, which will prevent the establishment of invasive species, and provide long-term protection of structural features if they are needed to ensure hydrologic and vegetative success.

Long-term viability and sustainability of the proposed CBMB will be ensured through long-term monitoring, adaptive management, and long-term maintenance. No long-term structural management should be required because there are currently no active or proposed structures in the footprint of the proposed CBMB. A long-term management plan will be included within the MBI, which will be prepared after submission and approval of this prospectus. The MBI will contain costs associated with the proposed CBMB and it will identify a funding mechanism in accordance with 33 CFR 332.7(d).

5. Proposed Service Area

The proposed CBMB is located within USGS HUCs 08070203 and 08070202 which includes the vast majority of parishes within the Baton Rouge metropolitan area, such as Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, St. Helena, and Tangipahoa. The Lake Pontchartrain Basin is the Primary Service Area for the proposed CBMB, and it includes the following USGS HUCs: 08090201, 08090202, 08090203, 08070202, 08070203, 08070204, and 08070205.

There are currently sixteen (16) banks with BLH habitats located in the Lake Pontchartrain Basin Primary Service Area:

Bayou Conway;
Bayou Manchac-Oakley;
Belle Pointe Coastal;
Comite Properties Tract A;
Comite Properties Tract B;
Gum Swamp;
High Point Wetlands Phase IV;
Jamestown Mitigation Bank;
Jamestown Mitigation Bank II;
Laurel Oak Mitigation Bank (enhancement);
Laurel Oak Mitigation Bank (restoration);
Timberton;
Zachary Mitigation Bank – Comite Flats I;
Zachary Mitigation Bank – Comite Flats II;
Zachary Mitigation Bank – Copper Mill Bayou;
Zachary Mitigation Bank – Redwood Creek;

However, many of these banks are currently sold out of credits with no credits available for purchase and are awaiting future credit releases. The active banks will not be able to meet the demand for credits in the coming years that will result

from the continued development within the Lake Pontchartrain Basin. State projects, federal projects, commercial development, and residential development impacting bottomland hardwood habitat within the Lake Pontchartrain Basin Primary Service Area could use the proposed CBMB to compensate for wetland impacts associated with Department of the Army 10/404 Permits.

6. Operation of the Mitigation Bank

This section describes how the proposed Bank will be operated, as stated in 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 stated in 33 CFR 332.8(d)(2) (v.)

6.1 Project Representatives

Sponsor:	*Church Branch Mitigation, LLC* *111 North Oak Street* *Suite 200* *Hammond, Louisiana, 70401* *(985) 269-7720*
Agent:	*ELOS Environmental, LLC* *Attn: Brittany Berthelot* *43177 E. Pleasant Ridge Road* *Hammond, LA 70403* *bberthelot@elosenv.com* *(985) 662-5501*
Landowner:	*Van C. Joffrion, MD.* *9 St. Albans Court* *Asheville, NC 28803* *vcjoffrion@gmail.com*

6.2 Qualifications of the Sponsor

Church Branch Mitigation, LLC (CBM) will serve as the Sponsor. CBM combines extensive experience in the practice of silviculture and timber land management with experienced environmental scientists and biologists. CBM members possess the technical skills to design, monitor, and manage the construction and ecological success of the project. CBM members have designed, constructed, managed and monitored mitigation projects and commercial mitigation banks, and implemented successful Permittee Responsible Mitigation Projects.

6.3 Proposed Long-Term Ownership and Management Representatives

The long-term ownership of the proposed CBMB will reside with Van C. Joffrion, MD. The long-term management of the proposed CBMB will be the ultimate responsibility of the Sponsor. The Sponsor has contracted ELOS to provide guidance and oversight as its agent. ELOS specializes in wetlands and other natural resource analysis and regulatory compliance.

6.4 Site Protection

The Sponsor/Landowner will be responsible for protecting all lands within the proposed CBMB footprint. To ensure protection of the proposed CBMB, the owners will execute a perpetual Louisiana Conservation Servitude in favor of a neutral third party with executory capacity in accordance with the Louisiana Conservation Servitude Act (La. R.S. 9:1271, et seq.) for the entire proposed CBMB footprint. The Conservation Servitude shall be recorded in the Livingston Parish Clerk of Court Conveyance Department.

6.5 Long-Term Strategy

The Sponsor will ensure the long-term success and sustainability of the proposed CBMB through practices such as vegetative plantings, commercial logging, hydrologic restoration and maintenance, invasive species control through herbicide application, site monitoring, long-term management, establishment of financial assurances, and perpetual protection through the filing of a Louisiana Conservation Servitude. In accordance with 33 CFR 332.7(d), a long-term management plan will be included in the MBI that will address long-term management needs, annual cost estimates for these needs, and identify the funding mechanism that will be used to meet those needs.

7. References

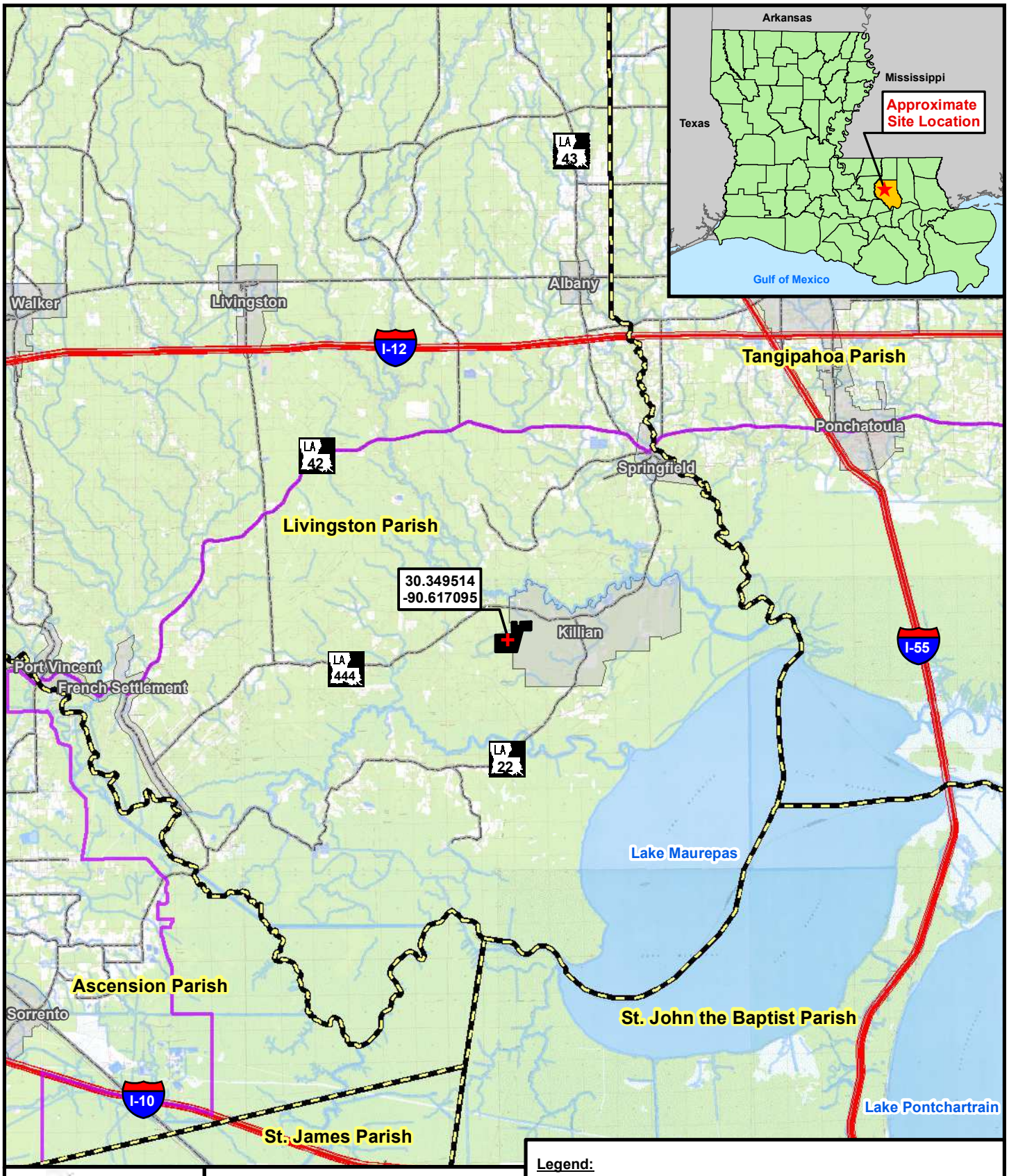
[1] Natural Resources Conservation Service, "Web Soil Survey," 2020. [Online]. Available: https://websoilsurvey.sc.egov.usda.gov/App/.

[2] Holcomb, S; et al, "Louisiana Wildlife Action Plan," Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA, 2015.

[3] U.S. Census Bureau, Population Division , "Cumulative Estimates of Resident Population Change and Rankings: April 1, 2010 to July 1, 2018," February 2020. [Online]. Available: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk.

[4] Louisiana Natural Heritage Program, "The Natural Communities of Louisiana," Louisiana Department of Wildlife and Fisheries, 2009.

Appendix A
Figures



Legend:

- Site Outline
- Parish Boundary
- Coastal Zone Boundary
- Interstate
- Highway
- Roadway
- Stream/River
- Waterbody
- City/Town

Sections: 16, 17, 20, 21, 40
Township: 08 South
Range: 06 East

0 15,000 30,000 Feet

N W E S

Figure 1: TopoVicinity Map

Church Branch Mitigation Bank

ELOS environmental
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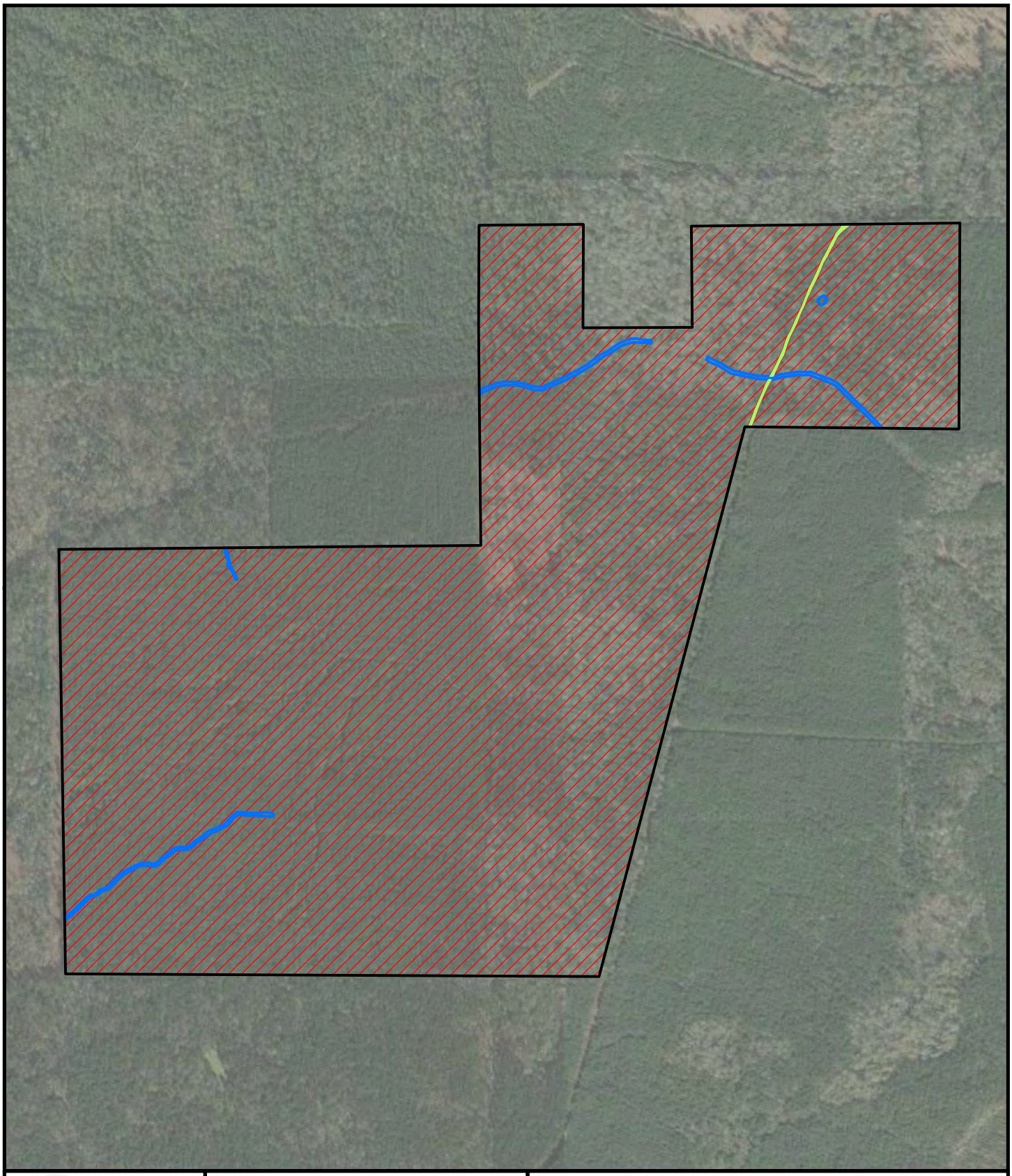
F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 1_TopoVicinity Map



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0 500 1,000 Feet

N W E S

Legend:

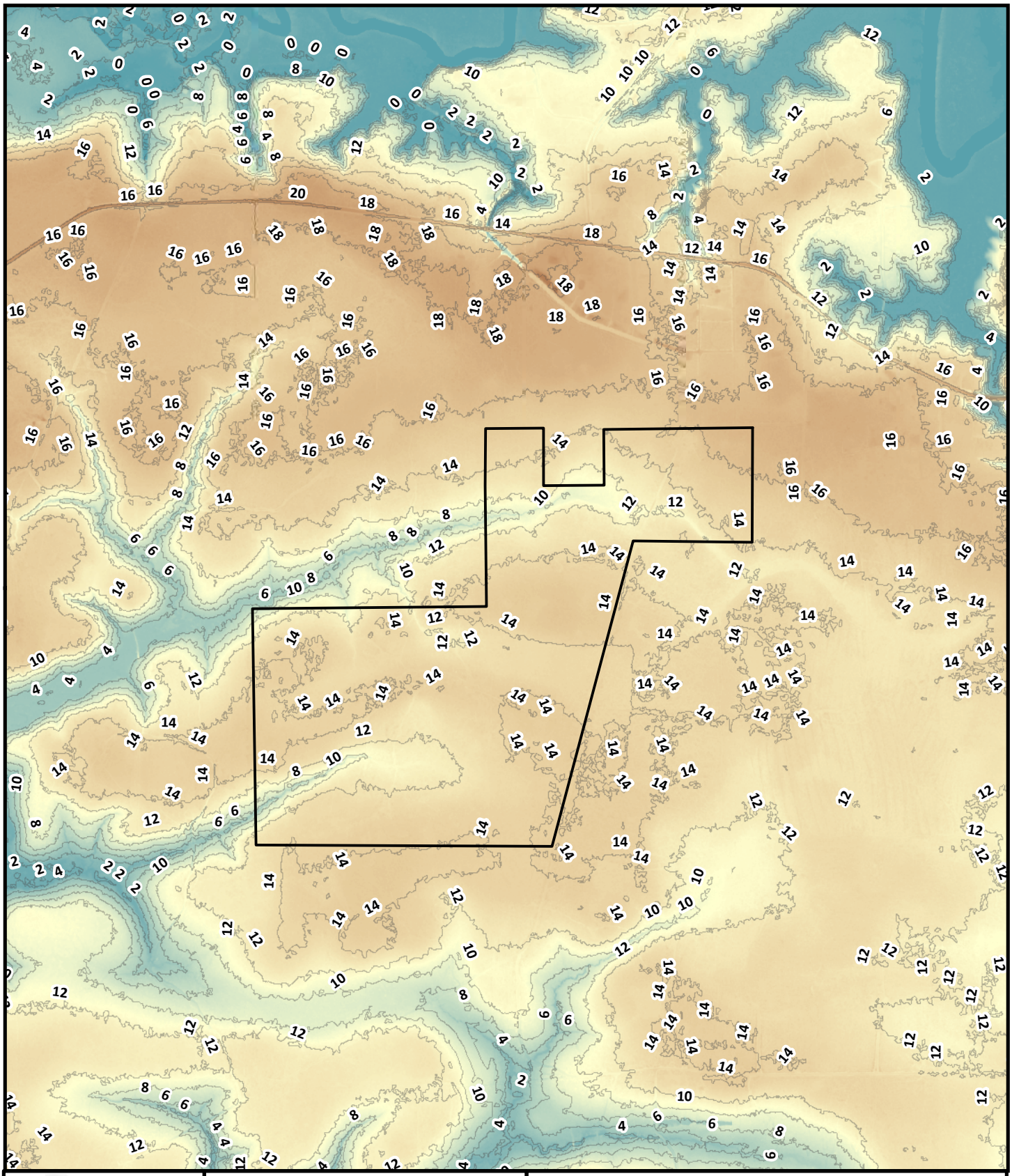
- Site Outline ~329.3
- Wetlands ~327.0 Acres
- Other Waters ~1.8 Acres
- Uplands ~0.5 Acres

MVN 2019-01002-SQ

Figure 2: Wetland Delineation Map

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 2_ Wetland Delineation Map



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0 1,000 2,000 Feet

N W E S

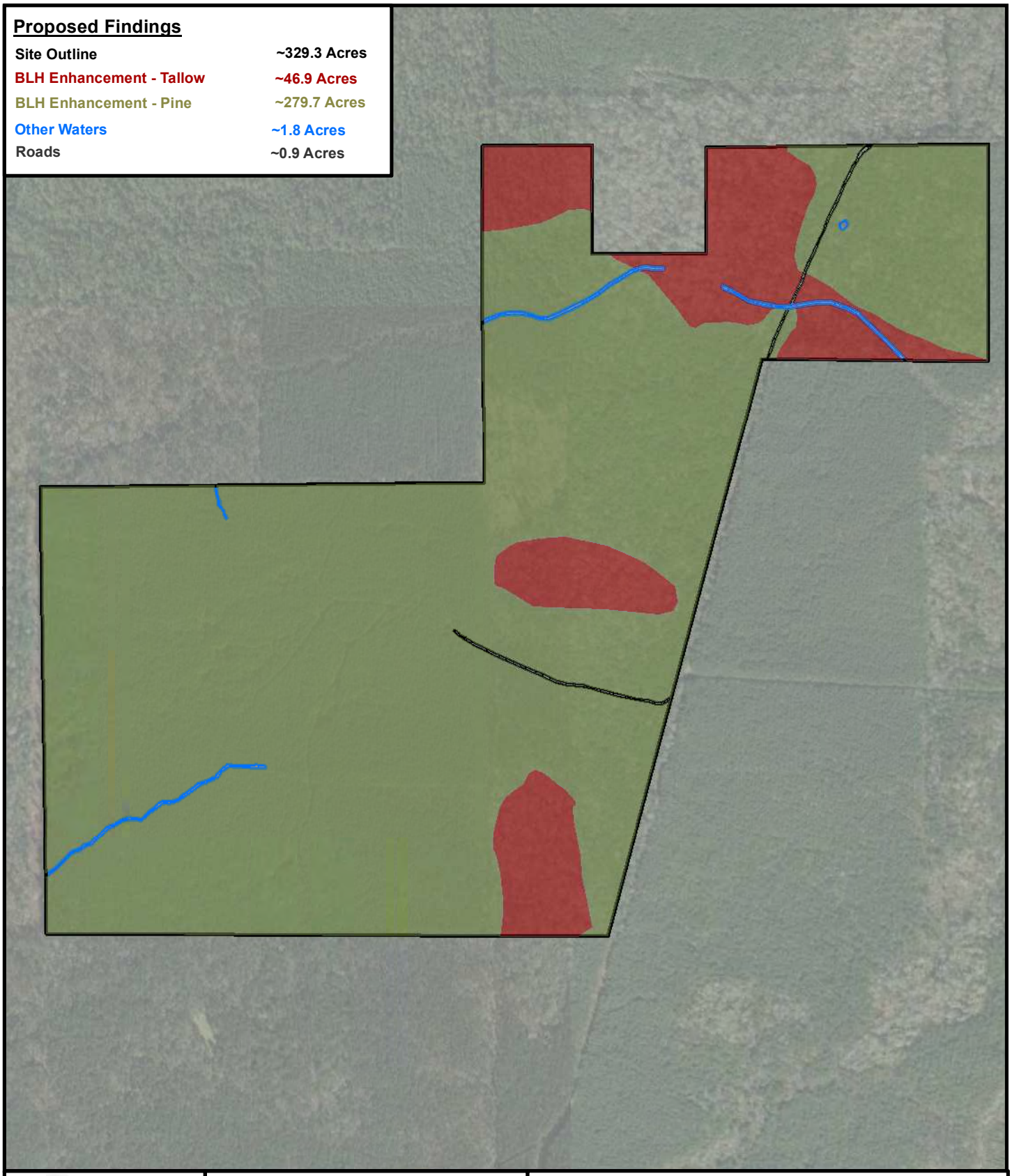
Legend:
Site Outline
Contour
Higher
Lower

Figure 3: Elevations Map

Church Branch Mitigation Bank

This figure was prepared utilizing public and proprietary data. It should not be used to establish any legal boundaries or specific locations. ELOS Environmental, L.L.C., is not responsible for any usage of this figure contrary to its original, intended purpose.

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 3_Elevations Map



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Feet
0 500 1,000

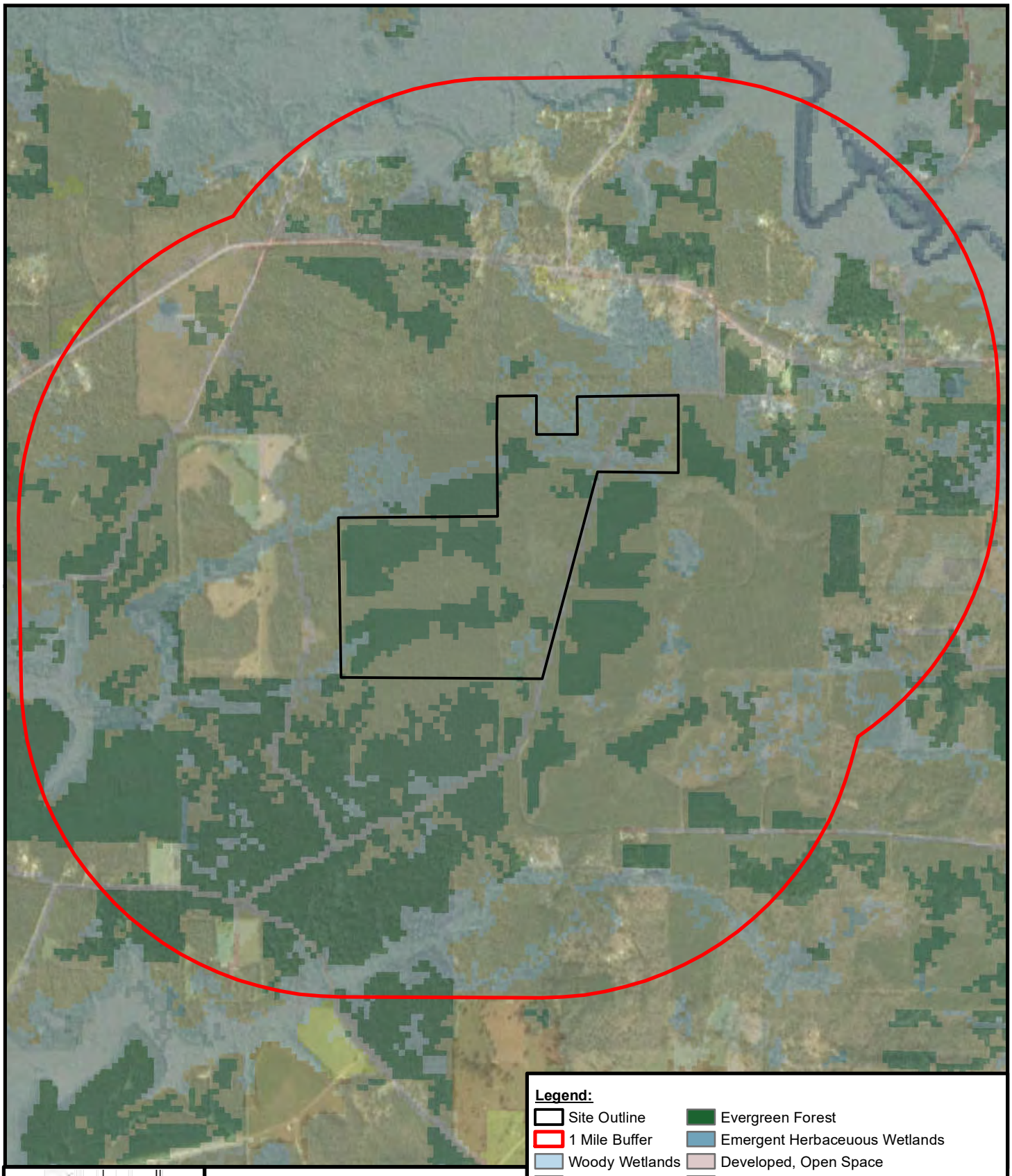
N W E S

Legend:
- Site Outline
- Other Waters
- Roads
- BLH Enhancement - Pine
- BLH Enhancement - Tallow

Figure 4: Restoration Plan

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 4_ Restoration Plan



0 1,500 3,000 Feet

N W E S

Figure 5: Land Use Map

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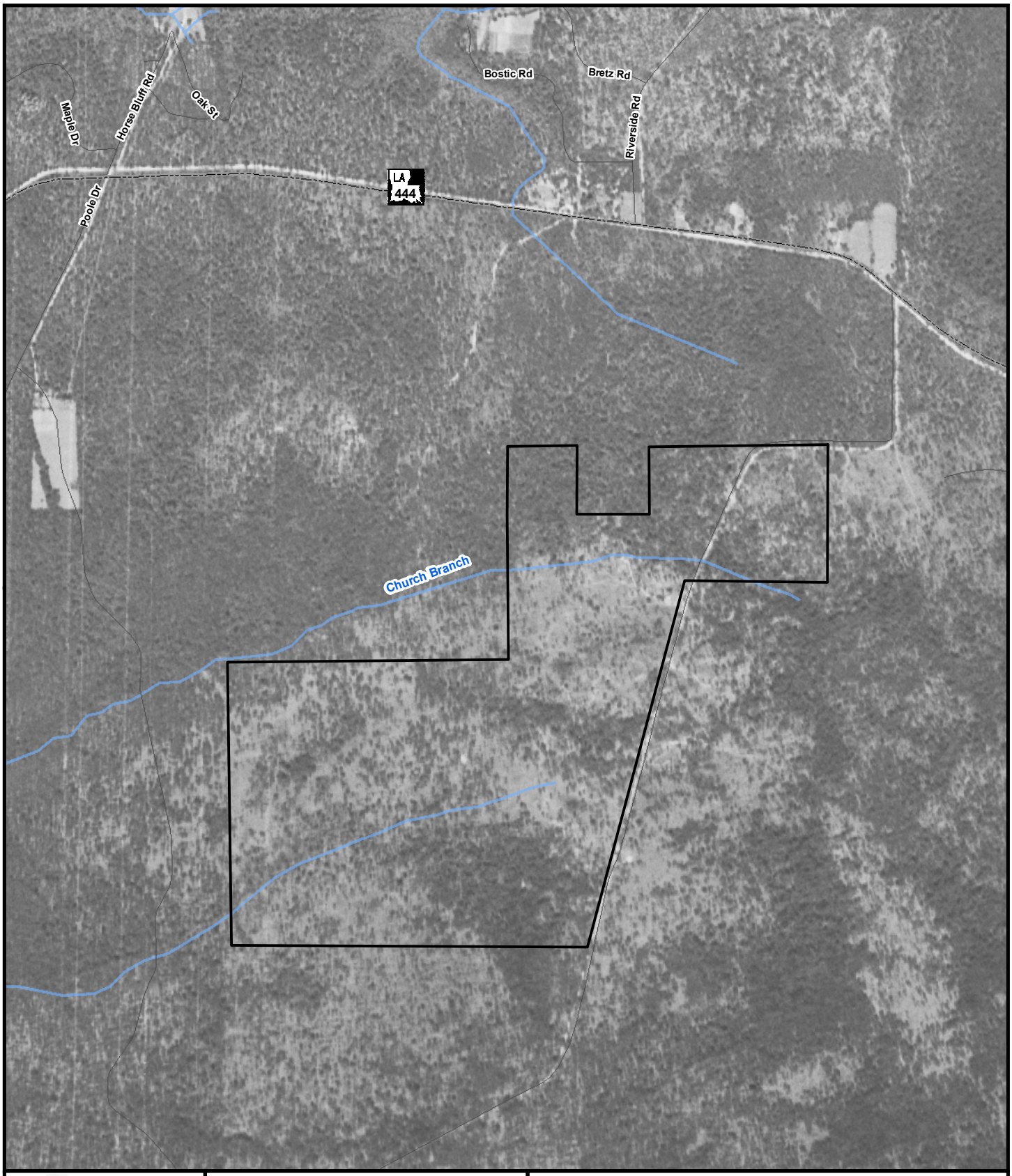
F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 5_Land Use Map



0 850 1,700 Feet

N W E S

Legend:

Site Outline — Roadway

Highway — Stream/River

Figure 6: 1952 Aerial

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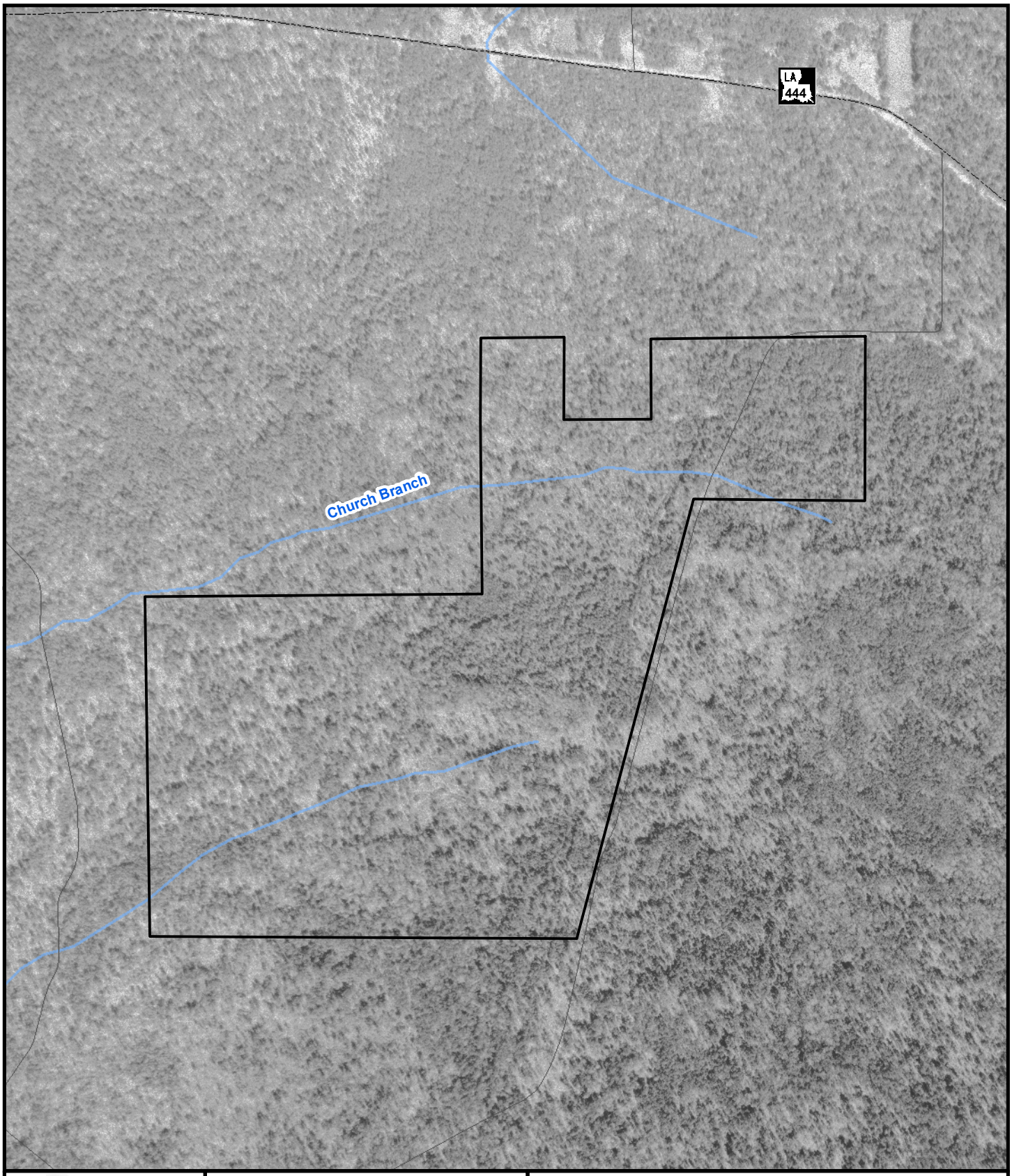
F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 6_1952 Aerial



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0 700 1,400 Feet

N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figure 7: 1962 Aerial

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 7_1962 Aerial

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0 650 1,300 Feet

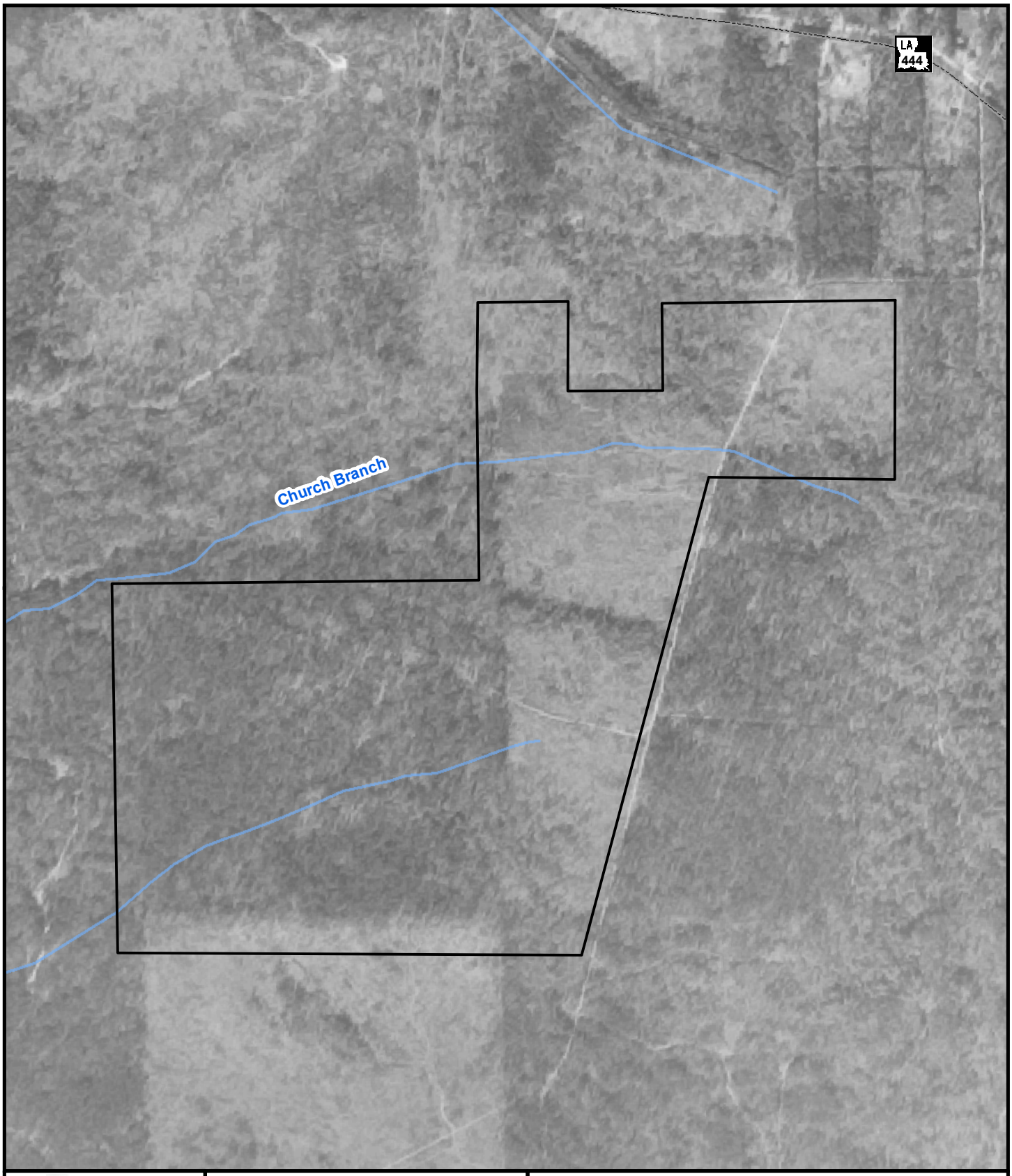
N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figure 8: 1989 Aerial

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Figure 8_1989 Aerial



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0 650 1,300 Feet

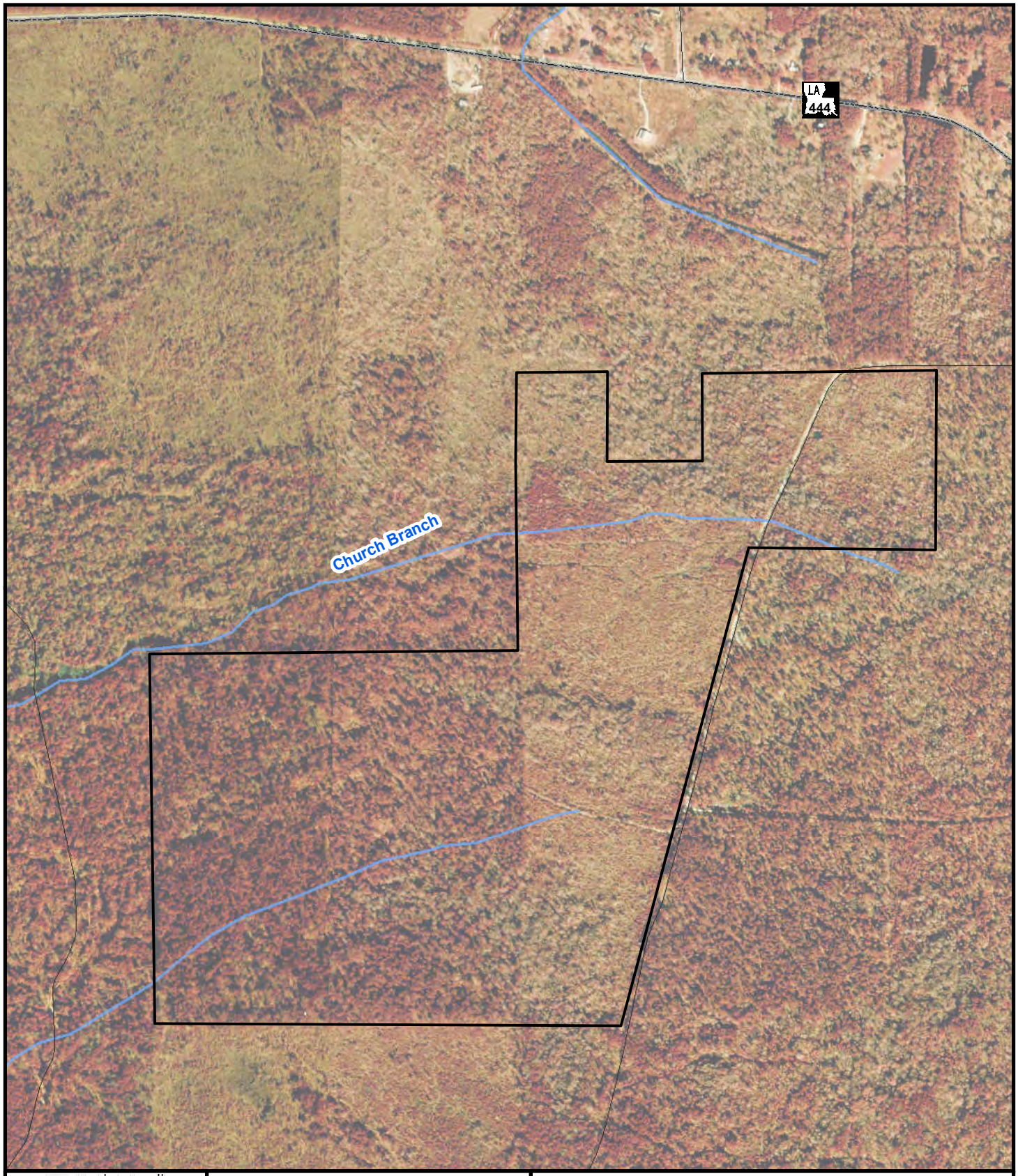
N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figure 9: 1994 Aerial

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 9_1994 Aerial



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0 650 1,300 Feet

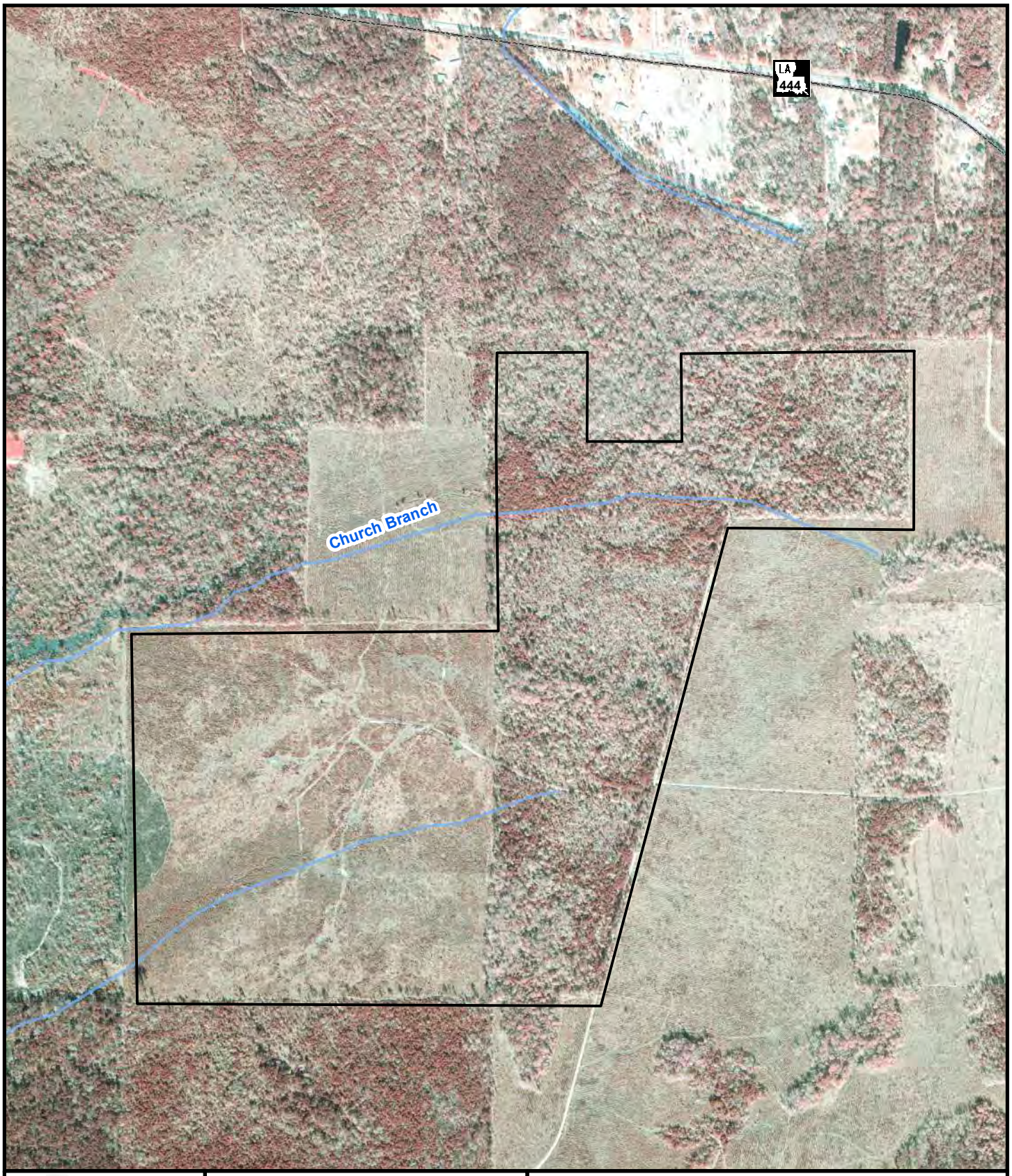
N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figure 10: 1998 Aerial

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 10_1998 Aerial



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0 650 1,300 Feet

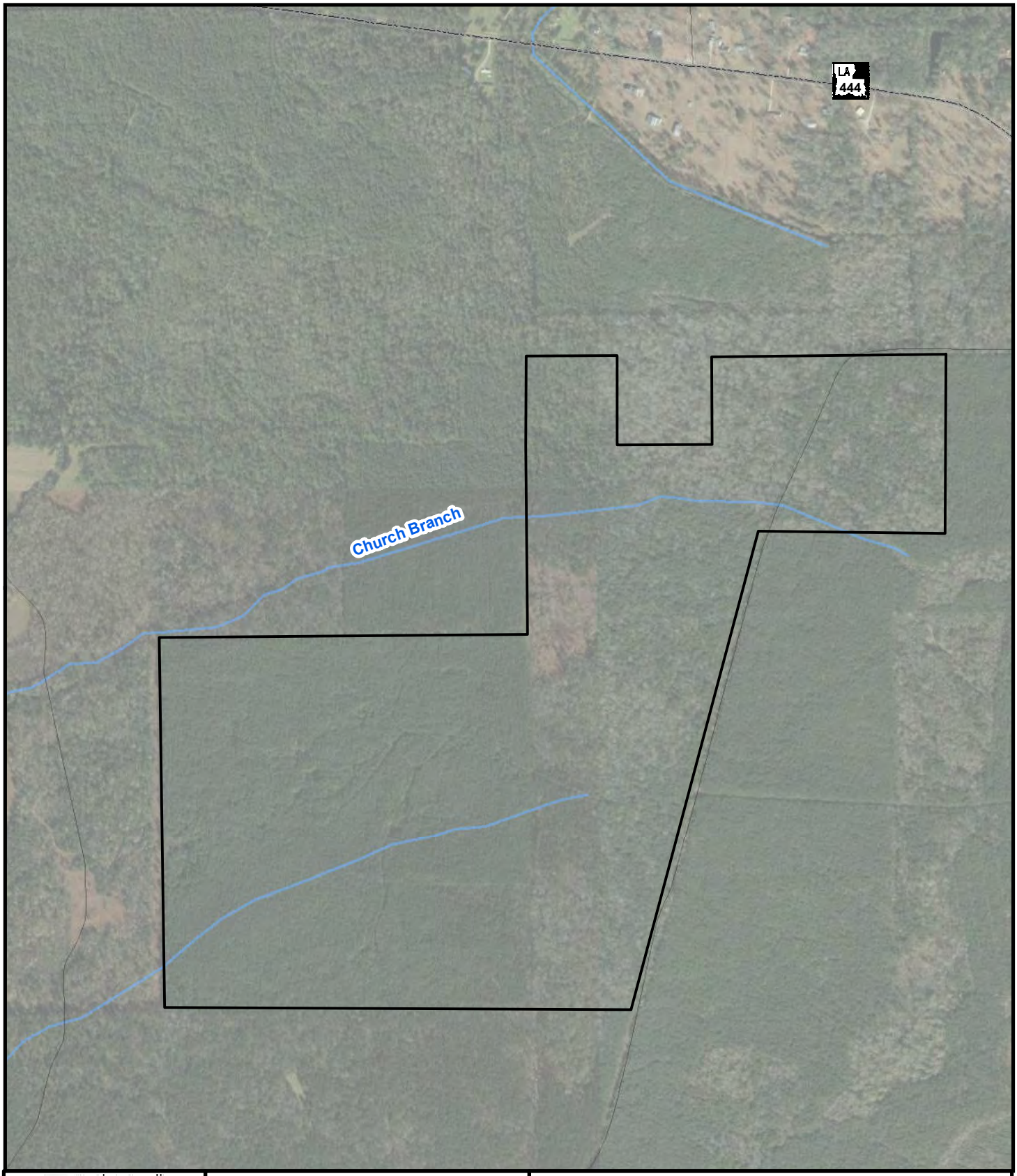
N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figure 11: 2004 Aerial

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 11_2004 Aerial



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0 650 1,300 Feet

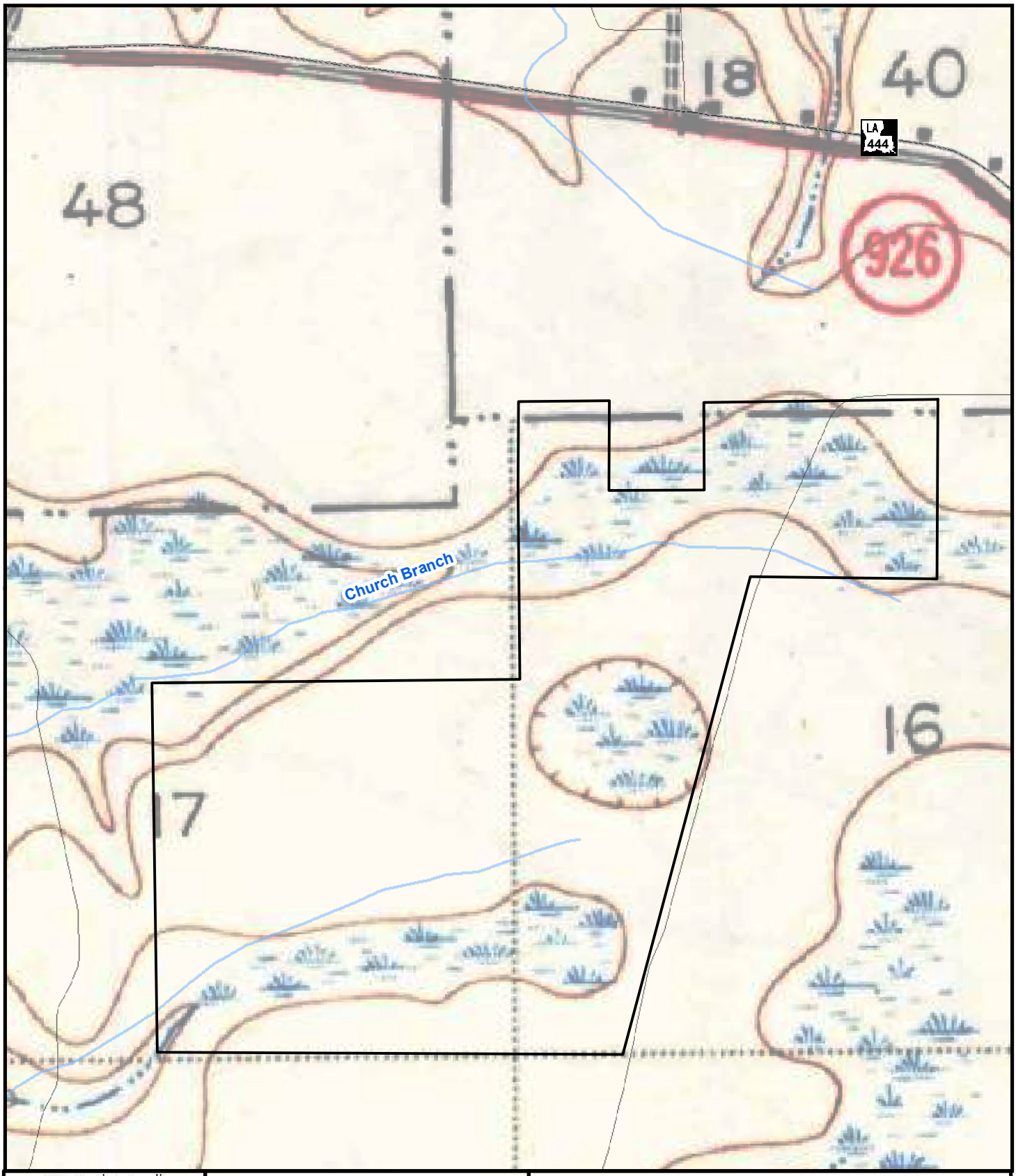
N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figue 12: 2018 Aerial

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 12_2018 Aerial



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0 650 1,300 Feet

N W E S

Figue 13: Historic Topo 1934

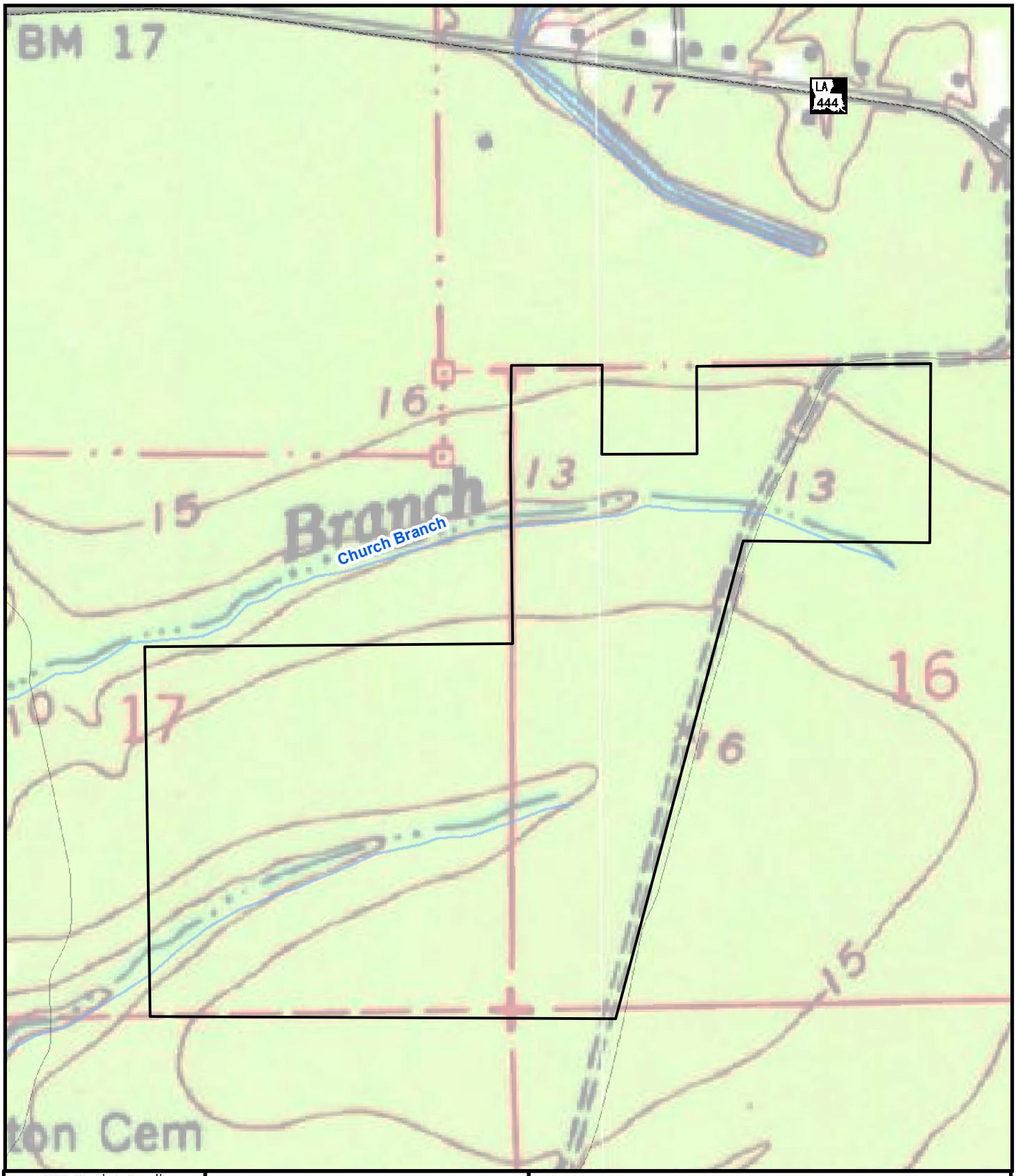
Church Branch Mitigation Bank

Legend:

Site Outline — Roadway

Highway — Stream/River

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 13_Historic Topo 1934



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Feet
0 650 1,300

N W E S

Legend:
Site Outline
Roadway
Highway
Stream/River

Figue 14: Historic Topo 1963

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 14_Historic Topo 1963

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0 650 1,300 Feet

N W E S

Legend:

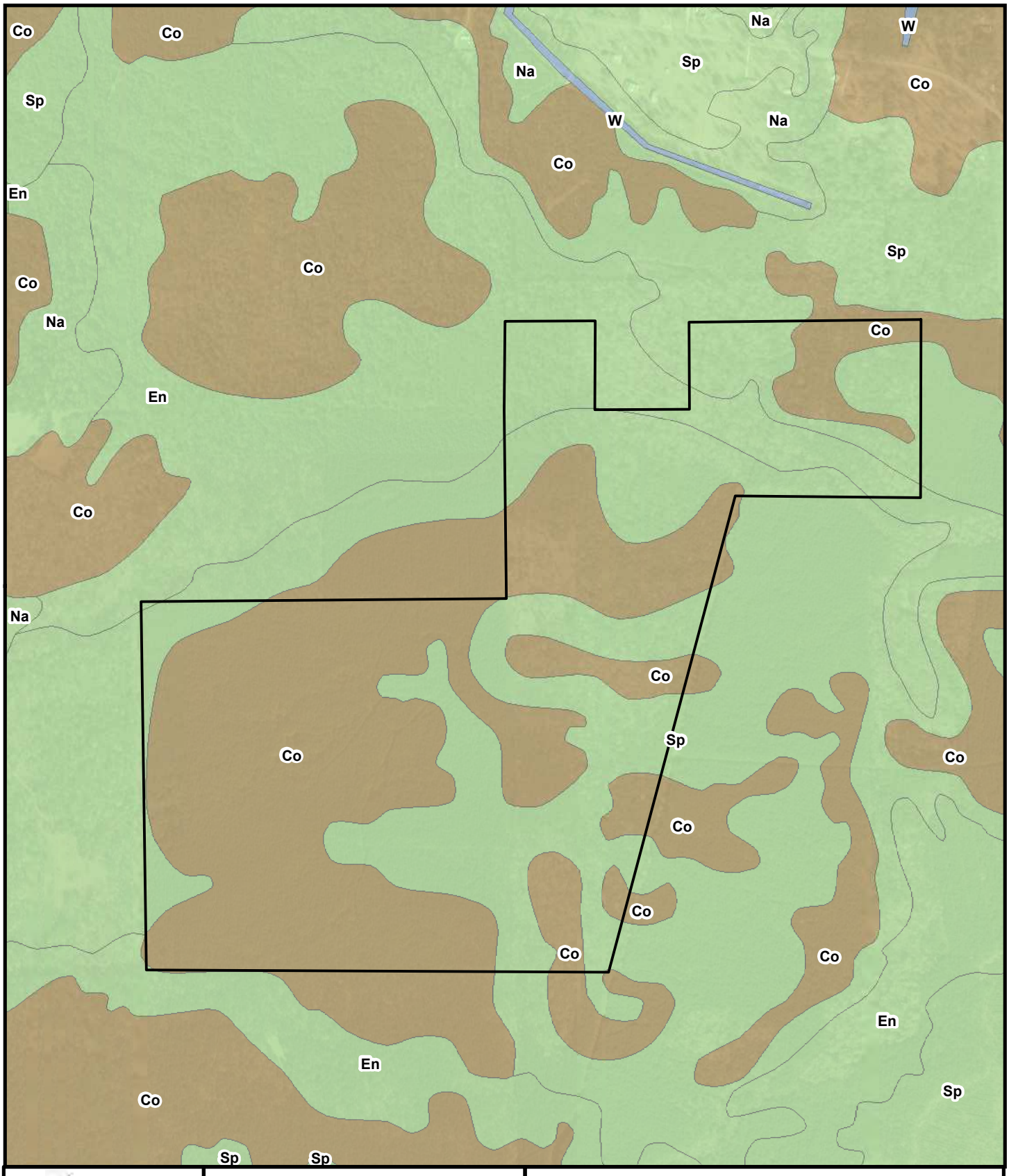
Site Outline — Roadway

Highway — Stream/River

Figue 15: Historic Topo 1983

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 15_Historic Topo 1983



Legend:

- Site Outline
- Non-Hydric
- Hydric
- Water

Figure 16: Soils Map

Church Branch Mitigation Bank

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F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 16_Soils Map

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N
W E
S

Figure 17: Service Area

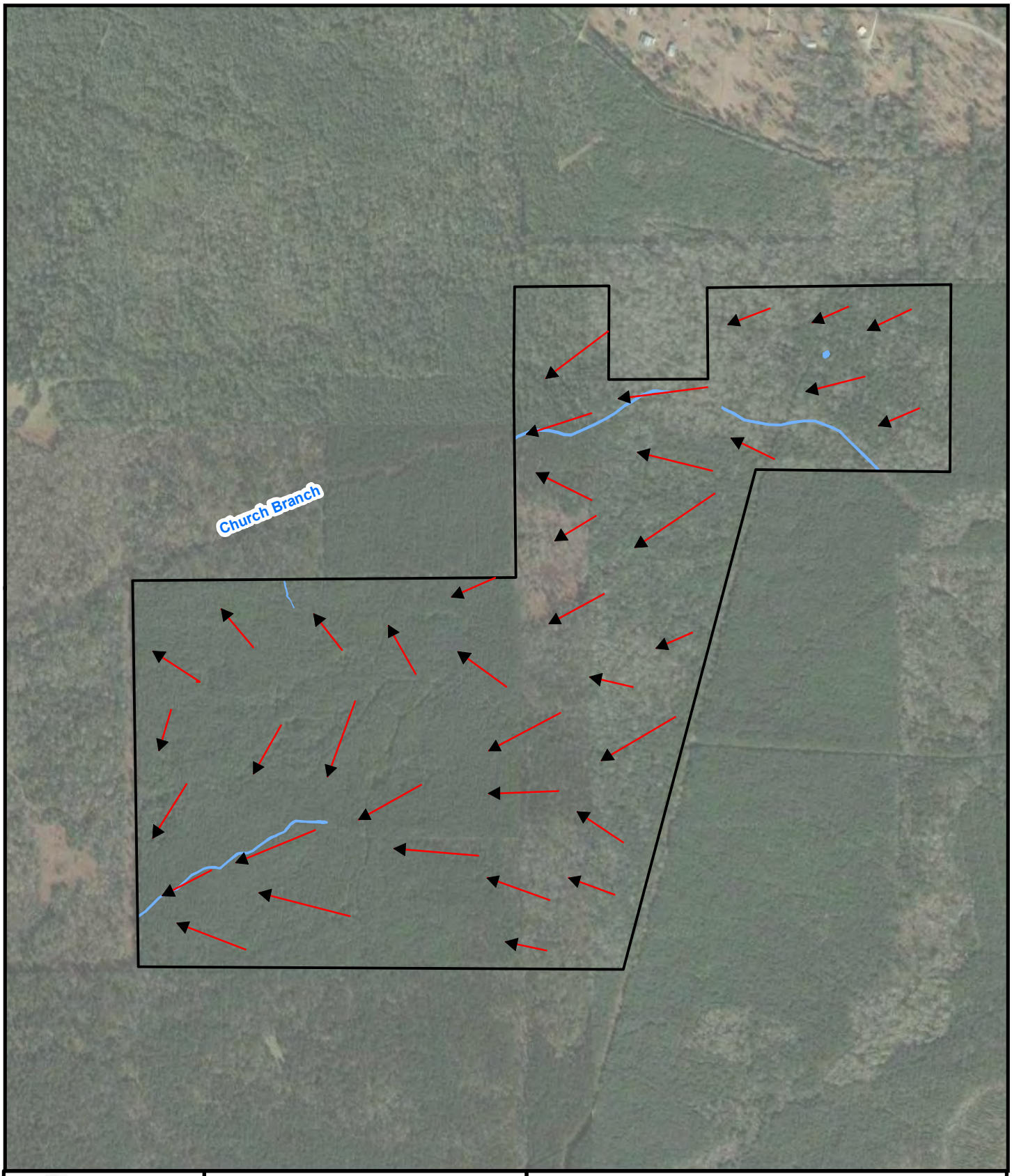
Church Branch Mitigation Bank

Legend:

- Site Outline
- Service area
- County Boundary
- Hydrologic Unit Boundary
- Parish Boundary
- Church Branch Bank Watershed

Tickfaw-08070203~731.81 Square Miles
Amite-08070202~1,861.59 Square Miles

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 17_ Service Area



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P. 985-662-5501, F. 985-662-5504

Feet
0 650 1,300

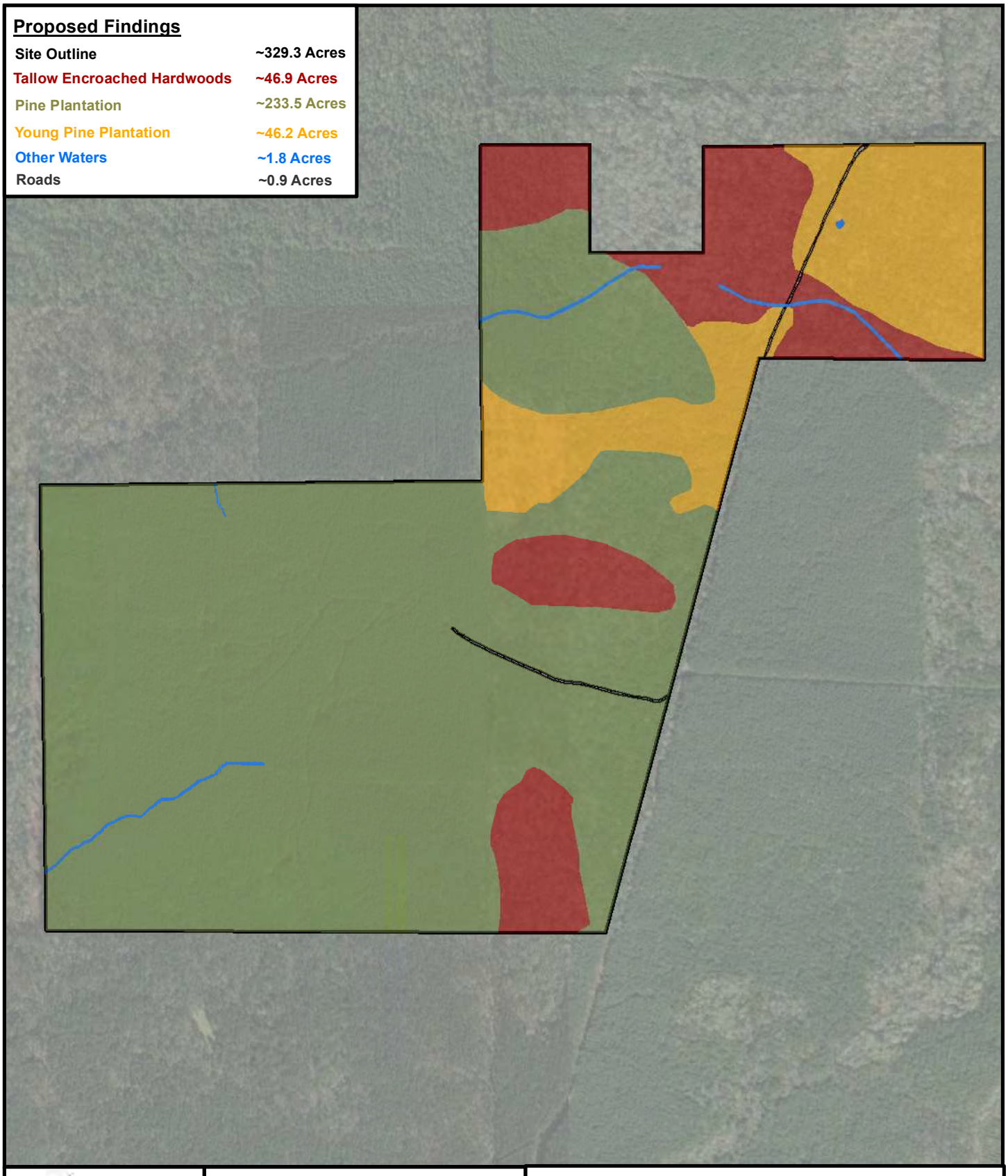
N W E S

Legend:
- Site Outline
- Pre-Drainage Flow
- Stream/River
- Higher
- Lower

Figure 18: Pre-Drainage Flow Patterns

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 18_Pre-Drainage Flow Patterns



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Feet
0 500 1,000

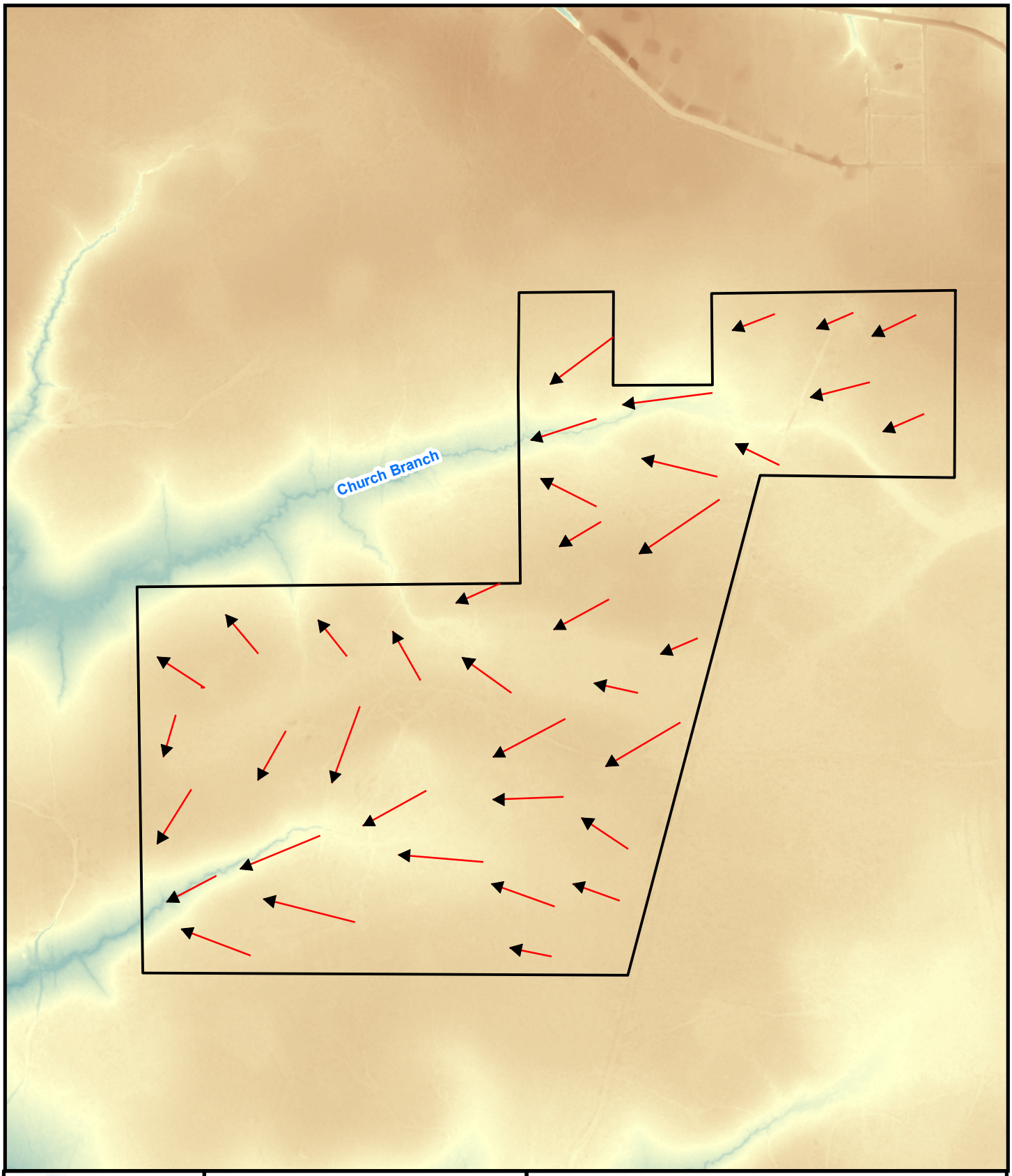
N W E S

Legend:
- Site Outline
- Other Waters
- Pine Plantation
- Tallow Encroached Hardwoods
- Young Pine Plantation
- Road

Figure 19: Existing Habitats

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 19_Existing Habitats



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Feet
0 650 1,300

N W E S

Legend:
Site Outline
Post Drainage Flow
Higher
Lower

Figure 20: Post Drainage Flow Patterns

Church Branch Mitigation Bank

F:\KLE\Church Branch Mitigation\GIS Maps\Mitigation\Prospectus\Figure 20_Post Drainage Flow Patterns

Appendix B
Cross-Sections

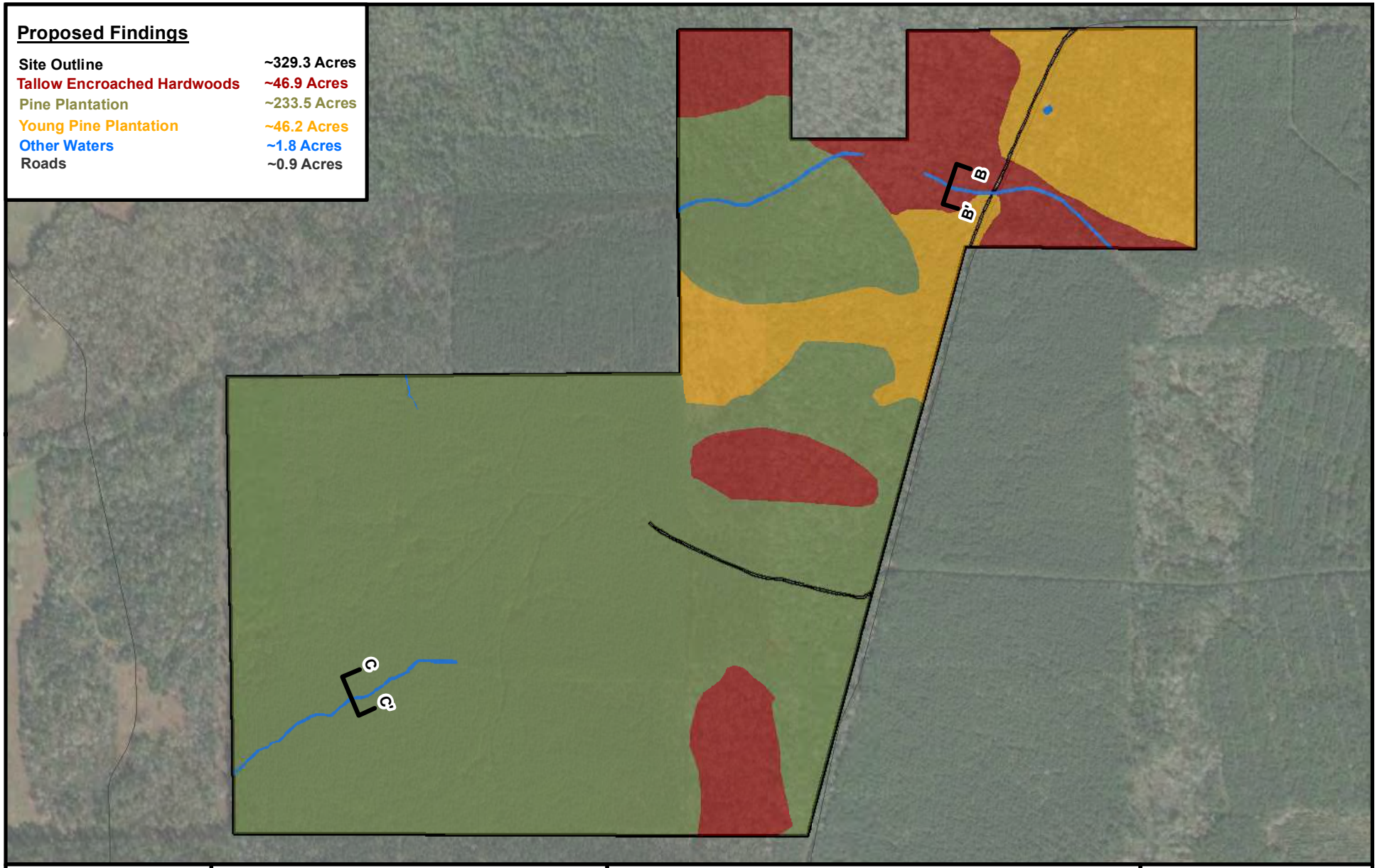

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Figure 1: Overview Map

Church Branch Mitigation Bank

Legend:

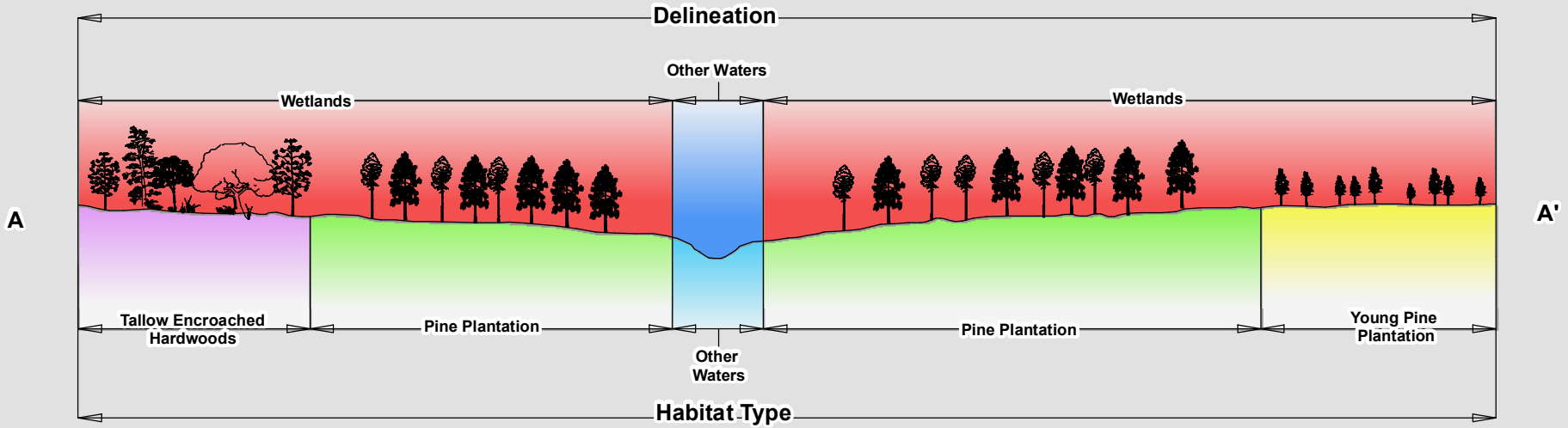
- Site Outline
- Other Waters
- Logging Roads
- Pine Plantation
- Tallow Encroached Hardwoods
- Young Pine Plantation

N W E S

Feet
0 400 800

F:\KLE\Rigolets Estates\GIS Maps\SWPPP\Figure 1_Overview Map

Existing Conditions



Constructual Conditions

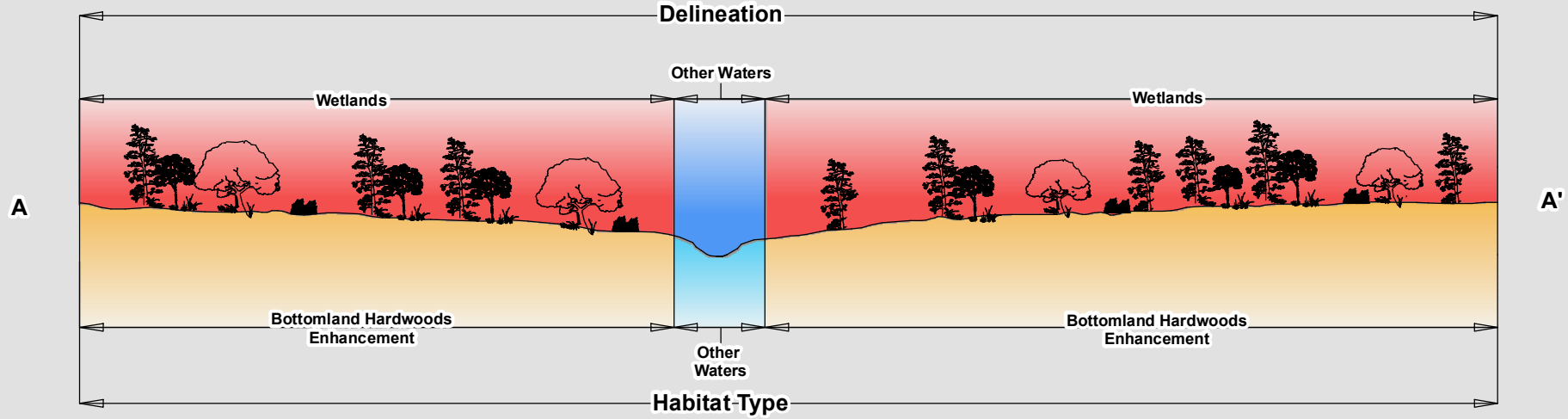


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Figure 2: Typical Section A

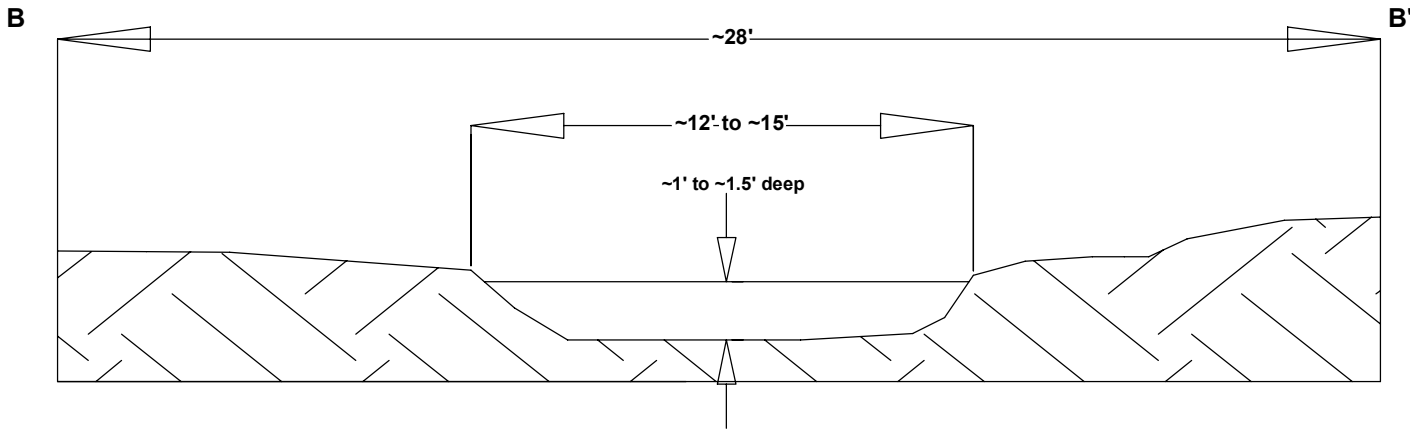
Church Branch Mitigation

Legend:

- Bottomland Hardwoods
- Wetlands
- Other Waters
- Other Waters Delineation
- Pine Plantation
- Tallow Encroached Hardwoods
- Young Pine Plantation

F:\KLE\Rigolets Estates\GIS Maps\SWPPP\Figure 2_Typical Section A

Church Branch



Bayou Barbary

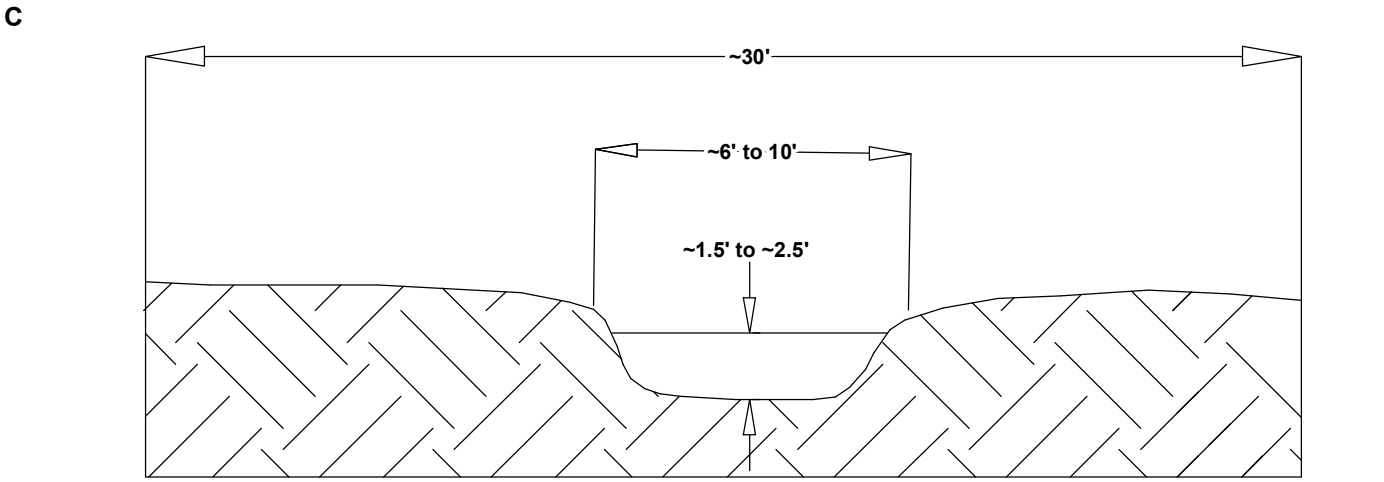


Figure 3: Typical Section B & C

Church Branch Mitigation

This figure was prepared utilizing public and proprietary data. It should not be used to establish any legal boundaries or specific locations. ELOS Environmental, L.L.C., is not responsible for any usage of this figure contrary to its original, intended purpose.

Scale = Not to Scale

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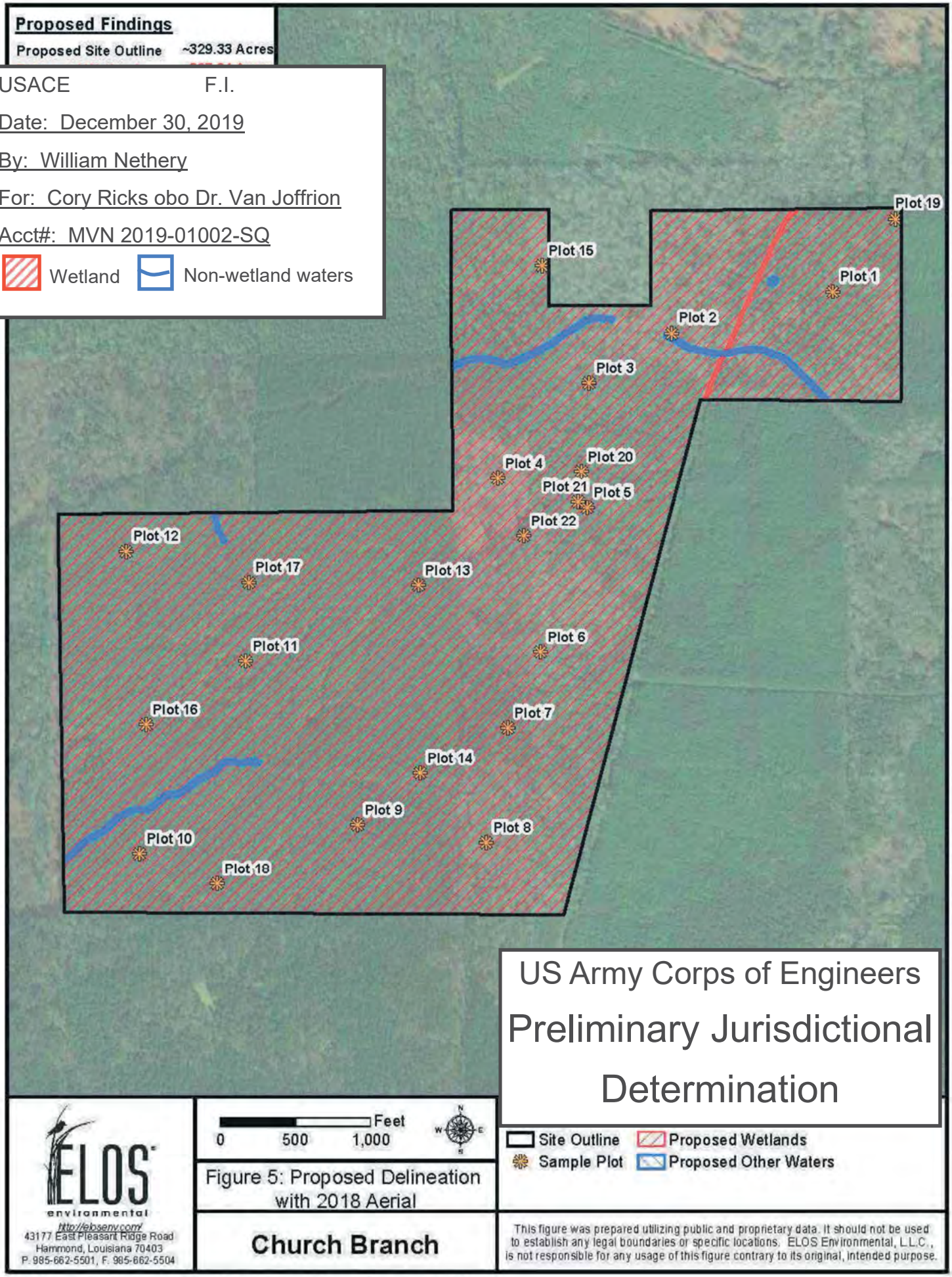
Appendix C
Jurisdictional Determination – MVN -2019-01002-SQ



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F:\KLE\Church Branch Mitigation\GIS Maps\Delineation\Figure 5: Proposed Delineation with 2018 Aerial

Appendix D
Louisiana Wetland Rapid Assessment Method

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #	MVN-2019-01002-SQ				Bank Name				
Acres Mitigation	326.6				Church Branch Mitigation Bank				
Watershed Basin	LakePont								
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Enhanc	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Management	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Size	500 : 100	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Inclusion	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	326.6							
	Sum x Area Affected:	1045.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

∑ Mitigation:	1045.1
Mitigation Potential:	3.2

COMMENTS

Mitigation Type	
Management	
Negative Influences	
Size	
Buffer/Upland	