

JOINT PUBLIC NOTICE

March 25, 2019

United States Army
Corps of Engineers
New Orleans District
Regulatory Branch
7400 Leake Ave.
New Orleans, La. 70118

State of Louisiana
Department of Environmental Quality
Post Office Box 4313
Baton Rouge, La. 70821-4313
Attn: Water Quality Certifications

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MVN-2018-01219-MG

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WQC Application Number
WQC # 190320-01

Interested parties are hereby notified that a prospectus and permit application have 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).

Application has also been made to the Louisiana Department of Environmental Quality, for a Water Quality Certification (WQC) in accordance with statutory authority contained in Louisiana Revised Statutes of 1950, Title 30, Chapter 11, Part IV, Section 2074 A(3) and provisions of Section 401 of the Clean Water Act (P.L.95-17).

MARSH BAYOU MITIGATION BANK IN BEAUREGARD PARISH

NAME OF APPLICANT: Matrix New World Engineering, obo The Mitigation Group, L.L.C.; Attn: Charles Jones; 2798 O'Neal Lane, Building F, Baton Rouge, Louisiana 70816.

LOCATION OF WORK: The 1,308.8 acre site is located approximately 5.4 miles south of Ragley, in Sections 21, 22, 23, 27, and 28, Township 07 South, Range 08 West, Beauregard Parish Louisiana, as shown on attached drawings.

Center of Location: Latitude: 30.43339° N, Longitude: 93.179589° W.
Hydrologic Unit Code: 08080203 – Upper Calcasieu.

CHARACTER OF WORK: The Mitigation Group L.L.C. is proposing the removal of agricultural levees, filling of a man-made drainage conveyances, and planting of desirable wetland vegetation for the establishment of Marsh Bayou Mitigation Bank. Of the 1,308.8 acres proposed for Marsh Bayou Mitigation Bank, 33.6 acres are pine-hardwood flatwood re-establishment, 1,032.0 acres are pine-hardwood flatwood rehabilitation, 40.6 acres are pine-hardwood flatwood enhancement, 150.3 acres are pine-hardwood flatwood preservation, 18.7 acres are pine-hardwood upland restoration, and 7.5 acres are bottomland hardwood upland buffer preservation. All proposed mitigation credit identified as pine-hardwood in this restoration project are to be classified as bottomland hardwood per the Louisiana Rapid Assessment Method 2.0 Guidebook.

The comment period for the Department of the Army Permit and the Louisiana Department of Environmental Quality WQC will close **30 days** from the date of this joint 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 and/or this WQC request and must be mailed so as to be received before or by the last day of the comment period. Letters concerning the Corps of Engineers permit application must reference the applicant's name and the Permit Application Number, and be mailed to the Corps of Engineers at the address above, ATTENTION: REGULATORY BRANCH. Similar letters concerning the Water Quality Certification must reference the applicant's name and the WQC Application number and be mailed to the Louisiana Department of Environmental Quality at the address above.

The application for this proposed project is on file with the Louisiana Department of Environmental Quality and may be examined during weekdays between 8:00 a.m. and 4:30 p.m. Copies may be obtained upon payment of costs of reproduction.

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. Issuance of this public notice solicits input from the State Archeologist and State Historic Preservation Officer regarding potential impacts to cultural resources. After receipt of comments from this public notice the Corps will evaluate potential impacts and consult with the State Historic Preservation Officer and Native American Tribes in accordance with Section 106 of the national Historic Preservation Act, as appropriate.

Our initial finding is that the proposed work would neither affect any species listed as endangered, nor affect any habitat designated as critical to the survival and recovery of any endangered species listed by the U.S. Department of Commerce. Based on the South Louisiana Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans District and U.S. Fish and Wildlife Service, Ecological Services Office, the Corps has determined that the proposed activity would have no effect on the Louisiana Pinesnake (*Pituophis ruthveni*) or the American Chaffseed (*Schwalbea americana*).

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal would result in the destruction or alteration of N/A acre(s) 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.

If the proposed work involves deposits of dredged or fill material into navigable waters, the evaluation of the probable impacts will include the application of guidelines established by the Administrator of the Environmental Protection Agency. Also, a certification that the proposed activity will not violate applicable water quality standards will be required from the Department of Environmental Quality, before a permit is issued.

Any person may request, 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 received approval or a waiver of the Coastal Use Permit by the Department of Natural Resources.

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

for Martin S. Mayer
Chief, Regulatory Branch

Enclosure

Prospectus for the Proposed Marsh Bayou Mitigation Bank

Beauregard Parish, Louisiana

MVN-2018-01219

March 2019

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1. INTRODUCTION

Matrix New World Engineering on behalf of The Mitigation Group, LLC (TMG) is pleased to present this prospectus and site restoration plan for the Marsh Bayou Mitigation Bank (MBMB) to the Interagency Review Team (IRT) and U.S. Army Corps of Engineers (USACE), New Orleans District. MBMB is approximately 1,308.8 acres located south of Ragley, Beauregard Parish, Louisiana. The purpose of this report is to summarize the existing conditions of the proposed MBMB and assess the potential for establishing a mitigation bank to provide compensatory wetland mitigation 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 issued by the USACE, New Orleans District.

1.1 Site Location

The 1,308.8-acre MBMB (Bank or Site) is approximately 5.4 miles south of Ragley, Louisiana, centered at approximate Latitude 30.433339°; Longitude -93.179589° in Sections 21, 22, 23, 27, and 28 in Township 7 South, Range 8 West, Beauregard Parish, Louisiana (**Figures 1 and 2**). Access to the Site is via U.S. 171 to Turps Road, approximately 12 miles north of I-10 and then to Berken Road which dead ends at the Site. The following are coordinates for the MBMB site boundary and a legal description for the 2,218.98-acre tract of which the MBMB is a part of.

The perimeter of the Bank is defined as shown on **Figure 2** by the following coordinates in decimal degrees:

Corner ID	Latitude	Longitude
1	30.439154°	-93.198386°
2	30.439178°	-93.185614°
3	30.442360°	-93.185620°
4	30.442344°	-93.164627°
5	30.439162°	-93.164631°
6	30.439166°	-93.160484°
7	30.435470°	-93.160480°
8	30.436462°	-93.164637°
9	30.431786°	-93.164645°
10	30.431949°	-93.177344°
11	30.428359°	-93.177337°
12	30.428369°	-93.169025°
13	30.421168°	-93.169015°
14	30.421323°	-93.177323°
15	30.418009°	-93.177383°
16	30.419237°	-93.179559°
17	30.420252°	-93.180427°
18	30.421648°	-93.180420°
19	30.423414°	-93.179605°

Corner ID	Latitude	Longitude
20	30.424328°	-93.181383°
21	30.425956°	-93.183453°
22	30.426737°	-93.186295°
23	30.427953°	-93.188648°
24	30.428520°	-93.192064°
25	30.429691°	-93.194447°
26	30.431260°	-93.196386°
27	30.432107°	-93.199364°
28	30.432119°	-93.198479°

Legal Description of a 2,218.98-acre tract of land which the Bank is part of situated at approximate Latitude 30.433339°; Longitude -93.179589° in Sections 21, 22, 23, 27, and 28 in Township 7 South, Range 8 West, Beauregard Parish, Louisiana.

Legal Description

Those certain tracts or parcels of land located in Beauregard Parish, Louisiana, and being described as follows:

East Half of Northeast Quarter (E/2) of NE/4) and South Half (S/2) of Section Twenty-One (21); all Section Twenty-Two (22); Northwest quarter of Southwest Quarter (NW/4 of SW/4) of Section Twenty-Three (23); Southwest Quarter of Northeast Quarter (SW/4 of NE/4); Northwest Quarter of Southeast Quarter (NW/4 of SE/4), Southeast Quarter of Northwest Quarter (SE/4 of NW/4), Northeast Quarter of Southwest Quarter (NE/4 of SW/4), and West Half of West Half (W/2 of W/2) of Section Twenty-Seven (27); all of the Section Twenty-Eight (28); all of that part of East Half of East Half (E/2 of E/2) of Section Twenty-Nine (29) lying East of right of way of L.C. & N. (Formerly La. & Pacific) Railroad; Northeast Quarter of Northeast Quarter (NE/4 of NE/4) of Section Thirty-Three (33); and Northwest Quarter of Northwest Quarter (NW/4) of NW/4) of Section Thirty-Four (34); all being in Township Seven (7) South, Range Eight (8) West, Louisiana Meridian.

There is also conveyed herein all of vendors' right, title and interest in and to the following rights of ways, servitudes, and easements, to wit:

- (1) Right of way for irrigation purposes across the South Half of the Northwest Quarter (S/2 of NW/4), Section Twenty-one (21), Township Seven (7) South, Range Eight (8) West, Louisiana Meridian, as contained in deed dated August 6, 1964, recorded in Conveyance Book 209, Page 141.
- (2) Right of way for irrigation canal across the Northeast Quarter of Northwest Quarter (NE/4 of NW/4) of Section Twenty-One (21), Township Seven (7) South, Range Eight (8) West, granted by James Leslie et als by instrument dated March 28, 1947, recorded in Conveyance Book 219, Page ____, File No. 176748.

- (3) Right of way for irrigation canal across the Southeast Quarter of the Southeast Quarter (SE/4 of SE/4) of Section Sixteen (16), Southwest Quarter of the Southwest Quarter (SW/4 of SW/4) of Section Fifteen (15), both in Township Seven (7) South, Range Eight (8) West, granted by Lodias Stelly by instrument dated March 28, 1947, recorded in Conveyance Book 219, Page _____. File No. 176748.

and,

All that 100-foot-wide right of way of the Union Pacific Railroad Company, (formerly Southern Pacific Transportation Company), as was constructed and operated through the East Half of the East Half (E/2 of the E/2) of Section Twenty-Nine (29), Township Seven (7) South, Range Eight (8) West, Louisiana Meridian, Beauregard Parish, State of Louisiana.

Containing an area of 12.1 acres, more or less.

All being more particularly described as follows, to-wit:

A certain tract of land being all of Sections Twenty-Two (22) and Twenty-Eight (28) and part of Sections Twenty-One (21), Twenty-Three (23), Twenty-Seven (27), Twenty-Nine (29), Thirty-Three (33) and Thirty-Four (34), Township Seven (7) South, Range Eight (8) West, Beauregard Parish, Louisiana, having an area of approximately 2,218.980 acres, more particularly described:

Commencing at a found ½ inch iron rod found for the Northeast corner of Section Twenty-Three (23), thence North 88°55'50" West, a distance of 5,322.19 feet along the North line of Section Twenty-Three (23) to a found ½ inch iron rod at the Northeast corner of Section Twenty-Two (22) also being the point of beginning;

Thence South 01°01'36" West, a distance of 2,638.06 feet along the East line of Section Twenty-Two (22) to a set ½ inch Iron pipe;

Thence South 88°40'27" East, a distance of 1,323.77 feet to a found ½ inch iron pipe;

Thence South 01°05'04" West, a distance of 1,314.52 feet to a found 2-inch iron pipe;

Thence North 88°52'09" West, a distance of 1,322.43 feet to a found 2-inch iron pipe;

Thence South 01°01'36" West, a distance of 1,319.03 feet to a found pine knot at the Southeast corner of Section Twenty-Two (22);

Thence North 88°26'08" West, a distance of 3,982.17 feet along the South line of Section Twenty-Two (22) to a set ½ inch iron pipe;

Thence South 01°06'44" West, a distance of 1,271.71 feet to a set ½ inch iron pipe;

Thence South 89°14'30" East, a distance of 2,654.55 feet to a set ½ inch iron pipe;

Thence South 01°07'16" West, a distance of 2,637.76 feet to a found iron pipe with cap;

Thence North 89°14'06" West, a distance of 1,340.06 feet to a found iron pipe with cap;
Thence North 89°14'07" West, a distance of 1,326.77 feet to a found 2-inch pipe;
Thence South 00°35'22" West, a distance of 1,390.93 feet to a point;
Thence South 00°10'47" West, a distance of 1,240.80 feet to a found pipe with cap.
Thence North 89°45'13" West, a distance of 2,649.81 feet to a set ½ inch pipe;
Thence North 00°05'26" West, a distance of 1,334.18 feet to a found 2-inch iron pipe;
Thence North 89°20'29" West, a distance of 2,663.18 feet along the South line of Section Twenty-Eight (28) to a point;
Thence North 88°58'37" West, a distance of 1,346.18 feet along the South line of Section Twenty-Eight (28) to a found PK nail at the Southwest corner of Section Twenty-Eight (28);
Thence North 89°15'09" West, a distance of 702.94 feet to a set PK Nail;
Thence North 00°39'18" East, a distance of 5,288.24 feet to a set ½ inch iron pipe;
Thence South 89°11'29" East, a distance of 734.26 feet to a found 2-inch Iron pipe marking the Southwest corner of Section Twenty-One (21);
Thence North 01°02'52" East, a distance of 2,642.35 feet to a found 2-inch iron pipe marking the West Quarter corner of Section Twenty-One (21);
Thence South 87°55'48" East, a distance of 2,671.87 feet to a found ½ inch iron rod marking the center of Section Twenty-One (21);
Thence South 87°56'01" East, a distance of 1,303.67 feet to a found ½ inch iron pipe;
Thence North 01°38'29" East, a distance of 2,677.78 feet to a pine knot;
Thence South 88°38'18" East, a distance of 1,333.46 feet along the North line of Section Twenty-Two (22) to a point at the Northwest corner of Section Twenty-Two (22);
Thence South 88°24'03" East, a distance of 2,662.32 feet along the North line of Section Twenty-Two (22) to a point being the North Quarter corner for Section Twenty-two (22);
Thence South 88°55'57" East, a distance of 2,659.23 feet to the point of beginning.

2. PROJECT GOALS AND OBJECTIVES

The entire 1,308.8-acre Bank will be protected through the execution of a conservation servitude. The goals of the MBMB are to re-establish 33.6 acres and rehabilitate 1,032.0 acres of agricultural fields and enhance 40.6 acres of loblolly pine wetlands to sustainable pine-hardwood flatwood wetlands. The MBMB will also restore 18.7 acres of pine-hardwood upland buffer and preserve 150.3 acres of pine-hardwood flatwood wetlands and 7.5 acres of hardwood uplands. The MBMB will restore historic surface hydrology by removing farm levees and restoring natural sheet flow.

The objectives of MBMB are as follows:

- Increase biodiversity
- Provide habitat for wildlife, including threatened and endangered species
- Provide for water quality enhancement
- Provide for increased flood storage
- Increase growth of pine-hardwood flatwood forests

3. ECOLOGICAL SUITABILITY OF THE SITE

3.1.1 Land Use

3.1.2 Historical Land Use

The Bank is located in the Marsh Bayou Watershed within the Calcasieu River Basin. Based on information from aerial photography and field observations, it appears that MBMB and the surrounding areas historically supported pine-hardwood flatwood habitats. The 1952 aerial photography shows that almost the entire Bank was cleared for agricultural use and most of the existing roads on the Site had been constructed. Some pimple-mounds are visible on the western portion of the Site in the 1952 aerial photograph, but are no longer visible in the 1975 aerial photograph, indicating that the area was leveled during farming operations. The 1975, 1985, 1998, 2010, and 2017 aerial photographs indicate that pine-hardwood forest along Marsh Bayou has been increasingly encroaching on the agricultural fields. The historical aerial photographs are attached as **Figures 4 through 9**.

Pre-impact hydrology was primarily attributed to backwater flooding from Marsh Bayou and tributaries that flow through the Site, rainfall, and sheet flow. Aerial photography suggests that MBMB historically drained from north to south to Marsh Bayou and then to the Calcasieu River.

3.1.3 Existing/Current Land Use

The major land use on MBMB consists primarily of agricultural fields used for the production of rice and soy beans. Pine-hardwood forests flank Marsh Bayou, which forms the southwest boundary of the MBMB and a portion of a tributary to Marsh Bayou that extends through the middle of the MBMB. Some pimple-mounds remain in the forested area along Marsh Bayou.

Table 1 contains pre-restoration habitat descriptions and acreages of the jurisdictional wetlands associated with the 1,308.8-acre Site proposed for re-establishment, rehabilitation, enhancement, and preservation activities within the MBMB.

Table 1: Pre-Restoration Habitat Acreage Summary

Class	Habitat	Acreage
Jurisdictional Wetlands	Agricultural Fields	1,032.0
	Pine-Hardwood Flatwood Wetlands	150.3
	Pine-Dominant Wetlands	40.6
Uplands	Hardwood Forest	7.5
	Agricultural Fields	18.7
	Agricultural Berms	33.6
Other Waters		14.4
Existing Road		11.7
TOTALS		1,308.8

3.2 Soils

The NRCS Web Soil Survey was used to determine mapped soil series. The official series descriptions were used to confirm profile matrix, redox features, and texture of soils underlying the Site. The Web Soil Survey shows that the Site may be underlain by eight soil map units (NRCS Web Soil Survey 2018): Acadia silt loam, 1 to 3 percent slopes (AcB); Blevins very fine sandy loam, 3 to 5 percent slopes (BpC); Brimstone silt loam, 0 to 1 percent slopes, rarely flooded (BzA); Caddo-Messer complex, 0 to 1 percent slopes (CdA); Glenmora silt loam, 1 to 3 percent slopes (GnB); Guyton silt loam, 0 to 1 percent slopes, occasionally flooded (GtA); and Guyton-Ouachita silt loams, frequently flooded (GYA). The table below depicts the soil map unit’s individual soil components, component percentage, and hydric status within Beauregard Parish (NRCS Survey Area Data: Version 11 October 7, 2017). A soils map is attached as **Figure 10**.

Table 2: Soil Map Unit Components and Hydric Status

Map Unit Name	Soil Series/ Component	Component Percentage	Hydric Status
Acadia silt loam, 1 to 3 percent slopes (AcB)			
	Acadia	85-95	No
	Kinder	0-10	Yes
	Gore	0-10	No
Blevins very fine sandy loam, 3 to 5 percent slopes (BpC)			
	Blevins	85	No
	Caddo	10	Yes
	Guyton	5	Yes
Brimstone silt loam, 0 to 1 percent slopes, rarely flooded (BzA)			
	Brimstone	80-90	Yes

Map Unit Name	Soil Series/ Component	Component Percentage	Hydric Status
	Glenmora	0-10	No
	Caddo	0-10	Yes
	Guyton	0-90	Yes
	Messer	0-10	No
Caddo-Messer complex, 0 to 1 percent slopes (CdA)			
	Caddo	50-65	Yes
	Messer	20-35	No
	Guyton	0-15	Yes
	Glenmora	0-15	No
Glenmora silt loam, 1 to 3 percent slopes (GnB)			
	Glenmora	80-95	No
	Messer	0-10	No
	Caddo	0-5	Yes
	Kinder	0-5	Yes
Guyton silt loam, 0 to 1 percent slopes, occasionally flooded (GtA)			
	Guyton	80-90	Yes
	Glenmora	0-10	No
	Caddo	0-10	Yes
	Messer	0-10	No
Guyton-Ouachita silt loams, frequently flooded (GYA)			
	Guyton	60	Yes
	Ouachita	25	Yes
	Unnamed	15	No

3.3 Hydrology

3.3.1 Contributing Watershed

Figure 11 shows the Bank in the western portion of the 39.64 square mile Marsh Bayou Watershed. Hydrology on the Site is primarily attributed to backwater flooding from Marsh Bayou and three tributaries that drain through the Site, rainfall, and sheet flow. Marsh Bayou exits the southern boundary of the Site and flows approximately five miles southeast to Calcasieu River.

3.3.2 Historical Hydrology and Drainage Patterns

Beauregard Parish is part of a broad region of the southeastern United States that has a humid, subtropical climate. The parish is dominated by warm, moist, tropical air from the nearby Gulf of Mexico (USDA 1980). Average annual rainfall for Beauregard Parish ranges from 60-62 inches (Di Luzio 2007). The Bank is in the Upper Calcasieu Watershed; within United States Geological Survey (USGS) Hydrologic Cataloguing Unit 08080203. Hydrology on the Site historically drained from north to south through three tributaries that historically conveyed runoff from the Site and land north of the Site. Elevation contours show that MBMB naturally drains from north to south. The overall wetland hydrology of

the wet flats appears to be essentially intact, although a system of agricultural berms has restricted natural sheet flow across the Site. LIDAR elevation data is provided on **Figure 12**.

3.3.3 Existing/Current Hydrology and Drainage Patterns

Hydrology on much of the Site is controlled with berms constructed for rice farming. The rice fields are flooded by pumping water from wells and from rain water. The fields are drained by breaching levees. No pumps are required for draining the fields. The water drains to the historic tributaries and to Marsh Bayou. The sponsor proposes to level the agricultural berms to return the area to natural grade. The existing berms are shown on **Figure 13**.

3.3.4 Jurisdictional Wetlands

A wetland delineation was conducted by Matrix on behalf of the Sponsor in July 2018. A preliminary jurisdictional determination (JD) (MVN-2018-01219) was issued by the New Orleans District on January 14, 2019. A copy of the preliminary JD is included as **Appendix A**.

3.4 Vegetation

3.4.1 Historical Plant Community

According to the NRCS (2006), the Site is located within the Flatwoods ecoregion, which occurs on mostly flat to gently sloping Pleistocene sediments. This ecoregion once was dominated by longleaf pine flatwoods and savannas, but also supported other mixed pine-hardwood forest types. The soils mapped on the Site, particularly the Brimstone and Guyton series, indicate that the historical plant community was likely that of pine-hardwood flatwoods. These communities occupied poorly drained flats, depressional areas, and small drainages that lie in mosaic with high-non-wetland areas, as can be seen in the existing forested areas along Marsh Bayou. Hardwoods, such as oak (*Quercus* spp.), hickory (*Carya* spp.), gum (*Nyssa* spp.), and ash (*Fraxinus* spp.), would have likely dominated the Site, but Spruce pine (*Pinus glabra*) may have dominated areas within the stand.

Based on historic aerials, the existing hardwoods along Marsh Bayou are characteristic of low elevation floodplains underlain by Guyton soils within the region.

3.4.2 Existing Plant Community

Dominant species identified in the agricultural fields include soybean (*Glycine max*), cultivated rice (*Oryza sativa*), poison-bean (*Sesbania drummondii*), leathery rush (*Juncus coriaceus*), maiden-cane (*Panicum hemitomon*), dotted smartweed (*Persicaria punctata*), Indian goose grass (*Eleusine indica*), rough cocklebur (*Xanthium strumarium*), and Florida crown grass (*Paspalum floridanum*).

A pine-dominant wetland area located near the middle of the Bank was clear-cut in 2016 and replanted with loblolly pine seedlings. **Figure 13** shows the existing plant communities on the Site.

The overstory vegetation identified in the pine-hardwood preservation area is dominated by water oak (*Quercus nigra*), cherrybark oak (*Quercus pagoda*), willow oak (*Quercus phellos*), laurel oak (*Quercus laurifolia*), sweetgum (*Liquidambar styraciflua*), black gum (*Nyssa sylvatica*), red maple (*Acer rubrum*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), and loblolly pine (*Pinus taeda*). Mid-story vegetation is dominated by yaupon (*Ilex vomitoria*), American beauty-berry (*Callicarpa americana*), Chinese privet (*Ligustrum sinense*), smooth arrow-wood (*Viburnum recognitum*), southern bayberry (*Morella cerifera*), American holly (*Ilex opaca*), black elder (*Sambucus nigra*), and saw-tooth blackberry (*Rubus argutus*). The herbaceous layer is dominated by slender wood-oats (*Chasmanthium laxum*), prune-fruit sedge (*Carex corrugata*), Virginia dayflower (*Commelina virginica*), short-bristle horned beak sedge (*Rhynchospora corniculata*), sensitive fern (*Onoclea sensibilis*), Savannah-panic grass (*Phanopyrum gymnocarpon*), small-spike false nettle (*Boehmeria cylindrica*), long-leaf basket grass (*Oplismenus hirtellus*), alligator-weed (*Alternanthera philoxeroides*), and Japanese climbing fern (*Lygodium japonicum*). Woody vines observed include muscadine (*Vitis rotundifolia*), eastern poison ivy (*Toxicodendron radicans*), horsebrier (*Smilax rotundifolia*), Virginia-creeper (*Parthenocissus quinquefolia*), trumpet-creeper (*Campsis radicans*), fringed greenbrier (*Smilax bona-nox*), and peppervine (*Ampelopsis arborea*).

3.5 General Need for the Project in this Area

The need for compensatory wetland mitigation is evident based on the recent, ongoing, and projected industrial, commercial, and residential growth in the Lake Charles area. The Southwest Louisiana Region is poised to undergo a prolonged period of economic growth, with the announcement of over \$65 billion in capital projects that are expected to bring over 18,000 permanent jobs to the area. The future job growth rate over the next 10 years is estimated to be 43.6 percent.

In early 2014, the Lake Charles Metropolitan Statistical Area (MSA), Calcasieu and Cameron Parishes, began to see the first evidence of a massive boom unlike any seen before in the southwest corner of the state. For the first time since 2008, employment in the Lake Charles MSA set a regional record. In 2015 employment passed 100,000 for the first-time in the MSA's history pulling it ahead of Houma to become the fourth largest MSA in the state, and Lake Charles has now been the fastest growing MSA in the state for three straight years, adding 12,500 jobs and expanding by 4.7% a year. A growth rate that places the region among the national leaders for employment and population growth.

By mid-year 2016 the Southwest Louisiana Economic Development Alliance (SWLA) had identified almost \$96.4 billion in announced industrial projects for the Lake Charles MSA since 2012. Of this total, SWLA has estimated that \$45.4 billion of these projects are already underway or completed, and approximately \$72 billion are at the financing, permitting, or potential project stage. SWLA projects 50,000 new residents in the Lake

Charles area by 2020.

As development activity escalates in the coming years, the anticipated growth and new revenue will provide great opportunity to initiate strategies and land use principles that will help protect the environment and wetlands that play such an important role in coastal sustainability. With ongoing development projected and the substantial amount of wetlands in the region that will be impacted, many compensatory wetland mitigation credits will be required to offset the wetland impacts.

4. ESTABLISHMENT OF THE MITIGATION BANK

4.1 Site Restoration Plan

The Sponsor proposes to re-establish 33.6 acres, rehabilitate 1,032.0 acres, enhance 40.6 acres of pine-hardwood flatwood wetlands. Additionally, the Sponsor will restore 18.7 acres of pine-hardwood upland buffer, and preserve 150.3 acres of pine-hardwood flatwood wetlands and 7.5 acres of hardwood uplands.

Table 3 contains post-construction habitats and acreage descriptions for the proposed re-establishment, enhancement, and preservation of wetlands associated with the 1,308.8-acre Bank.

Table 3: Post-Construction Habitat Acreage Summary

Habitat	Re-establishment (Currently Agricultural Berms)	Rehabilitation (Currently Active Agricultural Fields)	Enhancement (Currently Pine- Dominant Wetlands)	Preservation
Pine- Hardwood Flatwood Wetlands	33.6 acres	1,032.0 acres	40.6 acres	150.3 acres
Upland Buffer	N/A	18.7	N/A	7.5 acres
Totals	33.6 acres	1,050.7 acres	40.6 acres	157.8 acres

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

4.1.1 Soils/Hydrologic Work

The Site has been intensively managed for agriculture for over half a century. Hydrological modifications were implemented to control site hydrology. To restore site hydrology,

agricultural berms will be leveled to existing grade (**Figure 16**). Only the natural tributaries and three culverts associated with the tributaries will remain (**Figures 13 and 14**). The majority of the Site was historically leveled for farming and currently maintains wetland hydrology. A Nationwide 27 permit will be obtained from the New Orleans District prior conducting hydrologic restoration work at the Site.

4.1.2 Vegetative Work

The agricultural fields and pine-dominant portion of the Site will be treated with a nonselective herbicide during the summer (before the end of July) prior to planting seedlings the following winter (January – March). This period of time will allow the herbicide to degrade to a level that will not harm the seedlings. Approximately 1,106.2 acres of pine-hardwood flatwood re-establishment, rehabilitation, and enhancement will be planted with an appropriate species mixture of pine-hardwood flatwood seedlings during the standard planting season (January-March). Additionally, 18.7 acres of agricultural fields will be planted as pine-hardwood upland buffer. Seedlings will be planted on approximately 9 x 9 spacing for an initial stand density of at least 537 seedlings per acre. A mixture of at least 60 percent hard-mast and a maximum of 40 percent soft-mast-producing species will be planted in accordance with the following species selection list (**Table 4**).

If seedling availability renders a discrepancy of more than five percent from the desired mixture of hard-mast to soft-mast species, New Orleans District approval to modify the plan will be obtained. A mixture of the following species will be planted to restore pine-hardwood flatwood forests:

Table 4: Pine-Hardwood Flatwood Species Selection List

Common Name	Scientific Name	Mast	Percentage
Laurel oak	<i>Quercus laurifolia</i>	Hard	10%
Swamp chestnut oak	<i>Quercus michauxii</i>	Hard	10%
Willow oak	<i>Quercus phellos</i>	Hard	10%
Water oak	<i>Quercus nigra</i>	Hard	10%
Cherrybark oak	<i>Quercus pagoda</i>	Hard	10%
Water hickory	<i>Carya aquatica</i>	Hard	10%
Percent Composition		60%	60%
Spruce pine	<i>Pinus glabra</i>	Soft	15%
Black gum	<i>Nyssa sylvatica</i>	Soft	5%
Green ash	<i>Fraxinus pennsylvanica</i>	Soft	5%
Red maple	<i>Acer rubrum</i>	Soft	5%
Sweet gum	<i>Liquidambar styraciflua</i>	Soft	5%
Persimmon	<i>Diospyros virginiana</i>	Soft	3%
Mayhaw	<i>Crataegus opaca</i>	Soft	2%
Percent Composition		40%	40%

Based on the composition of the adjacent pine-hardwood preservation area, it is anticipated the majority of the shrub stratum species found in typical pine-hardwood flatwood forests will be naturally recruited. The species of shrubs and vines observed on the adjacent pine-hardwood forest include American holly, arrow-wood, southern bayberry (wax myrtle), black elder, horsebrier, fringed greenbrier, muscadine, eastern poison ivy, and peppervine.

4.2 Technical Feasibility

The limited construction work required to develop the Bank is routine in nature. The Site will be graded to remove agricultural berms. No other hydrological management will be required.

4.3 Current Site Risks

The Sponsor owns the land to the north and south of the MBMB. Land to the east is primarily in forest and agricultural use. Land to the west is in forest and agriculture with scattered residences. There are no liens, rights-of-way, servitudes, or easements on the MBMB. There is a mortgage on the property which will be subordinated to the Mitigation Banking Instrument.

4.4 Long-Term Sustainability of the Site

Long-term viability and sustainability of the MBMB will be ensured through active and adaptive management including, but not limited to, invasive species control, appropriate monitoring, and long-term maintenance. There is no maintenance of hydrological features proposed for the Bank.

5. PROPOSED SERVICE AREA

MBMB is located with the Upper Calcasieu Watershed (USGS HUC 08080203) of the Calcasieu Basin, which includes portions of Allen, Beauregard, Calcasieu, Jefferson Davis, Natchitoches, Rapides, and Vernon Parishes. MBMB will service HUCs 08080203, 08080204, 08080205, and 08080206 of the Calcasieu Basin. The proposed service area for the MBMB is attached as **Figure 15**.

6. OPERATION OF THE 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: The Mitigation Group, LLC
311 West Russell
Welsh, Louisiana 70591
Jayfear@themitgroupllc.com
(337) 338-0162

Agent: Charles Jones, Director of Gulf Coast Operations
Matrix New World Engineering
2798 O’Neal Lane, Building F
Baton Rouge, Louisiana 70816
cjones@matrixnewworld.com
225-247-3352

Landowner: The Mitigation Group, LLC
311 West Russell
Welsh, Louisiana 70591
Jayfear@themitgroupllc.com
(337) 338-0162

6.2 Qualifications of the Sponsor

Members of The Mitigation Group team have over 30 years of experience in ownership and operation of mitigation banks in the New Orleans, Vicksburg, and Galveston Districts of the Corps of Engineers.

6.3 Proposed Long-Term Ownership and Management Representatives

TMG will serve as the sponsor and long-term owner. However, the Sponsor may appoint a long-term steward if such appointment is approved by the IRT. The anticipated long-term management will consist of monitoring, invasive species control, forest management, boundary maintenance, and site protection.

6.4 Site Protection

The Bank will be protected in perpetuity by a Conservation Servitude held by a non-profit conservation group (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 et. seq.) on the entirety of the 1,308.8-acre Site. A copy of the Conservation Servitude will be filed in the real estate records of the Mortgage and Conveyance Office of Beauregard Parish and shall be provided to the USACE for review and approval prior to filing. After filing, a copy of the recorded Conservation Servitude, clearly showing the book, page, and date of filing, will be provided to the USACE.

6.5 Long-Term Strategy

Long-term management will consist of monitoring, invasive species control, boundary, maintenance, site protection, and the funding of such activities. The wetland habitats will be managed to increase and maintain the biological, chemical, and physical wetland functions of the MBMB and to provide forested habitat capable of supporting populations for priority wildlife species.

A long-term management plan will be included with the Draft Mitigation Banking Instrument, which will detail long-term management needs and costs, and identify a funding mechanism. The Sponsor or Long-term Steward will be responsible for protecting lands contained within the MBMB in perpetuity. An interest-bearing long-term management account, specifically an escrow account, will be established to insure adequate funding is available to cover the costs of these activities in the future.

7. REFERENCES

Adrian, Mitchel and J. Icaza. Estimations for Job Growth in the Tertiary and Quaternary Sectors in Southwest Louisiana: Predicting Permanent “Post Boom” Employment Based Upon Anticipated Population Growth. McNeese State University.

Allen, J.A., Keeland, B.D., Stanturf, J.A., Clewell, A.F., and Kennedy, H.E., Jr., 2001 (revised 2004), A guide to bottomland hardwood restoration: U.S. Geological Survey, Biological Resources Division Information and Technology Report USGS/BRD/ITR–2000-0011, U.S. Department of Agriculture, Forest Service, Southern Research Station, General Technical Report SRS–40, 132 p.

Di Luzio, Mauro. 2007. Data from: Seamless Daily Precipitation for the Conterminous United States. USDA/NRCS Geospatial Data Gateway. <https://gdg.sc.egov.usda.gov/>

Lester, Gary. D., S. G. Sorensen, P. L. Faulkner, C. S. Reid, and I. E. Maxit. 2005. Louisiana Comprehensive Wildlife Conservation Strategy. Louisiana Department of Wildlife and Fisheries. Baton Rouge. 455 pp.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2016. The National Wetland Plant List: 2016 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42.

Louisiana Natural Heritage Program. 2009. The Natural Communities of Louisiana. Louisiana Department of Wildlife and Fisheries.

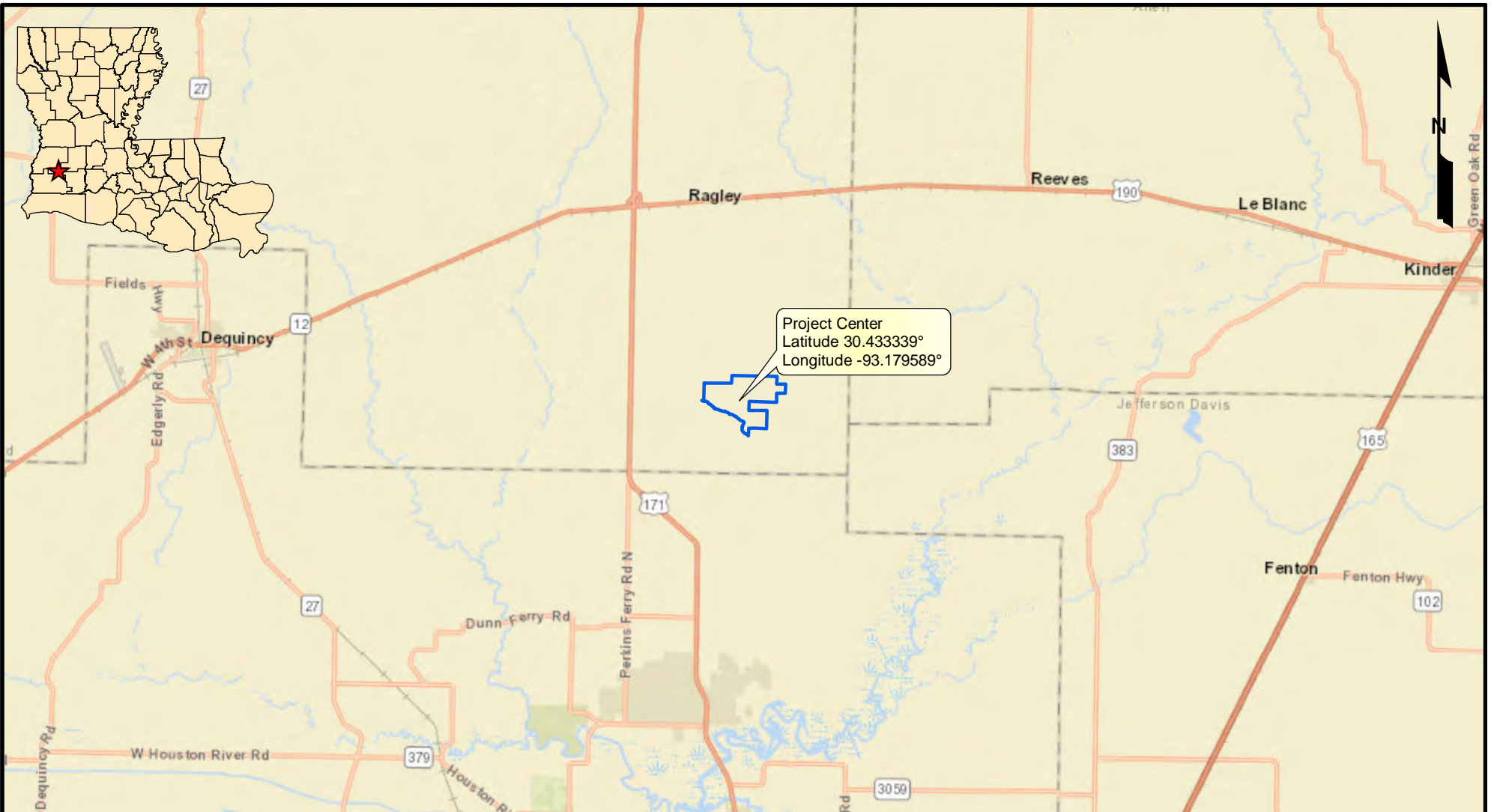
Natural Resource Conservation Service. 2006. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296.

Smith, Latimore. 1996. The Rare and Sensitive Natural Wetland Plant Communities of Interior Louisiana. Louisiana Department of Wildlife and Fisheries, Louisiana Natural Heritage Program. 40pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> Accessed [3/14/2019].

United States Department of Agriculture, Soil Conservation Service. 1980. Soil Survey of Beauregard Parish, Louisiana.

FIGURES



Legend

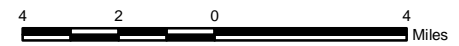
 Marsh Bayou Mitigation Bank (1,308.8 acres)

Vicinity Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank

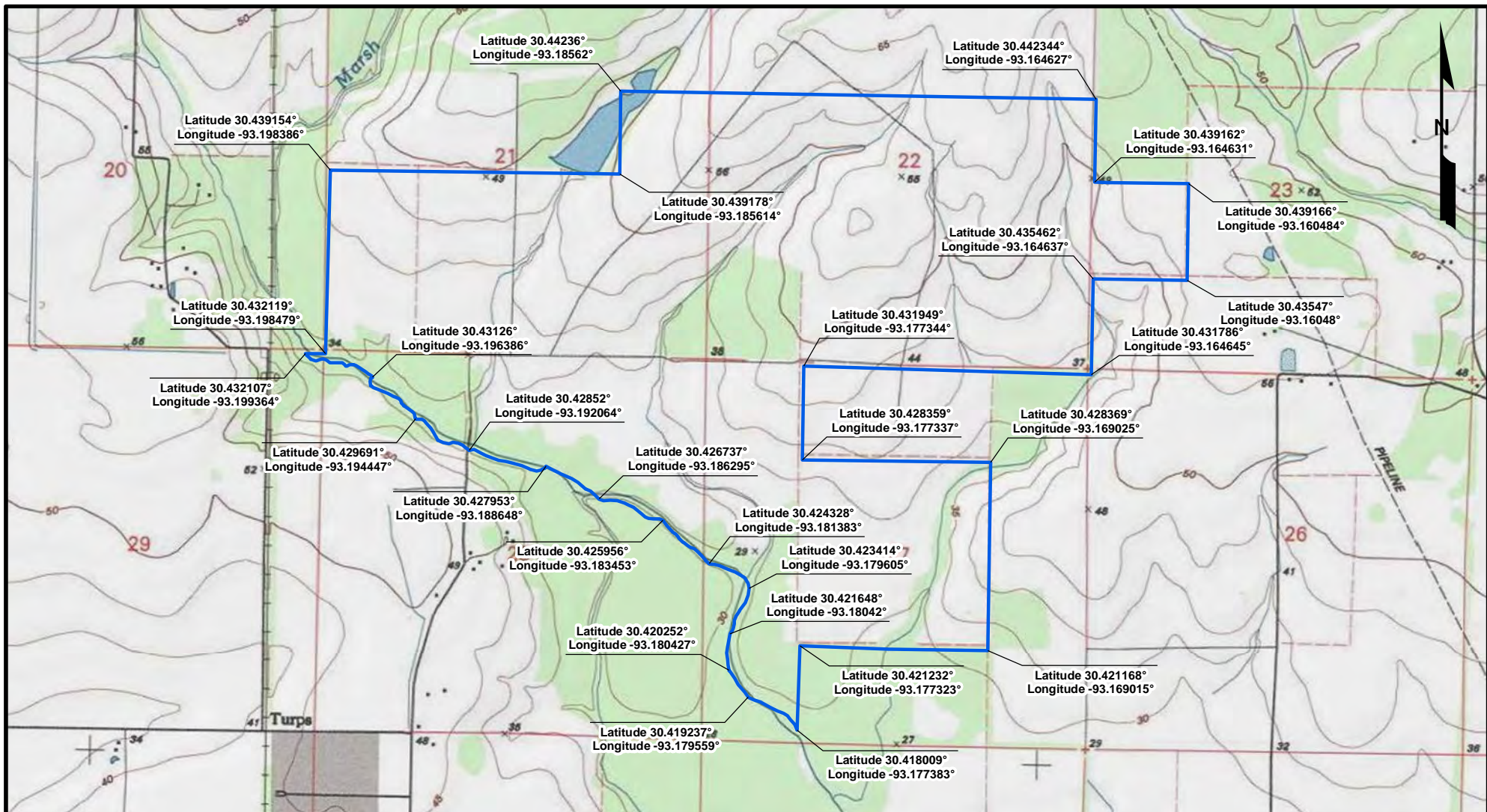


MATRIX **NEWORLD**
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	1/15/2019
Drawing No.	17-438-A082

1
Figure No.

Source: Base map comprised of ESRI StreetMap USA data.



Legend

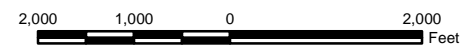
Marsh Bayou Mitigation Bank (1,308.8 acres)

Site Location Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank



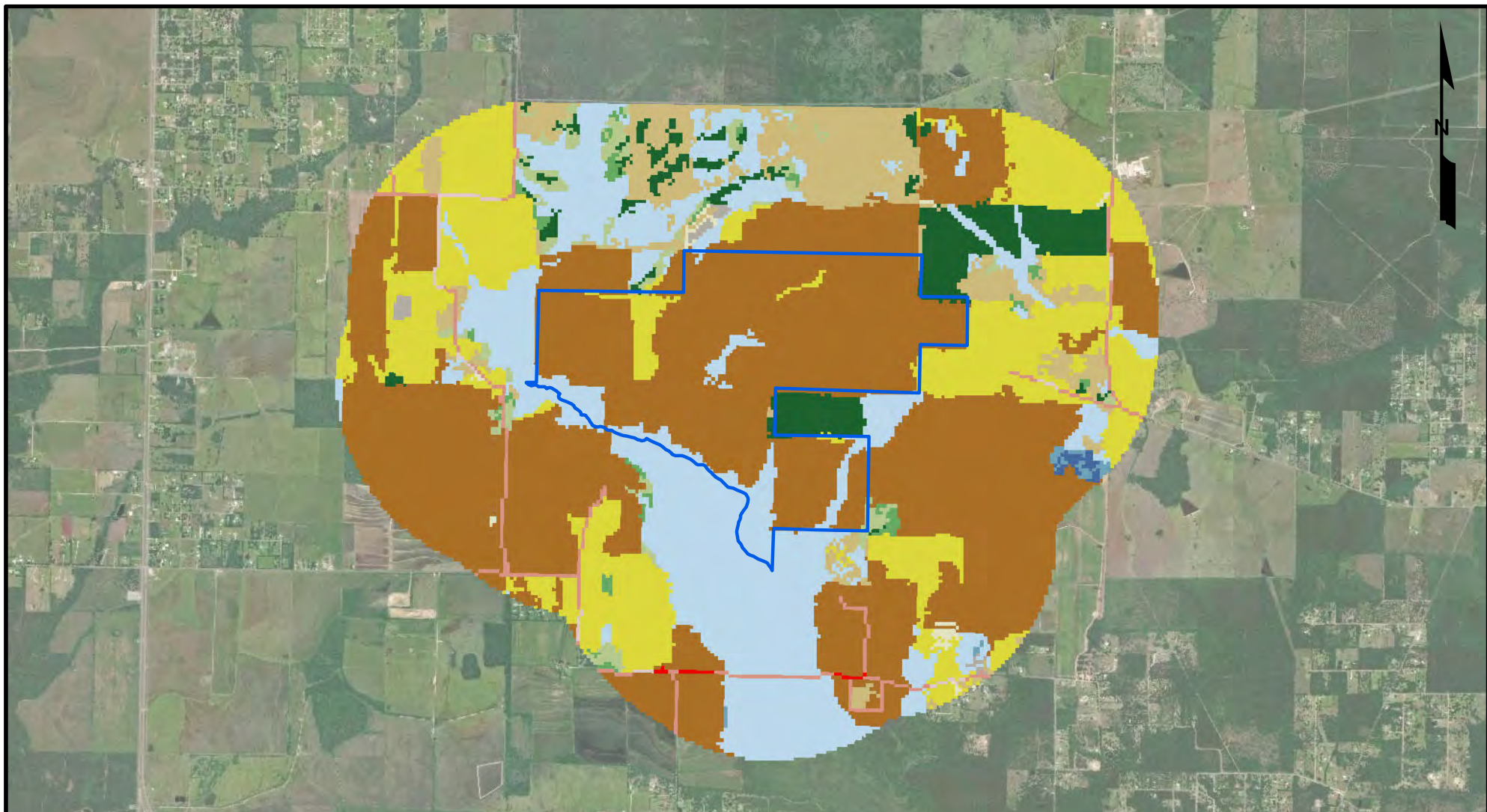
MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	1/16/2019
Drawing No.	17-438-A083

2

Figure No.

Source: Base map comprised of U.S.G.S. 7.5-minute topographic map(s), "Gaytine, LA" dated 1994.



Legend

Marsh Bayou Mitigation Bank (1,308.8 acres)

Land Use

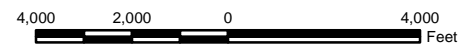
- | | |
|-----------------------------|------------------------------|
| Open Water | Mixed Forest |
| Developed, Open Space | Shrub/Scrub |
| Developed, Low Intensity | Herbaceous |
| Developed, Medium Intensity | Hay/Pasture |
| Barren Land | Cultivated Crops |
| Deciduous Forest | Woody Wetlands |
| Evergreen Forest | Emergent Herbaceous Wetlands |

Source: Base map comprised of ESRI World Imagery. Land use data obtained from the USDA/NRCS 2011 National Land Cover Dataset (NLCD).

Land Use Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

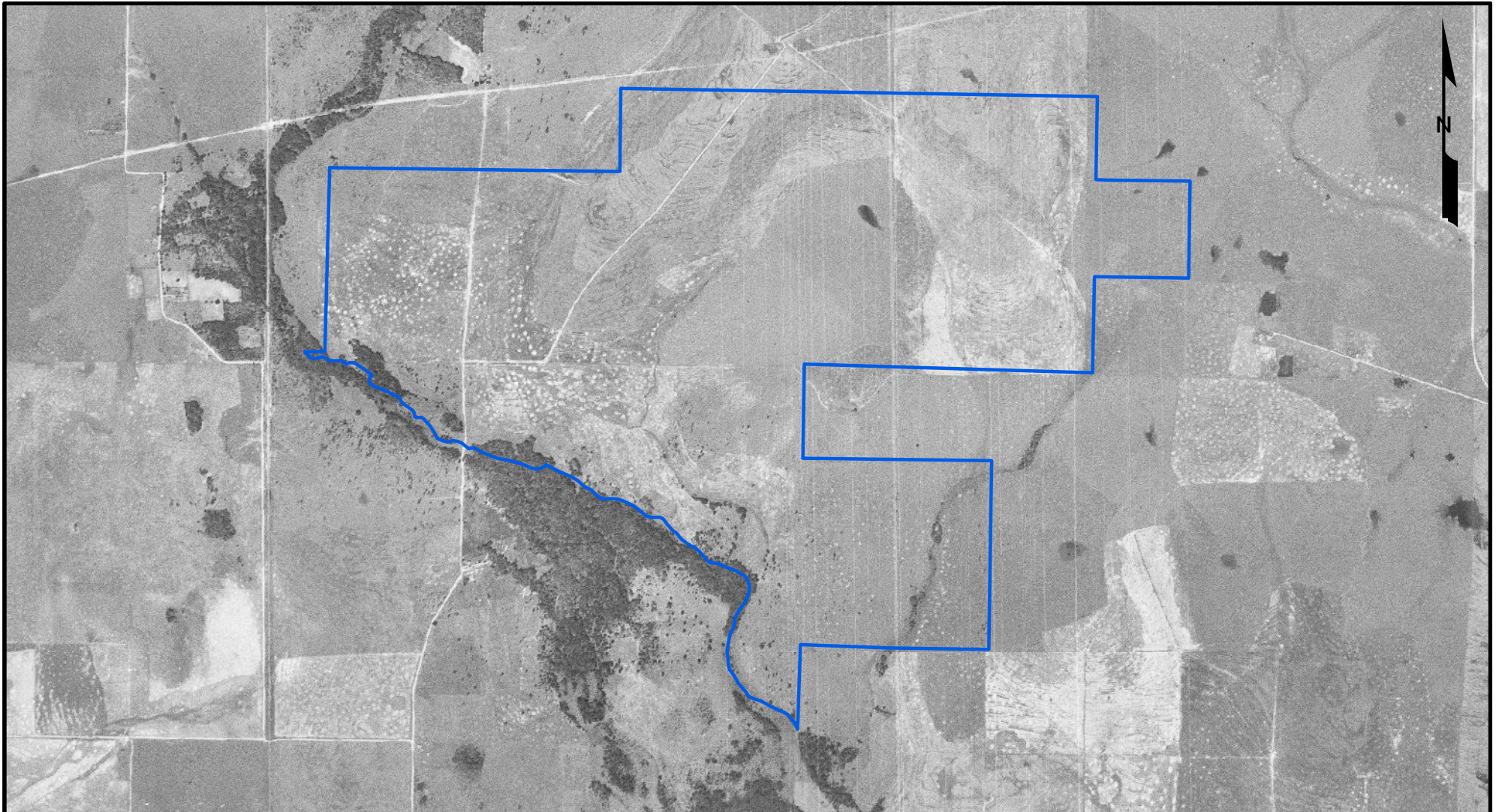
The Mitigation Group, LLC
Marsh Bayou Mitigation Bank



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Date	1/15/2019
Drawing No.	17-438-A093

3
Figure No.



Legend

 Marsh Bayou Mitigation Bank (1,308.8 acres)

1952 Aerial Photograph

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank

2,000 1,000 0 2,000
Feet

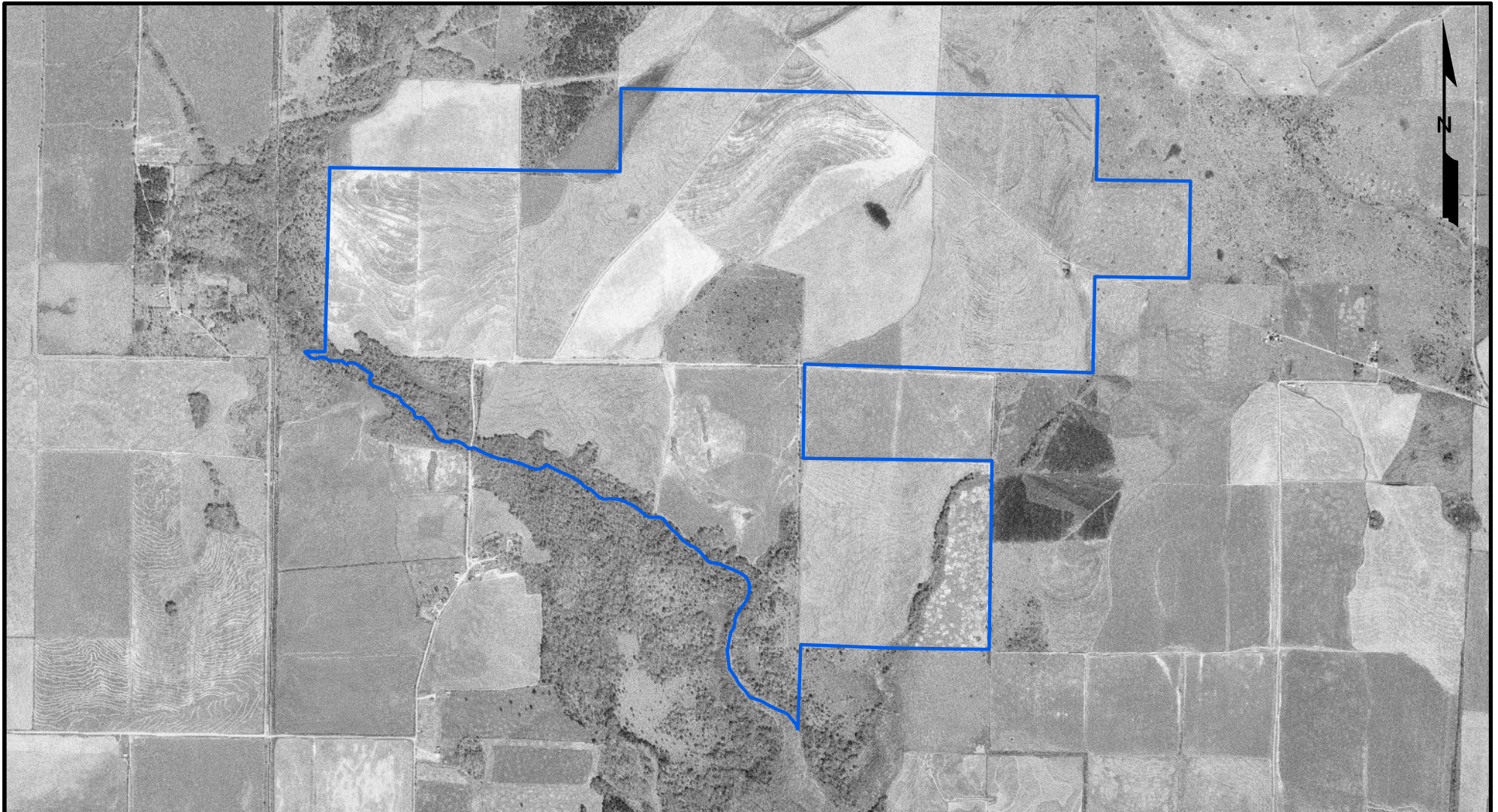
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Engineering Progress

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Date	1/15/2019
Drawing No.	17-438-A090

4

Figure No.

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID:ARA000960121980 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, March 24, 1952.



Legend

 Marsh Bayou Mitigation Bank (1,308.8 acres)

1975 Aerial Photograph

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank

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Feet

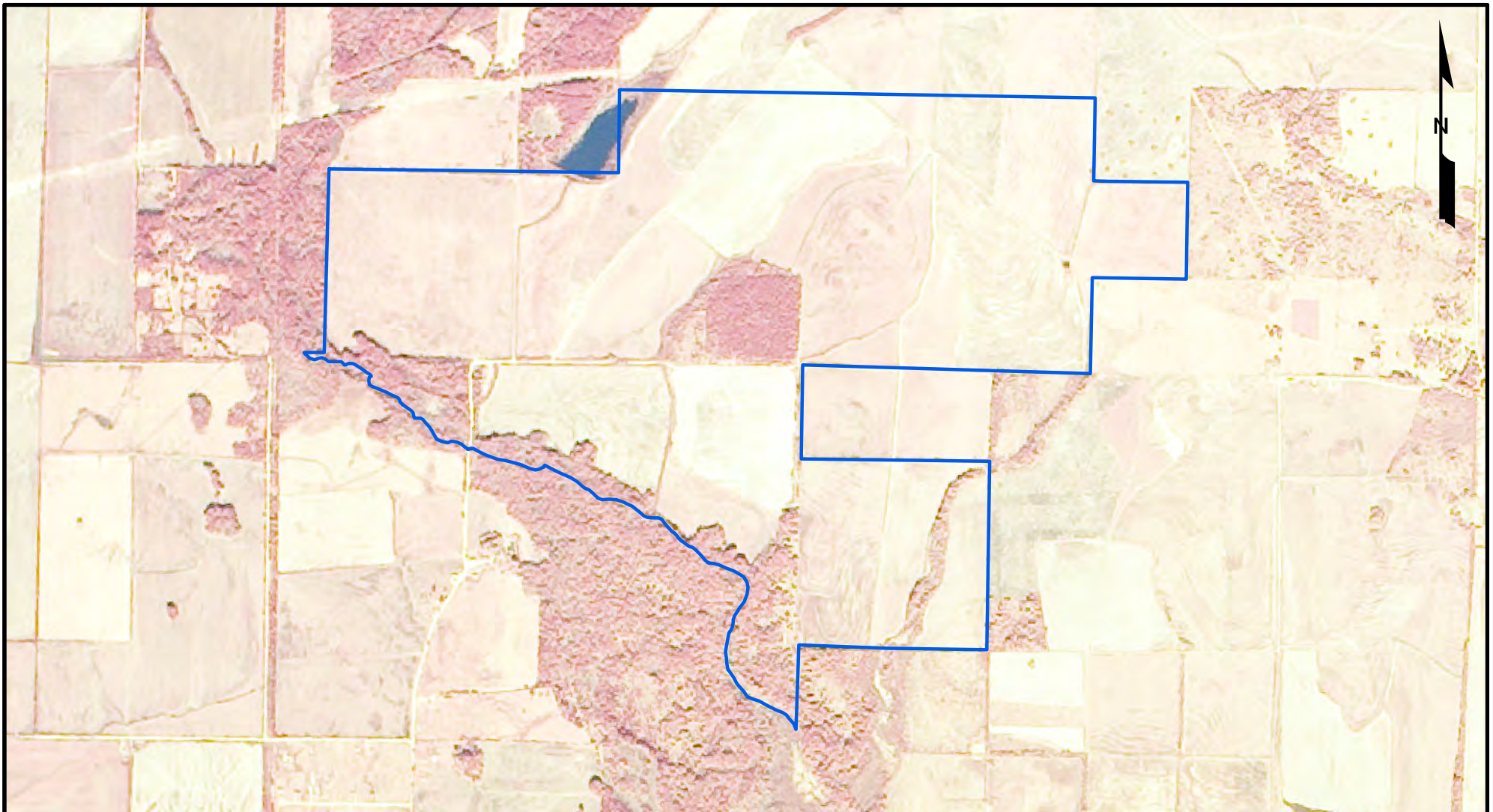
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Engineering Progress

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Approved By	CEJ
Date	1/15/2019
Drawing No.	17-438-A091

5

Figure No.

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID: AR1VDUR00010085 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, March 1, 1975.



Legend

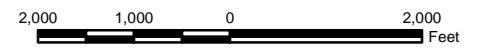
 Marsh Bayou Mitigation Bank (1,308.8 acres)

1985 Aerial Photograph

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank



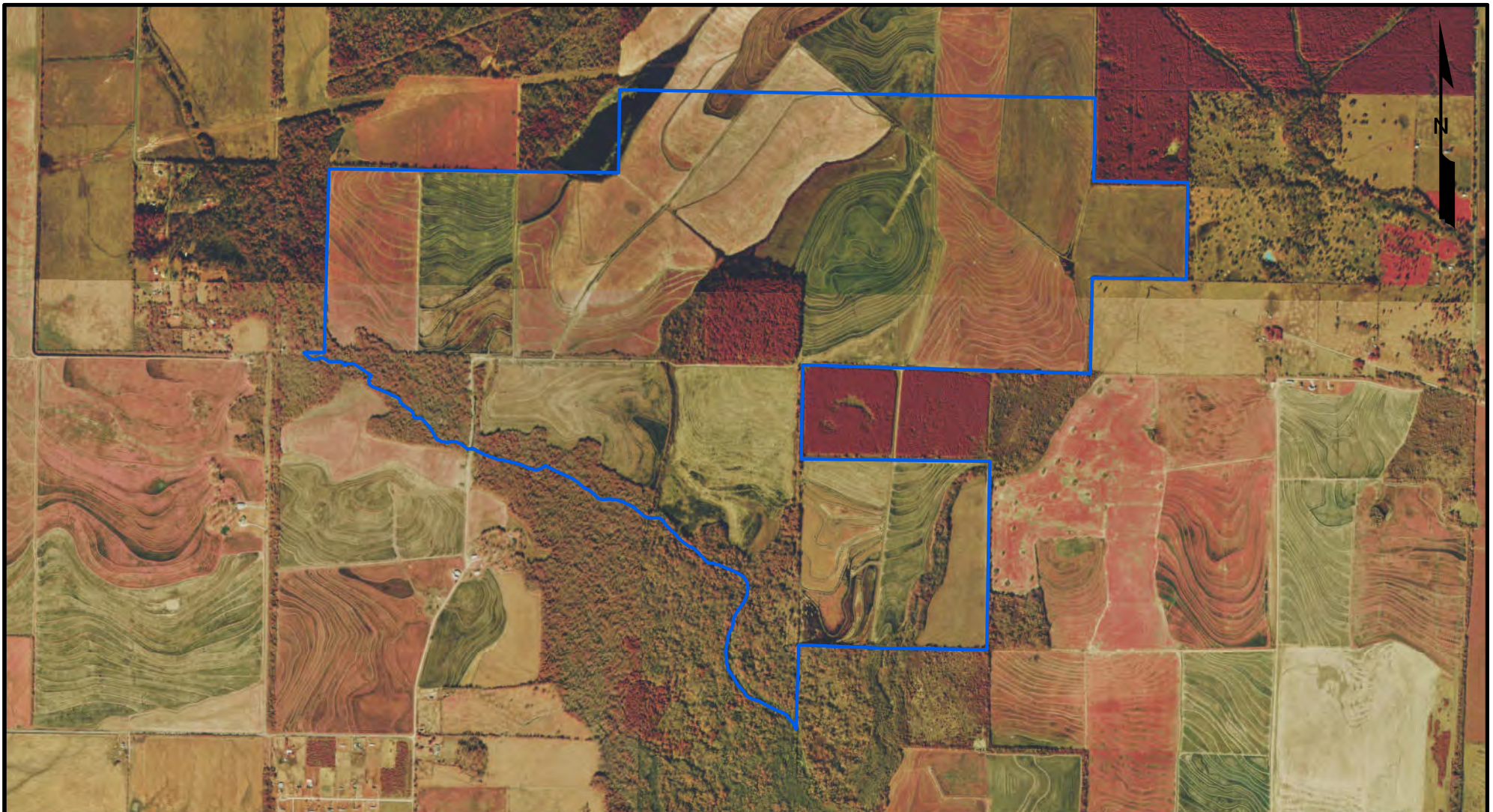
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Engineering Progress

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Date	1/15/2019
Drawing No.	17-438-A092

6

Figure No.

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID: AR5850035512103 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, December 15, 1985.



Legend

 Marsh Bayou Mitigation Bank (1,308.8 acres)

1998 Aerial Photograph

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank

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Feet

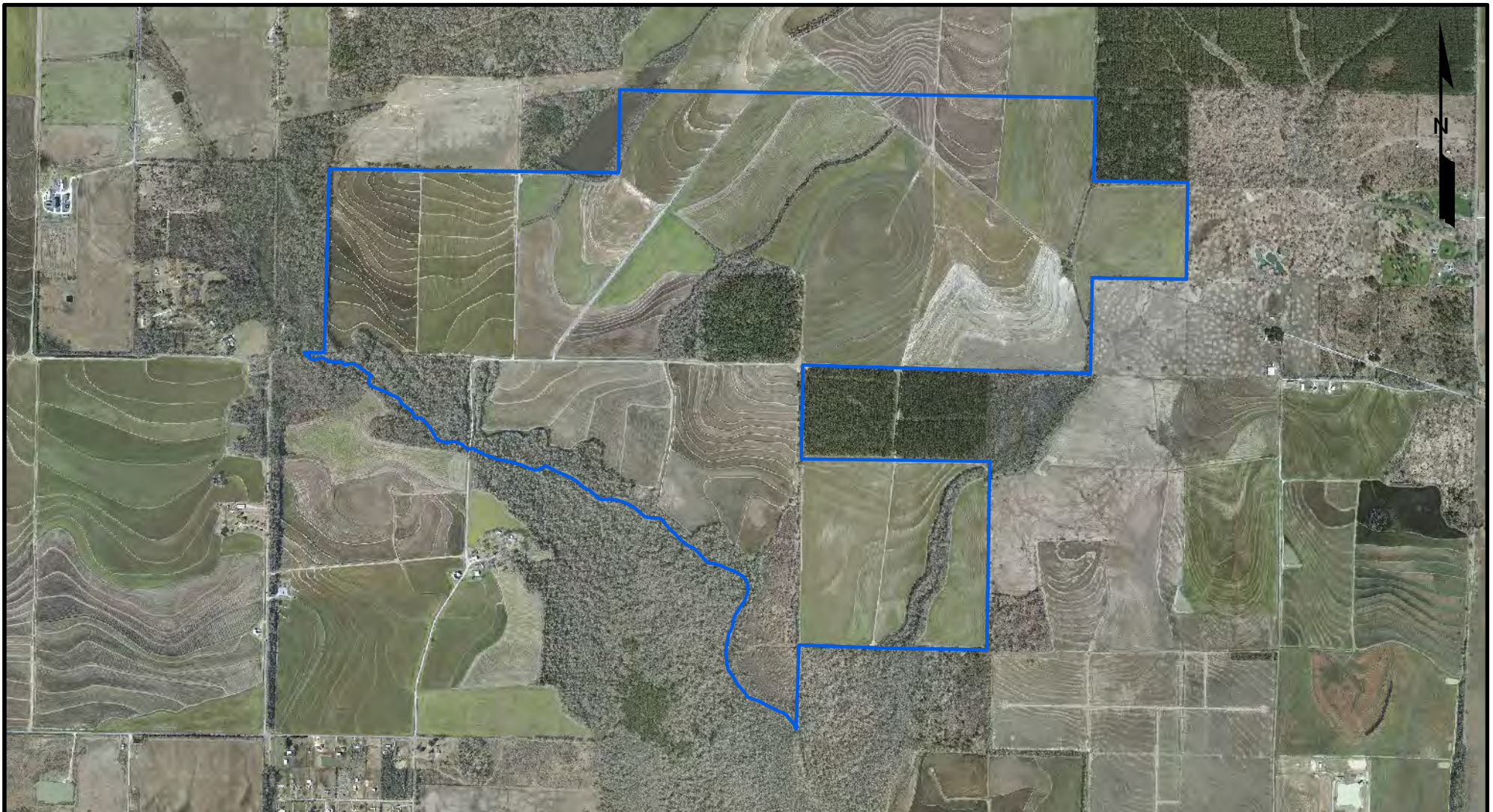
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Drawing No.	17-438-A094


7

Figure No.

Source: Base map comprised of 1998 aerial photography from the Louisiana Oil Spill Coordinators Office (LOSCO).



Legend

 Marsh Bayou Mitigation Bank (1,308.8 acres)

2010 Aerial Photograph

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank

2,000 1,000 0 2,000
Feet

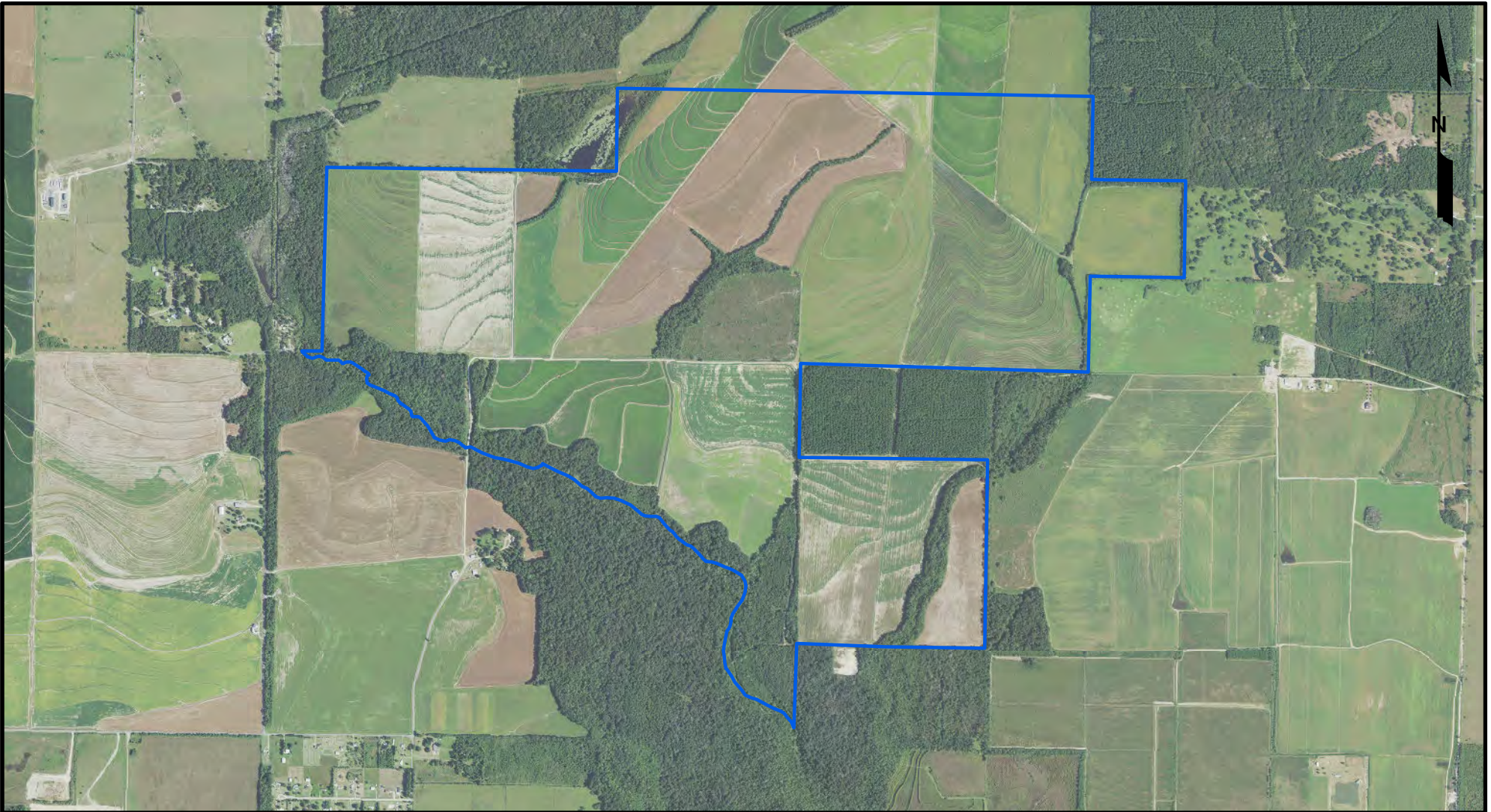
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Engineering Progress

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Drawing No.	17-438-A096


8

Figure No.

Source: Base map comprised of 2010 aerial photography from the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP).



Legend

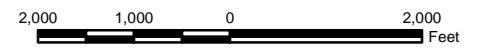
 Marsh Bayou Mitigation Bank (1,308.8 acres)

2017 Aerial Photograph

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank



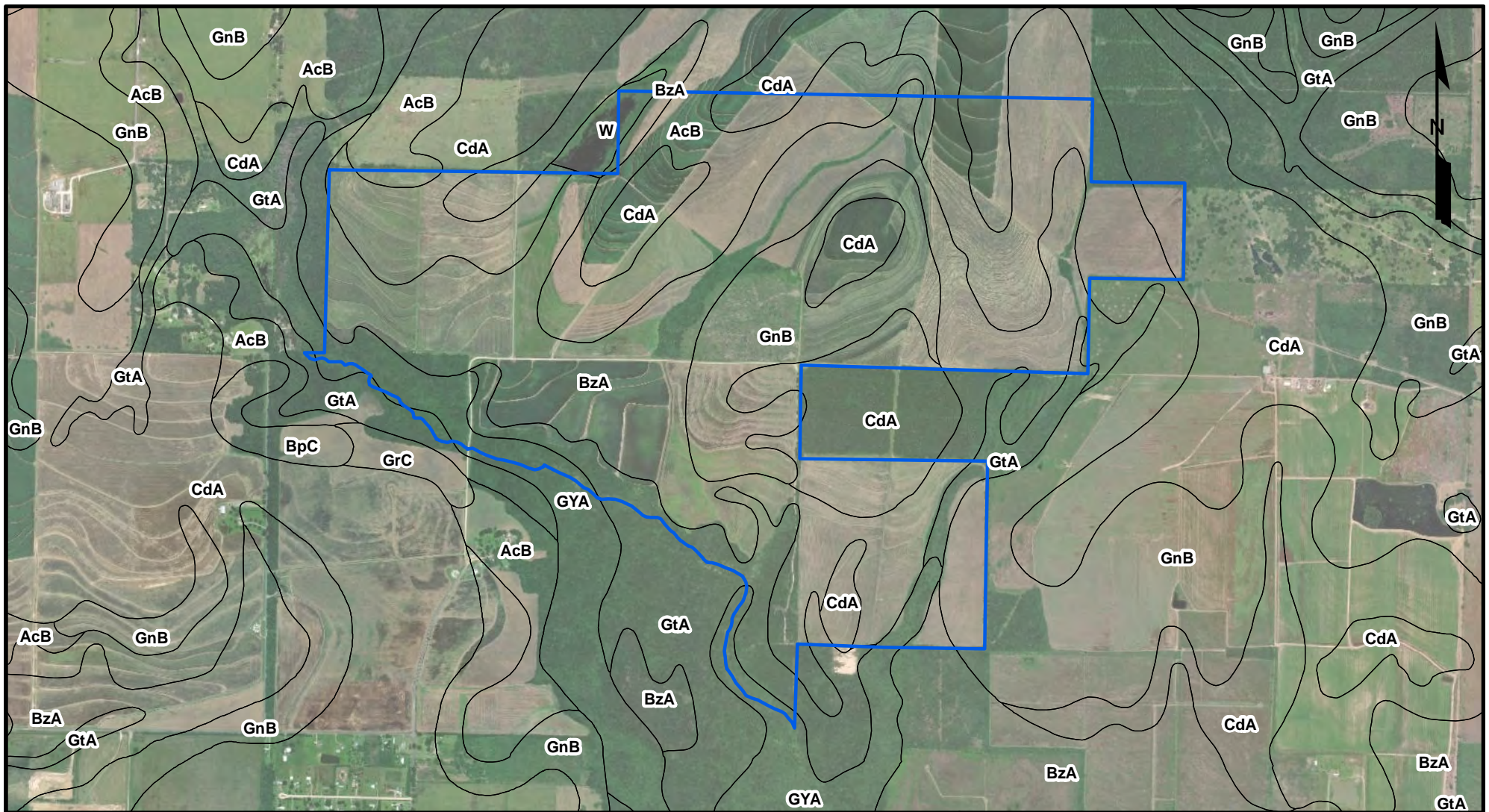
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Engineering Progress

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Date	1/15/2019
Drawing No.	17-438-A095

9

Figure No.

Source: Base map comprised of 2017 aerial photography from USDA/FSA Aerial Photography Field Office, National Agriculture Imagery Program (NAIP).



Legend

Marsh Bayou Mitigation Bank (1,308.8 acres)

Soils

- AcB - Acadia silt loam, 1 to 3 percent slopes
- BzA - Brimstone silt loam, 0 to 1 percent slopes, rarely flooded
- CdA - Caddo-Messer complex, 0 to 1 percent slopes
- GnB - Glenmora silt loam, 1 to 3 percent slopes
- GtA - Guyton silt loam, 0 to 1 percent slopes, occasionally flooded
- GYA - Guyton-Ouachita silt loams, frequently flooded
- W - Water

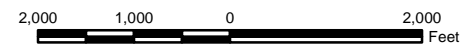
Source: Base map comprised of ESRI World Imagery. Soils data obtained from Natural Resources Conservation Service (NRCS) Web Soil Survey.

Soils Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

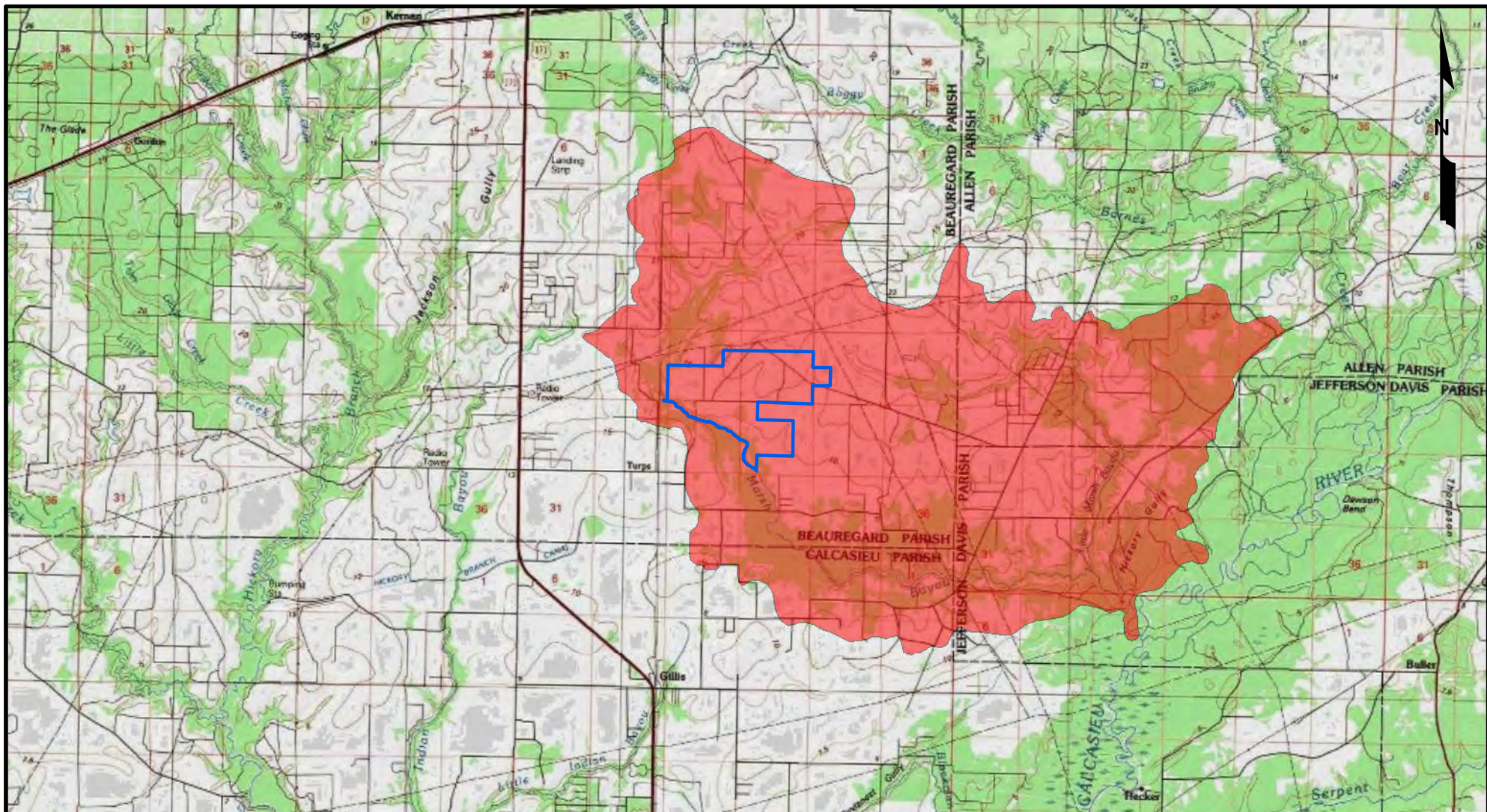
Marsh Bayou Mitigation Bank



MATRIX **NEW**WORLD
Engineering Progress

Drawn By	CET
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Date	1/15/2019
Drawing No.	17-438-A085

10
Figure No.



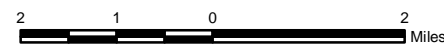
Legend

- Marsh Bayou Mitigation Bank (1,308.8 acres)
- Marsh Bayou Watershed (39.64 sq. miles)

Contributing Watershed Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC
Marsh Bayou Mitigation Bank

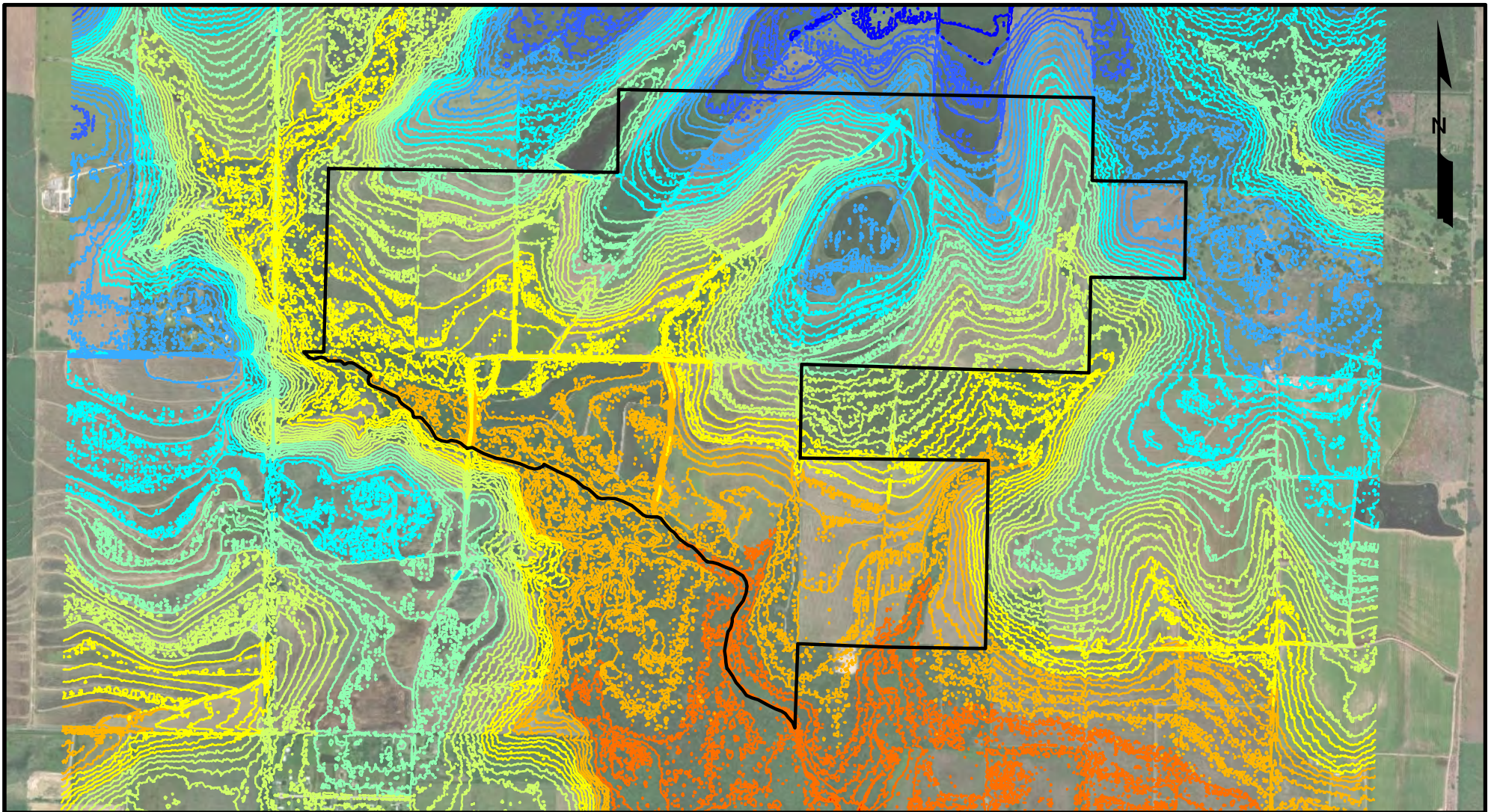


MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	1/15/2019
Drawing No.	17-438-A088

11
Figure No.











Source: Base map comprised of U.S.G.S. 100K topographic map, "Lake Charles, LA" dated 1986. Watershed boundaries obtained from the Watershed Boundary Dataset (USDA-NRCS/USGS/EPA).



Legend

 Marsh Bayou Mitigation Bank (1,308.8 acres)

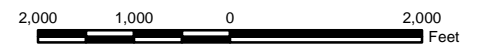
Elevation Contours (1' Intervals)

- | | |
|--|---|
|  18 - 23 |  45 - 49 |
|  24 - 28 |  50 - 54 |
|  29 - 34 |  55 - 60 |
|  35 - 39 |  61 - 65 |
|  40 - 44 |  66 - 70 |

LIDAR Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC
Marsh Bayou Mitigation Bank

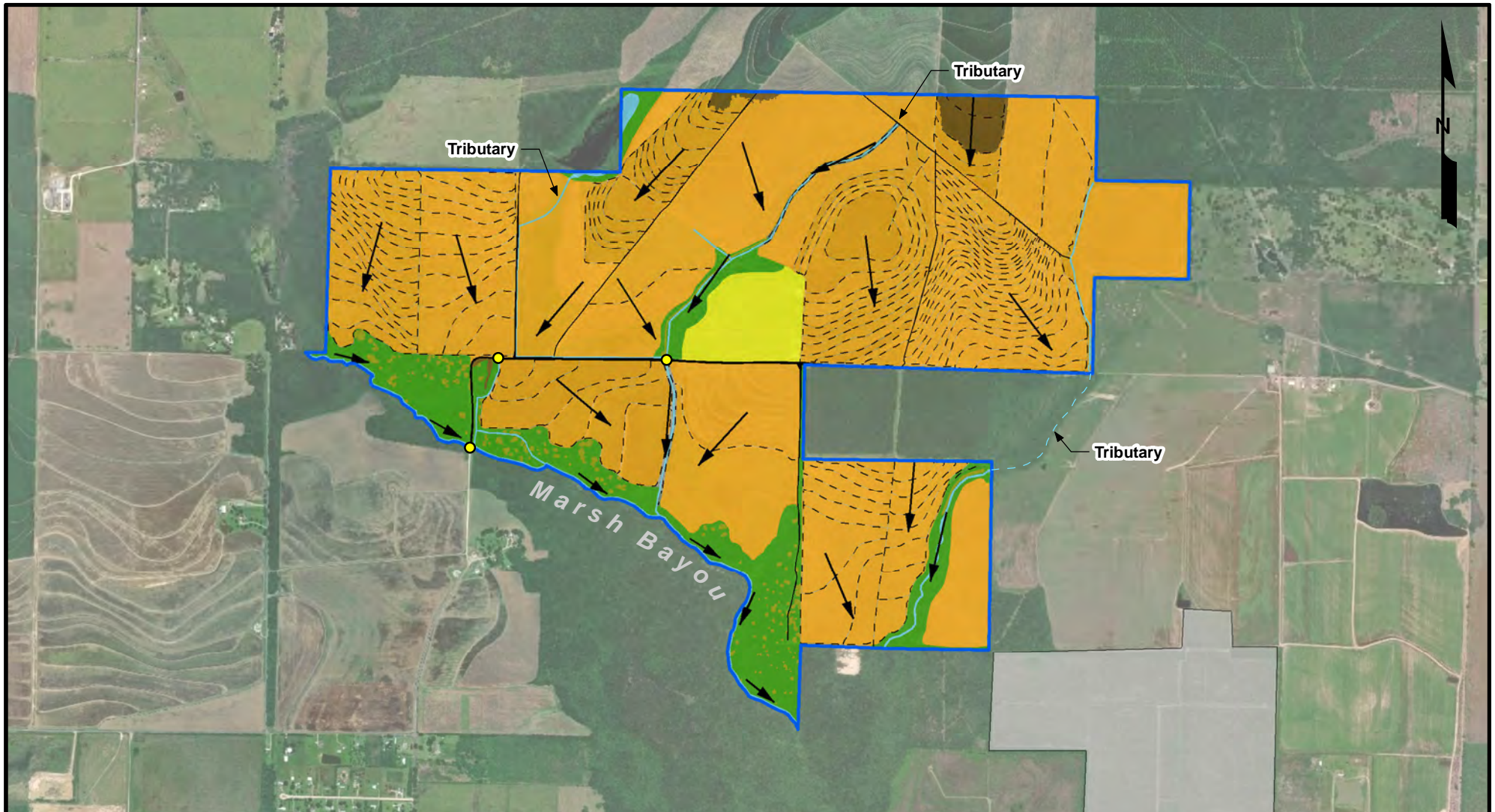


MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	1/15/2019
Drawing No.	17-438-A086

12
Figure No.

Source: Base map comprised of ESRI World Imagery. LIDAR Contours calculated from USACE/LOSCO Digital Elevation Model, dated 2002/2009.



Legend

- Marsh Bayou Mitigation Bank (1,308.8 acres)
- Wetland Agricultural Fields (1,032.0 acres)
- Existing Agricultural Berms (33.6 acres)
- Pine-Dominant Wetlands (40.6 acres)
- Pine-Hardwood Flatwood Wetlands (150.3 acres)
- Non-Wetland Agricultural Fields (18.7 acres)
- Hardwood Uplands (7.5 acres)
- Other Waters of the U.S. (14.4 acres)
- Roads (11.7 acres)
- Existing Culverts
- ➔ Drainage Flow
- Briar Marsh Mitigation Bank

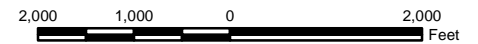
Source: Base map comprised of ESRI World Imagery.

Existing Site Plan

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

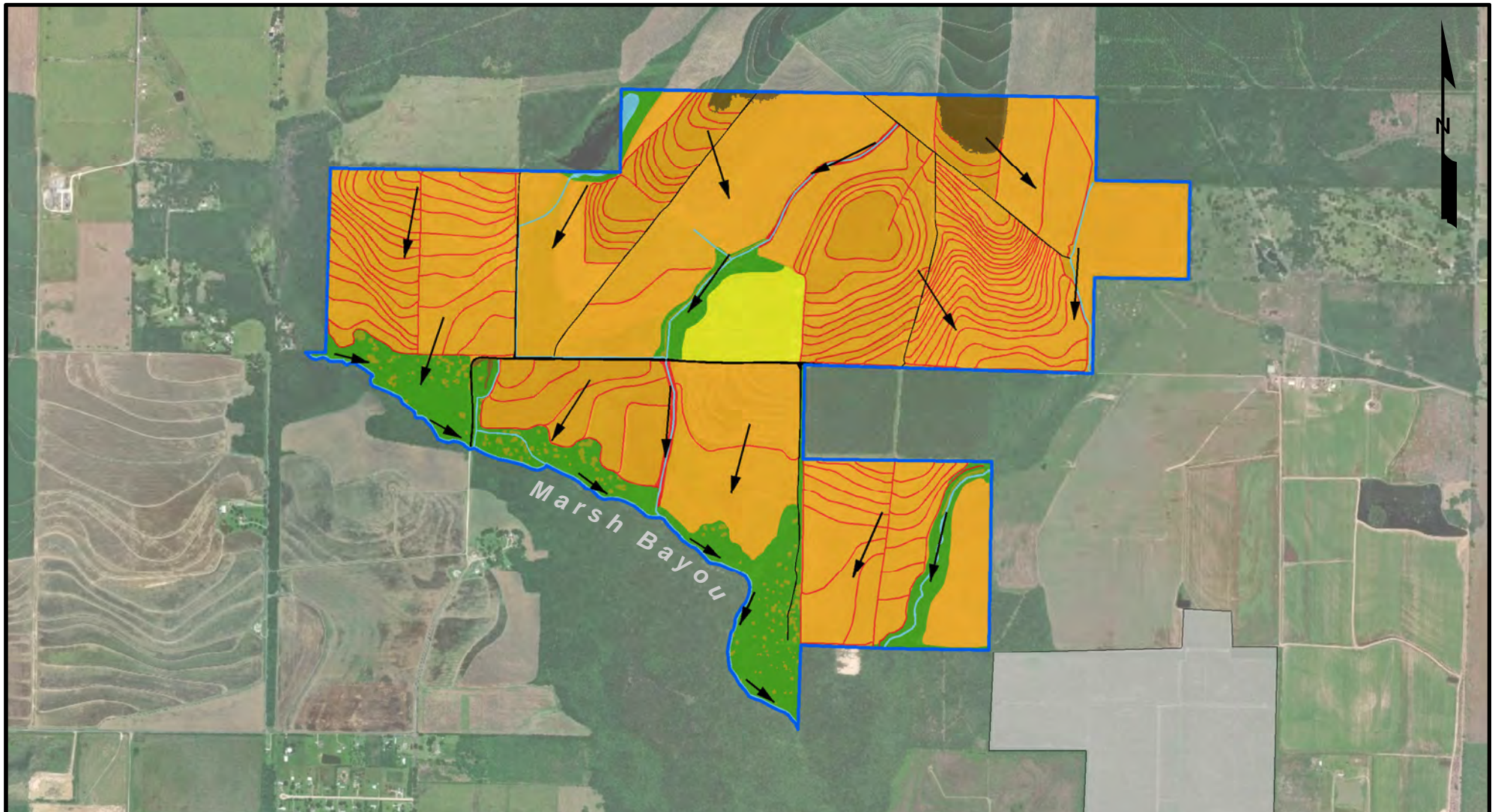
Marsh Bayou Mitigation Bank



MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	3/14/2019
Drawing No.	17-438-A123

13
Figure No.



Legend

- Marsh Bayou Mitigation Bank (1,308.8 acres)
- Pine-Hardwood Flatwood Re-Establishment (33.6 acres)
- Pine-Hardwood Flatwood Rehabilitation (1,032.0 acres)
- Pine-Hardwood Flatwood Enhancement (40.6 acres)
- Pine-Hardwood Flatwood Preservation (150.3 acres)
- Pine-Hardwood Upland Restoration (18.7 acres)
- Hardwood Upland Preservation (7.5 acres)
- Other Waters of the U.S. (14.4 acres)
- Roads to Remain (11.7 acres)
- Drainage Flow
- Briar Marsh Mitigation Bank

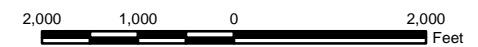
Source: Base map comprised of ESRI World Imagery.

Restoration Site Plan

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

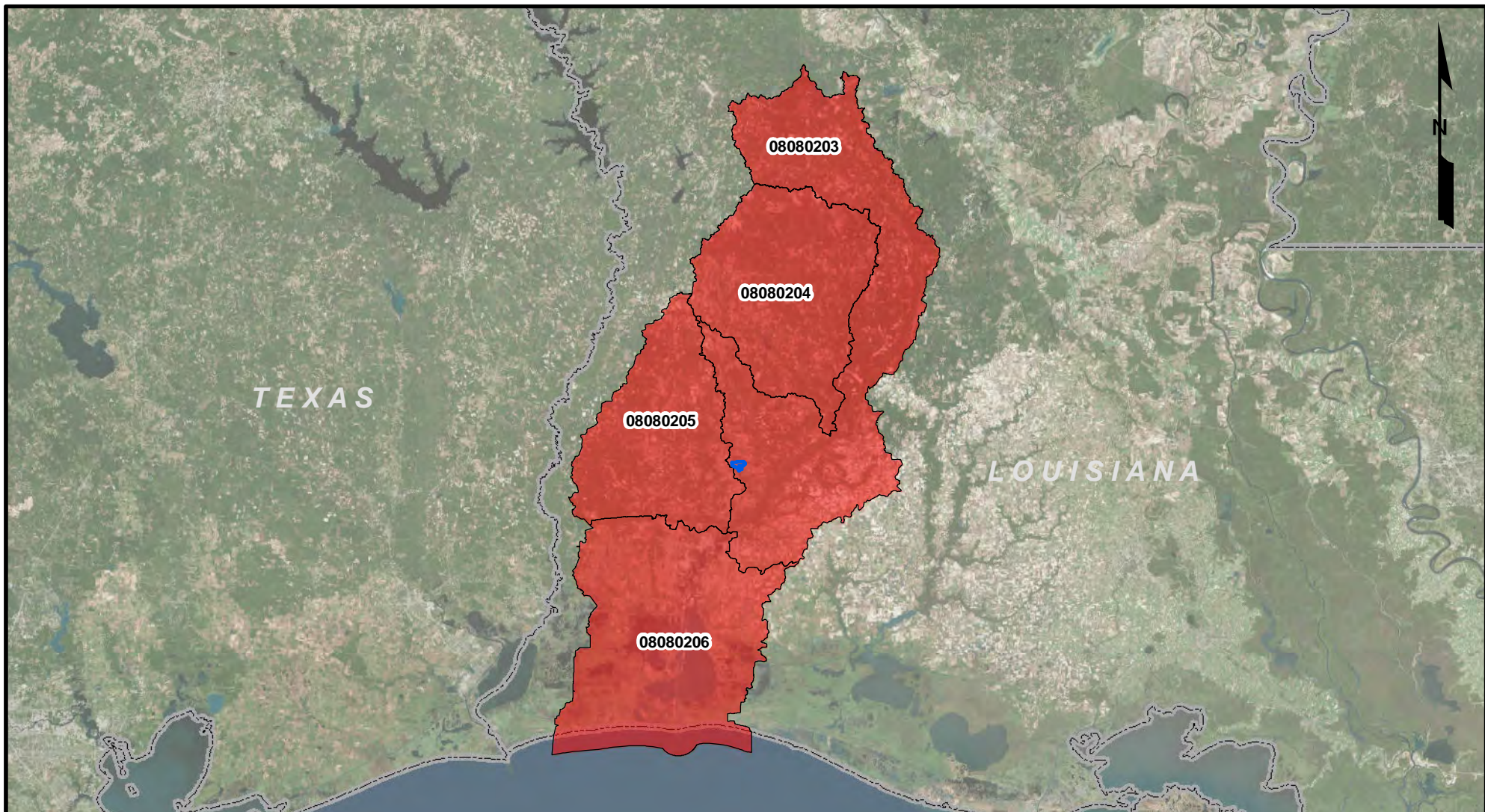
Marsh Bayou Mitigation Bank



MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	3/14/2019
Drawing No.	17-438-A124

14
Figure No.



Legend

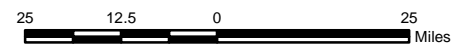
- Marsh Bayou Mitigation Bank (1,308.8 acres)
- Service Area (Calcasieu Basin)
- Hydrologic Unit Boundary

Service Area Map

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank

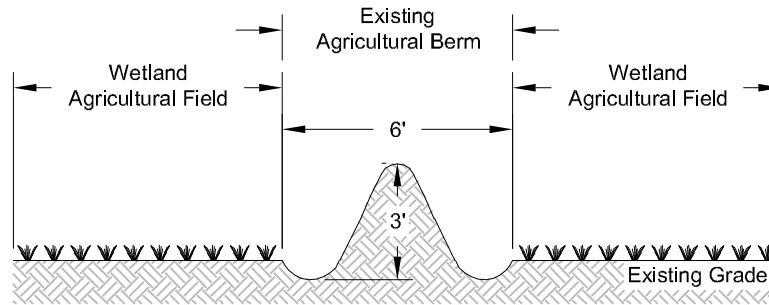


MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	1/15/2019
Drawing No.	17-438-A089

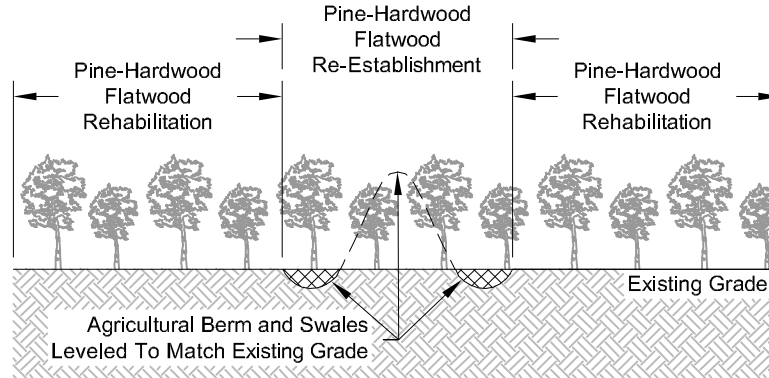
15
Figure No.

Source: Base map comprised of ESRI World Imagery. Base map comprised of ESRI World Imagery. Hydrologic Unit boundaries obtained from the Watershed Boundary Dataset (USDA-NRCS/USGS/EPA).



Pre-Restoration

Scale: 1" = 5'



Post-Restoration

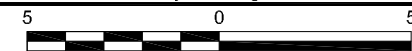
Scale: 1" = 5'

Typical Agricultural Berm Cross Section

Mitigation Bank Prospectus
Beauregard Parish, Louisiana

The Mitigation Group, LLC

Marsh Bayou Mitigation Bank



MATRIXNEWORLD
Engineering Progress

Drawn By	LMM
Approved By	CET
Date	03/14/2019
Drawing No	17-438-A122

16

Figure No.

APPENDIX A

**PRELIMINARY JURISDICTIONAL
DETERMINATION
(MVN 2018-01219)**



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

January 14, 2019

Operations Division
Surveillance and Enforcement Section

Mr. Chad Turner
Matrix New World Engineering
2798 O'Neal Lane. Building F
Baton Rouge, LA 70816

Dear Mr. Turner:

Reference is made to your request, on behalf of The Mitigation Group, LLC, for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Section 21, 22, 27, 28, Township 7 South, Range 8 West, Beauregard Parish (enclosed map). Specifically, this property is identified as the 2,214.79 acre Berken tract, a proposed mitigation bank project, in Gaytine.

A field inspection of the property was conducted on November 7, 2018. Based on the results of this investigation and the information 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., including wetlands.

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 valid for the identified project only and is not to be used for decision-making on any other project.

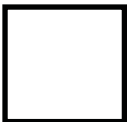
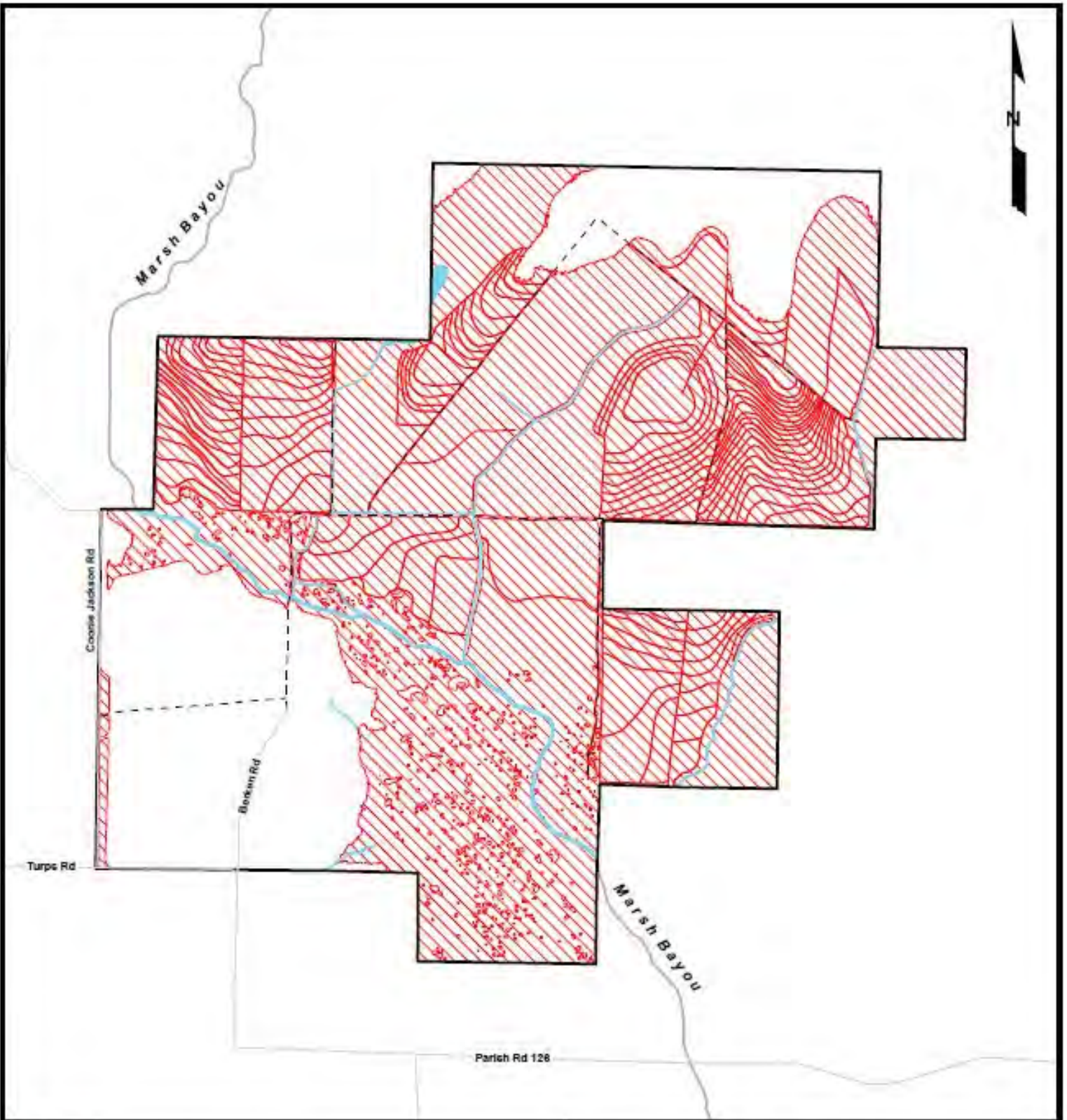
Should there be any questions concerning these matters, please contact Mr. Aris Anthony Harris at (337) 291-3042 and reference our Account No. MVN-2018-01219-SH. If you have specific questions regarding the permit process or permit applications, please contact our Western Evaluation Section at (504) 862-2261.

Sincerely,

A large black rectangular redaction box covers the signature area, obscuring the name and any handwritten notes or dates.

for Martin S. Mayer
Chief, Regulatory Branch

Enclosures



Project Area



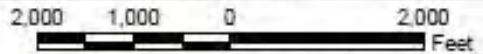
Wetland



Non-Wetland Waters

USACE
 (FSV) / IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

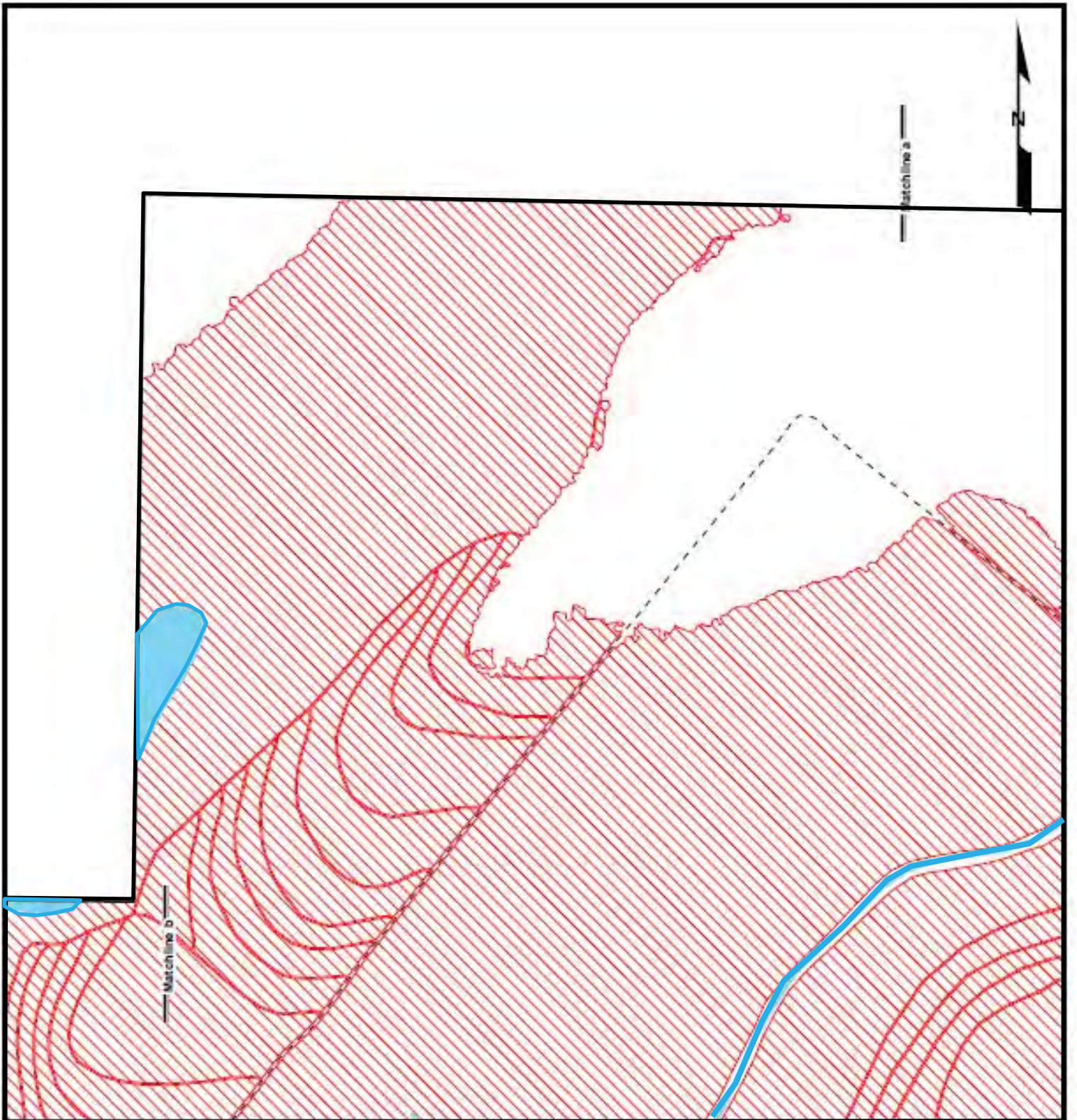
PRELIMINARY
 JURISDICTIONAL DETERMINATION



MATRIXNEWORLD
 Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A103

3
 Figure No.



Project Area



Wetland



Non-Wetland Water

USACE

FSV / IH

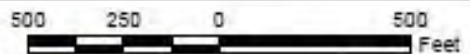
Date: December 3, 2018

Botanist: Aris Anthony Harris

Requestor: Chad Turner

MVN_2018-01219-SH

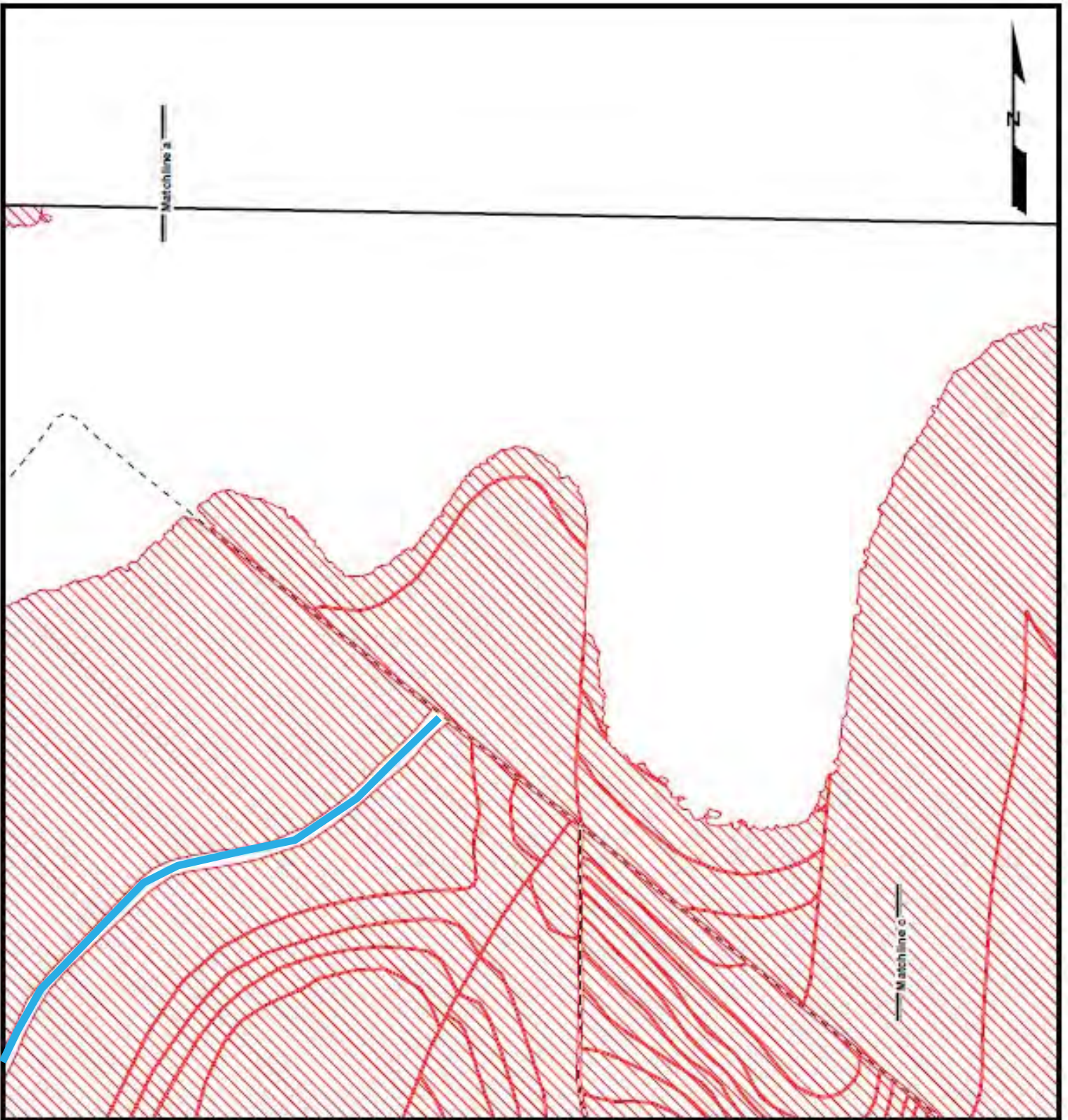
PRELIMINARY
JURISDICTIONAL DETERMINATION



MATRIX **NEW** WORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A104

3a
Figure No.



Project Area



Wetland



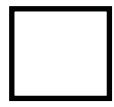
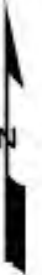
Non-Wetland Water

USACE
 (FSV) / IH Date: December 3, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN-2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



MATRIX NEWORLD <i>Engineering Program</i>	Drawn By	CET	3b Figure No.
	Approved By	CEJ	
	Date	11/07/2018	
	Drawing No.	17-438-A104	



Project Area



Wetland

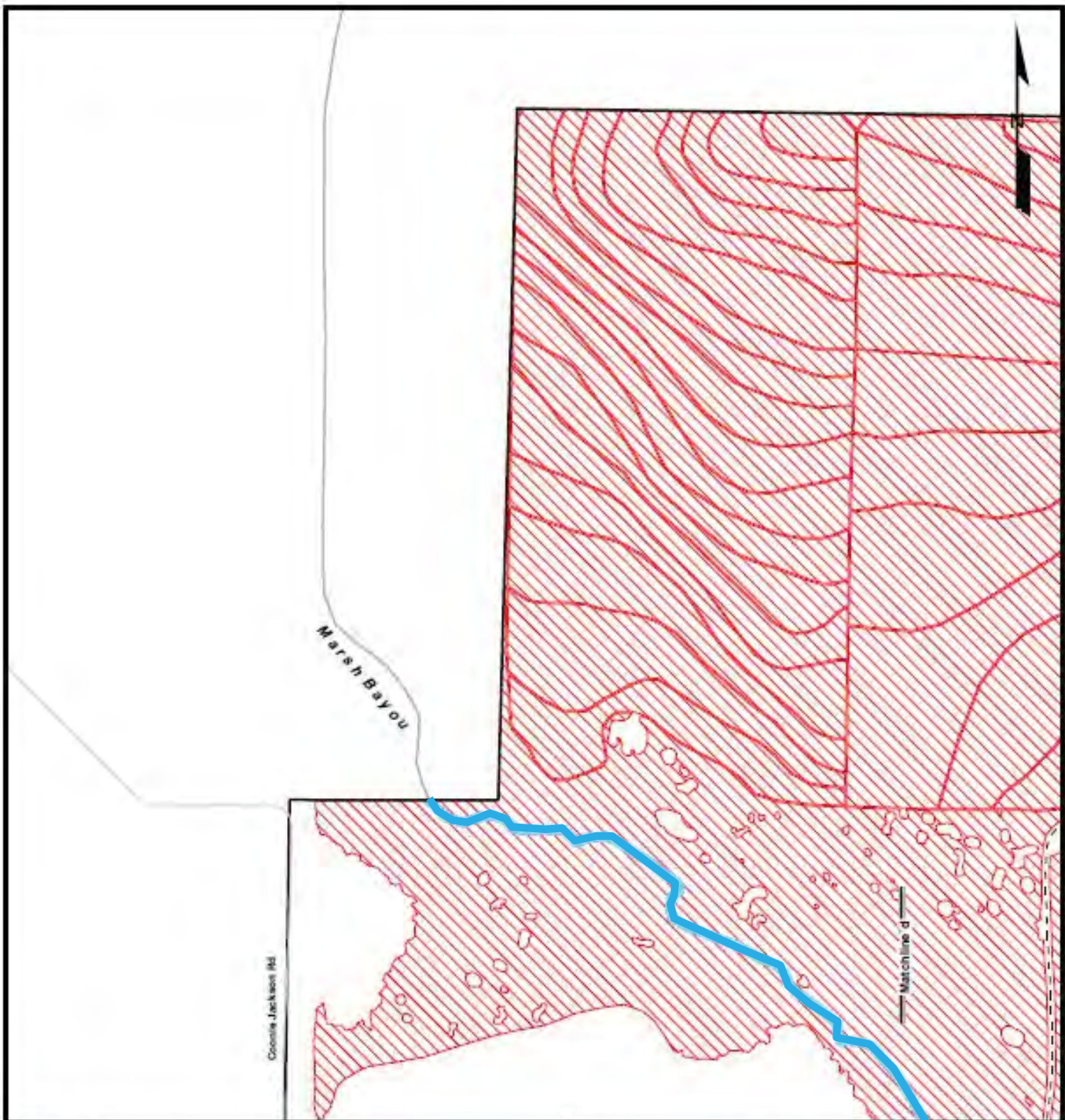


Non-Wetland Water

USACE
FSV / IH Date: December 4, 2018
Botanist: Aris Anthony Harris
Requestor: Chad Turner
MVN- 2018-01219-SH

PRELIMINARY
JURISDICTIONAL DETERMINATION

MATRIX NEWORLD Engineering Program	Drawn By	CEJ	3c Figure No.
	Approved By	CEJ	
	Date	11/27/2018	
	Drawing No.	17-438-A104	



Project Area



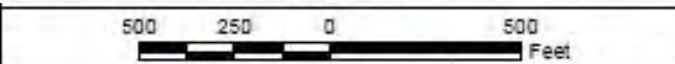
Wetland



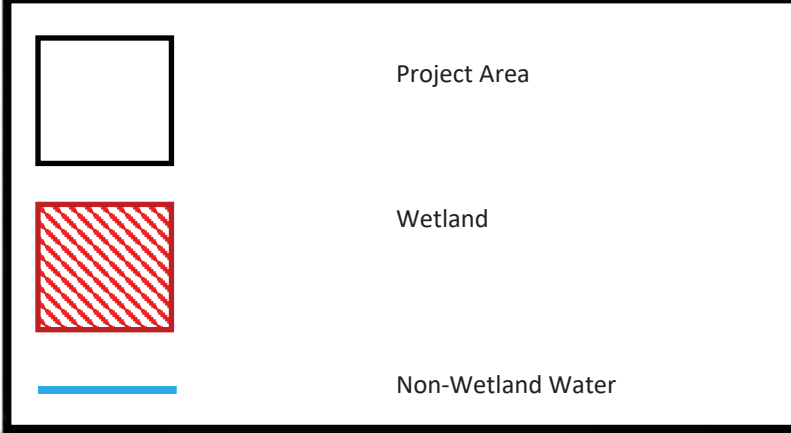
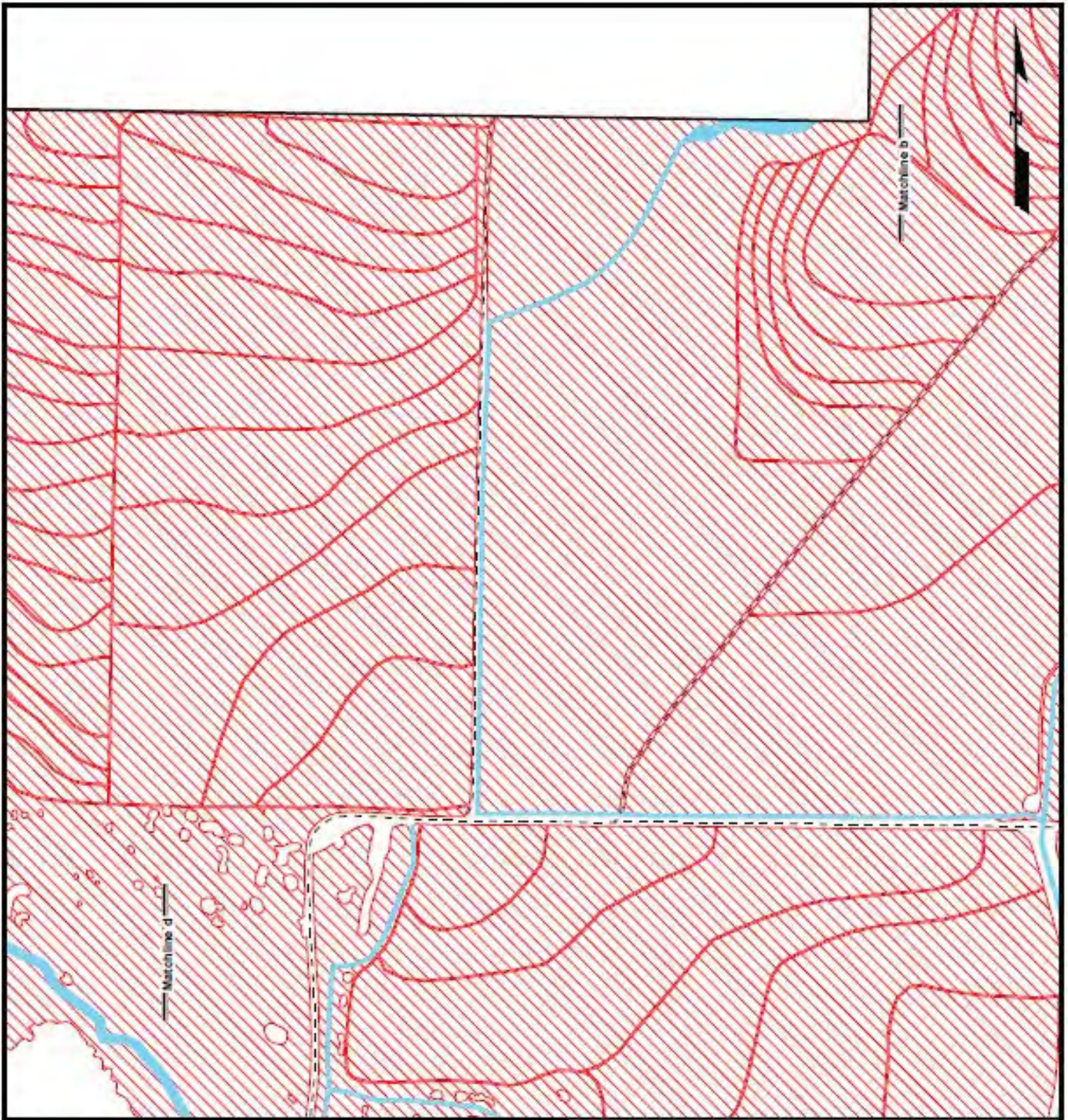
Non-Wetland Water

USACE
FSV / IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



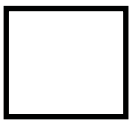
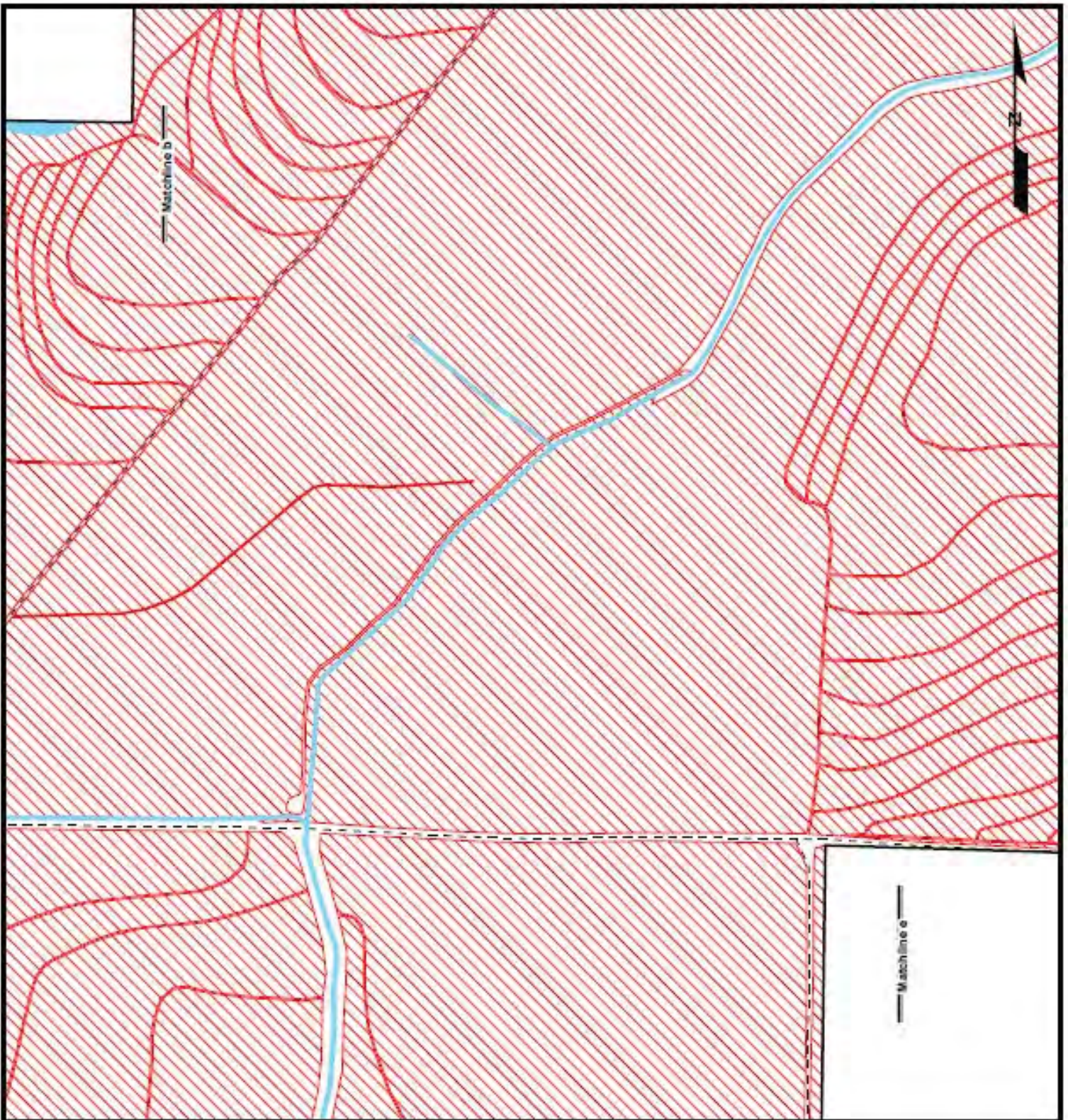
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	Approved By	CEJ	
	Date	11/27/2018	
Drawing No.		17-438-A104	



USACE
(FSV) / IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION

MATRIX NEWORLD <i>Engineering Progress</i>	Drawn By	CET	3e Figure No.
	Approved By	CEJ	
	Date	11/07/2018	
Drawing No.		17-438-A104	



Project Area



Wetland



Non-Wetland Waters

USACE

FSV / IH

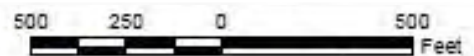
Date: December 4, 2018

Botanist: Aris Anthony Harris

Requestor: Chad Turner

MVN- 2018-01219-SH

PRELIMINARY
JURISDICTIONAL DETERMINATION

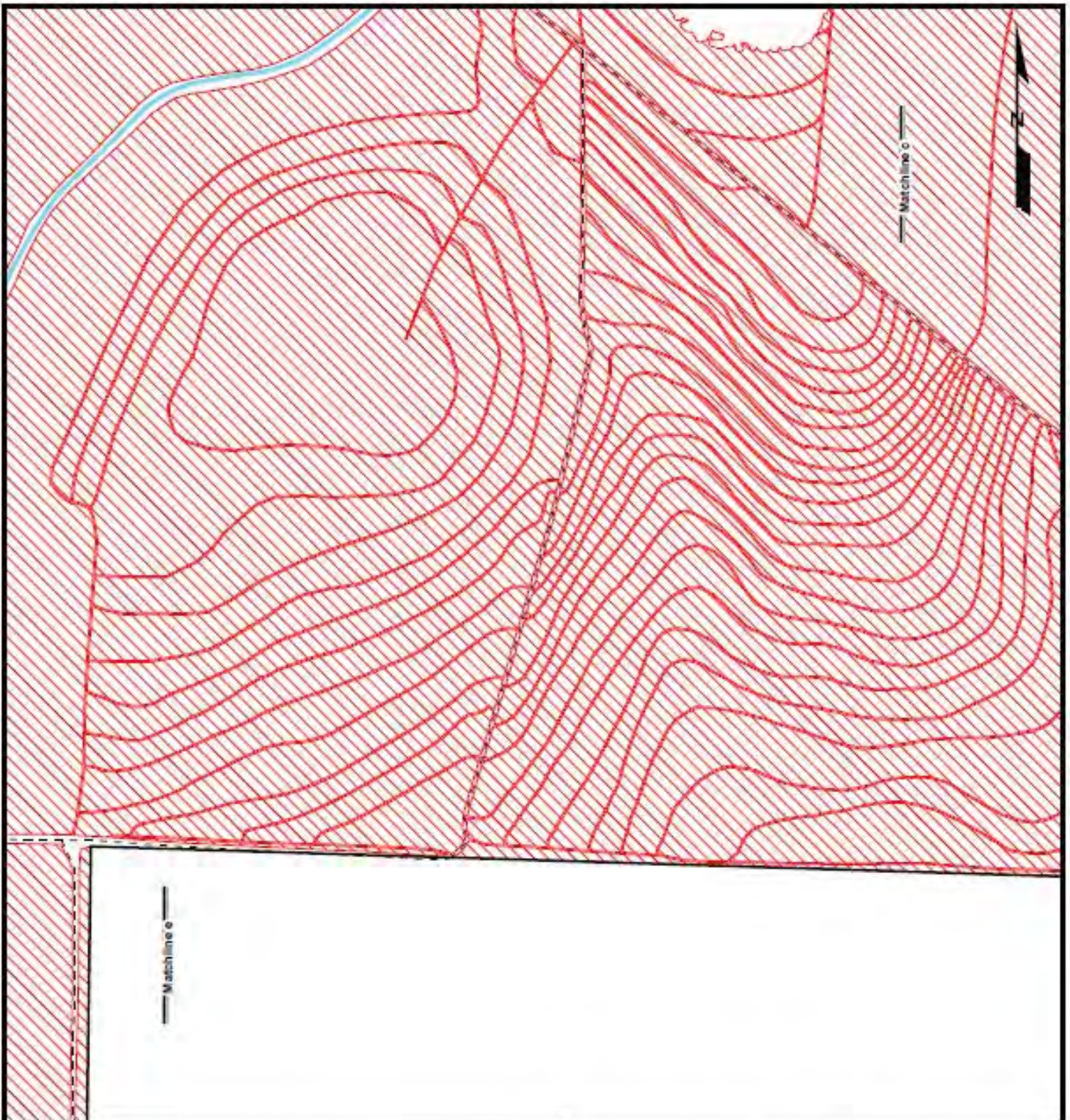


MATRIX **NEWORLD**
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A104

3f

Figure No.



Project Area



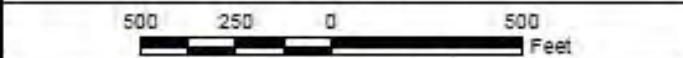
Wetland



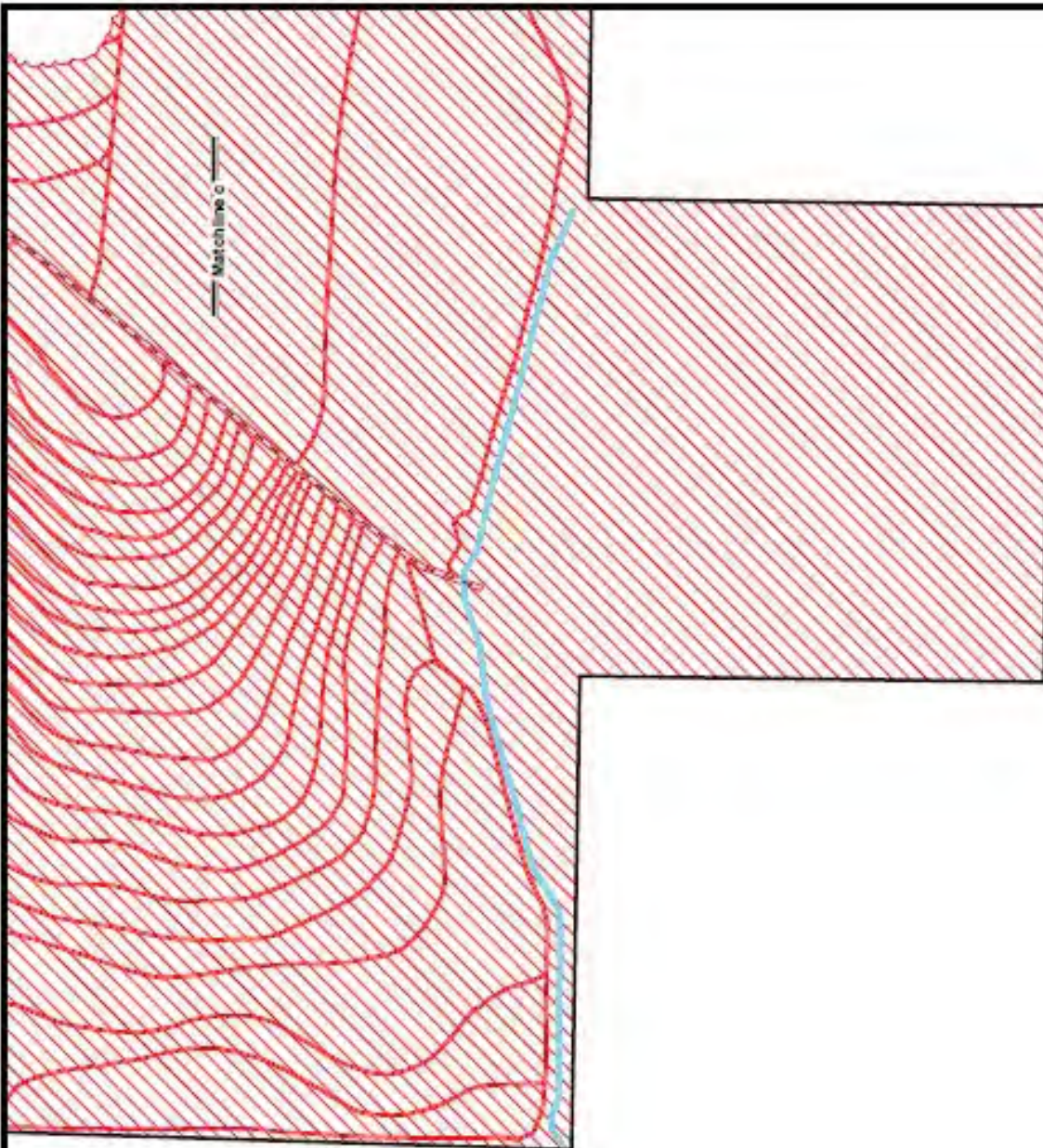
Non-Wetland Waters

USACE
 (FSV) / IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN: 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



MATRIX NEWORLD <i>Engineering Progress</i>	Drawn By	CET	3g Figure No.
	Approved By	CEJ	
	Date	11/27/2018	
	Drawing No.	17-438-A104	



Project Area



Wetland



Non-Wetland Waters

USACE

FSV / IH

Date: December 4, 2018

Botanist: Aris Anthony Harris

Requestor: Chad Turner

MVN- 2018-01219-SH

PRELIMINARY
JURISDICTIONAL DETERMINATION

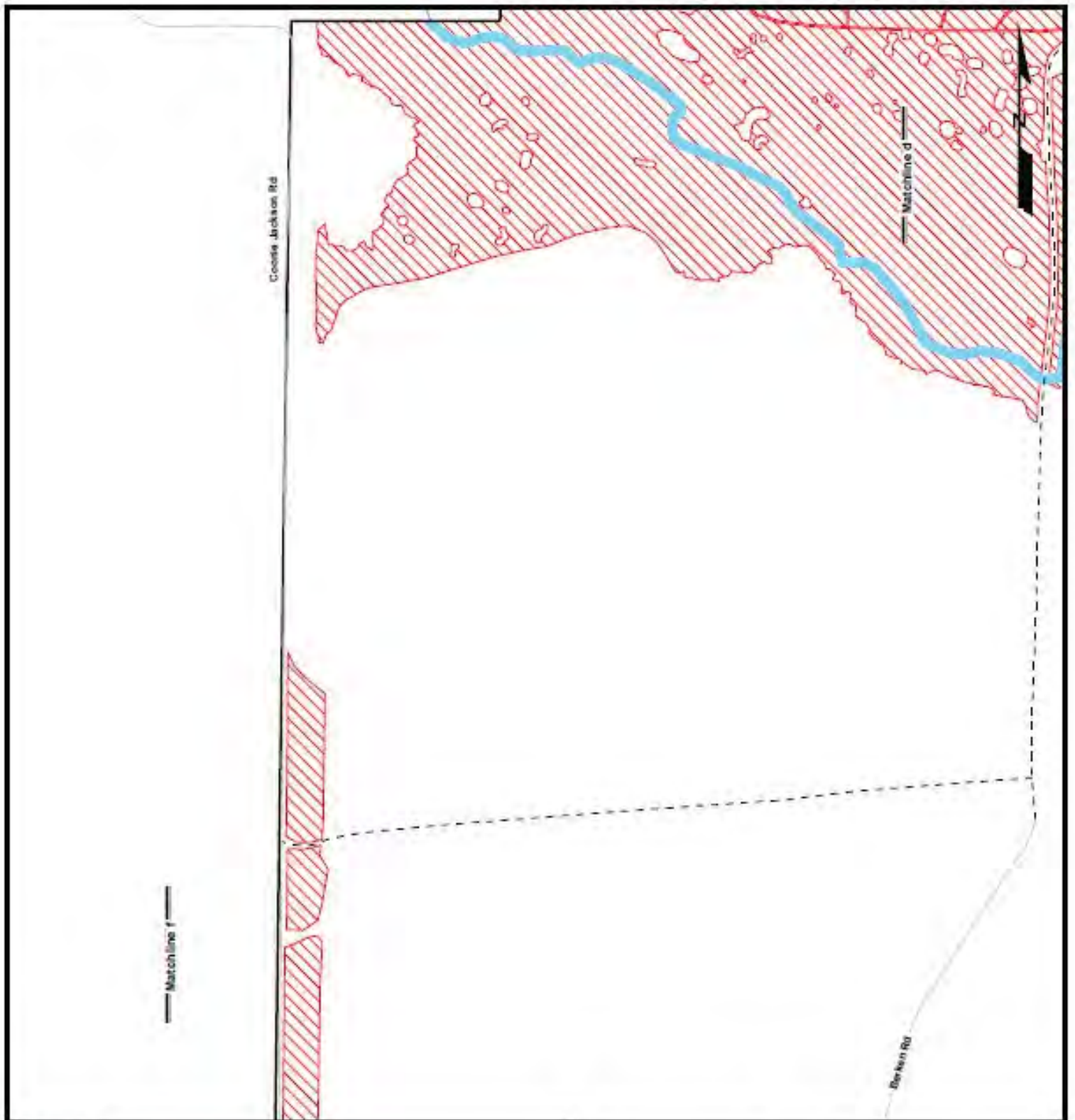


MATRIX **NEWORLD**
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A104

3h

Figure No.



Project Area



Wetland



Non-Wetland Waters

USACE

FSV / IH

Date: December 4, 2018

Botanist: Aris Anthony Harris

Requestor: Chad Turner

MVN- 2018-01219-SH

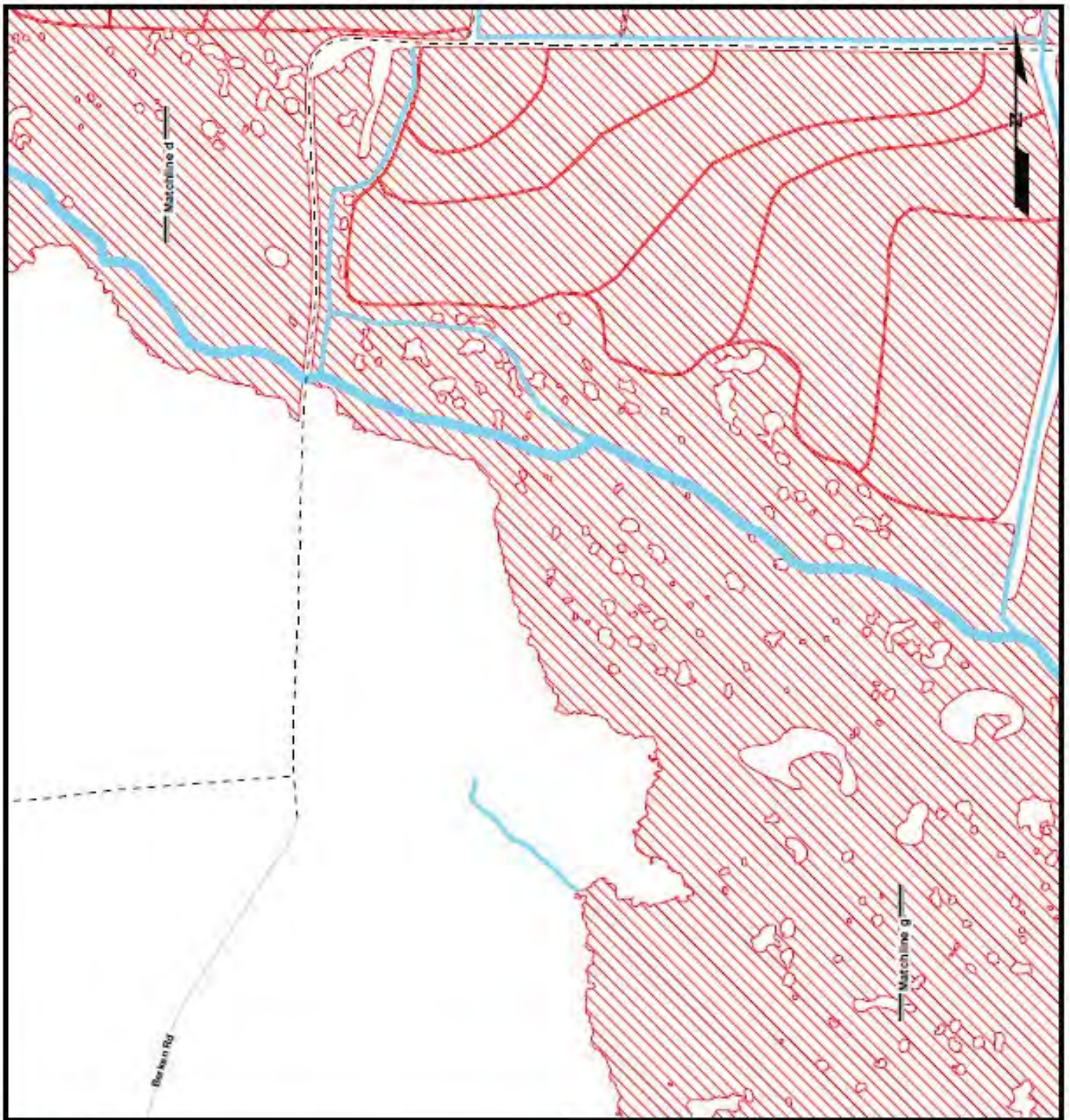
PRELIMINARY
JURISDICTIONAL DETERMINATION

MATRIX **NEW**WORLD
Engineering Program

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-435-A104

3i

Figure No.



Project Area



Wetland



Non-Wetland Water

USACE

FSV / IH

Date: December 4, 2018

Botanist: Aris Anthony Harris

Requestor: Chad Turner

MVN- 2018-01219-SH

PRELIMINARY

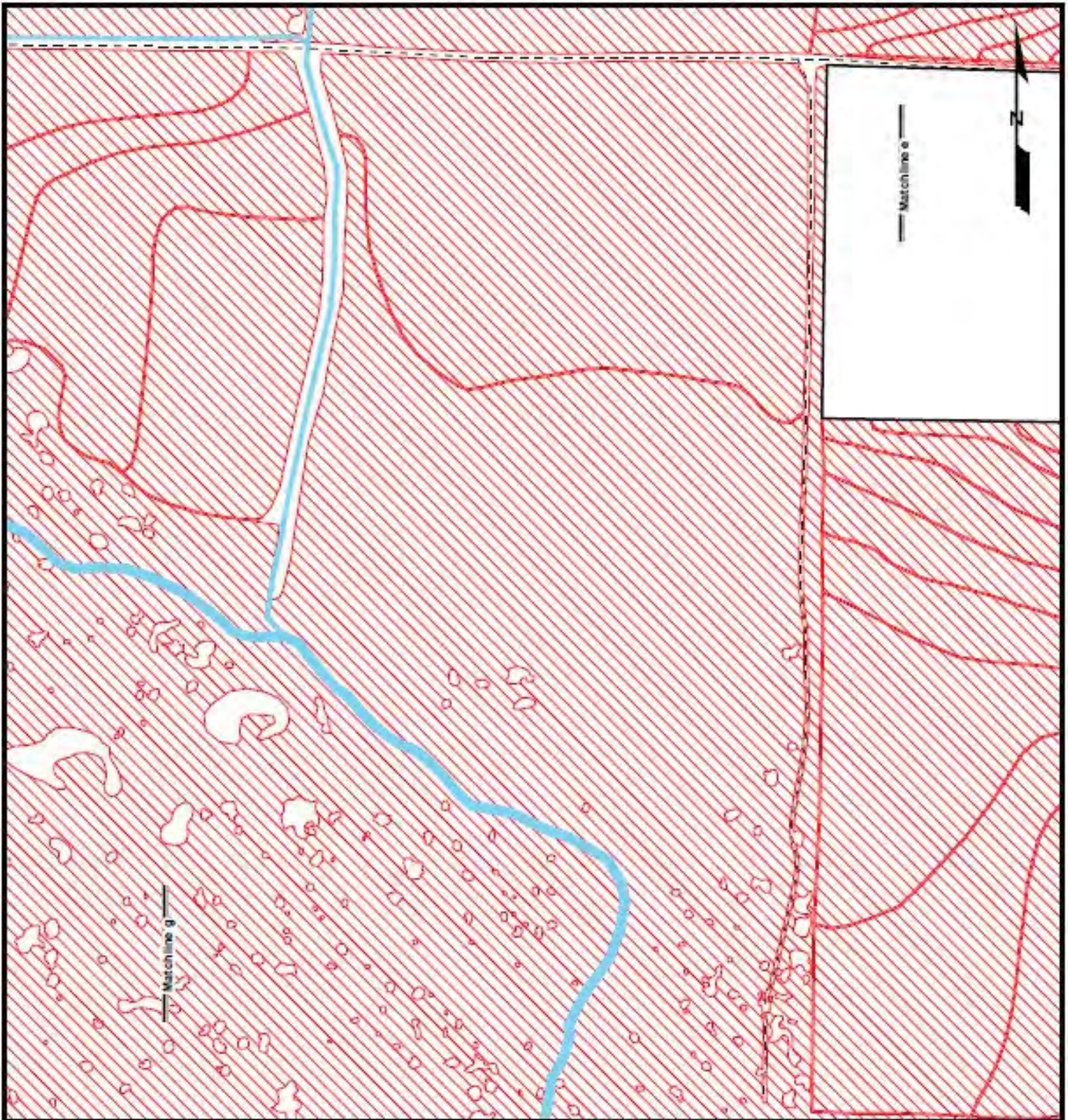
JURISDICTIONAL DETERMINATION

MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A104

3j

Figure No.



Project Area



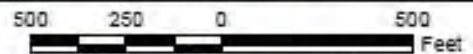
Wetland



Non-Wetland Waters

USACE
 FSV IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



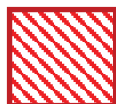
MATRIXNEWORLD
 Engineering Program

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A104

3k
 Figure No



Project Area



Wetland



Non-Wetland Waters

USACE

FSV / IH

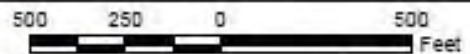
Date: December 6, 2018

Botanist: Aris Anthony Harris

Requestor: Chad Turner

MVN- 2018-01219-SH

PRELIMINARY
JURISDICTIONAL DETERMINATION

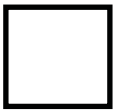
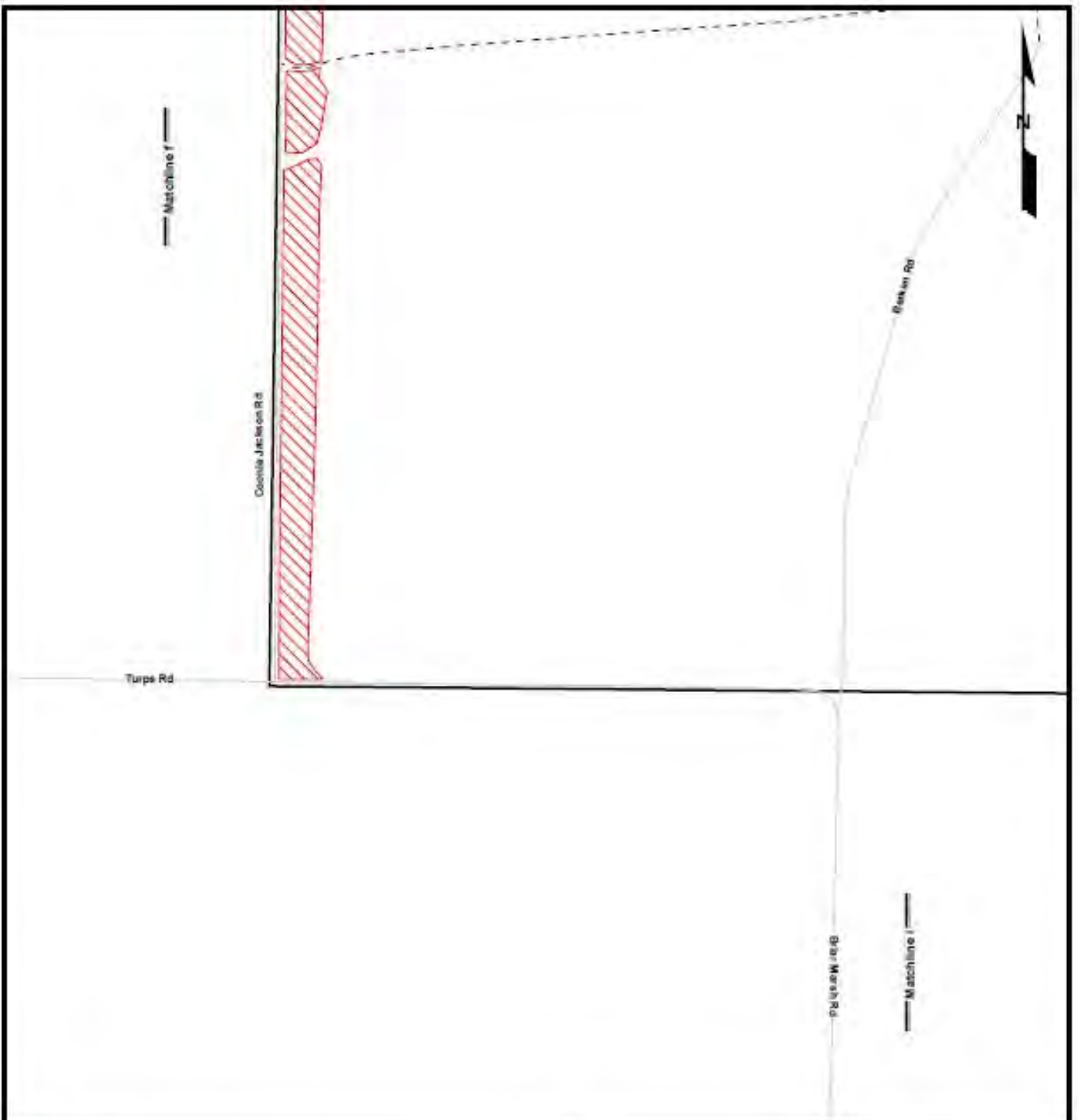


MATRIX **NEWORLD**
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	11/27/2018
Drawing No.	17-438-A104

31

Figure No.



Project Area



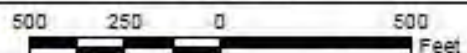
Wetland



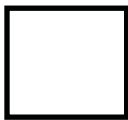
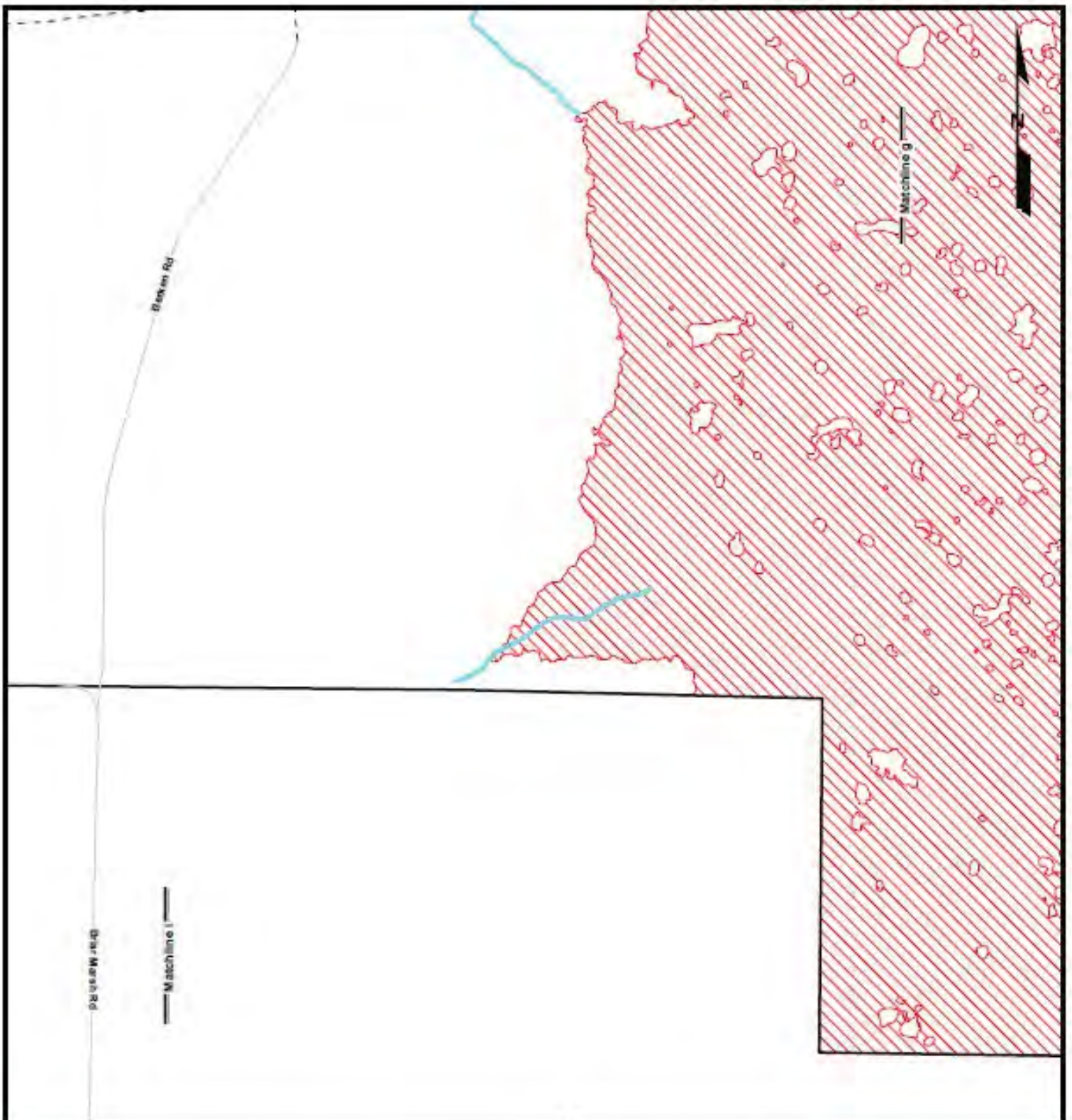
Non-Wetland Waters

USACE
 FSV / IH Date: December 6, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



MATRIX NEWORLD <i>Engineering Progress</i>	Drawn By	CET	3m Figure No.
	Approved By	CEJ	
	Date	11/27/2018	
	Drawing No.	17-438-A104	



Project Area



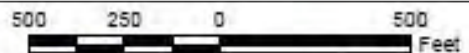
Wetland



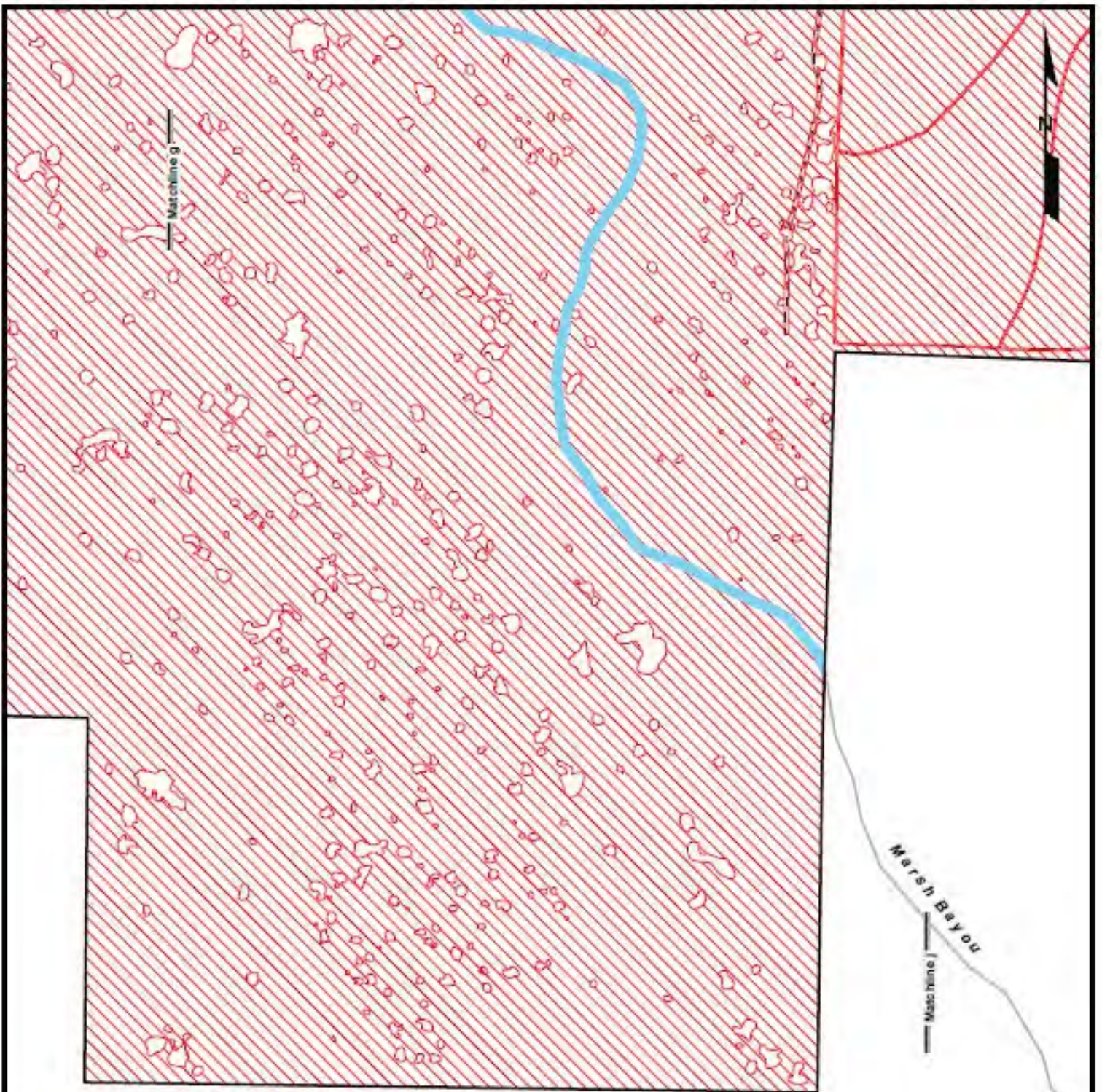
Non-Wetland Waters

USACE
 (FSV) / IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



MATRIX NEWORLD Engineering Progress	Drawn By	CET	3n Figure No.
	Approved By	CEJ	
	Date	11/27/2018	
	Drawing No.	17-438-A104	



Project Area



Wetland

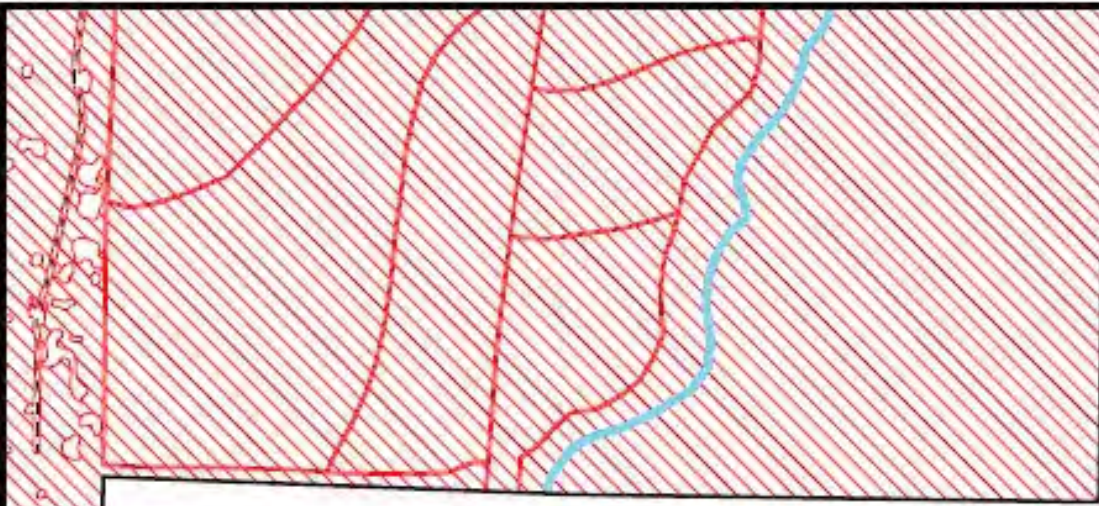


Non-Wetland Waters

USACE
FSV/ IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION

MATRIX NEWORLD <small>Engineering Progress</small>	Drawn By	CET	30 <small>Figure No.</small>
	Approved By	CEJ	
	Date	11/27/2018	
	Drawing No.	17-438-A104	

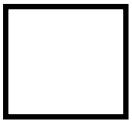


Matchline h



Marsh Bayou

Matchline j



Project Area



Wetland



Non-Wetland Waters

USACE
 (FSV) / IH Date: December 4, 2018
 Botanist: Aris Anthony Harris
 Requestor: Chad Turner
 # MVN- 2018-01219-SH

PRELIMINARY
 JURISDICTIONAL DETERMINATION



MATRIX Engineering Progress	Drawn By	CET	3p Figure No.
	Approved By	CEJ	
	Date	11/07/2018	
	Drawing No.	17-438-A104	

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: January 14, 2019

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Chad Turner
Matrix New World Engineering
2798 O'Neal Lane Building F
Baton Rouge, LA 70816

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: MVN-2018-01219-SH

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Louisiana County/parish/borough: Beauregard City: Gaytine

Center coordinates of site (lat/long in degree decimal format):

Lat.: 30.431016° Long.: -93.182515°

Universal Transverse Mercator:

Name of nearest waterbody: Marsh Bayou

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: 10/25/2018

Field Determination. Date(s): 11/7/2018

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.


Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
			2214.79 feet	Wetland	Section 404
			14.76 acres	Non-Wetland Water	Section 404

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____.
- Data sheets prepared by the Corps: _____.
- Corps navigable waters' study: _____.
- U.S. Geological Survey Hydrologic Atlas: _____.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24000 & Gaytine.
- Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey.
- National wetlands inventory map(s). Cite name: _____.
- State/local wetland inventory map(s): _____.
- FEMA/FIRM maps: _____.
- 100-year Floodplain Elevation is: _____. (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): CIR: 1998, 2004, 2008, 2010, 2012, 2013
or Other (Name & Date): Lidar
- Previous determination(s). File no. and date of response letter: 2001-00200.
- Other information (please specify): Google Earth Imagery.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.



Signature and date of
Regulatory staff member
completing PJD

Request on form

Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.