



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 60267  
NEW ORLEANS, LOUISIANA 70160-0267

APR 22 2014

Operations Division  
Surveillance and Enforcement Section

**Exhibit BB. Iberville Industrial & Technology Park  
Jurisdictional Determination & Delineation Report**

Mr. Leonard McCauley  
G.E.C., Inc.  
9357 Interline Avenue  
Baton Rouge, Louisiana 70809

Dear Mr. McCauley:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Section 51 and 61, Township 9 South, Range 12 East, Iberville Parish, Louisiana (enclosed map). Specifically, this property is identified as a 57 acre tract south east of the intersection of Enterprise Boulevard and John Britton Parkway, near Plaquemine in Iberville, Louisiana.

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 March 24, 2014, we have determined that part of the property is wetland and 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 this wetland. Additionally, a DA permit will be required if you propose to deposit dredged or fill material into the water shown in blue on the map.

This delineation/determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in your request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If the property owner or tenant is a USDA farm participant, or anticipates participation in USDA programs, a certified wetland determination should be requested from the local office of the Natural Resources Conservation Service prior to starting work.

You are advised that this approved 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 or the District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

Should there be any questions concerning these matters, please contact Dr. Rosie Schwamenfeld at (337) 291-3045 and reference our Account No. MVN-2013-02764-SR. If you have specific questions regarding the permit process or permit applications,



please contact our Central Evaluation Section at (504) 862-2292. The New Orleans District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please complete the survey on our web site at <http://per2.nwp.usace.army.mil/survey.html>.

Sincerely,



Martin S. Mayer  
Chief, Regulatory Branch

Enclosures

1. The first part of the paper is devoted to a general discussion of the problem of the existence of a solution of the system of equations (1) for arbitrary values of the parameters  $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega, \varphi, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega, \varphi$ .

2. In the second part of the paper, we shall consider the case when the parameters  $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega, \varphi$  are not arbitrary, but satisfy certain conditions.

3. Finally, in the third part of the paper, we shall consider the case when the parameters  $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega, \varphi$  are not arbitrary, but satisfy certain conditions.





Plot 2 Plot 1

**Legend**

- Non wetland
- See 404 waters
- Sample Plots**
  - Upland
  - Wetland
- See 404 Wetlands - acres
- Site Boundary

0 250 500 1,000 Feet

USA

Account # MVN-2013-02764-SR

**WETLAND MAP** **APPROVED**  
JURISDICTIONAL DETERMINATION

**GEC**

Lat: 30.310872

Long: -91.275442

57 Acre Iberville Site  
Plaquemine, Louisiana

Figure: 3

Date: October 2013

Scale: 1:4,000

Source: GEC/ESRI/NRCS

Map ID: 13.2122013.008-3104

Section, Township, Range: 51.61/T9S/R12E

Parish: Iberville

I.H.F. Date: 3-26-14 (RS)

Data Source: ESRI Basemap World Imagery





**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 4-14-14****B. DISTRICT OFFICE, FILE NAME, AND NUMBER: MVN-2013-02764-SR****C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Louisiana County/parish/borough: Iberville City:

Center coordinates of site (lat/long in degree decimal format): Lat. 30.310872° N, Long. -91.275442° W.

Universal Transverse Mercator:

Name of nearest waterbody: unnamed tributary to Wilbert's Canal

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: lower reaches of Wilbert's Canal

Name of watershed or Hydrologic Unit Code (HUC): 08070300

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**☒ Office (Desk) Determination. Date: 2-6-14☒ Field Determination. Date(s): 3-26-14**SECTION II: SUMMARY OF FINDINGS****A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.****a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☒ Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: 1160 linear feet: width (ft) and/or acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**SECTION III: CWA ANALYSIS****A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: \_\_\_\_\_

Summarize rationale supporting determination: \_\_\_\_\_

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent": \_\_\_\_\_

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW****(i) General Area Conditions:**

Watershed size: 792 square miles

Drainage area: 91 acres

Average annual rainfall: 61.49 inches

Average annual snowfall: \_\_\_\_\_ inches

**(ii) Physical Characteristics:****(a) Relationship with TNW:**

☐ Tributary flows directly into TNW.

☒ Tributary flows through 2 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 1-2 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: no.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.



Identify flow route to TNW<sup>5</sup>: This tributary > unnamed tributary to Wilbert's Canal (basis form 2) > Wilbert's Canal (TNW in it's lower reaches) > ICWW (TNW).  
Tributary stream order, if known: 1.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural  
☒ Artificial (man-made). Explain:  
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 25 feet  
Average depth: 4 feet  
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

☒ Silts ☐ Sands ☐ Concrete  
☐ Cobbles ☐ Gravel ☐ Muck  
☐ Bedrock ☒ Vegetation. Type/% cover: Herbaceous 90%  
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable vegetated banks.

Presence of run/rifle/pool complexes. Explain: no.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 0-2 %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: Intermittent flow in response to precipitation events during drier periods and continuous flow when there is a seasonally high water table.

Other information on duration and volume: This area has an average of 58 days per year with at least 0.1 inches of precipitation, and this soil type has a seasonal high water table 0-2 feet deep from December to April.

Surface flow is: **Confined**. Characteristics: Usually remains within it's banks.

Subsurface flow: **Unknown**. Explain findings: not measured.

☐ Dye (or other) test performed:

Tributary has (check all that apply):

☒ Bed and banks  
☒ OHWM<sup>6</sup> (check all indicators that apply):  
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris  
☐ changes in the character of soil ☐ destruction of terrestrial vegetation  
☐ shelving ☐ the presence of wrack line  
☐ vegetation matted down, bent, or absent ☐ sediment sorting  
☒ leaf litter disturbed or washed away ☒ scour  
☐ sediment deposition ☒ multiple observed or predicted flow events  
☐ water staining ☐ abrupt change in plant community  
☐ other (list):  
☐ Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:  
☐ oil or scum line along shore objects ☐ survey to available datum;  
☐ fine shell or debris deposits (foreshore) ☐ physical markings;  
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.  
☐ tidal gauges  
☐ other (list):

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup> Ibid.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The water is clear and slightly brown with an oily film. This watershed contains agricultural fields contributing fertilizers and pesticides, and roads contributing oily residues to runoff. Identify specific pollutants, if known: fertilizers, pesticides, oily residues.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics:
- ☒ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☒ Aquatic/wildlife diversity. Explain findings: Habitats such as this are known to support mosquito fish, crustaceans, small mammals, birds and reptiles.

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Unknown**. Explain findings:

☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain:

☐ Ecological connection. Explain:

☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - ☐ TNWs: linear feet width (ft), Or, acres.
  - ☐ Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
  - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Water was observed in the channel during a field site visit, and this channel is deeper than the seasonally high water table.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☒ Tributary waters: **1160** linear feet width (ft).  
☐ Other non-wetland waters: acres.  
 Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).  
☐ Other non-wetland waters: acres.  
 Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or  
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.  
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
☐ which are or could be used for industrial purposes by industries in interstate commerce.  
☐ Interstate isolated waters. Explain: .  
☐ Other factors. Explain: .

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.



**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).  
☐ Other non-wetland waters: acres.  
 Identify type(s) of waters:  
☐ Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.  
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.  
☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).  
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:  
☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).  
☐ Lakes/ponds: acres.  
☐ Other non-wetland waters: acres. List type of aquatic resource:  
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).  
☐ Lakes/ponds: acres.  
☐ Other non-wetland waters: acres. List type of aquatic resource:  
☐ Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:  
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.  
☐ Office concurs with data sheets/delineation report.  
☐ Office does not concur with data sheets/delineation report.  
☐ 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 Addis.  
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:NRCS wss.  
☐ National wetlands inventory map(s). Cite name:  
☐ State/Local wetland inventory map(s):  
☒ FEMA/FIRM maps:<https://msc.fema.gov>.  
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)  
☒ Photographs: ☒ Aerial (Name & Date):CIR: 98, 04.  
☐ or ☒ Other (Name & Date):Google Earth.  
☐ Previous determination(s). File no. and date of response letter:  
☐ Applicable/supporting case law:  
☐ Applicable/supporting scientific literature:  
☒ Other information (please specify):NRCS PC report, FSA crop history, lidar.

**B. ADDITIONAL COMMENTS TO SUPPORT JD: See additional basis form for this site.**

1. The following information is provided for the purpose of the Basis form 1:

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 4-14-14****B. DISTRICT OFFICE, FILE NAME, AND NUMBER: MVN-2013-02764-SR****C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Louisiana County/parish/borough: Iberville City:  
 Center coordinates of site (lat/long in degree decimal format): Lat. 30.310872° N, Long. -91.275442° W.  
 Universal Transverse Mercator:

Name of nearest waterbody: unnamed tributary to Wilbert's Canal

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: lower reaches of Wilbert's Canal

Name of watershed or Hydrologic Unit Code (HUC): 08070300

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**☒ Office (Desk) Determination. Date: 2-6-14☒ Field Determination. Date(s): 3-26-14**SECTION II: SUMMARY OF FINDINGS****A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.****a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres..

Wetlands: 1.1 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**SECTION III: CWA ANALYSIS****A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW:

Summarize rationale supporting determination:

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent":

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW****(i) General Area Conditions:**

Watershed size: 792 square miles

Drainage area: 416 acres

Average annual rainfall: 61.49 inches

Average annual snowfall: inches

**(ii) Physical Characteristics:****(a) Relationship with TNW:**

☒ Tributary flows directly into TNW.

☐ Tributary flows through Pick List tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 1-2 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW

Project waters cross or serve as state boundaries. Explain: no.

Identify flow route to TNW<sup>5</sup>: This unnamed tributary > Wilbert's Canal (TNW in lower reaches) > ICWW (TNW)

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.



Tributary stream order, if known: 2.

## (b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural  
☒ Artificial (man-made). Explain:  
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 50 feet

Average depth: 4-6 feet

Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

☒ Silts ☐ Sands ☐ Concrete  
☐ Cobbles ☐ Gravel ☐ Muck  
☐ Bedrock ☒ Vegetation. Type/% cover: Forested 80%  
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable vegetated banks.

Presence of run/riffle/pool complexes. Explain: no.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 0-2 %

## (c) Flow:

Tributary provides for: **Seasonal flow**Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: Continuous flow when there is a seasonally high water table, and intermittent flow in response to precipitation events during drier periods.

Other information on duration and volume: This area has an average of 58 days per year with at least 0.1 inches of precipitation, and this soil type has a seasonal high water table 0-2 feet deep from December to April.

Surface flow is: **Confined**. Characteristics: Usually remains within it's banks.Subsurface flow: **Unknown**. Explain findings: not measured.☐ Dye (or other) test performed:

Tributary has (check all that apply):

☒ Bed and banks  
☒ OHWM<sup>6</sup> (check all indicators that apply):  
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris  
☐ changes in the character of soil ☐ destruction of terrestrial vegetation  
☐ shelving ☐ the presence of wrack line  
☒ vegetation matted down, bent, or absent ☐ sediment sorting  
☒ leaf litter disturbed or washed away ☐ scour  
☒ sediment deposition ☒ multiple observed or predicted flow events  
☒ water staining ☐ abrupt change in plant community  
☐ other (list):  
☐ Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:  
☐ oil or scum line along shore objects ☐ survey to available datum;  
☐ fine shell or debris deposits (foreshore) ☐ physical markings;  
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.  
☐ tidal gauges  
☐ other (list):

## (iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The water is clear and slightly brown with an oily film. This watershed contains agricultural fields contributing fertilizers and pesticides, and roads contributing oily residues to runoff.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Identify specific pollutants, if known: fertilizers, pesticides, oily residues.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☒ Riparian corridor. Characteristics (type, average width): Forested 150 feet.
- ☐ Wetland fringe. Characteristics:
- ☒ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☒ Aquatic/wildlife diversity. Explain findings: Habitats such as this are known to support small mammals, birds and reptiles.

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

- Wetland size: 1.1 (onsite) acres
- Wetland type. Explain: Palustrine Emergent.
- Wetland quality. Explain: Determined during permit process.
- Project wetlands cross or serve as state boundaries. Explain: no.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: Flow occurs in response to precipitation events, and increases in duration and frequency in the presence of a seasonal high water table.

Surface flow is: **Confined**

Characteristics: Flow from these wetlands into the tributary is confined by wetland gaps in the spoil bank.

Subsurface flow: **Unknown**. Explain findings: not measured.

☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- ☒ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.  
 Project waters are **1-2** aerial (straight) miles from TNW.  
 Flow is from: **Wetland to navigable waters**.  
 Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: The wetland is part of a field currently managed as a pasture. The management of the pasture will contribute pesticides and fertilizers, while the use of the pasture will contribute animal waste.

Identify specific pollutants, if known: pesticides, fertilizers and animal waste.

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width):
- ☒ Vegetation type/percent cover. Explain: 100% Herbaceous.
- ☒ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☒ Aquatic/wildlife diversity. Explain findings: Habitats such as this support crustaceans and small reptiles.

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **3**

Approximately ( 416 ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Y (off-site)	<5	Y (onsite)	0.2
		Y (onsite)	0.9

Summarize overall biological, chemical and physical functions being performed: The off site wetlands are incorporated into the tributary that the on site wetlands drain into. The drainage area around the relevant reach of this tributary consists of agricultural fields, pastures and roads. Pollutants from the fields will include pesticides, fertilizers and animal wastes, while the roads will contribute oily residues. The wetlands on site will receive direct applications of pollutants as part of a pasture, and will also receive more of the same pollutants in runoff from surrounding non-wetland portions of the field. During drier periods the wetlands will provide some filtering of these pollutants, however in wetter periods there will be flow of pollutants from these wetlands into the tributary. The wetlands within the tributary will provide filtering of pollutants that have run off from this and other fields, as well as oily residues that have run off roads in the area. The off site wetlands will also help to reduce downstream flood potential during periods of high precipitation.

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note:** the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS, THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), Or, acres.  
☐ Wetlands adjacent to TNWs: acres.

**2. RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Water was observed in the unnamed tributary to Wilbert's Canal (off-site) during a field site visit, and this channel is deeper than the seasonally high water table.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).  
☐ Other non-wetland waters: acres.  
 Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).  
☐ Other non-wetland waters: acres.  
 Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:  
☒ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: The wetlands on this site are not separated from the unnamed tributary to Wilbert's Canal (off-site) by uplands, a berm, dike, or similar feature.

Provide acreage estimates for jurisdictional wetlands in the review area: 1.1 acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or  
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.



**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain:
- ☐ Other factors. Explain:

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
- Identify type(s) of waters:
- ☐ Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☒ 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 Addis.
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS wss.
- ☐ National wetlands inventory map(s). Cite name:

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

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- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: <https://msc.fema.gov>.
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): CIR: 98, 04.  
or ☒ Other (Name & Date): Google Earth.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☒ Other information (please specify): NRCS PC report, FSA crop history, lidar.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** See additional basis form for this site.

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Baton Rouge Area Chamber, G.E.C. Inc	File Number: MVN-2013-02764-SR	Date: <b>APR 22 2014</b>
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I -** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/cecw/pages/reg\\_materials.aspx](http://www.usace.army.mil/cecw/pages/reg_materials.aspx) or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:  
Rob Heffner (504-862-1288)  
Chief, Surveillance & Enforcement Section  
U.S. Army Corps of Engineers  
P.O. Box 60627  
New Orleans, LA 70160

If you only have questions regarding the appeal process you may also contact:  
Administrative Appeals Review Officer  
USACE – Mississippi Valley Division  
P.O. Box 80  
Vicksburg, MS 39181-0080  
(601) 634-5820

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
----------------------------------	-------	-------------------



October 31, 2013

U.S. Army Engineer District, New Orleans  
Regulatory Branch  
**ATTN: Martin Mayer**  
7400 Leake Avenue  
New Orleans, LA 70118

**RE: Wetland Delineation Report**  
**Dow Louisiana Operations West, 57-Acre Tract**  
**Iberville Parish, Plaquemine, Louisiana**

Dear Mr. Mayer:

On behalf of the Baton Rouge Area Chamber, G.E.C., Inc. (GEC) is pleased to forward one copy of the ***Wetland Delineation Report, Dow Louisiana Operations West, 57-Acre Tract, Iberville Parish, Plaquemine, Louisiana.*** The enclosed document presents the habitat data gathered and a delineation of the wetland habitats within the study area.

GEC is requesting an **Approved Jurisdictional Determination** on behalf of the Baton Rouge Area Chamber.

Thank you for your attention in this project. Please do not hesitate to contact me at (225) 612-4175 or [lmccauley@gecinc.com](mailto:lmccauley@gecinc.com) if you have any comments or require additional information.

Sincerely,



Leonard McCauley

Enclosures

**November 2013**

**WETLAND DELINEATION REPORT  
DOW LOUISIANA OPERATIONS WEST  
57 – ACRE TRACT  
IBERVILLE PARISH,  
PLAQUEMINE, LOUISIANA**

**Prepared for**

**Dow Louisiana Operations West  
21255 LA Hwy 1 South  
Plaquemine, Louisiana 70764-0105**

**Prepared by**



**Baton Rouge, Louisiana**

**WETLAND DELINEATION REPORT  
DOW LOUISIANA OPERATIONS WEST  
57 – ACRE TRACT  
IBERVILLE PARISH,  
PLAQUEMINE, LOUISIANA**

GEC Project Number: 0013.2122013.008

Prepared by



8282 Goodwood Boulevard  
Baton Rouge, Louisiana 70806  
Phone – 225/612-3000

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# WETLAND DELINEATION REPORT

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**WETLAND DELINEATION REPORT  
DOW LOUISIANA OPERATIONS WEST  
57 – ACRE TRACT  
IBERVILLE PARISH,  
PLAQUEMINE, LOUISIANA**

## **INTRODUCTION**

G.E.C., Inc. (GEC) recently conducted a wetland delineation for Dow Louisiana Operations West in Iberville Parish, Louisiana (Figure 1). Access to the property was through the use of Enterprise Boulevard to the west of the property (Figure 2). The project area consists of a well maintained field contoured with drainage swales throughout. The purpose of this delineation was to determine the wetland boundaries within the approximately 57-acre tract.

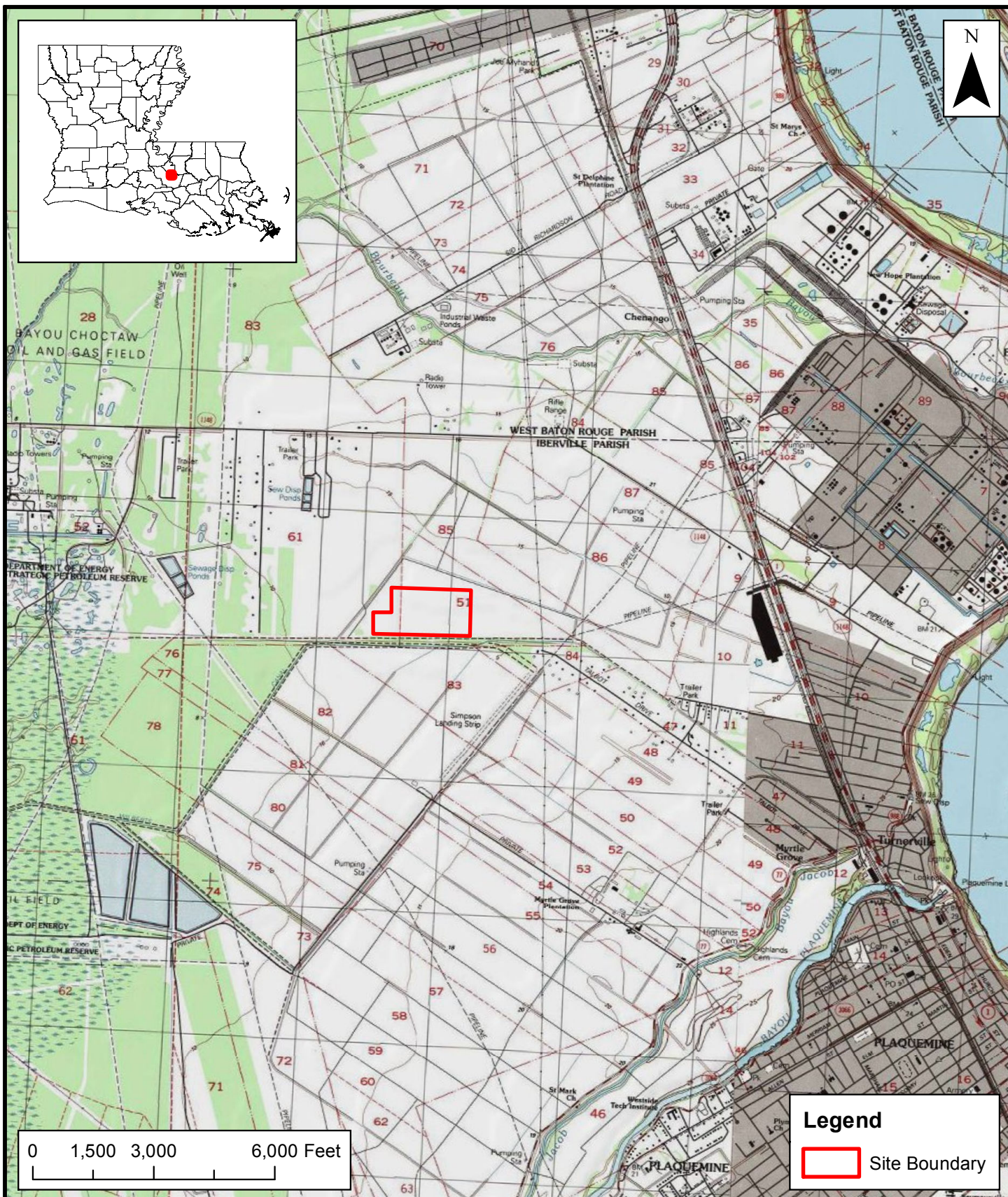
## **METHODOLOGY**

GEC conducted the wetland delineation in accordance with Section D, Subsection 2 of Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual as well as the Atlantic and Gulf Coastal Plains Regional Supplement. Aerial photography, Natural Resources Conservation Service (NRCS) Iberville Parish soil survey map, and U.S. Geological Survey (USGS) topographic quadrangle maps were reviewed prior to the initiation of field work to identify the potential extent of wetlands present on the subject property.

Routine Wetland Delineation Data Forms (Appendix A), as approved by Headquarters, U.S. Army Corps of Engineers (USACE) 10/08, were completed for various vegetative communities encountered within the project area. These data forms contain sufficient information regarding the presence or absence of hydric soils, hydrophytic vegetation, and wetland hydrology, to support the demarcation of a wetland boundary. The location of each sample plot along with mapped wetlands and other waters are shown in Figure 3.

Dominant vegetation was recorded on the data forms along with the indicator status as listed in the *National List of Plant Species Occurring in Wetlands (Region 2)* released by USACE in May 2012 (Release no. 12-005). Once dominant vegetation was recorded and evaluated, if more than 50 percent of the dominant vegetation had an indicator status of FAC, FACW, or OBL or the prevalence index was  $\leq 3.0$ , the hydrophytic vegetation criterion was met.

A soil pit was excavated to a depth of approximately 18 inches at each sample plot. The pit remained open for at least 15 minutes to allow the pit to fill with water, if present. Soils were sampled along the exposed stratum. Information recorded on the data forms included soil colors (hue, value, and chroma as per the 1992 revised edition of the Munsell Color Chart), size, color, abundance, and depth of mottles, as well as soil texture. Soil texture was determined using the "texture by feel" analysis. Figure 4 depicts the soils mapped by the NRCS within the project area.



## SITE LOCATION

57 Acre Iberville Site  
Plaquemine, Louisiana

Data Source: ESRI USA Topo Maps



Figure: 1

Date: October 2013

Scale: 1:40,000

Source: GEC/USGS

Map ID: 13.2122013.008-3104





### Legend

Site Boundary

0 250 500 1,000 Feet

## SITE VICINITY

57 Acre Iberville Site  
Plaquemine, Louisiana

*Data Source: ESRI Basemap World Imagery*



Figure: 2

Date: October 2013

Scale: 1:5,000

Source: GEC/ESRI

Map ID: 13.2122013.008-3104





## WETLAND MAP

57 Acre Iberville Site  
Plaquemine, Louisiana

Data Source: ESRI Basemap World Imagery



Figure: 3

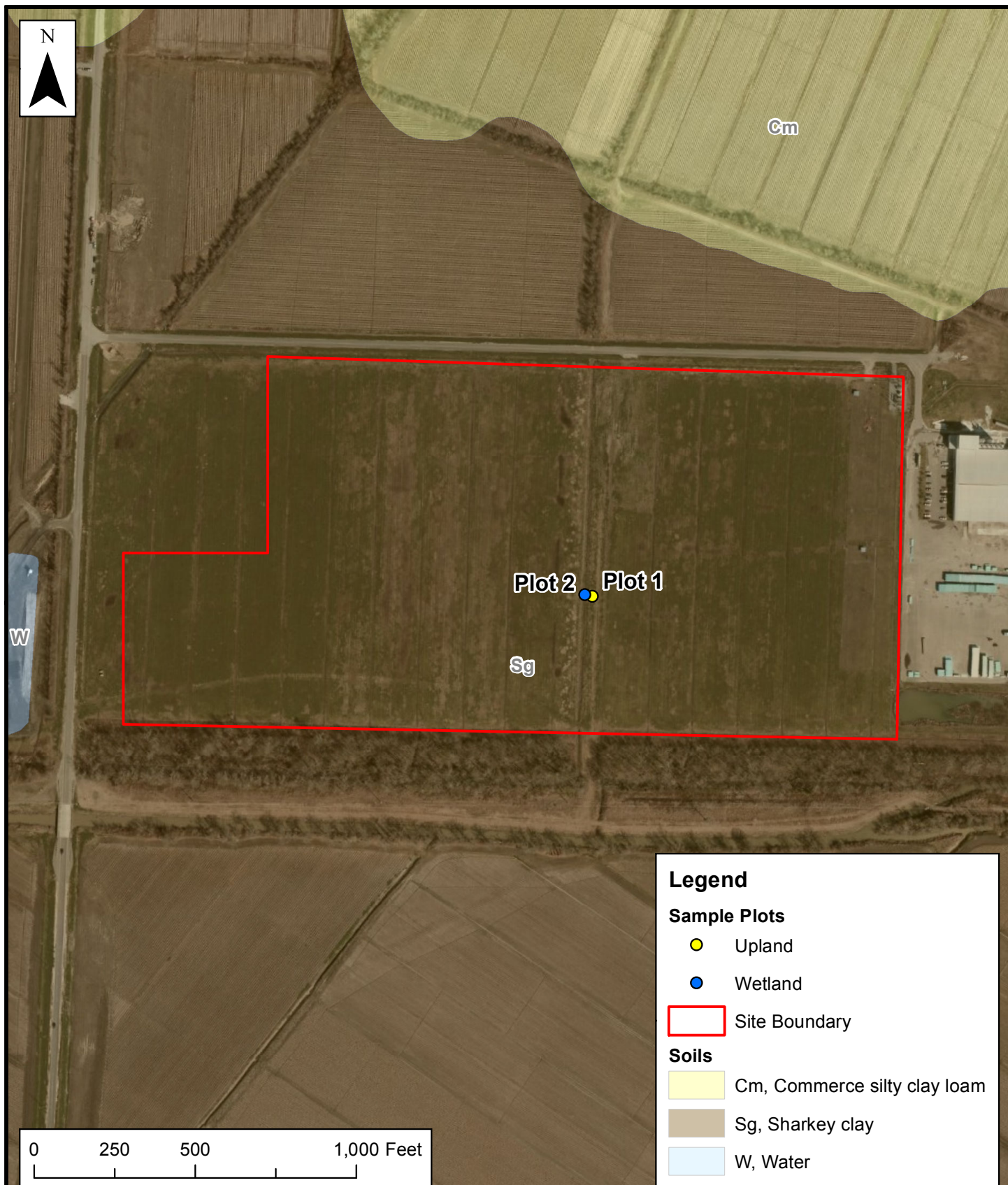
Date: October 2013

Scale: 1:4,000

Source: GEC/ESRI/NRCS

Map ID: 13.2122013.008-3104





## SOIL MAP

57 Acre Iberville Site  
Plaquemine, Louisiana

Data Source: ESRI Basemap World Imagery



Figure: 4

Date: October 2013

Scale: 1:5,000

Source: GEC/ESRI/NRCS

Map ID: 13.2122013.008-3104

Wetland hydrology indicators were also recorded at each sample plot as per the USACE requirements. If at least one primary or two secondary hydrology indicators were present, the sample plot was classified as having wetland hydrology.

Photographs were taken at each sample plot where a data form was completed. These photographs show a representative soil profile, as well as overviews in the cardinal directions of the sample plot (Appendix B).

## RESULTS

The following subsections provide descriptions of each of the sites identified during the field survey. Descriptions of vegetation, soil characteristics, and hydrology indicators at each sample plot recorded are provided

Sample Plot - 1: Sample Plot 1 is located on the edge of a drainage ditch (Figure 3). The tree and sapling/shrub stratum are absent within this plot. The herbaceous stratum is dominated by Johnson grass (*Sorghum halepense*), and Bermuda grass (*Cynodon dactylon*). The woody vine stratum is also absent from this plot. The hydrophytic vegetation criterion is not met within this sample plot.

The soil series mapped at this plot is the Sharkey clay. This series is listed on the National Hydric Soils list and the Louisiana Hydric Soils list. The hydric soils criterion is met at this plot by the presence of a depleted matrix. Primary indicators of hydrology as well as secondary indicators of hydrology were lacking within this plot. It is GEC's opinion that this sample plot is not within a wetland, based on the lack of hydric vegetation, and wetland hydrology within the plot (see Data Form Plot - 1).

Sample Plot - 2: Sample Plot 2 is located within a wetland ditch coming from off the property on the north side (Figure 3). The ditch is well maintained and looks to have been recontoured within the recent past. This habitat is indicative of the wetland habitat found within the rest of the property. The tree and sapling/shrub stratum are absent from this plot while the herbaceous stratum is dominated by common spike rush (*Eleocharis palustris*). The woody vine stratum is also absent from this plot. The hydrophytic vegetation criterion is met within this sample plot.

The soil series mapped at this plot is the Sharkey clay. This series is listed on the National Hydric Soils list and the Louisiana Hydric Soils list. Field investigations concluded that the hydric soils criterion is met within this plot based on the presence of a depleted matrix. Primary indicators of wetland hydrology include surface water (A1), high water table (A2), saturation (A3), drift deposits (B3), and aquatic fauna (B13). Secondary indicators include a positive FAC-neutral test (D5). The hydrology criterion is met at this plot. It is GEC's opinion that this sample plot is within a wetland, based on the presence of hydric vegetation, hydric soils, and hydrology indicators within the plot (see Data Form Plot - 2).



## **CONCLUSIONS**

During the field investigation of the approximately 57-acre site in Plaquemine, Louisiana, GEC mapped several wetland swales in the form of ditches along with wetlands associated with those ditches. In total, approximately 1.4 acres of wetlands were mapped within the project area. The remainder of the project area consists of non-wetland pasture totaling approximately 55.6 acres

Although GEC uses the same criteria and methodology as that of the USACE, due to the degree of subjectivity associated with studies of this type, there may be some degree of variance in the demarcation of the wetland boundary. Consequently, GEC's opinion may not necessarily reflect that of the USACE, nor does it relieve our client of any legal obligations to verify the wetland findings, consult with the USACE, and possibly obtain a Department of the Army permit prior to performing any dredging, filling and/or construction operations in Waters of the United States, including wetlands.

# Appendix A

## DATA FORMS

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# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 57 Acre Iberville Wetland City/County: Plaquemine/Iberville Parish Sampling Date: 19 Oct 2013  
 Applicant/Owner: Dow Louisiana Operations West State: LA Sampling Point: Plot 1  
 Investigator(s): J. Avant Section, Township, Range: TS-09 RE-12 51  
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): Convex Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR O Lat: 30.310259 Long: -91.275076 Datum: NAD 1983  
 Soil Map Unit Name: Sharkey Clay NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Plot taken in an upland area adjacent to a wetland drain. Approximately one inch of rain fell in the am.			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Aquatic Fauna (B13) _____ High Water Table (A2) _____ Marl Deposits (B15) (LRR U) _____ Saturation (A3) _____ Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres along Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Sphagnum moss (D8) (LRR T, U)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: Plot 1

Tree Stratum (Plot size: <u>30 ft rad.</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ 0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft rad.</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ 0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<b>Herb Stratum</b> (Plot size: <u>30 ft rad.</u> )				
1. <u>Sorghum halepense</u>	<u>65</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Cynodon dactylon</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Paspalum dilatatum</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	
4. <u>Verbena brasiliensis</u>	<u>3</u>	<u>no</u>	<u>FAC</u>	
5. <u>Solanum carolinense</u>	<u>2</u>	<u>no</u>	<u>FACU</u>	
6. <u>Dichondra carolinensis</u>	<u>1</u>	<u>no</u>	<u>FAC</u>	
7. <u>Erigeron annuus</u>	<u>1</u>	<u>no</u>	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ 97 = Total Cover				
50% of total cover: <u>48.5</u> 20% of total cover: <u>19.4</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft rad.</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ 0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)  
  
 Total Number of Dominant Species Across All Strata: 2 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = NaN

**Hydrophytic Vegetation Indicators:**  
   1 - Rapid Test for Hydrophytic Vegetation  
   2 - Dominance Test is >50%  
   3 - Prevalence Index is ≤3.0<sup>1</sup>  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

**Definitions of Four Vegetation Strata:**  
  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
  
**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  
  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
  
**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes         No   ✓



## SOIL

Sampling Point: Plot 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)													
Depth (inches)	Matrix		Redox Features				Texture	Remarks					
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>							
0-4	10 YR 4/2	100					C						
4-18	10 YR 4/2	97	7.5 YR 4/6	3	C	M	C						
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.							<sup>2</sup> Location: PL=Pore Lining, M=Matrix.						
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>					<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>								
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) <input type="checkbox"/> Muck Presence (A8) (LRR U) <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Marl (F10) (LRR U) <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T) <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U) <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)					<input type="checkbox"/> 1 cm Muck (A9) (LRR O) <input type="checkbox"/> 2 cm Muck (A10) (LRR S) <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)			
					<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.								
<b>Restrictive Layer (if observed):</b>													
Type: <u>None seen</u>													
Depth (inches): <u>NA</u>							Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						
Remarks:													

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 57 Acre Iberville Wetland City/County: Plaquemine/Iberville Parish Sampling Date: 19 Oct 2013  
 Applicant/Owner: Dow Louisiana Operations West State: LA Sampling Point: Plot 2  
 Investigator(s): J. Avant Section, Township, Range: TS-09 RE-12 51  
 Landform (hillslope, terrace, etc.): Ditch basin Local relief (concave, convex, none): Concave Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR O Lat: 30.310269 Long: -91.275146 Datum: NAD 1983  
 Soil Map Unit Name: Sharkey Clay NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Plot taken on the bottom slope of a wetland drain (linear ditch). Approximately one inch of rain fell during the am.			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) _____ Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) _____ Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres along Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) _____ Sphagnum moss (D8) (LRR T, U)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>surface</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: Plot 2

Tree Stratum (Plot size: <u>30 ft rad.</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ 0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft rad.</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ 0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<b>Herb Stratum</b> (Plot size: <u>30 ft rad.</u> )				
1. <u>Eleocharis palustris</u>	<u>80</u>	<u>yes</u>	<u>OBL</u>	
2. <u>Acmella repens</u>	<u>7</u>	<u>no</u>	<u>FACW</u>	
3. <u>Sagittaria platyphylla</u>	<u>5</u>	<u>no</u>	<u>OBL</u>	
4. <u>Polygonum hydropiperoides</u>	<u>2</u>	<u>no</u>	<u>OBL</u>	
5. <u>Cyperus elegans</u>	<u>1</u>	<u>no</u>	<u>FACW</u>	
6. <u>Campsis radicans</u>	<u>iso</u>	<u>no</u>	<u>FAC</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ 95 = Total Cover				
50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft rad.</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ 0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = NaN

**Hydrophytic Vegetation Indicators:**  
   1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
   3 - Prevalence Index is ≤3.0<sup>1</sup>  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐

## SOIL

Sampling Point: Plot 2

[illegible]

# Appendix B

## PHOTOGRAPHS

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**Photograph 1. Soil Profile Observed at Plot 1**



**Photograph 2. Overview of the Habitat Observed at Plot 1,  
Facing North**



**Photograph 3. Overview of the Habitat Observed at Plot 1,  
Facing East**



**Photograph 4. Overview of the Habitat Observed at Plot 1,  
Facing South**





**Photograph 5. Overview of the Habitat Observed at Plot 1,  
Facing West**



**Photograph 6. Soil Profile Observed at Plot 2**



**Photograph 7. Overview of the Habitat Observed at Plot 2,  
Facing Across**



**Photograph 8. Overview of the Habitat Observed at Plot 2,  
Facing Upstream**





**Photograph 9. Overview of the Habitat Observed at Plot 2,  
Facing Downstream**



**Photograph 10. Additional Photograph of Wetlands Adjacent  
to the Wetland Ditches with Wetland in Foreground**