

# JOINT PUBLIC NOTICE

February 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  
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Attn: Water Quality Certifications

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MVN-2018-00361-MG

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WQC Application Number  
WQC # 190221-01

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).

## **HICKORY BRANCH MITIGATION BANK IN CALCASIEU 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 654.7 acre site is located approximately 7.57 miles northwest of Moss Bluff, in Sections 3, 10, and 15, Township 08 South, Range 09 West, Calcasieu Parish Louisiana, as shown on attached drawings.

Center of Location: Latitude: 30.380188° N, Longitude: 93.279762° W.  
Hydrologic Unit Code: 08080203 – Upper Calcasieu.

**CHARACTER OF WORK:** Hickory Branch Mitigation Bank is proposing the removal of 625.1 acres of loblolly pine plantation and the enhancement of 1.6 acres of chinese tallow dominated wetlands for the establishment of native longleaf pine savanna and bottomland hardwood habitats. Additional site restoration activities will consist filling of a man-made drainage conveyance, prescribed burning, and planting of desirable vegetation. Of the 652.5 acres proposed for Hickory Branch Mitigation Bank, 592.7 acres are longleaf pine savannah rehabilitation, 1.7 acres are longleaf pine savannah re-establishment, 30.7 acres are bottomland hardwood rehabilitation, 1.6 acres are bottomland hardwood enhancement, 22.4 acres are bottomland hardwood wetland preservation, and 1.7 acres are upland buffer preservation.

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,

Utilizing Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office, the Corps has determined that the proposed activity would have no effect on any species listed as endangered by the U.S. Department of the Interior.

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 Hickory Branch Mitigation Bank

Calcasieu Parish, Louisiana

MVN-2018-00361

February 2019

Sponsor: The Mitigation Group, LLC  
Name: Jay Fear  
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Agent:

**MATRIX****NEWORLD**  
Engineering Progress

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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 Hickory Branch Mitigation Bank (HBMB) to the Interagency Review Team (IRT) and U.S. Army Corps of Engineers (USACE), New Orleans District. HBMB is approximately 654.7 acres located west of Gillis, Calcasieu Parish, Louisiana. The purpose of this report is to summarize the existing conditions of the proposed HBMB 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 654.7-acre HBMB is approximately 7.57 miles northwest of Moss Bluff, Louisiana, centered at approximate Latitude 30.380188°; Longitude -93.279762° in Sections 3, 10, and 15, Township 08 South, Range 09 West of Calcasieu Parish, Louisiana (**Figures 1 and 2**). Access to the Site is via Bushnell Road and Hickory Branch Road, approximately 10.8 miles north-northwest of I-10 at Lake Charles. The following are coordinates for the HBMB site boundary and a legal description for the 3,018-acre tract of which the site HBMB is a part of.

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

| Corner ID | Latitude   | Longitude   |
|-----------|------------|-------------|
| 1         | 30.389722° | -93.280842° |
| 2         | 30.390397° | -93.277082° |
| 3         | 30.386469° | -93.266608° |
| 4         | 30.370556° | -93.266710° |
| 5         | 30.370670° | -93.279342° |
| 6         | 30.377963° | -93.279292° |
| 7         | 30.378022° | -93.280071° |
| 8         | 30.384440° | -93.281480° |

Legal Description of a 3,018-acre tract of land situated in Sections 2, 3, 4, 9, 10, 11, 15, 16, 21 & 22, T 8 S – R 9 W, Calcasieu Parish, Louisiana, further described as follows;

BEGINNING at an iron pipe at the northeast corner of Section 15, T 8 S – R 9 W, Calcasieu Parish, Louisiana; thence run South 01°11'06" West along the east line of Section 15 for 1330.87 feet to an iron pipe at the southeast corner of the Northeast One Quarter of the Northeast One Quarter of said Section 15; thence run North 89°22'14" West along the south line of said Northeast One Quarter of the Northeast One Quarter for 1340.85 feet to an iron pipe at the southwest corner thereof; thence run South 01°09'12" West along the

east line of the Southwest One Quarter of the Northeast One Quarter for 1335.35 feet to an iron pipe at the southeast corner thereof; thence run North  $89^{\circ}33'45''$  West along the south line of the North One Half of Section 15 for 4018.93 feet to an iron pipe at the West One Quarter Corner of Section 15; thence run South  $01^{\circ}01'35''$  West along the west line of Section 15 for 1348.78 feet to an iron pipe at the northwest corner of the South One Half of the Southwest One Quarter; thence run South  $89^{\circ}35'20''$  East along the north line of said South One Half of the Southwest One Quarter for 2676.54 feet to an iron pipe at the northeast corner thereof; thence run South  $01^{\circ}07'19''$  West along the east line of said South One Half of the Southwest One Quarter for 1347.56 feet to an iron pipe at the South One Quarter Corner of Section 15; thence run North  $89^{\circ}36'56''$  West along the south line of said Section 15 for 1337.15 feet to a rebar at the northeast corner of the Northwest One Quarter of the Northwest One Quarter of Section 22; thence run South  $00^{\circ}54'23''$  West along the east line of said Northwest One Quarter of the Northwest One Quarter for 1312.51 feet to a rebar at the southeast corner thereof; thence run North  $89^{\circ}20'47''$  West along the south line of said Northwest One Quarter of the Northwest One Quarter for 1334.23 feet to a point at the southwest corner thereof; thence run North  $88^{\circ}40'47''$  West along a boundary agreement line for 2666.62 feet to an iron pipe being referred to as the southeast corner of the Northwest One Quarter of the Northwest One Quarter; thence run North  $00^{\circ}52'02''$  East along the eastern line as referred to as the Northwest One Quarter of the Northwest One Quarter approximately 85 feet to a point in the water's edge of the left bank of Calcasieu West Fork; thence run northerly along said water's edge approximately 522 feet to a point in the said eastern line; thence run North  $00^{\circ}52'02''$  East along said eastern line approximately 775 feet to an iron pipe at the North One Quarter Corner of Section 21; thence run North  $89^{\circ}44'45''$  West along the north line of Section 21 approximately 1168 feet to a point in the water's edge of the left bank of said Calcasieu West Fork; thence run in a westerly direction along said water's edge approximately 774 feet to a point in the said north line of Section 21; thence run North  $89^{\circ}44'45''$  West along said north line approximately 434 feet to a point in the centerline of said Calcasieu West Fork; thence run northerly along said centerline approximately 3251 feet to a point in the west line of Section 16; thence run North  $01^{\circ}11'03''$  East along said west line approximately 383 feet to a bar at the West One Quarter Corner; thence run North  $02^{\circ}48'45''$  East along the west line of said Section 16 approximately 142 feet to a point in the centerline of Hickory Branch Creek; thence run northerly along said centerline approximately 864 feet to a point in the west line of said Section 16; thence run North  $02^{\circ}48'45''$  East along said west line approximately 962 feet to a point in the centerline of said Hickory Branch Creek; thence run in a northerly direction along said centerline approximately 2159 feet to a point in the north line of said Section 16; thence run South  $89^{\circ}18'11''$  East along said north line approximately 3311 feet to an iron pipe at the southwest corner of the Southeast One Quarter of the Southeast One Quarter of Section 9; thence run North  $01^{\circ}00'53''$  East along the west line of said Southeast One Quarter of the Southeast One Quarter for 1329.49 feet to a rebar at the northwest corner thereof; thence run South  $89^{\circ}15'14''$  East along the north line of said Southeast One Quarter of the Southeast One Quarter for 1310.02 feet to an iron pipe at the northeast corner thereof; thence run North  $00^{\circ}59'51''$  East along the east line of Section 9 for 1328.60 feet to a rebar at the East One Quarter Corner; thence run North



89°10'25" West along the south line of the Southeast One Quarter of the Northeast One Quarter for 1313.97 feet to a rebar at the southwest corner thereof; thence run North 00°50'12" East along the west line of said Southeast One Quarter of the Northeast One Quarter for 1328.63 feet to a rebar at the northwest corner thereof; thence run North 89°04'49" West along the south line of the Northwest One Quarter of the Northeast One Quarter for 1314.59 feet to a rebar at the southwest corner thereof; thence run North 00°46'54" East along the west line of said Northwest One Quarter of the Northeast One Quarter for 1329.77 feet to a rebar at the northwest corner thereof; thence run South 89°10'01" East along the south line of Section 4 for 1318.54 feet to a rebar at the southeast corner of the Southwest One Quarter of the Southeast One Quarter of said Section 4; thence run North 00°50'16" East along the east line of said Southwest One Quarter of the Southeast One Quarter for 1342.14 feet to an iron pipe at the northeast corner thereof; thence run North 89°10'05" West along the north line of said Southwest One Quarter of the Southeast One Quarter for 1321.36 feet to an iron pipe at the northwest corner thereof; thence run North 00°43'02" East along the west line of the East One Half of Section 4 for 4027.94 feet to an iron pipe at the North One Quarter Corner thereof; thence run South 89°20'34" East along the north line of said Section 4 for 2659.54 feet to the northeast corner thereof; thence run South 89°20'34" East along the north line of Section 3 for 2659.56 feet to a point at the North One Quarter Corner; thence run South 00°33'05" West along the west line of the Northeast One Quarter for 1347.42 feet to the southwest corner of the North One Half of the Northeast One Quarter; thence run South 89°13'22" East along the south line of said North One Half of the Northeast One Quarter for 1340.50 feet to an iron pipe; thence run SOUTH for 69.00 feet to a point; thence run South 89°35'17" East for 1348.53 feet to a point in the east line of said Section 3; thence run North 00°26'17" East along said east line for 65.55 feet to a point at the southwest corner of the Northwest One Quarter of the Northwest One Quarter of Section 2; thence run South 89°26'30" East along the south line of said Northwest One Quarter of the Northwest One Quarter for 1328.60 feet to a point at the southeast corner thereof; thence run South 00°44'12" West for 56.38 feet to a point; thence run South 89°50'10" East for 1337.69 feet to a point in the east line of the West One Half of Section 2; thence run South 00°41'14" West along said east line for 1743.49 feet to a point in the centerline of a canal; thence run South 78°13'01" West along said centerline for 532.91 feet to a point; thence run South 76°37'34" West along said centerline for 627.07 feet to a point; thence run South 00°36'46" West for 1960.65 feet to an iron pipe in the south line of said Section 2; thence run South 01°08'29" West for 1187.98 feet to a nail in the centerline of Bushnell Road; thence run North 81°13'55" West along said centerline for 81.72 feet to a point; thence run North 70°04'42" West along said centerline for 41.78 feet to a point; thence run North 61°48'01" West along said centerline for 89.20 feet to a point in the east line of the West One Half of the Northwest One Quarter of Section 11; thence run South 01°08'29" West along said east line for 82.41 feet to a bar; thence run North 88°24'54" West along a fence for 1327.79 feet to a fence post in the east line of Section 10; thence run South 01°18'36" West along the east line of Section 10 for 4167.03 feet to an iron pipe and The Point Of Beginning.

The above described tract of land is situated in Sections 2, 3, 4, 9, 10, 11, 15, 16, 21 & 22, T 8 S – R 9 W, Calcasieu Parish, Louisiana as shown on plat of survey, File Number 9224, Plat M-2204, as surveyed by Jeffrey M. Messinger, Professional Land Surveyor, containing 3018 acres and is subject to all existing easements.

## 2. PROJECT GOALS AND OBJECTIVES

The goals of HBMB are to rehabilitate 592.7 acres and re-establish 1.7 acres of longleaf pine savannah and to rehabilitate 30.7 acres, enhance 1.6 acres, and preserve 22.4 acres of bottomland hardwood wetlands and 1.7 acres of hardwood uplands.

The objectives of HBMB are as follows:

- Increase longleaf pine savannah habitat within its natural range
- Increase biodiversity
- Provide habitat for wildlife, including threatened and endangered species
- Provide for water quality rehabilitation
- Provide for increased flood storage

## 3. ECOLOGICAL SUITABILITY OF THE SITE

### 3.1.1 Land Use

### 3.1.2 Historical Land Use

Based on information from the Natural Resources Conservation Service Longleaf Pine Initiative, HBMB and the surrounding areas historically supported longleaf pine savanna and bottomland hardwood habitats. Based on 1952, 1967, and 1985 aerial photography, the HBMB site was cleared and in agricultural use. The 1952 aerial photograph indicates that the existing at-grade road on the site had been constructed. The 1985 aerial photograph indicates that the site had been leveled. The 1998 aerial photograph shows that the site was becoming forested. The historical aerial photographs are attached as **Figures 4 through 9**.

Pre-impact hydrology was primarily attributed to backwater flooding from Hickory Branch and West Fork Calcasieu River and associated tributaries, rainfall, and sheet flow. Aerial photography suggests that HBMB historically drained from north-northeast to south to a tributary of West Fork Calcasieu River.

During the mid-20<sup>th</sup> century, the longleaf pine (*Pinus palustris*) was cleared from HBMB, and the land adapted to agricultural production with the construction of levees to control hydrology. Aerial photography suggests that this was a common practice in the area at the time, as adjacent properties also transitioned from pine savannah to agricultural fields. Typically, hydrology was severely hampered through the use of levees and culverts that allowed farmers to control the water levels in the fields during rice production. Levees and culverts appear to have been removed. A ditch and spoil piles remain along the western boundary.

### 3.1.3 Existing/Current Land Use

The major land use on HBMB consists of timber production in the form of loblolly pine plantation. Bottomland hardwoods flank the tributary of West Fork Calcasieu River that extends from south to north into the site.

**Table 1** contains pre-restoration habitat descriptions and acreages of the jurisdictional wetlands associated with the 654.7-acre tract proposed for re-establishment, rehabilitation, enhancement, and preservation activities within the HBMB.

**Table 1: Pre-Restoration Habitat Acreage Summary**

| <b>Class</b>                   | <b>Habitat</b>             | <b>Acreage</b> |
|--------------------------------|----------------------------|----------------|
| <b>Jurisdictional Wetlands</b> | Loblolly Pine              | 623.5          |
|                                | Bottomland Hardwood Forest | 23.7           |
|                                | Tallow-Dominant            | 1.6            |
| <b>Upland Spoil Bank</b>       | Bottomland Hardwood Forest | 1.2            |
| <b>Upland</b>                  | Bottomland Hardwood Forest | 0.4            |
| <b>Other Waters</b>            |                            | 2.2            |
| <b>Existing Road</b>           |                            | 2.1            |
| <b>TOTALS</b>                  |                            | <b>654.7</b>   |

The site is bordered on the north by a pipeline, gravel road, and pine plantation, the east by pasture and pine plantation, the south by pine plantation, and the west by approximately 3,400 feet of ditch and spoil bank and pine plantation. An at-grade dirt and gravel road extends south from the north site boundary through the middle of the site to the tributary of West Fork Calcasieu River. Several shooting lanes extend from east to west through the site.

The adjacent land use includes timber production in the form of loblolly plantations, bottomland hardwoods, and livestock pasture. Surrounding land use is shown on **Figure 3**.

### 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): Caddo-Messer complex, 0 to 1 percent slopes (Cd); Glenmora silt loam, 1 to 3 percent slopes (Ge); Guyton and Bienville, frequently flooded (GU); and Guyton silt loam, 0 to 1 percent slopes, occasionally flooded

(Go). The table below lists the hydric soil map unit’s individual soil components, component percentage, and hydric status within Calcasieu Parish (NRCS Web Soil Survey, February 6, 2018). 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 |
|---|------------------------|----------------------|---------------|
| Caddo-Messer complex, 0 to 1 percent slopes                   |                        |                      |               |
|   | Caddo                  | 60                   | Yes           |
|   | Messer                 | 30                   | No            |
|   | Guyton                 | 5                    | Yes           |
|   | Glenmora               | 5                    | No            |
| Glenmora silt loam, 1 to 3 percent slopes                     |                        |                      |               |
|   | Glenmora               | 90                   | No            |
|   | Messer                 | 5                    | No            |
|   | Caddo                  | 3                    | Yes           |
|   | Kinder                 | 2                    | Yes           |
| Guyton and Bienville, frequently flooded                      |                        |                      |               |
|   | Guyton                 | 55                   | Yes           |
|   | Bienville              | 25                   | Yes           |
|   | Kinder                 | 4                    | No            |
|   | Gore                   | 4                    | No            |
|   | Caddo                  | 4                    | No            |
|   | Basile                 | 4                    | No            |
|   | Acadia                 | 4                    | No            |
| Guyton silt loam, 0 to 1 percent slopes, occasionally flooded |                        |                      |               |
|   | Guyton                 | 85                   | Yes           |
|   | Glenmora               | 5                    | No            |
|   | Caddo                  | 5                    | Yes           |
|   | Messer                 | 5                    | No            |

The 1952 and 1967 aerial photographs show that there may have historically been pimple mounds on the site. The site appears to have been leveled in the 1985 aerial photograph and the pimple mounds are no longer visible. Additionally, field observations confirmed that the pimple mounds were leveled.

### 3.3 Hydrology

#### 3.3.1 Contributing Watershed

**Figure 11** shows the site in the northern portion of the 23.2 square mile Moss Gully-West Fork Calcasieu River Watershed. Hydrology on the site is primarily attributed to backwater flooding from Hickory Branch and West Fork Calcasieu River and associated tributaries, rainfall, and sheet flow. Hydrology indicators observed on HBMB include surface water, a high-water table, saturation and oxidized root channels within the upper

twelve inches of soil profiles, water marks, water stained leaves, moss trim lines, and positive FAC-neutral tests.

### 3.3.2 Historical Hydrology and Drainage Patterns

Calcasieu 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 Calcasieu Parish ranges from 60-62 inches (Di Luzio 2007). The Site is in the Upper Calcasieu Watershed; within United States Geological Survey (USGS) Hydrologic Cataloguing Unit 08080205. Hydrology on the Site is primarily restricted to backwater flooding from Hickory Branch and West Fork Calcasieu River and associated tributaries, rainfall, and sheet flow. Elevation contours show that HBMB naturally drains from north-northeast to south. The overall wetland hydrology of the wet flats appears to be essentially intact, as evidenced by the observed hydrology indicators. LIDAR elevation data is provided on **Figure 12**.

### 3.3.3 Existing/Current Hydrology and Drainage Patterns

Approximately 3,400 feet of ditch and spoil bank are located along the western site boundary. The ditch originates on land owned by the Sponsor and exits the site through a culvert beneath a gravel road at the northwest corner of the site. The sponsor proposes to fill the ditch with the spoil to return the area to natural grade rendering the culvert dis-functional. The ditch and spoil bank are shown on **Figures 13, 14, and 15**.

### 3.3.4 Jurisdictional Wetlands

A wetland delineation was conducted by Matrix on behalf of the Sponsor in January 2018. A copy of the preliminary JD is included as **Appendix A**.

## 3.4 Vegetation

### 3.4.1 Historical Plant Community

The NRCS Longleaf Pine Initiative identifies the site as being within the historical range of longleaf pine savannah. It appears that longleaf pine was likely the dominant tree species on HBMB, with a diverse herbaceous component likely consisting of broomsedges (*Andropogon* spp.), panic grasses (*Panicum* spp.) three-awn grasses (*Aristida* spp.) plume-grasses (*Erianthus* spp.), beak-rushes (*Rhychospora* spp.), yellow-eyed grasses (*Xyris* spp.). The habitat also likely supported a variety of forb species, such as lobelias (*Lobelia* spp.), gerardias (*Rhexia* spp.), milkworts (*Polygala* spp.), and bladderworts (*Utricularia* spp.).

Bottomland hardwoods were likely found along the tributaries of West Fork Calcasieu River. The dominant species likely consisted of water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), cherry-bark oak (*Quercus pagoda*), swamp chestnut oak (*Quercus michauxii*), red maple (*Acer rubrum drummondii*), sweetgum (*Liquidambar styraciflua*),

black gum (*Nyssa sylvatica*), Elliott's blueberry (*Vaccinium elliotii*), yaupon (*Ilex vomitoria*), arrowwood (*Viburnum dentatum*), and southern bayberry (*Morella cerifera*).

### 3.4.2 Existing Plant Community

The overstory on the majority of the HBMB is a monoculture of loblolly pine (*Pinus taeda*, FAC). Dominant species identified in the pine plantation habitat includes primarily loblolly pine with scattered sweet-gum (*Liquidambar styraciflua*, FAC), Chinese tallow tree (*Triadica sebifera*, FAC), southern bayberry (*Morella cerifera*, FAC), yaupon (*Ilex vomitoria*, FAC), Elliot's blueberry (*Vaccinium elliotii*, FACW), long-leaf wood oats (*Chasmanthium sessiliflorum*, FAC), slender wood oats (*Chasmanthium laxum*, FAC), lamp rush (*Juncus effusus*, OBL), angle-stem beak sedge (*Rhynchospora caduca*, OBL), bushy bluestem (*Andropogon glomeratus*, FACW), broom-sedge bluestem (*Andropogon virginicus*, FAC), cypress panic grass (*Dichanthelium dichotomum*, FAC), Baldwin's yellow-eyed grass (*Xyris baldwiniana*, OBL), coastal plain St. John's wort (*Hypericum brachyphyllum*, FACW), saw-tooth blackberry (*Rubus argutus*, FAC), cat greenbrier (*Smilax glauca*, FAC), and yellow meadow-beauty (*Rhexia lutea*, FACW).

Dominant species identified in the bottomland hardwood habitat includes water oak (*Quercus nigra*, FAC), laurel oak (*Quercus laurifolia*, FACW), cherry-bark oak (*Quercus pagoda*, FACW), swamp chestnut oak (*Quercus michauxii*, FACW), red maple (*Acer rubrum drummondii*, FAC), sweetgum, Chinese tallow tree, American holly (*Ilex opaca*, FAC), black gum (*Nyssa sylvatica*, FAC), Elliott's blueberry, yaupon, arrowwood (*Viburnum dentatum*, FAC), Chinese privet (*Ligustrum sinense*, FAC), palmetto (*Sabal minor*, FACW), long-leaf wood oats (*Chasmanthium sessiliflorum*), and slender wood oats (*Chasmanthium laxum*). There is generally very little understory throughout the majority of the Site. **Figure 13** shows the existing plant communities on the site.

### 3.5 General Need for the Project in this Area

As noted in the Natural Communities of Louisiana, western longleaf pine savannahs provide critical habitat for many animal and plant species (LNHP, 2009). At the beginning of the 17th century, there were an estimated 90 million acres of longleaf pine forests with nearly 900 different plant species in the southeastern United States. In western Louisiana, the historic range of longleaf pine included all or parts of Acadia, Allen, Avoyelles, Beauregard, Calcasieu, Evangeline, Jefferson Davis, Natchitoches, Rapides, Sabine, St. Landry, and Vernon Parishes. The habitat type has been reduced by 95-99% of its original extent in the Lower West Gulf Coastal Plain ecoregion in the southwest and west central portions of Louisiana. Threats to western longleaf pine savannahs include construction of roads, pipeline or utilities, conversion to loblolly pine plantations, fire exclusion or inappropriate fire regimes, use of chemical herbicides or fertilizers, invasive or alien species, and hydrological alterations.

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.

In addition, longleaf pine savannahs provide habitat for 23 species of conservation concern in Louisiana, including the federally-listed red-cockaded woodpecker (*Picoides borealis*) and American chaffseed (*Schwalbea americana*), and the candidate species Louisiana pine snake (*Pituophis ruthveni*).

#### 4. ESTABLISHMENT OF THE MITIGATION BANK

##### 4.1 Site Restoration Plan

The Sponsor proposes to rehabilitate 592.7 acres and re-establish 1.7 acres of longleaf pine savannah, rehabilitate 30.7 acres and preserve 22.4 acres of bottomland hardwood wetlands and preserve 1.7 acres of hardwood uplands.

**Table 3** contains post-construction habitats and acreage descriptions for the proposed re-establishment, rehabilitation, enhancement, and preservation of wetlands associated with the 654.7-acre tract.

**Table 3: Post-Construction Habitat Acreage Summary**

| <b>Habitat</b>                        | <b>Rehabilitation<br/>(Currently<br/>Pine<br/>Plantation)</b> | <b>Re-<br/>establishment<br/>(Currently<br/>Mixed<br/>Hardwood-<br/>Pine Uplands<br/>and Ditch)</b> | <b>Enhancement<br/>(Currently<br/>Tallow<br/>Dominant<br/>Wetlands)</b> | <b>Preservation</b> |
|---------------------------------------|---|---|---|---------------------|
| Bottomland<br>Hardwood<br>Wetlands    | 30.7 acres  | N/A   | 1.6 acres   | 22.4 acres          |
| Longleaf Pine<br>Savannah<br>Wetlands | 592.7 acres   | 1.7   | N/A   | N/A                 |
| Upland Buffer                         | N/A   | N/A   | N/A   | 1.7                 |
| <b>Totals</b>                         | <b>625.1 acres</b>  | <b>1.7 acres</b>  | <b>1.6 acres</b>  | <b>24.1 acres</b>   |

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

#### 4.1.1 Soils/Hydrologic Work

The spoil banks along the ditch on the western site boundary will be graded to fill the ditch to natural grade (**Figures 13, 14, and 15**). The majority of the site was historically leveled for rice 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

##### **Commercial Logging of Undesirable Pine and Hardwoods**

To facilitate restoration, commercial logging of undesirable trees across 623.5 acres, comprising the loblolly pine plantation will be performed immediately as weather permits for minimal impact on soil and vegetation. Planted loblolly pine, as well as any naturally-occurring hardwoods, will be removed in longleaf savannah rehabilitation areas (592.7 acres). In addition, loblolly pine will be removed in the bottomland hardwood rehabilitation areas (30.7 acres). Once all commercial-grade timber is removed from HBMB, residual slash will be mechanically piled on existing windrows for burning. All logging events will be carefully designed, implemented immediately as weather permits, and monitored by experienced professionals.



## Vegetative Plantings

### Longleaf Pine

Following logging, site preparation, and hydrologic restoration longleaf pine seedlings will be planted on 592.7 acres during the standard planting season (December-March). As lower planting densities are optimal for longleaf pine ecosystem restoration, seedlings shall be planted using 12 x 12 spacing for an initial stocking level of 302 trees per acre. The planted areas will be subsequently thinned to mimic natural clusters of longleaf pine to achieve targeted stocking and to create the park-like effect of the historical savanna. The Sponsor will target 125 - 150 trees per acre for the 1-year survival criteria and 25 - 65 longleaf pine trees per acre for Year 5.

Herbaceous understory will be re-established through natural recruitment. The native ground cover communities that historically characterized the great majority of the bank have been severely impacted by the pine plantation management. Prescribed fire will be the most important long-term management tool used on the tract to reestablish the native grasses, forbs, and herbaceous plants. Burning is essential for re-establishment of grass-herbaceous ground-cover communities. Among other effects, properly timed fires stimulate native grass and herbaceous plants to grow vigorously, flower and produce seeds, stimulate longleaf pine to grow out of the "grass-stage", and control brown spot needle-blight on young longleaf.

### Bottomland Hardwoods

Approximately 30.7 acres of bottomland hardwood rehabilitation will be planted with an appropriate species mixture of bottomland hardwoods during the standard planting season (December-March). 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 bottomland hardwoods:

**Table 4: Bottomland Hardwood Species Selection List**

| COMMON NAME                | SCIENTIFIC NAME                | MAST | %          |
|----------------------------|--------------------------------|------|------------|
| Laurel oak                 | <i>Quercus laurifolia</i>      | Hard | 10         |
| Nuttall oak                | <i>Quercus texana</i>          | Hard | 10         |
| Cherrybark oak             | <i>Quercus pagodafolia</i>     | Hard | 10         |
| Willow oak                 | <i>Quercus phellos</i>         | Hard | 10         |
| Water oak                  | <i>Quercus nigra</i>           | Hard | 10         |
| Water hickory              | <i>Carya aquatica</i>          | Hard | 10         |
| <b>Percent Composition</b> |                                |      | <b>60%</b> |
| Sweet gum                  | <i>Liquidambar styraciflua</i> | Soft | 5          |
| Bald cypress               | <i>Taxodium distichum</i>      | Soft | 20         |
| Red maple                  | <i>Acer rubrum</i>             | Soft | 5          |
| Persimmon                  | <i>Diospyros virginiana</i>    | Soft | 5          |
| Sugar-berry                | <i>Celtis laevigata</i>        | Soft | 5          |
| <b>Percent Composition</b> |                                |      | <b>40%</b> |

Fire Management Regime

Prescribed fire will be the most important regular management tool used on the tract. Burning is essential for longleaf pine regeneration, preclusion of unwanted hardwoods and shrubs, and re-establishment of the herbaceous ground-cover communities. Application of frequent fire is necessary to help restore the native distribution of longleaf pine and slash pine-pond cypress habitats into areas that have been overtaken by hardwoods and other pines. Further, properly timed fires stimulate native herbaceous plants to grow vigorously, flower and produce seeds, stimulate longleaf pine to grow out of the "grass-stage", and control brown spot needle blight on young longleaf.

The Sponsor proposes to reestablish a fire regime within the longleaf pine savannah areas on the HBMB through a strictly regulated ecological burning program. Growing season burns, that mimic historical wildfire occurrences (late March – June), will be favored over dormant season burns. The regulated burning program will commence the first year as a site preparation burn and continued every two years for the first six years and then on a two to three-year rotation as needed. Natural or existing fire breaks will be used whenever possible to reduce unnatural disturbances to the bank and allow burns to mimic natural fire behavior.

Controlled burns will be administered in large blocks, to mimic a natural wildfire, by a contractor properly equipped and trained on the techniques of prescribed burning. Fire breaks will be set along the boundaries of the bottomland hardwood areas. While the site is practically inaccessible by the public, adjacent landowners, as well as local fire officials will be made aware of planned burns in advance. Prescribed fire is common to this area and has been implemented on this property in the past.

#### 4.2 Technical Feasibility

The limited construction work required to develop the bank is routine in nature. The site will be clear-cut to remove plantation loblolly pine and planted with longleaf pine and bottomland hardwood seedlings. The site was previously leveled for rice production. A ditch on the western site boundary will be closed. No other hydrological management will be required.

#### 4.3 Current Site Risks

The Sponsor owns the land to the north, west, and south of the HBMB and plans to incorporate the land into the bank in the future. Land to the east is primarily in agricultural use. The HBMB site is zoned A1- Agricultural. There are no liens, rights-of-way, servitudes, or easements on the HBMB. 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 HBMB will be ensured through active and adaptive management including, but not limited to, fire management regime, invasive species control, appropriate monitoring, and long-term maintenance. There is no maintenance of hydrological features proposed for the Bank.

### 5. PROPOSED SERVICE AREA

HBMB 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. HBMB will service HUCs 08080203, 08080204, 08080205, and 08080206 of the Calcasieu Basin. The Calcasieu Basin includes the current and historic range of the western longleaf pine savannah. The proposed service area for the HBMB is attached as **Figure 16**.

### 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<br>311 West Russell<br>Welsh, Louisiana 70591<br>Jayfear@themitgroupllc.com<br>(337) 338-0162 |
|----------|---|

Agent: Charles Jones, Director of Ecological Services  
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  
Jay\_fear1@hotmail.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, prescribed burning, 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 654.7-acre tract. A copy of the Conservation Servitude will be filed in the real estate records of the Mortgage and Conveyance Office of Calcasieu 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, vegetation management via a prescribed fire regime, invasive species control, boundary maintenance, site protection, and the funding of such activities. Prescribed burns will be conducted on a two- to three-year basis during the growing season to mimic historical wildfire occurrences. The burns will be conducted by a contractor properly equipped and trained on the techniques of prescribed burning. The wetland habitats will be managed to increase and maintain the biological,

chemical, and physical wetland functions of the HBMB 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 HBMB 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.

America’s Longleaf Restoration Initiative. 2009. Range-Wide Conservation Plan for Longleaf Pine. <http://www.americaslongleaf.org/>

Demers, Chris, A. Long, and P. Moinogue. 2013. Longleaf Pine Regeneration (SS-FOR-13). Gainesville: University of Florida Institute of Food and Agricultural Sciences. <http://edis.ifas.ufl.edu/DLN/>.

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. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42.

Longleaf Pine Initiative. 2011. Longleaf Pine Initiative Fact Sheet. Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/initiatives/?cid=nr csdev11\\_023913](http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/initiatives/?cid=nr csdev11_023913)

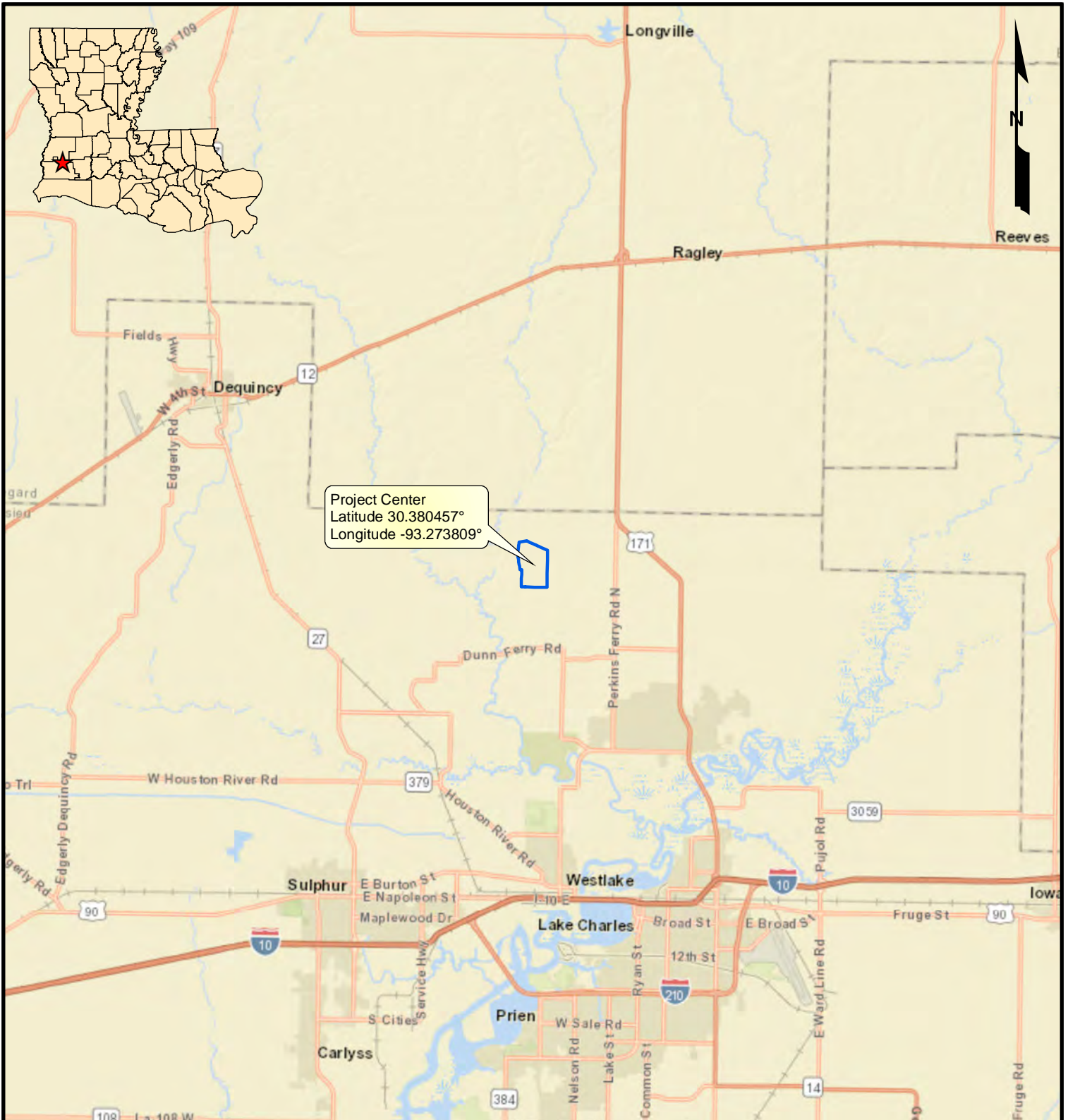
Louisiana Natural Heritage Program. 2009. The Natural Communities of Louisiana. Louisiana Department of Wildlife and Fisheries.

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 [11/7/2016].

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

## **FIGURES**



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**Legend**

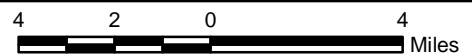
 Hickory Branch Mitigation Bank (654.7 acres)

**Vicinity Map**

**Mitigation Bank Prospectus**  
 Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



**MATRIX**NEWORLD  
 Engineering Progress

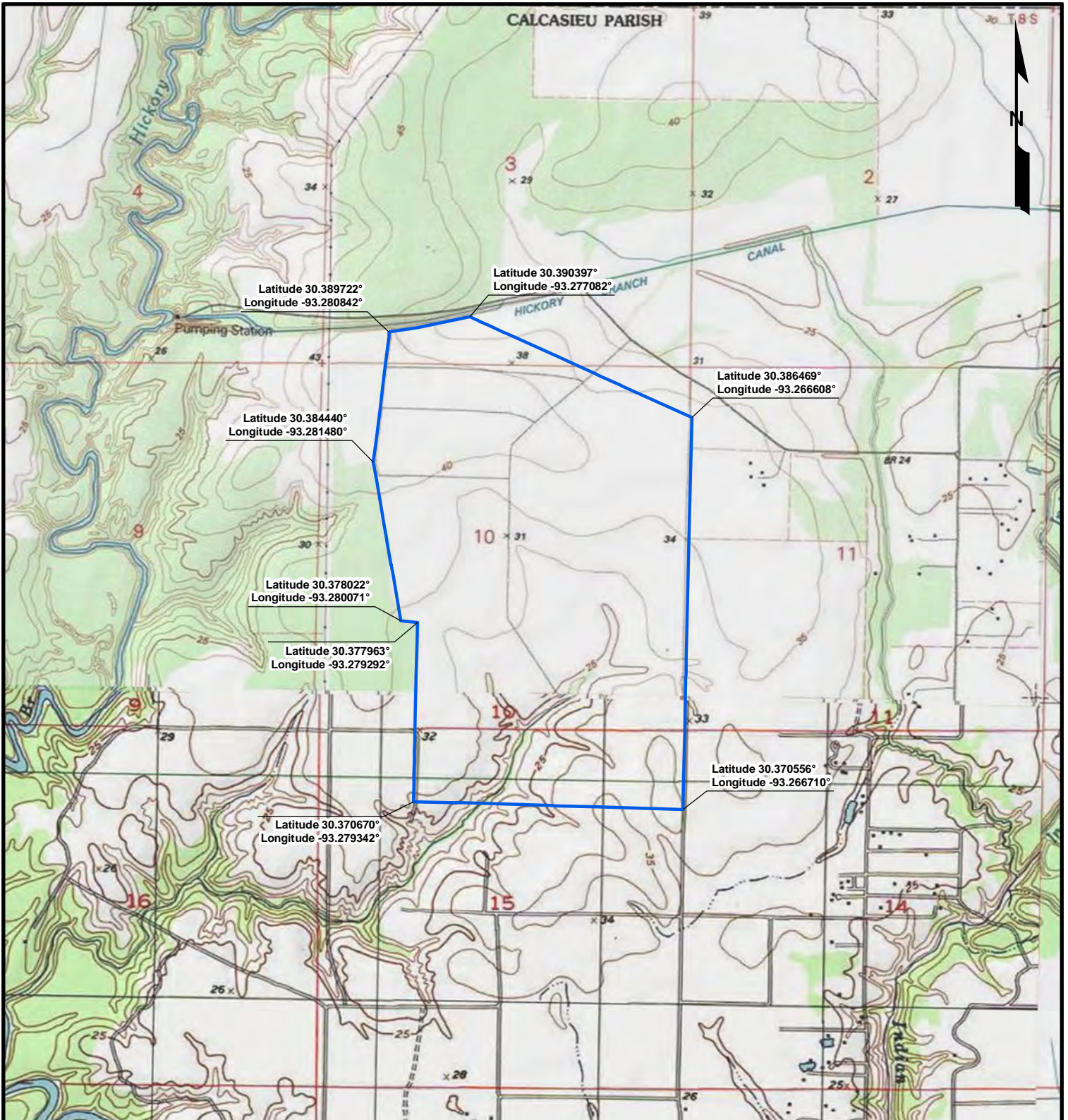
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| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A032 |

**1**

Figure No.

Source: Base map comprised of ESRI StreetMap USA data.





**Legend**

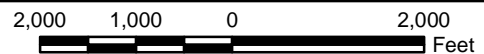
 Hickory Branch Mitigation Bank (654.7 acres)

**Site Location Map**

Mitigation Bank Prospectus  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



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Engineering Progress

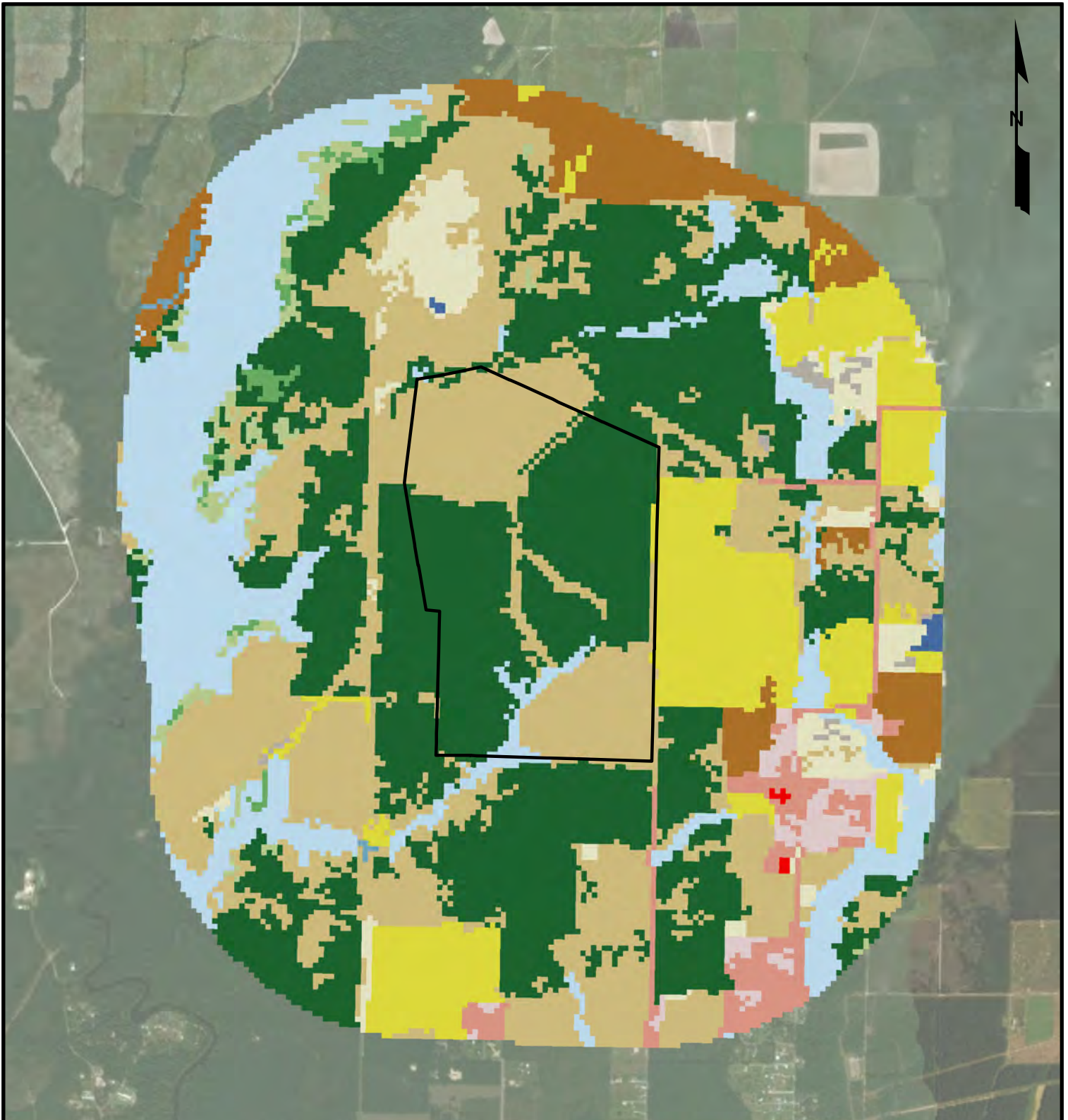
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| Drawing No. | 17-438-A033 |

**2**

Figure No.

Source: Base map comprised of U.S.G.S. 7.5-minute topographic map(s), "Buhler, LA" dated 1998; and "Gordon, LA" dated 1994.





**Legend**

Hickory Branch Mitigation Bank (654.7 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 |

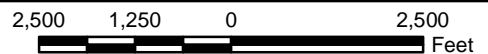
**Source:** Base map comprised of ESRI World Imagery. Land use data obtained from the USDA/NRCS 2011 National Land Cover Dataset (NLCD).

**Land Use Map**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



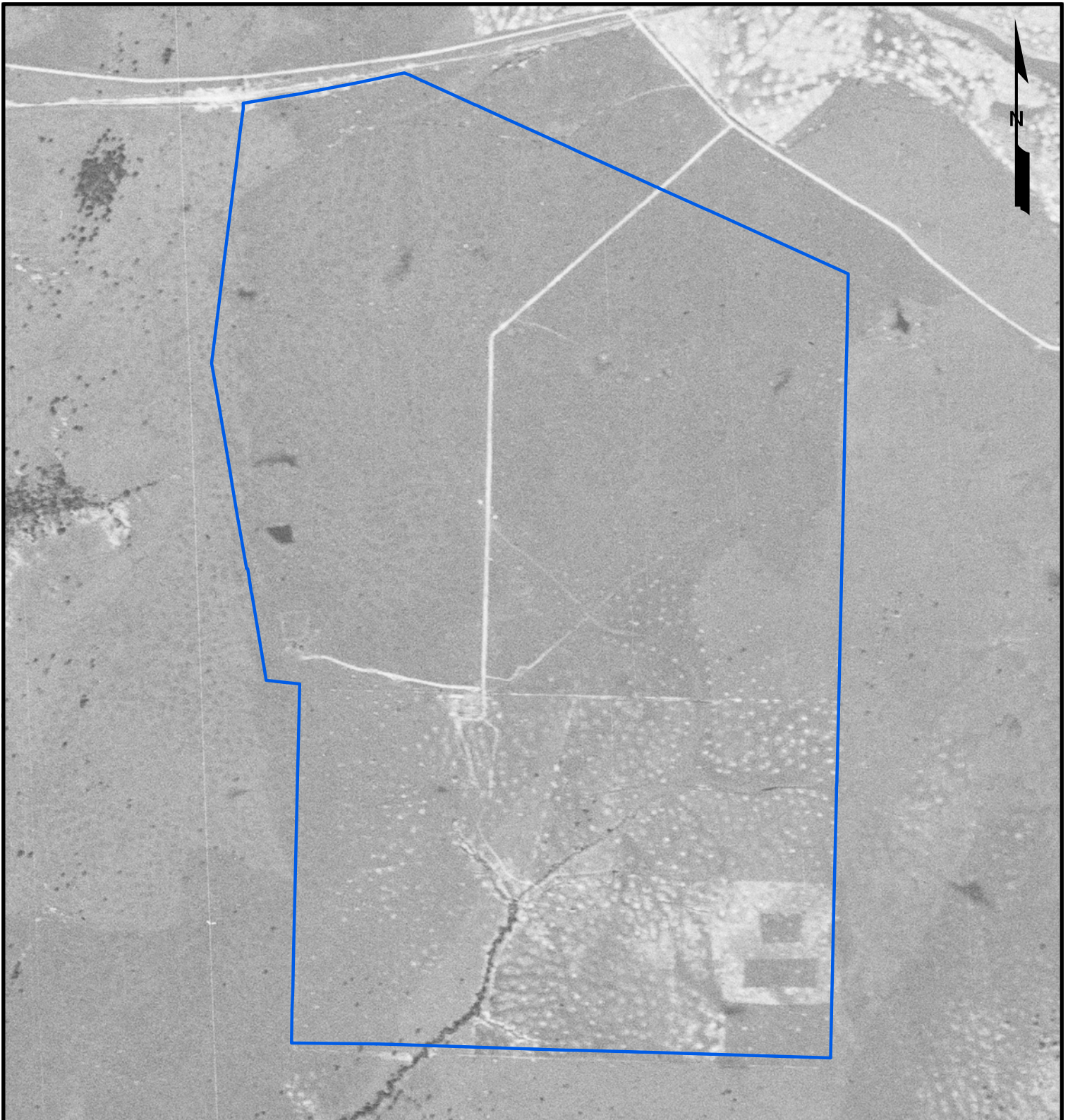
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**3**

Figure No.





**Legend**

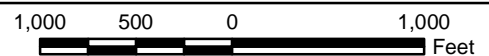
 Hickory Branch Mitigation Bank (654.7 acres)

**1952 Aerial Photograph**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



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| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A035 |

**4**

Figure No.

**Source:** U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID: ARA000960122039 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, March 24, 1952.





**Legend**

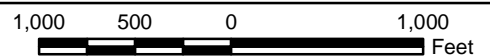
 Hickory Branch Mitigation Bank (654.7 acres)

**1967 Aerial Photograph**

Mitigation Bank Prospectus  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID: AR1VBWB00020159 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, December 3, 1967.

**MATRIX**NEWORLD  
Engineering Progress

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| Date        | 5/7/2018    |
| Drawing No. | 17-438-A036 |

**5**  
Figure No.





**Legend**


 Hickory Branch Mitigation Bank (654.7 acres)

**1985 Aerial Photograph**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank

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**MATRIX**NEWORLD  
Engineering Progress

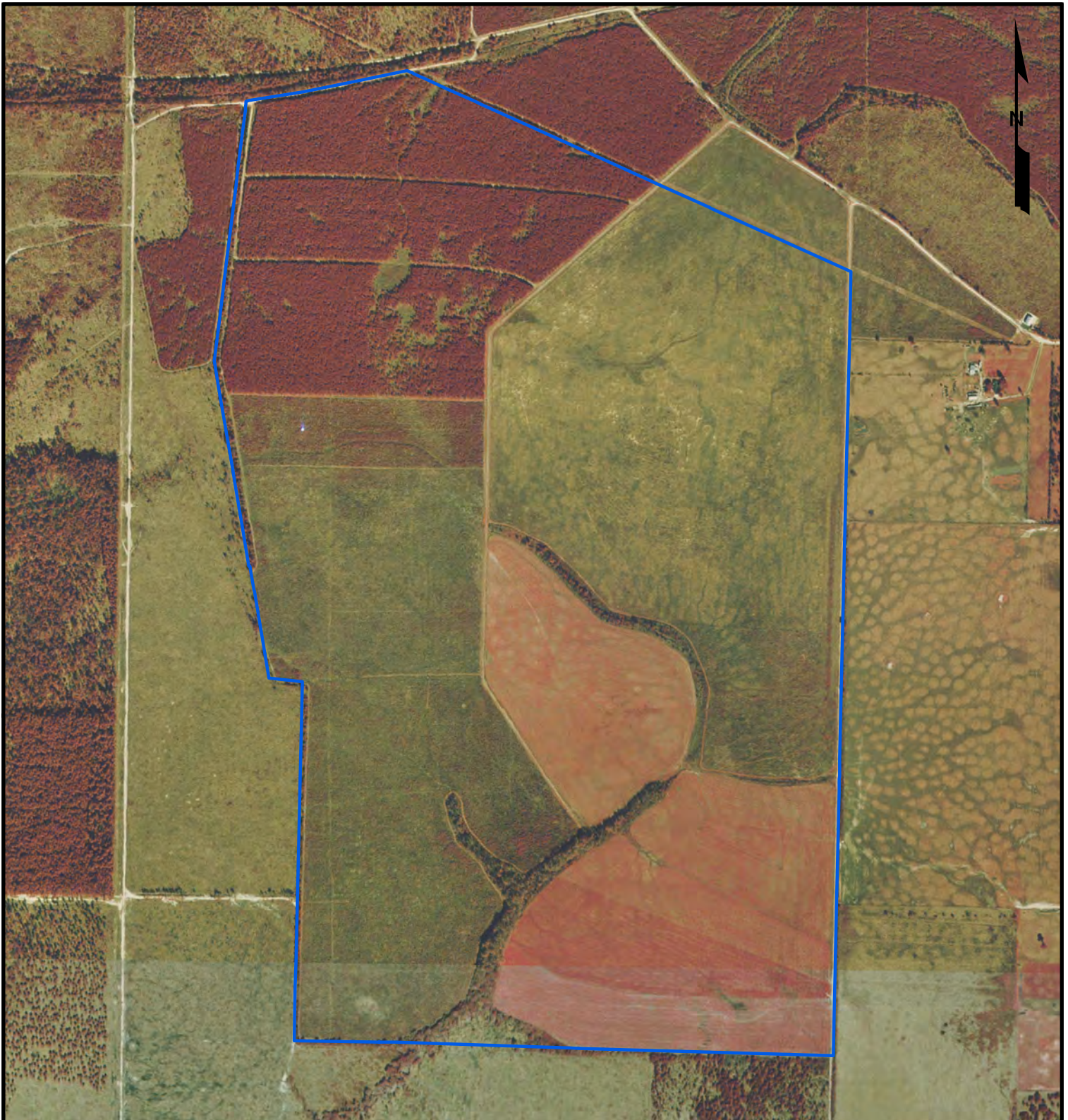
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**6**

Figure No.

**Source:** U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID: AR5850035512101 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, December 15, 1985.





**Legend**

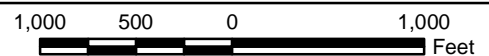
 Hickory Branch Mitigation Bank (654.7 acres)

**1998 Aerial Photograph**

Mitigation Bank Prospectus  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



**MATRIX**NEWORLD  
Engineering Progress

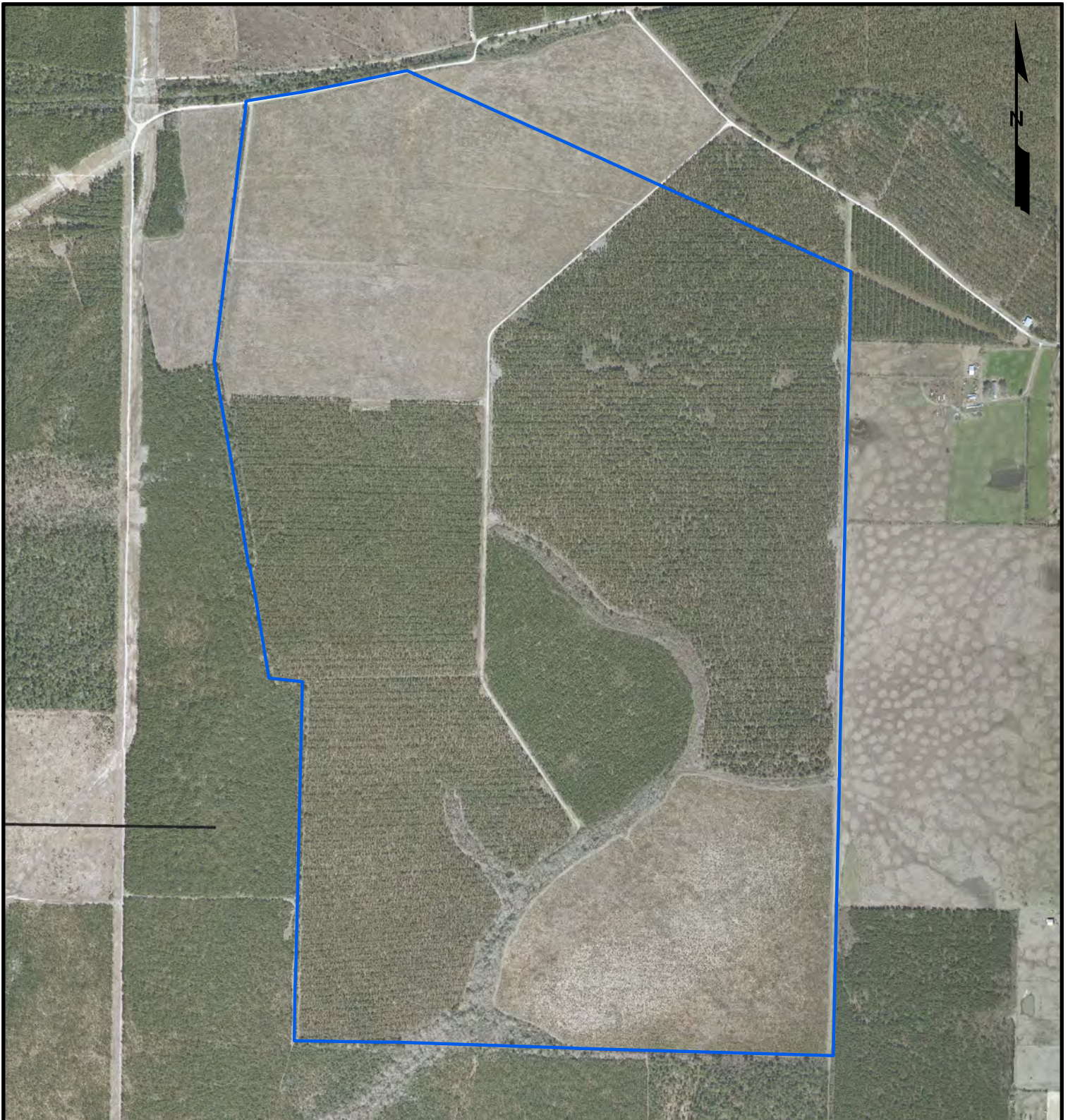
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| Drawing No. | 17-438-A038 |

**7**

Figure No.

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





**Legend**

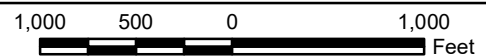
 Hickory Branch Mitigation Bank (654.7 acres)

**2010 Aerial Photograph**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



**MATRIX**NEWORLD  
Engineering Progress

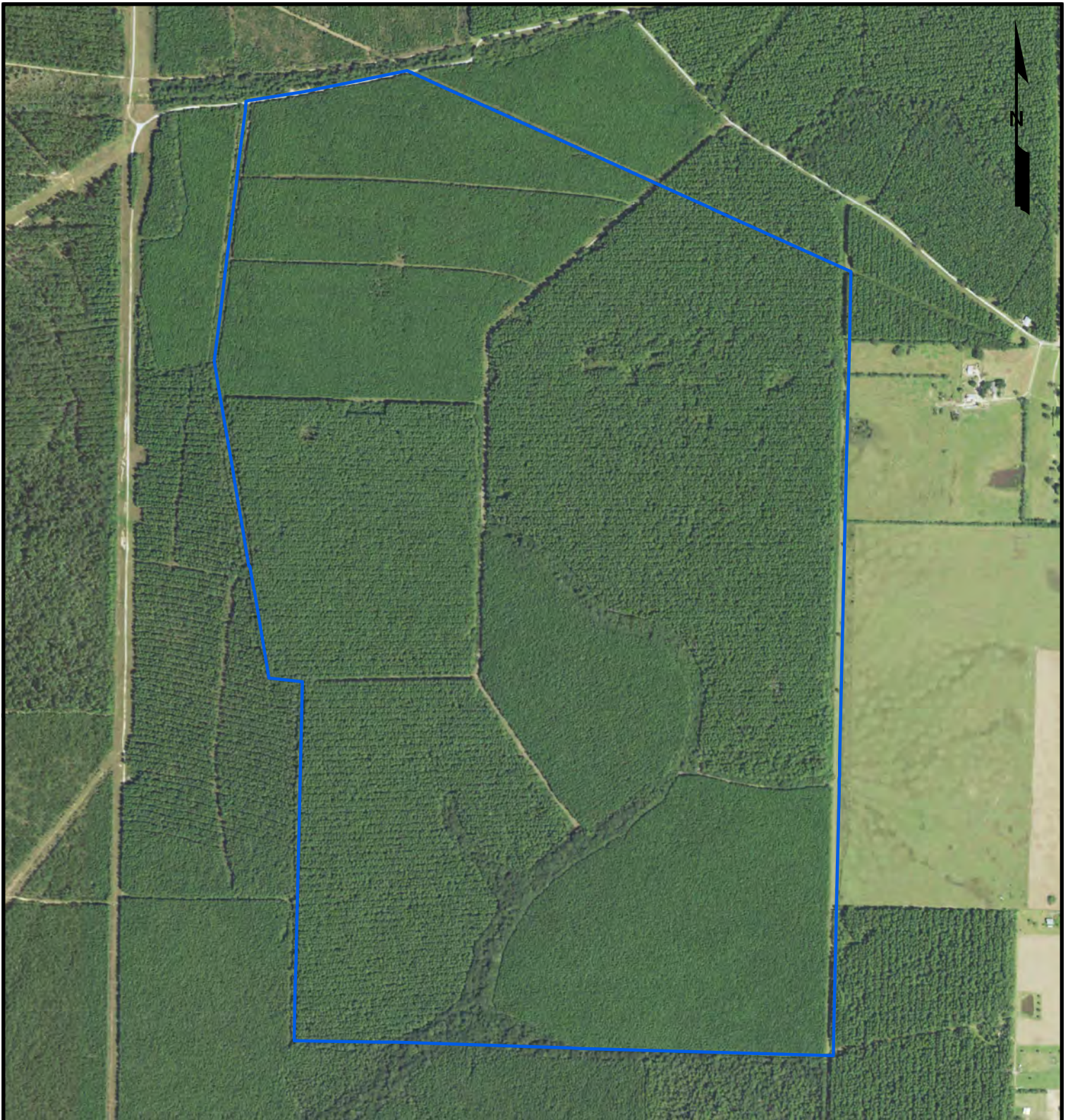
|             |             |
|-------------|-------------|
| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A039 |

**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**


 Hickory Branch Mitigation Bank (654.7 acres)

**2017 Aerial Photograph**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank

1,000 500 0 1,000  
 Feet

**MATRIX**NEWORLD  
Engineering Progress

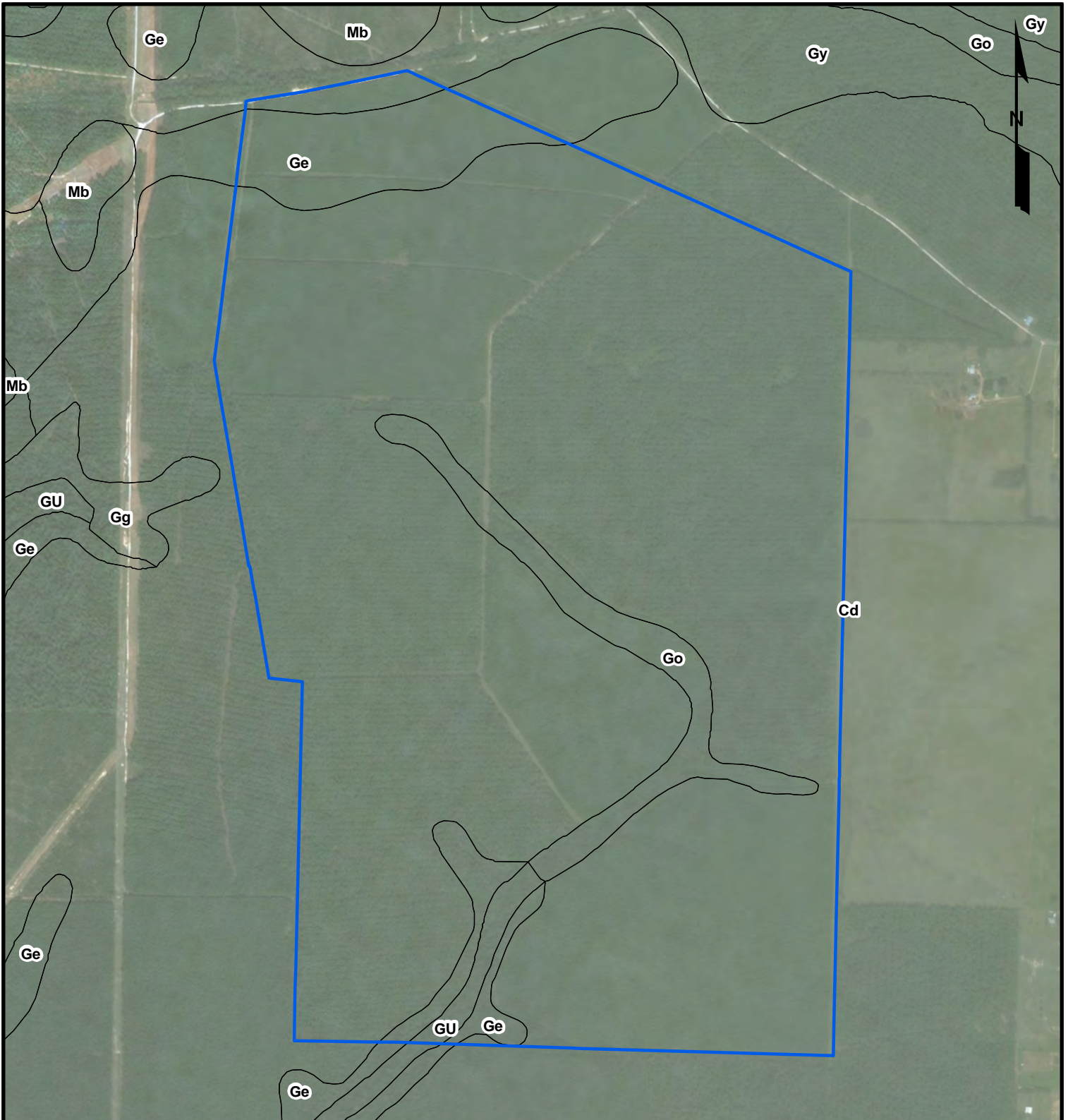
|             |             |
|-------------|-------------|
| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A040 |

**9**

Figure No.

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





**Legend**

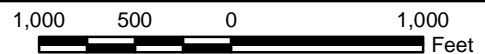
- Hickory Branch Mitigation Bank (654.7 acres)
- Soils
- Cd - Caddo-Messer complex, 0 to 1 percent slopes
- Ge - Glenmora silt loam, 1 to 3 percent slopes
- Go - Guyton silt loam, 0 to 1 percent slopes, occasionally flooded
- GU - Guyton and Bienville soils frequently flooded

**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**  
Calcasieu Parish, Louisiana

**The Mitigation Group**  
Hickory Branch Mitigation Bank

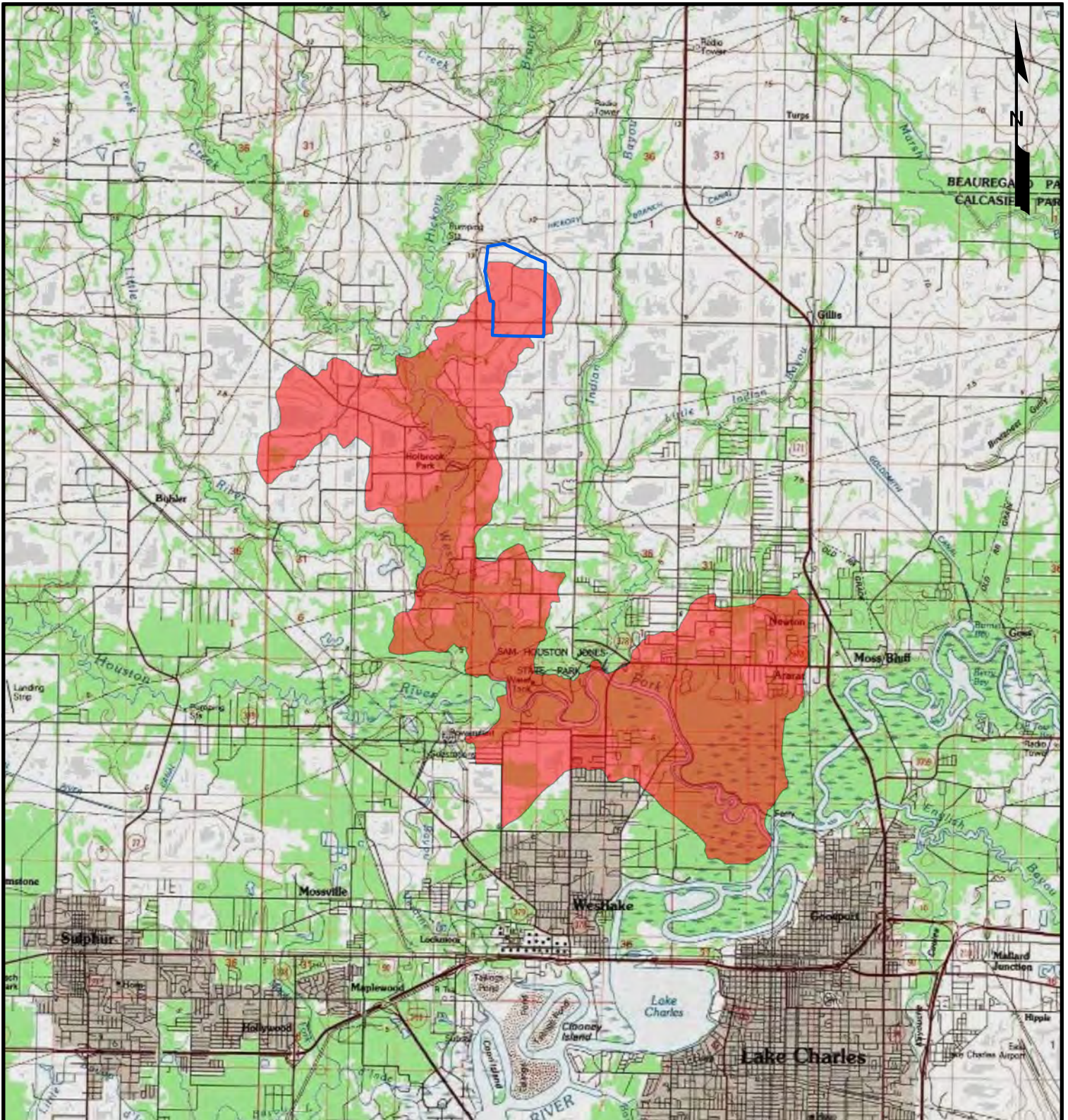


**MATRIX**NEWORLD  
Engineering Progress

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|-------------|-------------|
| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A041 |

**10**  
Figure No.





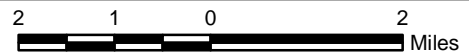
**Legend**

- Hickory Branch Mitigation Bank (654.7 acres)
- Moss Gully-West Fork Calcasieu River Watershed (23.2 miles)

**Contributing Watershed Map**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**  
Hickory Branch Mitigation Bank



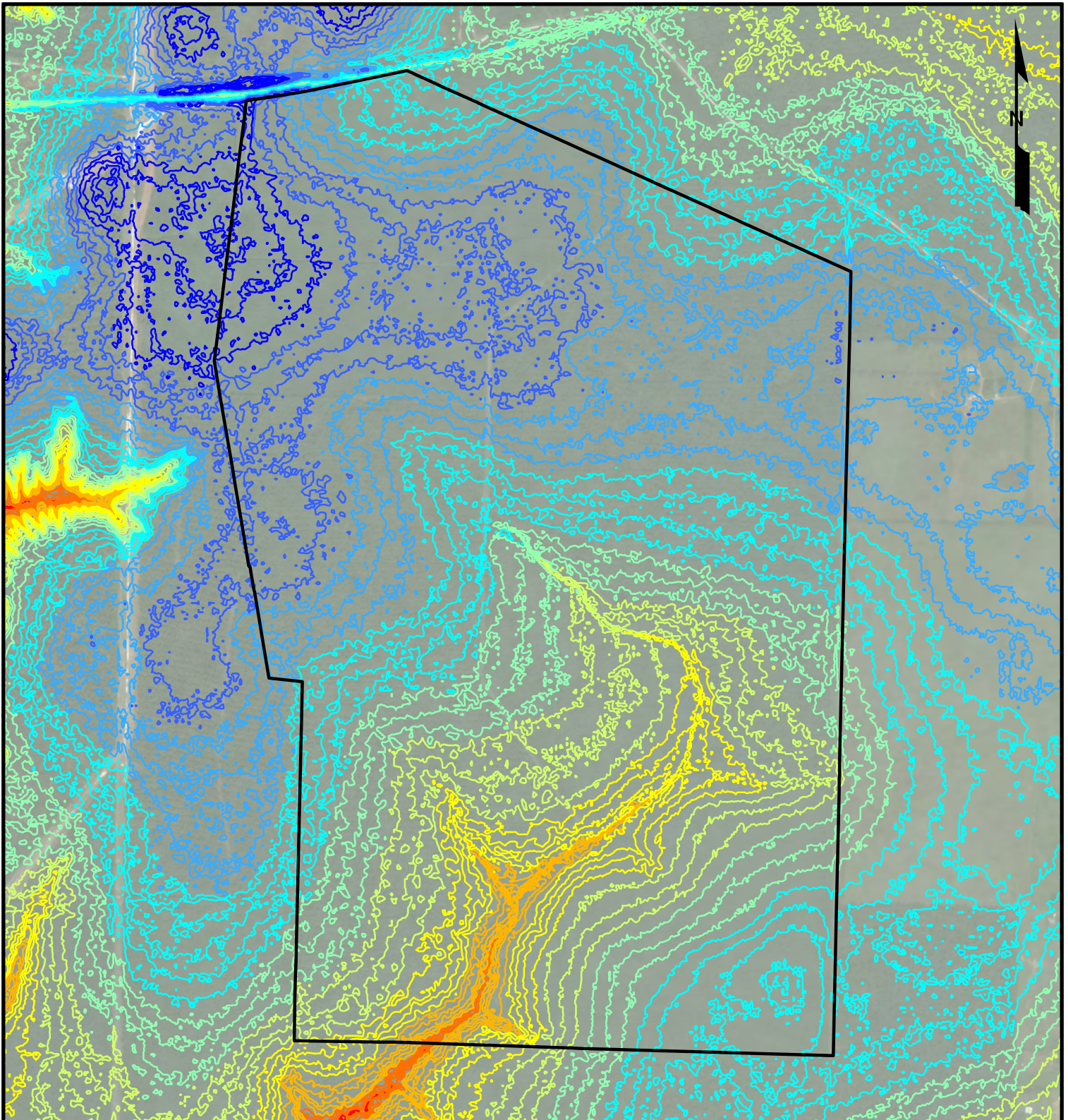
**Source:** Base map comprised of U.S.G.S. 100K topographic map, "Lake Charles, LA" dated 1986. Watershed boundaries obtained from the Watershed Boundary Dataset (USDA-NRCS/USGS/EPA).

**MATRIX****NEW****WORLD**  
Engineering Progress

|             |             |
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| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A042 |

**11**  
Figure No.















**Legend**

 Hickory Branch Mitigation Bank (654.7 acres)

**Elevation Contours (feet)**

- |  |   |
|--|---|
|  6 - 11  |  28 - 30 |
|  12 - 15 |  31 - 34 |
|  16 - 20 |  35 - 37 |
|  21 - 24 |  38 - 40 |
|  25 - 27 |  41 - 47 |

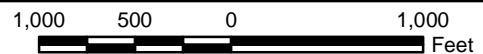
**Source:** Base map comprised of ESRI World Imagery. LIDAR Contours calculated from USACE/LOSCO Digital Elevation Model, dated 2002/2009.

**LIDAR Map**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank

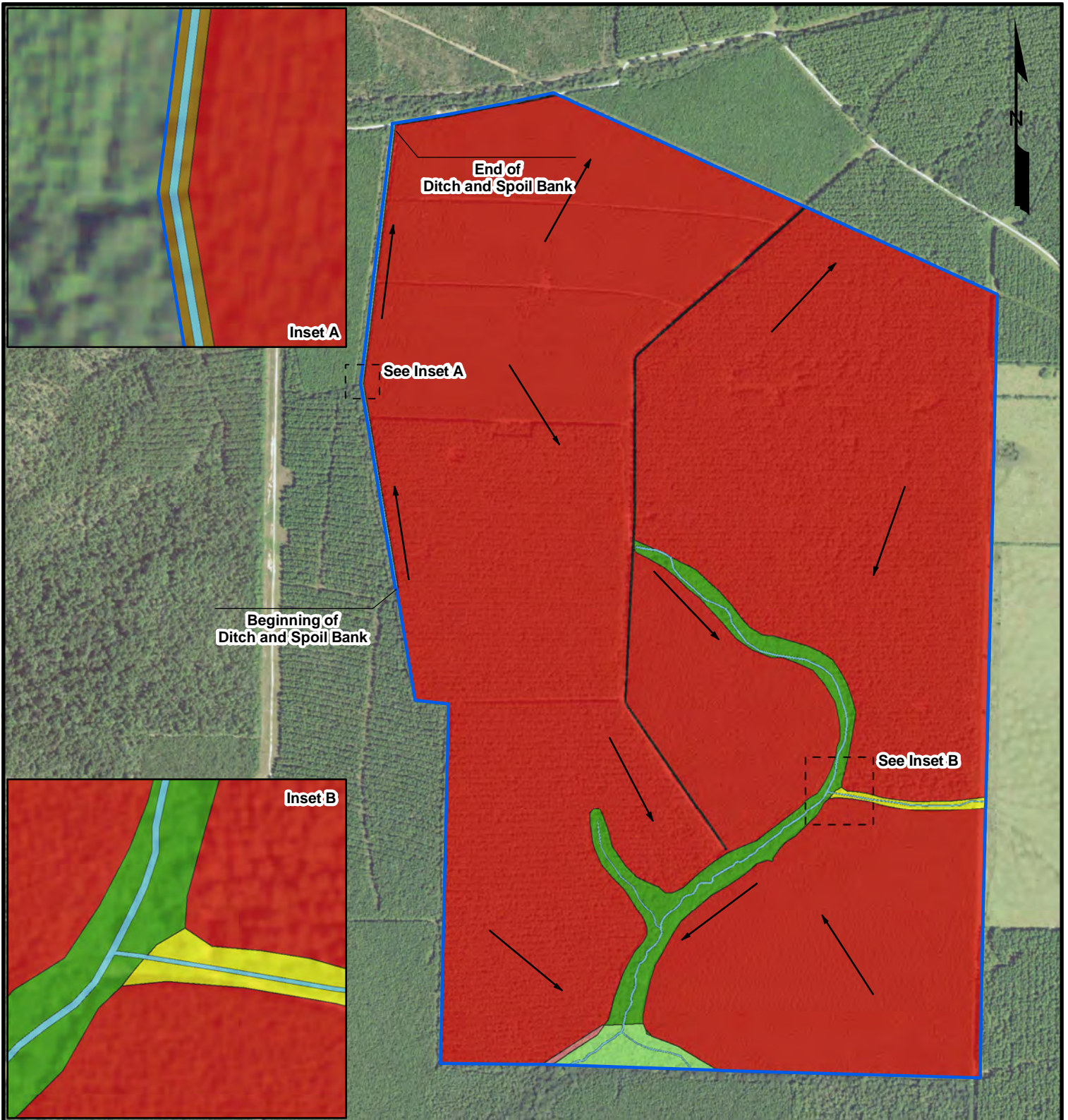


**MATRIX**NEWORLD  
Engineering Progress

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|-------------|-------------|
| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A043 |

**12**  
Figure No.





**Legend**

- Hickory Branch Mitigation Bank (654.7 acres)       Drainage Flow
- Pine-Dominant Wetlands (100% Wet; 623.0 acres)
- Pine-Dominant Wetlands (66% Wet; 0.5 acres)
- Tallow-Dominant Wetlands (100% Wet; 1.6 acres)
- Bottomland Hardwoods (100% Wet; 22.9 acres)
- Bottomland Hardwoods (66% Wet; 1.2 acres)
- Other Waters of the U.S. (2.2 acres)
- Spoil Bank (1.2 acres)
- Existing At-Grade Roads (2.1 acres)

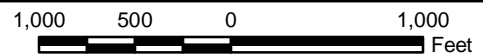
**Source:** Base map comprised of 2017 aerial photograph from USDA/FSA Aerial Photography Field Office, National Agriculture Imagery Program (NAIP).

**Existing Site Plan**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank

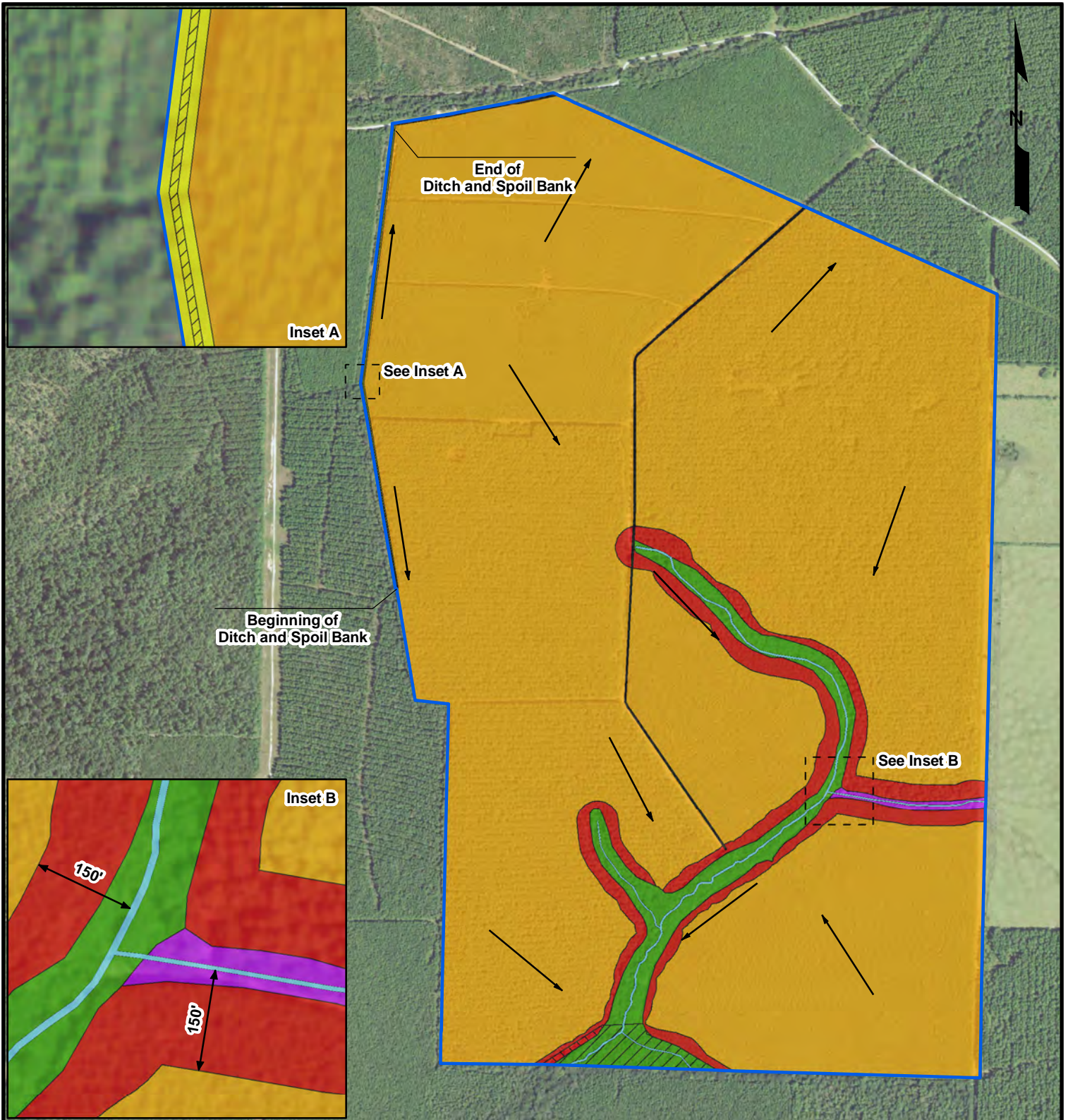


**MATRIX**NEWORLD  
Engineering Progress

|             |             |
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| Approved By | CEJ         |
| Date        | 1/16/2019   |
| Drawing No. | 17-438-A117 |

**13**  
Figure No.





**Legend**

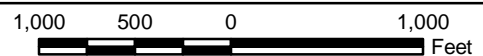
- Hickory Branch Mitigation Bank (654.7 acres)
- Longleaf Pine Savannah Re-Establishment (Filled Ditch; 0.5 acre)
- Longleaf Pine Savannah Re-Establishment (Graded Spoil Banks; 1.2 acres)
- Longleaf Pine Savannah Rehabilitation (592.7 acres)
- Other Waters of the U.S. (1.7 acres)
- Drainage Flow
- Bottomland Hardwood Rehabilitation (100% Wet; 30.4 acres)
- Bottomland Hardwood Rehabilitation (66% Wet; 0.4 acre)
- Bottomland Hardwood Enhancement (100% Wet; 1.6 acres)
- Bottomland Hardwood Preservation (100% Wet; 19.2 acres)
- Bottomland Hardwood Preservation (66% Wet; 4.9 acres)
- Existing At-Grade Roads (2.1

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

**Restoration Site Plan**

Mitigation Bank Prospectus  
Calcasieu Parish, Louisiana

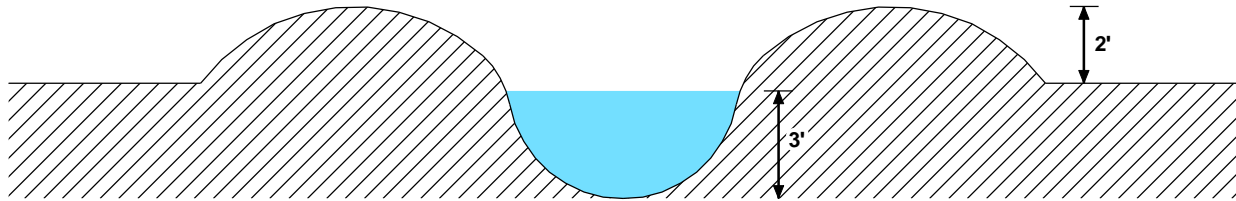
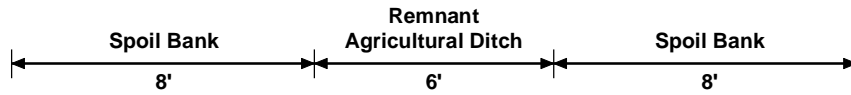
**The Mitigation Group**  
Hickory Branch Mitigation Bank



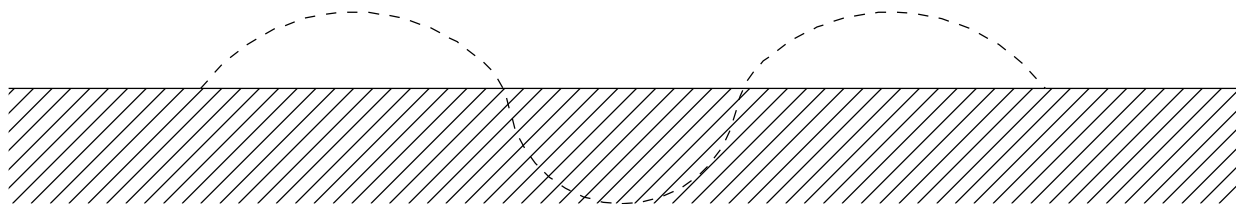
**MATRIX**NEWORLD  
Engineering Progress

|             |             |
|-------------|-------------|
| Approved By | CEJ         |
| Date        | 2/7/2019    |
| Drawing No. | 17-438-A118 |

**14**  
Figure No.



**Pre-Restoration**



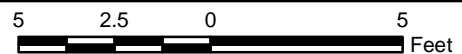
**Post-Restoration**

## Typical Ditch and Spoil Bank Cross Section

Mitigation Bank Prospectus  
Calcasieu Parish, Louisiana

### The Mitigation Group

Hickory Branch Mitigation Bank

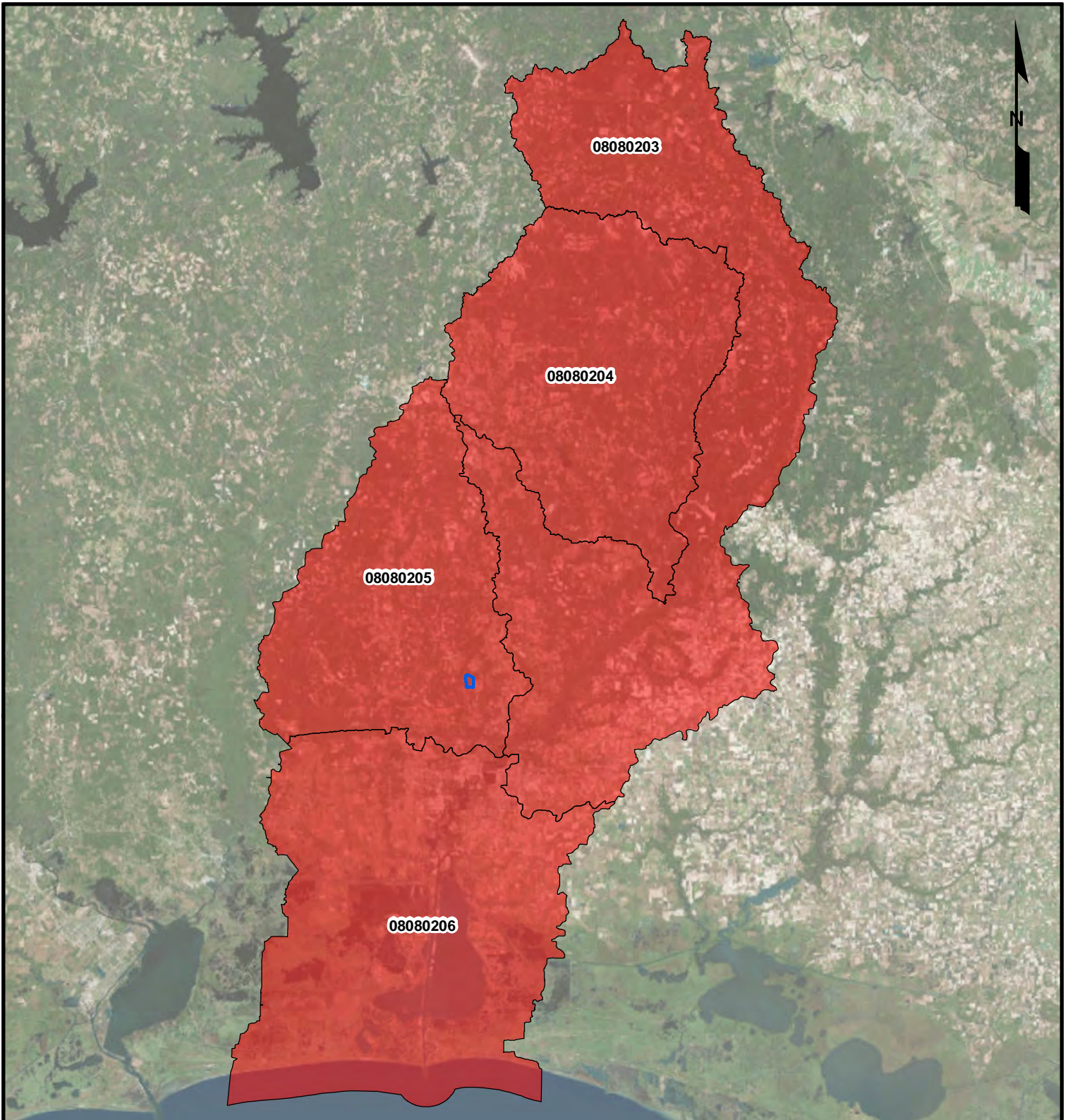


**MATRIX**NEWORLD  
Engineering Progress

|             |             |
|-------------|-------------|
| Approved By | CEJ         |
| Date        | 5/7/2018    |
| Drawing No. | 17-438-A046 |

**15**  
Figure No.





**Legend**

- Hickory Branch Mitigation Bank (654.7 acres)
- Service Area (Calcasieu Basin)
- Hydrologic Unit Boundary

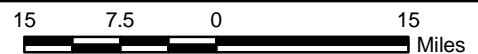
**Source:** Base map comprised of ESRI World Imagery. Hydrologic Unit boundaries obtained from the Watershed Boundary Dataset (USDA-NRCS/USGS/EPA).

**Service Area Map**

**Mitigation Bank Prospectus**  
Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Mitigation Bank



**MATRIX**NEWORLD  
Engineering Progress

|             |             |
|-------------|-------------|
| Approved By | CEJ         |
| Date        | 5/17/2018   |
| Drawing No. | 17-438-A048 |

**16**  
Figure No.

**APPENDIX A**

**PRELIMINARY JURISDICTIONAL  
DETERMINATION  
(MVN 2018-00361)**





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

February 6, 2019

Operations Division  
Surveillance and Enforcement Section

Mr. Charles Jones  
Matrix New World  
4451 Bluebonnet Blvd, Ste E  
Baton Rouge, Louisiana 70809

Dear Mr. Jones:

Reference is made to your request, on behalf of The Mitigation Group LLC, for a U.S. Army Corps of Engineers' jurisdictional determination on property located in Sections 1, 2, 3, 4, 9, 10, 11, 15, 16, 21, and 22, Township 8 South, Range 9 West, Calcasieu Parish, Louisiana (enclosed map). Specifically, this property is identified as The Hickory Branch site, a 3017.63 acre tract located on and north of Watts Road and West Fork Calcasieu River, and on and east of Hickory Branch, near Gillis.

Based on review of recent maps, aerial photography, soils data, the information provided with your request, and a field inspection of the property conducted on November 15, 2018, we have determined that part of the property is wetland and may be subject to Corps' jurisdiction. The approximate limits of the wetland are designated in red 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 jurisdictional wetland or the nonwetland waters shown in blue on the map. Also, a portion of the nonwetland waters indicated in blue on the map may be subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act (RHA). A DA Section 10 permit will be required prior to any work in waters of the United States, including wetlands, subject to Corps jurisdiction under Section 10 of the RHA.

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 client only and is not to be used for decision-making by any other individual or entity.

Additionally, this property includes a mitigation bank protected by a perpetual conservation servitude. For more information regarding this mitigation bank, please contact Mr. Brandon Gaspard at (504) 862-1280.

Should there be any questions concerning these matters, please contact Dr. Rosie Schwamenfeld or Mr. Aris Anthony Harris at (337) 291-3045 and reference our Account No. MVN-2018-00361-SR. If you have specific questions regarding the permit process or permit applications, please contact our Western Evaluation Section at (504) 862-2261.

Sincerely,  
**OBERLIES.BRIAN.MC**  
**INNIS.1230779739**

for Martin S. Mayer  
Chief, Regulatory Branch

Digitally signed by OBERLIES.BRIAN.MC  
INNIS.1230779739  
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,  
ou=USA, cn=OBERLIES.BRIAN.MC INNIS.1230779739  
Date: 2019.02.06 10:00:00 -06'00'

Enclosures

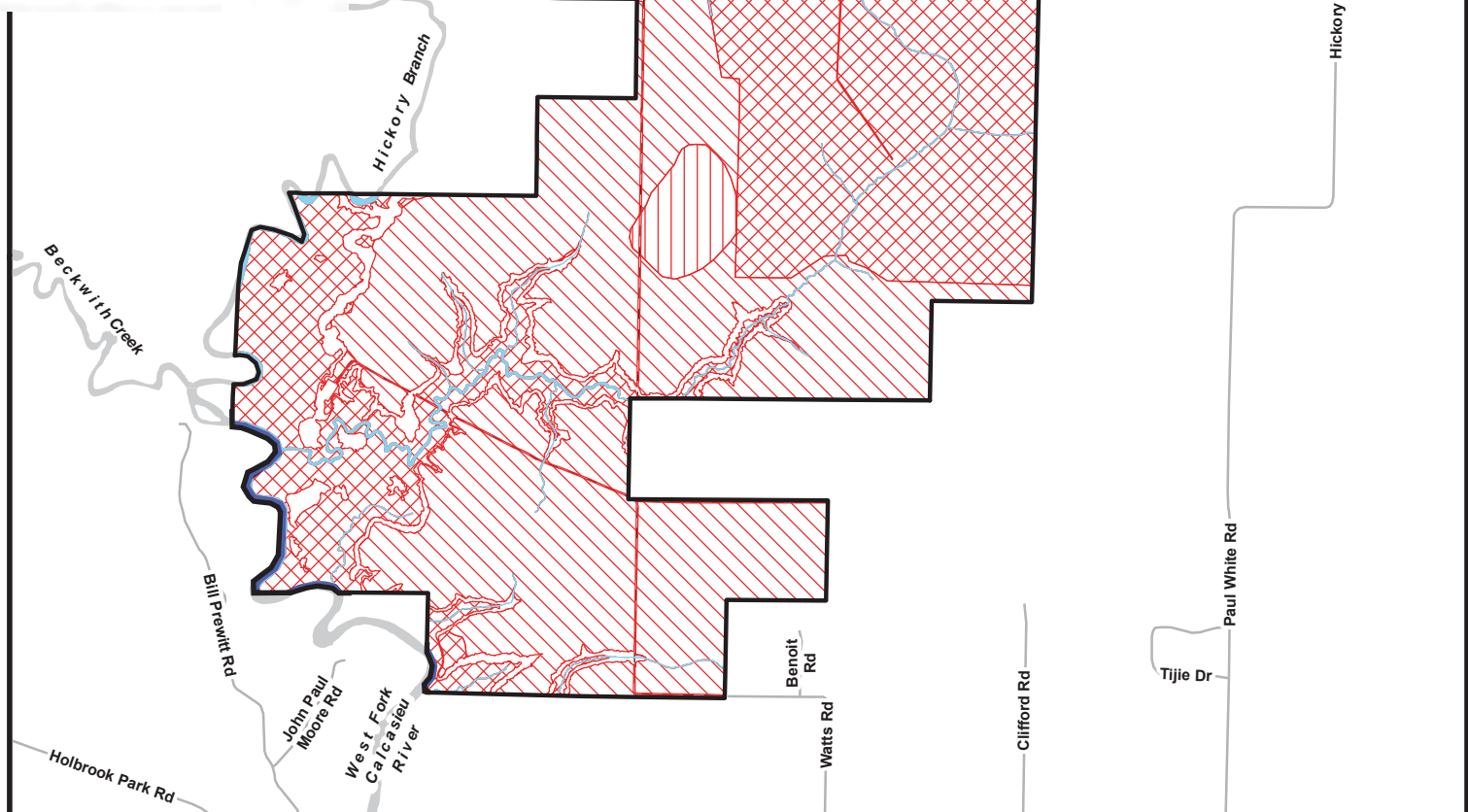
Beauregard Parish

Calcasieu Parish



**USACE**  
 FSV IH Date: 11-15-18  
 Botanist: Rosie Schwamenfeld  
 Requestor: Charles Jones  
 # MVN-2018-00361-SR

**PRELIMINARY**  
 JURISDICTIONAL DETERMINATION



**Legend**

- Limits of Delineation (3,017.63 acres)
- Nonwetland Waters of West Fork Calcasieu River
- 100% Wetlands (1,372.76 acres)
- 74% Wetlands (237.33 acres)(175.62 wet acres)
- 66% Wetlands (1,030.67 acres)(680.24 wet acres)
- 56% Wetlands (77.72 acres)(43.52 wet acres)
- Nonwetland Waters
- Existing Paved Roads

**Site Plan Overview**

Wetland Data Report/Request for  
 Preliminary Jurisdictional Determination  
 Calcasieu Parish, Louisiana

**The Mitigation Group**

Hickory Branch Tract



**MATRIX**NEWORLD  
 Engineering Progress

|             |             |
|-------------|-------------|
| Approved By | CET         |
| Date        | 12/11/2018  |
| Drawing No. | 17-438-A105 |

**3**  
 Figure No.