

West Lake Corridor Final Environmental Impact Statement/ Record of Decision and Section 4(f) Evaluation

Appendix G7

Appendix G7. Water Resources Technical Report (Part 1 of 2)



West Lake Corridor Final Environmental Impact Statement/ Record of Decision and Section 4(f) Evaluation

Appendix G7

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Water Resources Technical Report

West Lake Corridor Project

Federal Transit Administration and Northern Indiana Commuter Transportation District

March 2018



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Acronyms and Abbreviations

C Value	coefficient of conservatism
CN	Canadian National Railway
CSX	CSX Transportation
CWA	Clean Water Act
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FQI	Floristic Quality Index
FTA	Federal Transit Administration
GPS	Global Positioning System
IDEM	Indiana Department of Environmental Management
IEPA	Illinois Environmental Protection Agency
Metra	Metra Electric District
Mean C	mean coefficient of conservatism
NEPA	National Environmental Policy Act
NFSAM	National Food Security Act Manual
NICTD	Northern Indiana Commuter Transportation District
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
PCB	polychlorinated biphenyl
Project	West Lake Corridor Project
ROW	right-of-way
SSL	South Shore Line
TPSS	traction power substation
USACE	United States Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey



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Executive Summary

The Federal Transit Administration and the Northern Indiana Commuter Transportation District (NICTD) are conducting the environmental review process for the West Lake Corridor Project (Project) in Lake County, Indiana, in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. The purpose of the current study is to determine whether building a 9-mile southern extension of the existing NICTD South Shore Line (SSL) between Dyer and Hammond, Indiana, would negatively affect Waters of the United States in the Project Area.

On September 14-17 and 28-30, and on October 27, 2015, an initial investigation of wetland areas was conducted during the Draft Environmental Impact Statement (DEIS). Where access was granted, all wetlands located within the environmental survey area were delineated in accordance with the Section 404 guidelines of the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual; USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Midwest Region* (2010 Supplement; USACE 2010), and the NRCS *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.1, 2017* (NRCS 2017a). Where access was denied, wetlands were delineated by adjacent parcels. Additional surveys were performed in these areas on May 4-5, June 4, and August 11, 2017 to investigate areas not previously delineated and to update wetland boundaries.

There are approximately 22 wetlands within the environmental survey area. Two of these wetlands are non-jurisdictional, man-made bioretention basins classified as palustrine emergent wetlands totaling 2.36 acres. The other 20 jurisdictional wetlands account for 5.95 acres, of which 4.29 acres are palustrine emergent wetlands and 1.66 acre are palustrine forested wetlands. Approximately 0.76 acre of non-jurisdictional wetlands and 3.43 acres of jurisdictional wetlands would be affected by construction.



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1 Introduction

The Federal Transit Administration (FTA) and Northern Indiana Commuter Transportation District (NICTD) are conducting the environmental review process for the West Lake Corridor Project (Project) in Lake County, Indiana, in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. A Final Environmental Impact Statement (FEIS) has been prepared as part of this process, with FTA as the federal lead agency and NICTD as the local project sponsor responsible for implementing the Project under NEPA.

1.1 Purpose of Report

The purpose of this report is to provide information on water resources located within the environmental survey area, including location and general quality, and to provide a preliminary indication regarding impacts of the Project.

1.2 **Project Overview**

The environmental review process builds on NICTD's prior West Lake Corridor studies that examined a broad range of alignments,

technologies, and transit modes. The studies



concluded that a rail-based service between the Munster/Dyer area and Metra's Millennium Station in downtown Chicago would best meet the transportation needs of the northwest Indiana area. Thus, NICTD advanced a Preferred Build Alternative (referred to as the FEIS Preferred Alternative) for more detailed analysis in the FEIS. NEPA also requires consideration of a No Build Alternative to provide a basis for comparison to the Build Alternative.

1.2.1 No Build Alternative

The No Build Alternative is defined as the existing transportation system, plus any committed transportation improvements included in the Northwestern Indiana Regional Planning Commission's 2040 Comprehensive Regional Plan (2011) and Chicago Metropolitan Agency for Planning's GO TO 2040 Comprehensive Regional Plan (2014) through the planning horizon year 2040. It also includes capacity improvements to the existing Metra line and Millennium Station, documented in NICTD's 20-Year Strategic Business Plan (NICTD and Northwest Indiana Regional Development Authority 2014).

1.2.2 FEIS Preferred Alternative

The Project is an approximate 9-mile southern extension of the existing NICTD SSL between the town of Dyer and city of Hammond, Indiana. Traveling north from the southern terminus near Main Street at the Munster–Dyer municipal boundary, the Project would include new track operating at grade on a separate right-of-way (ROW) to be acquired adjacent to the CSX Transportation (CSX) Monon Subdivision rail line in Dyer and Munster (**Appendix A, Exhibit 1**). The Project alignment would be elevated from 45th Street to the Canadian National Railway (CN) Elsdon Subdivision rail line at Maynard Junction. North of the CN line, the Project alignment would return to grade and join with the publicly owned former Monon Railroad



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corridor in Munster and Hammond, Indiana, and continue north. The Project would relocate the existing Monon Trail pedestrian bridge crossing over the Little Calumet River and build a new rail bridge at the location of the former Monon Railroad Bridge. The Project alignment would cross under Interstate 80/94 (I-80/94) and continue north on the former Monon Railroad corridor to Sibley Street. From Douglas Street north, the Project would be elevated over all streets and rail lines using a combination of retaining walls, elevated structures, and bridges. The Project would terminate just east of the Indiana Harbor Belt at the state line, where it would connect with the SSL. Project trains would operate on the existing MED line for the final 14 miles, terminating at Millennium Station in downtown Chicago.

Four new stations would be constructed along the alignment; Munster/Dyer Main Street, Munster Ridge Road, South Hammond, and Hammond Gateway Stations. Each station would include station platforms, parking facilities, benches, trash receptacles, bicycle racks, and other site furnishings. Shelter buildings would only be located at the Munster/Dyer Main Street and Hammond Gateway Stations.

The Project would include a vehicle maintenance and storage facility with a layover yard and traction power substation (TPSS) to power the overhead contact system, located just south of the Hammond Gateway Station, west of Sheffield Avenue. Additional TPSSs would be located at the South Hammond Station parking lot and Munster/Dyer Main Street Station. The TPSS would be enclosed to secure the electrical equipment and controls, with a footprint of about 20 feet by 40 feet.



2 Wetland Delineations

2.1 Regulatory Setting

2.1.1 Surface Waters

Surface waters are determined to be jurisdictional Waters of the United States if they are hydrologically connected to interstate waters or have a significant nexus to Waters of the United States. Waters of the United States are regulated under the Clean Water Act (CWA) Sections 401 (33 United States Code [USC] § 1341) and 404 (33 USC § 1344). The United States Environmental Protection Agency (USEPA) develops and interprets policy, reviews and comments on individual permit applications, and enforces Section 404 provisions. The United States under the Rivers and Harbors Act of 1899. The placement of dredged or fill materials in Waters of the United States requires a permit from USACE under Section 404. The appropriate level of this permit is determined based on the type of fill activity as well as the amount and location of fill involved. As part of the permitting process, it must be demonstrated that impacts on Waters of the United States are avoided where possible and practical, minimized where avoidance is not possible, and mitigated for unavoidable impacts. Final determination of jurisdictional status and permit applicability lies with USACE.

Section 401 of the CWA requires any applicant for a Section 404 permit to obtain the Water Quality Certification for any activity that may result in the discharge of a pollutant into Waters of the United States. Section 401 Water Quality Certification is typically administered by the state. In Indiana, it is administered by the Indiana Department of Environmental Management (IDEM).

Isolated surface waters are regulated under state laws. If Waters of the State are determined to be non-jurisdictional by USACE, IDEM regulates these waters under the State Isolated Wetlands Law (Indiana Code 13-18-22), and a State Isolated Wetlands Permit may be required prior to any construction (IDEM 2016a). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because they are human-made bodies of surface water created by excavation to retain water.

2.1.2 Wetlands

Jurisdictional wetlands are a category of Waters of the United States for which a specific identification methodology has been developed. USACE administers the Section 404 permitting program, including determining which wetlands are jurisdictional under the CWA. Applicable Section 404 permits may vary depending on the state in which the impacts occur and the total amount of impacts. In Indiana, USACE Indiana Regional General Permit No. 001 allows for up to 1.0 acre of wetland impacts and a maximum of 1,500 linear feet of stream channel impacts. If wetland impacts exceed the amount allowable under the appropriate regional permit, then an individual permit would be required (USACE 2014).

2.2 Methodology

2.2.1 Surface Waters

Information on the location of surface waters, including ponds, lakes, rivers, and streams, was obtained from the United States Geological Survey (USGS) National Hydrography Dataset (USGS 2008). Information on impaired waters was obtained from the *Indiana Draft 2016 Section*



Chapter 2 Wetland Delineations

303(d) List of Impaired Waters (IDEM 2016b). Field reconnaissance conducted on October 22 and November 3, 2014, included inspections of the identified water bodies. No water or sediment samples were taken. No data were obtained except for what was readily visible during the reconnaissance.

For the purposes of this discussion, surface waters are considered as either meeting water quality standards or as impaired. Under Section 303(d) of the CWA, states are required to determine which waters do not meet water quality standards and report these to USEPA. The reasons for these impairments are also required.

The most recent Section 303(d) List of Impaired Waters approved by the USEPA is from 2008. However, IDEM is now preparing the addendum to the 2016 Integrated Report, which will be submitted to USEPA. Information on this section was obtained from the 2016 Draft 303(d) List since it is the most recent and readily available data (IDEM 2016b).

2.2.2 Wetlands

On September 14-17 and 28-30, and on October 27, 2015, surveyors performed wetland investigations and delineations in the environmental survey area between Dyer and Hammond. The delineations were performed for NICTD as part of the planning process for the West Lake Corridor Project and included all rail alignment options under consideration at that time (NICTD 2016). Additional surveys were performed on May 4-5, June 4, and August 11, 2017, to investigate areas not previously delineated and to update wetland boundaries as needed.

All wetlands located within the environmental survey area were delineated. The environmental survey area includes the Project footprint and any additional area 50 feet on either side of the FEIS Preferred Alternative not included in the Project footprint. For areas with approved and safe right of entry, surveyors conducted their investigations in accordance with the Section 404 guidelines of the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual; USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (1987 Manual; USACE 2087), the *Region* (2010 Supplement; USACE 2010), and the NRCS *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.1, 2017* (NRCS 2017a). Wetland boundaries were flagged where property ownership allowed. For those portions of the wetland that extended outside of the 50-foot buffer, wetland boundaries were estimated and drawn on aerial photography.

Detailed exhibits that indicate the location and extent of delineated wetlands, the proposed alignment, the environmental survey area, and the Project footprint are included in **Appendix A**.

2.2.3 Background Research

Surveyors reviewed corresponding topographic, wetland, soil, and floodplain maps for landscape features that could indicate the presence of wetlands or other Waters of the United States. The field investigations were guided by the analysis of National Wetlands Inventory (NWI) mapping (United States Fish and Wildlife Service [USFWS] 2015); the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) soil survey of Lake County (NRCS 2017b); and the Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRMs) for Lake County (FEMA 2017). Special attention was given to areas at lower elevations, areas mapped with hydric soils, and areas with NWI-designated wetlands.



2.2.3.1 USGS 7.5-Minute Topographic Maps

The environmental survey area is located in the public land survey sections listed in **Table 2.2-1. Appendix A, Exhibit 2** includes the USGS Calumet City and Lake Calumet Quadrangle Topographic Maps. The flow regime of streams can be assessed using the topographic maps, with perennial streams displayed as solid blue lines and intermittent streams displayed as dashed blue lines. During a review of the USGS topographic maps, no perennial and intermittent streams were identified within the environmental survey area. Ephemeral steams do not appear on the map; however, field surveys did not find any ephemeral stream in the field. Additionally, field surveys did not find any perennial or intermittent streams that were not shown on the topographic map.

Table 2.2-1: Public Land Survey System Townships within the Environmental Survey Area

Section	Township	Range
25, 36	37N	10W
1, 12, 13, 24, 36	36N	10W
1	35N	10W

Source: Earth Point 2017.

2.2.3.2 National Wetlands Inventory Maps

NWI maps show the approximate configuration, location, and type of wetlands found in a given area. These maps are meant to be used as a reference to show general location. The maps are not meant to be used to determine precise boundaries between wetlands and uplands. Because the NWI maps are limited in precision by their scale (1:24,000) and the identification method used, the boundaries of wetlands shown on the NWI maps need to be more precisely determined in the field. Commonly, small wetland areas and, less frequently, large wetland areas are not shown. Additionally, some data can date back to the mid-70s and boundaries may not be current. **Appendix A, Exhibit 3** includes a more detailed view of the NWI wetlands in relation to the proposed Project. Sheet 2 of the exhibit depicts one wetland on the border of the environmental survey area. However, surveys conducted in this area in 2015 did not indicate the presence of a wetland at this location.

2.2.3.3 Soil Survey of Lake County, Indiana

Soil surveys include soil maps, soil descriptions, and soil properties to guide decisions about soil selection, use, and management. **Table 2.2-2** shows hydric and non-hydric soils along with approximate acreage in the environmental survey area. There are eight soil map units in the area investigated, including two urban land soil units: four are hydric soil units and four are non-hydric soil units or urban land (NRCS 2017b). The hydric soil units in the investigated area include Bono silty clay (Bn); Maumee loamy fine sand (Mm); Milford silt loam, overwash (Mo); and Rensselaer loam, calcareous subsoil variant (Rs). Non-hydric soil units in the investigated area include urban land (Ur, 533) and Watseka loamy fine sand, 0 to 2 percent slopes (Wk). See **Appendix A, Exhibit 3** for a more detailed view of soil units within the environmental survey area.



A hydric soil is formed under conditions of saturation, flooding, or ponding of sufficient length during the growing season to develop anaerobic conditions in the upper part of the soil profile. Hydric soil is one of the three key components of a wetland, along with hydrophytic vegetation and hydrology.

Map Unit Symbol	Map Unit Name	Hydric Rating	Acres in Environmental Survey Area
Bn	Bono silty clay, 0 to 2 percent slopes	Hydric	69.8
Mm	Maumee loamy fine sand, 0 to 2 percent slopes	Hydric	9.1
Мо	Milford silt loam, overwash, 0 to 2 percent slopes	Hydric	0.6
PIB	Plainfield fine sand, 0 to 6 percent slopes	Non-hydric	9.2
Rs	Rensselaer loam, calcareous subsoil variant, 0 to 2 percent slopes	Hydric	7.5
Ur	Urban land	Non-hydric	71.9
Wk	Watseka loamy fine sand, 0 to 2 percent slopes	Non-hydric	40.2
533	Urban land	Non-hydric	0.1

Table 2.2-2: Mapped Soils in Environmental Survey Area

Source: NRCS 2017b.



2.2.3.4 ADvanced IDentification (ADID) of Wetlands

The ADvanced IDentification (ADID) program was designed to identify wetland sites that would be considered unsuitable for disposal of dredged or fill material or require special precautions because they are high-quality wetlands. The NWI-designated wetland east of wetlands W32 and W33 is also classified as an ADID wetland (**Appendix A**, **Exhibit 3**).

However, this wetland is outside of the environmental survey area.

2.2.3.5 Flood Insurance Rate Maps for Lake County, Indiana

The FEMA FIRM indicates that the environmental survey area intersects two mapped 100-year floodplain locations: where it crosses the Calumet River and where it crosses the Little Calumet River. **Appendix A, Exhibit 3** includes a more detailed view of FEMA floodways and floodplains in relation to the proposed Project. This exhibit also shows areas at reduced risk of flooding due to levees.

2.2.4 Field Methods

During the 2015 wetland surveys, right of entry could not be obtained for all properties. Therefore, surveyors delineated wetlands using two approaches, Approach A and Approach B, as described in **Section 2.2.4.1**. Property access was obtained for all properties during the 2017 follow-up surveys. Those wetlands not originally delineated under Approach A in 2015 were revisited in 2017, as discussed in **Section 2.2.4.2**.

2.2.4.1 2015 Wetland Surveys

Approach A

Approach A entailed a full delineation and was used on properties with approved and safe right of entry. Wetland delineations were conducted in accordance with the Section 404 guidelines in the 1987 Manual and 2010 Supplement. Using the three-parameter methodology, data pertaining to vegetation, soil, and hydrology were obtained. After each wetland delineation was complete, an inventory was made of all identifiable plant species in order to calculate a Floristic Quality Index (FQI) and mean coefficient of conservatism (Mean C).

A data observation point was chosen in a representative portion of the potential wetland to characterize the community. Observations of vegetation, soil, and hydrology were documented, and if wetland indicators were positive, an observation point was chosen in an adjoining upland area to establish the location of the wetland boundary. USACE wetland determination data forms documenting observations obtained at the data points can be found in **Appendix B**. Photographs were taken of each soil sample, of the surrounding vegetation community, and where possible, of an overview of each of the wetlands. Photographs of the wetlands and the environmental survey area are included in **Appendix C**. Wetland boundary information was transferred to aerial photographs to indicate the location and extent of the identified wetlands.

Wetland boundaries were surveyed in the field using a Trimble GeoExplorerXH Global Positioning System (GPS) unit. If wetlands extended outside of the environmental survey area, the boundary of the extended portion of the wetland was estimated using aerial photography.

Wetland Vegetation

At each data observation point, the plant community was assessed using the 1987 Manual and 2010 Supplement methodology to determine whether hydrophytic vegetation was dominant.



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Nested circular sample plots of 5-foot, 15-foot, and 30-foot diameters were used to evaluate the herbaceous, sapling/shrub, and tree layers/vine, respectively. The wetland indicator status of each dominant species was used to determine whether the sample met the criterion for hydrophytic vegetation. The indicator status is a rating to determine if a species is hydrophytic based on its likelihood to be found in a wetland area. The rating for each species can be found in *The National Wetland Plant List* (Lichvar et al. 2016) and in *Plants of the Chicago Region* (Swink and Wilhelm 1994).

If the majority of dominant species were rated as wetland species, then the vegetation was considered hydrophytic.

Wetland Soils

Soil samples were augured up to 18 inches, or more if needed, to characterize wetland and upland soil conditions. Samples were examined by hand in the field to determine layers, matrix and redox features, and texture. Matrix and redox colors were classified using a Munsell color chart (Munsell Color 1994).

Wetland Hydrology

Hydrologic conditions were assessed by the presence or absence of wetland hydrology indicators such as evidence of inundation, drift lines, surface scour, watermarks, and sediment deposits. Any evidence of hydrological modification was noted.

Floristic Quality Index (FQI)

After each wetland delineation was complete, an inventory was made of all the identifiable plant species at each wetland to calculate an FQI and Mean C. The FQI metric was developed by Floyd Swink and Gerould Wilhelm to measure the natural area quality and degree of disturbance present in a vegetation community. The FQI relies on a value, represented by a number from 0 to 10, called the coefficient of conservatism (C Value), which has been assigned to each native plant species in the Chicago region. The value reflects a species' degree of fidelity to a high-quality natural community. For example, a very conservative species found in habitats with little disturbance is assigned a high C Value such as 9 or 10, while a very weedy species that is found in highly disturbed areas is assigned a low C Value such as 0 or 1. Non-native species are not given a rating because they are not originally part of any natural community.

The FQI calculation must be conducted for all wetlands as part of the delineation and Section 404 permitting requirements of the USACE Chicago District. USACE Chicago District considers a wetland community with a Mean C value of 3.5 or greater or an FQI of 20 or greater a highquality aquatic resource. The FQI reports for the selected wetlands are included in **Appendix D**.

Approach B

During the 2015 surveys, for properties where NICTD could not obtain right of entry or could not use the three-parameter methodology because of physical or safety access reasons, surveyors identified wetlands and estimated wetland boundaries based on a visual assessment from adjacent property. This approach is described as Approach B.

Approach B consisted of noting vegetation and hydrology from adjacent property; soil data and FQIs were not obtained. GPS points were taken along the wetland boundary as needed to determine the boundary extent. Field notes were taken describing the distance and direction



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where the GPS points were taken from the actual wetland boundary. The points were uploaded to a mapping program and shifted by the direction and distance needed to reflect the actual wetland boundary. Wetland boundaries using this methodology were estimated based on the GPS point data and field notes. Aerial photography was used to supplement visual estimates, if necessary.

2.2.4.2 Agricultural Land Assessment

In the southern portion of the environmental survey area, near Seminary Drive and Sheffield Avenue in Munster, Indiana, the environmental survey area includes land that is under agricultural production and that includes mapped hydric soils. Often, wetlands on agricultural lands are difficult to identify using the USACE routine wetland determination methodology because agricultural practices can obscure or eliminate some wetland features. For the cultivated areas in the environmental survey area, surveyors followed USACE procedures for determining wetland areas on agricultural land, which require the use of time series aerial imagery review and wetland identification methods developed by NRCS. The NRCS mapping conventions follow the methodology of the National Food Security Act Manual (NFSAM), which addresses the special conditions of agricultural wetlands. The mapping conventions call for a comparison of at least 5 normal-rainfall years of aerial photos against aerial photos of 1 wetrainfall year and 1 dry year, which are used as a reference to detect characteristic field signatures that indicate the presence of wetlands. The NFSAM standards require an area to have wetland signatures present in 3 years out of the 5 normal years to be considered a wetland. The USACE Chicago District Regulatory Branch has issued a regulatory bulletin with guidelines for using the NRCS NFSAM method (NRCS 2007, USACE n.d.).

Appendix E contains the aerial photos for years 1998, 2002, 2007, 2008, 2009, and 2012 that were used to detect field characteristics for the agricultural land investigation.

2.2.4.3 2017 Follow-Up Surveys

Surveyors conducted wetland delineations using the Approach A methodology outlined in **Section 2.2.4.1**. All updates in wetland boundaries are described in **Section 2.3.3**. Updates regarding wetland boundaries were approved by USACE in a Formal Boundary Concurrence Request dated June 23, 2017 (**Appendix F**).

2.2.4.4 Wetland Delineation Exhibit

In all instances, wetland data obtained via the Trimble GeoExplorer, aerial photography, and NWI maps were used to create an exhibit that includes an identifying code for each wetland. **Figure 2.3-1** provides an overview of wetland locations, and detailed exhibits are included in **Appendix A**.



2.3 Affected Environment

2.3.1 Surface Waters

2.3.1.1 Little Calumet River

The FEIS Preferred Alternative would cross the Little Calumet River south of I-80 in Indiana (**Figure 2.3-1**). The Little Calumet River's hydrologic unit code is 071200030305, and its reach code at this location is 071200030000174. According to *Indiana Draft 2016 Section 303(d) List of Impaired Waters* (IDEM 2016b), the Little Calumet River is impaired at this location due to chloride, dissolved oxygen, impaired biotic communities, polychlorinated biphenyls (PCBs), free cyanide, and nutrients (IDEM 2016b).

2.3.1.2 Grand Calumet River

The FEIS Preferred Alternative would cross the Grand Calumet River approximately 0.2 mile north of Plummer Avenue. The Grand Calumet River's hydrologic unit code is 071200030407, and its reach code is 07120003000188. The Grand Calumet River is considered a traditional navigable river by USACE and USEPA.

A letter from USFWS dated November 4, 2014 (provided in **Appendix F**) stated that the Grand Calumet River in Hammond has severely polluted sediments within both the West and East Branches. Restoration has been ongoing along various segments of the river. The portion of the West Branch between Hohman Avenue and the Indiana-Illinois state line will be remediated in the near future; remediation efforts will consist of dredging and capping the remaining sediments. USFWS advised that any construction activities that could compromise the integrity of the cap, including the placement of piers and abutments for a new railroad bridge, would be prohibited. Any bridge in this section of the river must be a clear span, with no piers or abutments within the river channel.

According to the *Indiana Draft 2016 Section 303(d) List of Impaired Waters*, the Grand Calumet River has impaired biotic communities and is impaired due to ammonia, dissolved oxygen, *Escherichia coli*, nutrients, and PCBs (IDEM 2016b). A letter from the Indiana Department of Natural Resources, dated November 10, 2014 (provided in **Appendix F)**, advised that the Grand Calumet River is one of the most contaminated rivers in the country due to a long history of chemical dumping and discharges prior to environmental regulations. The Grand Calumet River had contaminated sediments that averaged 8 to 10 feet in depth. Sediments in the West Branch of the Grand Calumet River, from Indianapolis Boulevard to the Indiana-Illinois state line, have been remediated through a combination of dredging/disposal and a 2-foot cap. Because of these remediation efforts, the placement of piers within the Grand Calumet River may not be permitted.

A letter from USEPA dated November 26, 2014 (provided in **Appendix F**) reiterated USFWS's concern with polluted sediments within the Grand Calumet River. This letter also requested avoidance of impacts on any remediation efforts and recommended spanning the river without piers or abutments placed in the river that could compromise the integrity of the sediment cap.



2.3.2 Wetlands

The 2015 and 2017 wetland surveys are described in this section. Twenty jurisdictional wetlands (1through 11 and 32 through 40) and two non-jurisdictional wetlands (12, 17) were identified in the environmental survey area. These wetlands are shown in **Figure 2.3-1** and are detailed in **Appendix A**. **Table 2.3-1** lists wetlands as they appear along the environmental survey area, from south to north, and not in numerical order. Since neither of the non-jurisdictional wetlands fall under the authority of USACE or IDEM, they are not included in wetland impacts for this Project and are excluded from the discussion below. The wetlands numbering scheme reflects the convention used in the DEIS when the environmental survey area was larger and there were more delineated wetlands.

2.3.2.1 2015 Wetland Surveys

Where parcel access allowed, surveyors delineated wetlands using the full delineation approach (Approach A) described in **Section 2.2.4.1**. In some cases, full boundary delineations using Approach A were not possible because of either right-of-entry issues or safety reasons. These wetlands were delineated from an adjacent parcel using Approach B, described in **Section 2.2.4.1**.

2.3.2.2 2017 Follow-Up Surveys

Surveyors revisited wetlands within the environmental survey area that were delineated in 2015 under Approach B and reevaluated them using Approach A. Boundaries were adjusted if needed.

Locations that had not been surveyed in 2015 due to design changes in the environmental survey area were also surveyed. No new wetlands were identified at these locations. However, the boundary at the southeast corner of wetland 4 was slightly expanded where the Project Area was widened to accommodate the connection of the Little Calumet River Trail to the Monon Trail.

Though part of the 2015 survey, the area to the south of wetland 34 along the Monon Railroad Tracks exhibited hydrophitic vegetation, hydric soils, and wetland hydrology in 2017. Wetland 34 was expanded to include this area.



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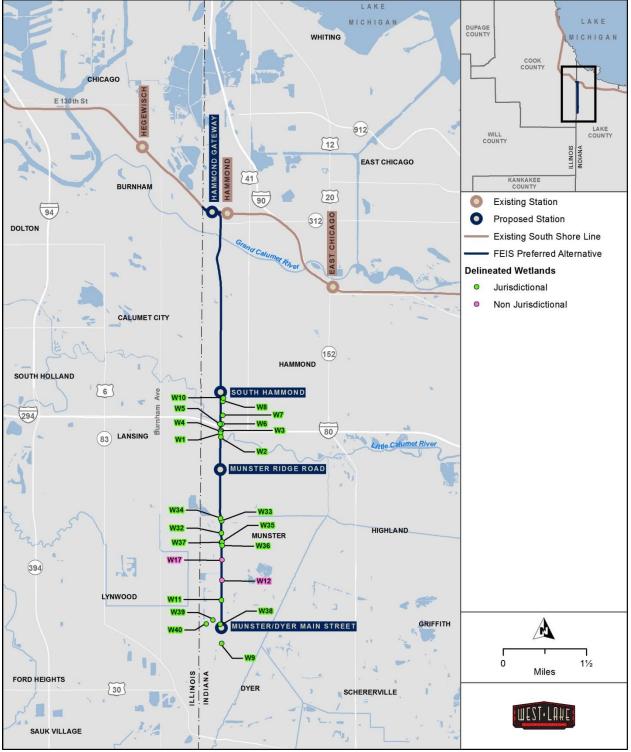


Figure 2.3-1: Overview of Wetlands in Environmental Survey Area

Source: HDR 2017.



Table 2.3-1: Summary of Wetlands in the Environmental Survey Area

	Location	Wetland Type			Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres) ^{c,d}	Soil Map Unit Name/Hydric Rating	2015	2015	2017		HQAR?
Wetland ^a			Cowardin Class⁵						Approach	Mean C/ FQI⁰	Mean C/ FQI ^e	Dominant Plant Species	
9	West of Sheffield Avenue and south of Main Street at rail crossing (Dyer)	Wet prairie with shrubs	PFO	0.968	0	0	0	Bono silty clay Hydric	A	2.82/11.6 4	3.53/19.35	Sambucus nigra, Frangula alnus, Lythrum salicaria	Yes
40	West of rail, north of Seminary Drive (Munster)	Wet prairie	PEM	0.256	0	0	0	Bono silty clay Hydric	A	2.33/5.72	_	Lythrum salicaria, Salix interior	No
39	West of rail, north of Seminary Drive (Munster)	Forested wetland ditch	PFO	0.046	0.041	0	0.046	Bono silty clay Hydric	A	1.80/4.02	1.83/8.98	Phragmites australis, Salix interior, Salix fragilis	No
38	West of rail near Sheffield Avenue crossing (Munster)	Ditch forested wetland and sedge meadow ditch	PFO	0.302	0.287	0	0.302	Bono silty clay Hydric	A	2.06/8.25	3.03/17.41	Phragmites australis, Salix interior, Cornus stolonifera, Equisetum arvense, Acer saccharinum, Prunus serotina, Populus deltoides, Rubus occidentalis	No
11	East of rail near edge of subdivision south of Otis Bowen Drive (Munster)	Ditch wetland	PEM	0.070	0.039	0.030	0.070	Bono silty clay Hydric	В	_	2.33/7.00	Phragmites australis	No
12	East of rail, south of Superior Avenue (Munster)	Bioretention basin	PEM	0.947	0.194	0.057	0.251	Bono silty clay Hydric	A	2.15/7.77	2.81/12.87	Phragmites australis	No
17	Retention basin wetland (Munster)	Retention basin wetland	PEM	1.416	0.476	0.035	0.511	Rensselaer loam, calcareous subsoil variant/ Bono silty clay Hydric	В	2.22/6.67	2.22/6.67	Phragmites australis, Lythrum salicaria	No
36	East or rail, north of 45th Street (Munster)	Sedge meadow	PEM	0.107	0.005	0	0.005	Rensselaer loam, calcareous subsoil variant Hydric	A	3.00/9.00	_	Populus deltoides, Typha angustifolia, Phragmites australis, Rubus occidentalis	No
37	West of rail, north of 45th Street (Munster)	Sedge meadow/wooded wetland	PFO	0.340	0.183	0.038	0.340	Rensselaer loam, calcareous subsoil variant Hydric	В	_	1.95/6.52	Salix interior, Cornus stolonifera, Typha angustifolia, Vitis riparia, Fraxinus pennsylvanica subintegerrima	No
35	East of rail, north of 45th Street (Munster)	Sedge meadow	PEM	0.042	0	0	0	Rensselaer loam, calcareous subsoil variant Hydric	В	_	1.56/4.67	Salix interior, Populus deltoides, Cornus stolonifera, Fraxinus pennsylvanica subintegerrima, Typha angustifolia, Vitis riparia	No
32	East of rail, south of Fisher Street (Munster)	Sedge meadow and forested wetland ditch	PEM	1.423	0.878	0	1.423	Rensselaer loam, calcareous subsoil variant Hydric	В	_	1.00/1.73	Populus deltoides, Rhamnus frangula, Salix interior, Phragmites australis	No

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	Location	Wetland Type		Size in	Permanent	Temporary Impacts (acres)	Total Impacts (acres) ^{c,d}	Soil Map Unit Name/Hydric Rating	2015	2015	2017	Dominant Plant Species	
Wetland ^a			Cowardin Class⁵	Environmental Survey Area (acres)	Impacts (acres)				Approach	Mean C/ FQI ^e	Mean C/ FQIº		HQAR?
33	East of rail, south of Fisher Street (Munster)	Sedge meadow ditch	PEM	0.263	0.060	0	0.060	Maumee loamy fine sand Hydric	A	2.25/6.36	2.09/6.93	Phragmites australis, Populus deltoides	No
34	West of rail, south of Fisher Street (Munster)	Sedge meadow	PFO	0.480	0.052	0.069	0.121	Maumee loamy fine sand Hydric	A	2.91/9.65	2.87/11.10	Phragmites australis, Lythrum salicaria, Cornus stolonifera, Frangula alnus, Geum Iaciniatum trichocarpum	No
2	South of river at Monon Trail Bridge (Munster)	Wet meadow; wooded wetland	PFO	0.080	0.040	0	0.080	Bono silty clay Hydric	A	3.13/12.1 4	_	Phalaris arundinacea, Parthenocissus quinquefolia, Vitis riparia, Fraxinus pennsylvanica subintegerrima, Acer negundo, Quercus macrocarpa, Ulmus rubra	No
1	Immediately south of river at Monon Trail Bridge (Munster)	Emergent, riparian	PEM	0.136	0.094	0.011	0.136	Bono silty clay Hydric	A	2.15/7.77	_	Persicaria lapathifolium, Phalaris arundinacea, Ipomoea hederacea	No
4	East side of Monon Trail, north of river, south of interstate (Munster)	Floodplain forest	PFO	0.145	0.127	0.017	0.145	Bono silty clay Hydric	A	1.50/4.74	_	Lysimachia nummularia, Phragmites australis, Acer negundo, Fraxinus pennsylvanica	No
3	Immediately north of river at Monon Trail Bridge (Hammond)	Emergent, riparian	PEM	0.073	0.073	0	0.073	Bono silty clay Hydric	A	1.59/6.55	_	Persicaria lapathifolia, Helianthus tuberosus, Phalaris arundinacea, Symphyotrichum pilosum, Eupatorium serotinum, Sambucus nigra	No
5	Immediately north of interstate at Monon Trail (Hammond)	Sedge meadow	PEM	0.063	0.048	0	0.063	Watseka loamy fine sand Non-hydric	A	2.22/9.43	_	Phragmites australis, Fraxinus pennsylvanica subintegerrima, Acer negundo, Populus deltoides	No
6	Immediately north of interstate at Monon Trail (Hammond)	Eastern forested wetland	PFO	0.012	0	0	0	Watseka loamy fine sand Non-hydric	A	2.29/9.46	_	Impatiens capensis, Crataegus mollis, Ulmus americana, Fraxinus pennsylvanica subintegerrima	No
7	East of Monon Trail at 174th Street (Hammond)	Sedge meadow with forested wetland edge	PEM	0.656	0.656	0	0.656	Watseka loamy fine sand Non-hydric	A	2.26/9.86	_	Lythrum salicaria, Salix interior, Populus deltoides, Fraxinus pennsylvanica subintegerrima, Phragmites australis	No
10	North of 173rd Street and east of Lyman Avenue (Hammond)	Sedge meadow with forested wetland edge	PEM	0.173	0	0	0	Watseka loamy fine sand Non-hydric	A	1.95/8.95	2.48/16.05	Lythrum salicaria, Fraxinus pennsylvanica subintegerrima, Populus deltoides	No
8	North of 173rd Street and east of Lyman Avenue (Hammond)	Sedge meadow edges with forested wetland center	PFO	0.322	0	0	0	Watseka loamy fine sand Non-hydric	A	1.95/8.95	2.48/16.05	Lythrum salicaria, Fraxinus pennsylvanica subintegerrima, Populus deltoides	No

Sources: NICTD 2016; HDR 2017.

^a Wetlands are ordered from south to north.

^b The Cowardin classification system is a widely used ecological classification system for wetlands and provides a consistent definition useful in inventorying and mapping wetlands (Cowardin et al. 1975). PEM = Palustrine emergent; PFO = Palustrine forested

^c Total impacts may slightly differ from the sum of permanent and temporary impacts due to rounding.

^d It was assumed that the entire wetland would be impacted when total impacts were equivalent to 50% or greater of the entire wetland area. Where this is the case, total impacts may be greater than the sum of the permanent and temporary impacts.

e Mean C (native species) and FQI (native species) based on Chicago Region FQA Calculator 2016 Update (Herman et al. 2013), as provided by USACE Chicago District.

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2.3.3 Wetland Areas with Descriptions of Soils and Hydrology

USACE advised, in its letter dated July 29, 2016, that wetlands 1 through 11, and 32 through 40 are jurisdictional under the CWA due to their proximity to the Little Calumet River. USACE also advised that wetlands 12 and 17 are not jurisdictional under the CWA because they were created as stormwater detention facilities and are exempt from CWA regulations (33 CFR Part 328.3) (see **Appendix F**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because they are human-made bodies of surface water created by excavation to retain water (327 Indiana Administrative Code 17).

All jurisdictional and non-jurisdictional wetlands within the environmental survey area are not considered high quality aquatic resources under USACE Chicago District guidelines with the exception of wetland 9.

The wetland descriptions that follow are from the 2015 wetland surveys; descriptions from the 2017 wetland surveys for wetlands 11, 35, 37, 32, 34, and 4 are included as applicable. Wetlands are labeled using the naming convention determined in the DEIS and listed as they appear along the environmental survey area from south to north.

2.3.3.1 Wetland 9

The vegetative community is dominated by elderberry (*Sambucus nigra*), glossy false buckthorn (*Frangula alnus*), and purple loosestrife (*Lythrum salicaria*). The mapped soil is hydric Bono silty clay. The soil was hydric due to the presence of a redox dark surface. The main indicators of hydrology were geomorphic position and a FAC-neutral test.

The upland data point confirmed the mapped hydric soil, Bono silty clay. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology.

2.3.3.2 Wetland 40

The vegetative community is dominated by purple loosestrife (*Lythrum salicaria*) and sandbar willow (*Salix interior*). The soils investigation did not confirm the mapped soils as Bono silty. Instead the soils were found to be sandy clay. Soils were hydric due to being a thick dark surface. The wetland hydrology indicators were iron deposits, recent iron reduction in tilled soils, surface soil cracks, drainage patterns, and a FAC-neutral test.

The upland data point confirmed the mapped hydric soil, Bono silty clay. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology.

2.3.3.3 Wetland 39

The vegetative community is dominated by crack willow (*Salix fragilis*), sandbar willow (*Salix interior*), and common reed (*Phragmites australis*). The soils investigation did not confirm the mapped soil as Bono silty clay. Instead the soil was found to be loamy sand. The soil was hydric due to being depleted below a dark surface. The wetland hydrology indicators were a high water table, saturation, sediment deposits, drainage patterns, and geomorphic position.

The upland data point confirmed the mapped hydric soil, Bono silty clay. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology in the upland data point. Hydrophytic vegetation was not present.



2.3.3.4 Wetland 38

The vegetative community is dominated by sugar maple (*Acer saccharinum*), Eastern cottonwood (*Populus deltoides*), black cherry (*Prunus serotina*), common reed (*Phragmites australis*), redosier dogwood (*Cornus stolonifera*), field horsetail (*Equisetum arvense*), black raspberry (*Rubus occidentalis*) and sandbar willow (*Salix interior*). The soils investigation did not confirm the mapped soil as Bono silty clay. Instead, the soil was found to be loamy sand. The soil was hydric due to being depleted below a dark surface. The wetland hydrology indicators were a high water table, saturation, sediment deposits, drainage patterns, and geomorphic position.

The upland data point confirmed the mapped hydric soil, Bono silty clay. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology in the upland data point. Hydrophytic vegetation was not present.

2.3.3.5 Wetland 11

The vegetative community is dominated by common reed (*Phragmites australis*). Data points for wetland and upland soils and for hydrology were not obtained because the wetland location was primarily on property where right of entry was denied. The mapped soil for the area was hydric Bono silty clay.

The wetland boundary delineated in 2015 using Approach B was refined during the 2017 followup survey. Mean C and FQI data were collected. A soil sample was not taken because of standing water. An upland data point for soils and hydrology could not be obtained.

2.3.3.6 Wetland 12

The vegetative community is dominated by common reed (*Phragmites australis*). The mapped soil for this area is hydric Bono silty clay. The soil was hydric due to the presence of a loamy gleyed matrix. The sample was restricted to the top 8 inches of soil due to a restrictive gravel layer. The main indicators of wetland hydrology were surface water, a high water table, saturation, and drainage patterns.

The upland data point was also mapped as Bono silty clay and showed evidence of redox concentrations; however, the soils were determined to be too highly disturbed to serve as an indicator of wetland/upland soils. There were no signs of wetland hydrology.

2.3.3.7 Wetland 17

The vegetative community is dominated by common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*). Wetland and upland soils and hydrology data points were not obtained because property right of entry was denied. The mapped soils for the area were Renssalaer loam, calcareous subsoil variant or Bono silty clay.

2.3.3.8 Wetland 36

The vegetative community is dominated by common reed (*Phragmites australis*), Eastern cottonwood (*Populus deltoides*), narrow-leaf cattail (*Typha angustifolia*), and black raspberry (*rubus occidentalis*). A soil sample was not taken because of standing water. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant. The wetland hydrology indicators were surface water and saturation. An upland data point for soils and hydrology could not be obtained.



2.3.3.9 Wetland 37

The vegetative community is dominated by sandbar willow (*Salix interior*), redosier dogwood (*Cornus stolonifera*), green ash (*Fraxinus pennsylvanica*), narrow-leaf cattail (*Typha angustifolia*), and river-bank grape (*Vitis riparia*). Data points for wetland and upland soils and for hydrology were not obtained because right of entry was denied. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

The wetland delineated in 2015 using Approach B was reduced during the 2017 follow-up survey and split into two: 37L and 37R. The wetland is split along the old rail line. A soil sample was not taken because of standing water. An upland data point for soils and hydrology could not be obtained.

2.3.3.10 Wetland 35

The vegetative community is dominated by sandbar willow (*Salix interior*), Eastern cottonwood (*Populus deltoides*), redosier dogwood (*Cornus stolonifera*), green ash (*Fraxinus pennsylvanica subintegerrima*), narrow-leaf cattail (*Typha angustifolia*), and river-bank grape (*Vitis riparia*). Data points for wetland and upland soils and for hydrology were not obtained because right of entry was denied. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

The wetland boundary delineated in 2015 using Approach B was confirmed in the follow-up survey in 2017. A soil sample was not taken because of standing water. An upland data point for soils and hydrology could not be obtained. This wetland is bound by graded roads within the environmental survey area.

2.3.3.11 Wetland 32

The vegetative community is dominated by Eastern cottonwood (*Populus deltoides*), glossy false buckthorn (*Rhamnus frangula*), sandbar willow (*Salix interior*), and common reed (*Phragmites australis*). Data points for wetland and upland soils and for hydrology were not obtained because radio frequency fields at this site exceeded Federal Communications Commission rules for human exposure. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

During the 2017 follow-up survey, it was noted that portions of this wetland have been filled with gravel and debris since the 2015 survey. In addition, a graded gravel road runs parallel to the west edge of the wetland. USACE Chicago District is aware of this situation. The wetland boundary was updated to exclude the graded road along the west edge.

2.3.3.12 Wetland 33

The vegetative community is dominated by Eastern cottonwood (*Populus deltoides*) and common reed (*Phragmites australis*). The soils investigation confirmed the mapped soil, Maumee loamy fine sand. The soil was hydric due to the presence of a depleted dark surface. The wetland hydrology indicators were saturation and sparsely vegetated concave surface. An upland data point for soils and hydrology could not obtained.

2.3.3.13 Wetland 34

The vegetative community is dominated by common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), redosier dogwood (*Cornus stolonifera*), glossy false buckthorn (*Frangula alnus*), rough avens (*Geum laciniatum trichocarpum*). The soils investigation



Chapter 2 Wetland Delineations

confirmed the mapped hydric soil, Maumee loamy fine sand. The soil was hydric due to the presence of a depleted dark surface. The wetland hydrology indicators were saturation and sparsely vegetated concave surface. An upland data point for soils and hydrology could not be obtained.

Though originally delineated using Approach A, surveyors expanded the south wetland boundary in the 2017 follow-up survey. The updated wetland boundary was submitted to USACE in a Formal Boundary Concurrence Request and approved on August 25, 2017 (**Appendix F**).

The soils investigation confirmed the mapped soil, Maumee loamy fine sand. The soil was hydric due to the presence of a depleted dark surface. The wetland hydrology indicators were saturation and sparsely vegetated concave surface. An upland data point for soils and hydrology could not be obtained.

2.3.3.14 Wetland 2

The vegetative community is dominated by burr oak (Quercus macrocarpa), river-bank grape (*Vitis riparia*), slippery elm (*Ulmus rubra*), boxelder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), Virginia creeper (*Parthenocissus quinquefolia*), and reed canary grass (*Phalaris arundinacea*). The mapped soil for this area is hydric Bono silty clay. Field investigations confirmed that soil at the site is hydric due to the presence of depletion below a dark surface. The main indicators of wetland hydrology were water marks and a sparsely vegetated concave surface.

The upland data point also showed evidence of hydric soil, with 3 percent of redox concentrations leading to a preliminary classification of redox dark surface. However, the presence of rock and asphalt indicated highly disturbed soil. Hydrophytic vegetation was present. There were no signs of wetland.

2.3.3.15 Wetland 1

The vegetative community is dominated by dock-leaf smartweed (*Persicaria lapathifolia*), ivyleaf morning glory (*Ipomea hereracae*) and reed canary grass (*Phalaris arundinacea*). The mapped soil for this area is hydric Bono silty clay. Field investigations confirmed that soil at the site is hydric due to the presence of a redox dark surface. The main indicators of wetland hydrology were sediment deposits and drainage patterns.

The upland data point also showed evidence of hydric soil, with 3 percent of redox concentrations leading to a preliminary classification of redox dark surface. However, the presence of rock and asphalt indicated highly disturbed soil. Hydrophytic vegetation was present. There were no signs of wetland hydrology in the upland data point.

2.3.3.16 Wetland 4

The vegetative community is dominated by green ash (*Fraxinus pennsylvanica*), boxelder (*Acer negundo*), creeping Jenny (*Lysimachia nummularia*), and common reed (*Phragmites australis*). The mapped soil for this area is hydric Bono silty clay. Field investigations confirmed that the soil was hydric due to the presence of a redox dark surface. The main indicator of wetland hydrology was a high water table.

An upland data point for soils could not be obtained because of the large amount of gravel and debris in the soil. There were no indicators of wetland hydrology in the upland data point.



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Though originally delineated using Approach A, the Project footprint was expanded at this location after the 2015 survey to accommodate the connection of the Monon Trail with the Little Calumet River Trail. The updated wetland boundary was submitted to USACE in a Formal Boundary Concurrence Request and approved on August 25, 2017 (**Appendix F**).

2.3.3.17 Wetland 3

The vegetative community is dominated by black elder (*Sambucus nigra*), reed canary grass (*Phalaris arundinacea*), dock-leaf smartweed (*Persicaria lapathifolia*), white oldfield American aster (*Symphyotrichum pilosum*), Jerusalem artichoke (*Helianthus tuberosus*), and late flowering thoroughwort (*Eupatorium serotinum*). The mapped soil for this area is hydric Bono silty clay. Field investigations confirmed that soil at the site is hydric due to the presence of a redox dark surface. The main indicators of wetland hydrology were sediment deposits and drainage patterns. The sample was taken approximately 5 feet from the edge of the river bank.

An upland data point for soils could not be obtained because of the large amount of gravel and debris in the soil. There were no indicators of wetland hydrology in the upland data point.

2.3.3.18 Wetland 5

The vegetative community is dominated by Eastern cottonwood (*Populus deltoides*), boxelder (*Acer negundo*), green ash (*Fraxinus pennsylvanica*), and common reed (*Phragmites australis*). The mapped soil for this area is non-hydric Watseka loamy fine sand. Although typically non-hydric field investigations indicated that soil at the site is hydric due to the presence of a depleted matrix. The main indicator of wetland hydrology was saturation.

The upland data point confirmed the mapped non-hydric soil. There were no indications of hydric soil or of wetland hydrology in the upland data point. Hydrophytic vegetation was present.

2.3.3.19 Wetland 6

The vegetative community is dominated by downy hawthorn (*Crataegus mollis*), green ash (*Fraxinus pennsylvanica*), spotted touch-me-not (*Impatiens capensis*) and American elm (*Ulmus americana*). The mapped soil for this area is non-hydric Watseka loamy fine sand. Although typically non-hydric, field investigations indicated that soil at the site is hydric due to the presence of a depleted dark surface. The main indicators of wetland hydrology were sparsely vegetated concave surfaces, aquatic fauna, and surface soil cracks. Hydrophytic vegetation was present.

The upland data point confirmed the mapped non-hydric soil. There were no indications of hydric soil or of wetland hydrology in the upland data point. Hydrophytic vegetation was present.

2.3.3.20 Wetland 7

The vegetative community is dominated by sandbar willow (*Salix interior*), Eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), common reed (*Phragmites australis*), and purple loosestrife (*lythrum salicaria*). The soils investigation confirmed the mapped non-hydric soil, Watseka loamy fine sand. Although typically a non-hydric soil, the soil was hydric due to the presence of a stripped matrix. The main indicators of wetland hydrology were geomorphic position and a FAC-neutral test.

The upland data point confirmed the mapped non-hydric soil, Watseka loamy fine sand. There were no indications of hydric soil or of wetland hydrology in the upland data point.



Hydrophytic vegetation was present.

2.3.3.21 Wetland 10

The vegetative community is dominated by purple loosestrife (*Lythrum salicaria*), green ash (*Fraxinus pennsylvanica subintegerrima*), and Eastern cottonwood (*Populus deltoides*). The mapped soil for this area is Watseka loamy fine sand. Although typically a non-hydric soil, the soil was hydric due to the presence of a stripped matrix. The main indicators of hydrology were geomorphic position and sediment deposits.

The upland data point confirmed the mapped non-hydric soil, Watseka loamy fine sand. There were no indications of hydric soil or of wetland hydrology. Hydrophytic vegetation was present.

2.3.3.22 Wetland 8

The vegetative community is dominated by purple loosestrife (*Lythrum salicaria*), green ash (*Fraxinus pennsylvanica subintegerrima*), and Eastern cottonwood (*Populus deltoides*). The mapped soil for this area is Watseka loamy fine sand. Although typically a non-hydric soil, the soil was hydric due to the presence of a stripped matrix. The main indicators of hydrology were geomorphic position and sediment deposits.

The upland data point confirmed the mapped non-hydric soil, Watseka loamy fine sand. There were no indications of hydric soil or of wetland hydrology. Hydrophytic vegetation was present.

2.3.4 Agricultural Land

In the southern portion of the environmental survey area, near Seminary Drive and Sheffield Avenue in Munster, Indiana, the Project includes land that is under agricultural production and that includes mapped hydric soils. Six years of aerial photographs of the subject properties were examined. The years 1998, 2007, 2008, 2009, and 2012 were normal rainfall years in Munster. The wet rainfall year examined was 2002.

Examination of the aerial imagery review determined that the agricultural land did not contain locations that meet the standard for farmed wetlands because only 1 out of 5 normal rainfall years showed wetland indicators. **Appendix E** contains the aerial photos used to detect field characteristics for the agricultural land assessment.



3 Results

Under the No Build Alternative, no Project-related impacts on water resources would occur.

The FEIS Preferred Alternative would cross the Little Calumet River on a new through-girder bridge. The bridge would be designed to clear span the river. The FEIS Preferred Alternative would cross the Grand Calumet River on a new bridge where it is impaired by a variety of contaminants. The bridge would be designed to clear span the river, with no piers or abutments in the river channel. The FEIS Preferred Alternative considers wetland impacts for those wetlands in the environmental survey area that are considered jurisdictional at a federal or state level. Wetlands 12 and 17 (**Figure 2.3-1**) are human-made bioretention areas that are non-jurisdictional and are not regulated by federal or state government. Impacts on non-jurisdictional wetlands are shown in **Table 2.3-1**, but are not included in the \wetland impact calculations for mitigation.

Approximately 14 jurisdictional wetlands totaling 3.43 acres would be affected by filling with soil and ballast rock for the track, stations, parking lots, service roads, and temporary construction access (**Table 2.3-1**). The majority of the wetlands are highly disturbed and none are considered to be high-quality aquatic resource wetlands.



Chapter 3 Results

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4 Mitigation

4.1 Long-term Operating Effects

The No Build Alternative would not result in any direct impacts on water resources and, therefore, would not require mitigation.

The FEIS Preferred Alternative would follow guidelines and regulations outlined by USACE and INDNR.

USEPA has provided guidelines related to the CWA, which include choosing the least environmentally damaging practicable alternative (minimizing impacts), prohibiting the causing or contributing to significant degradation of waters, and minimizing and mitigating unavoidable impacts on waters of the United States and wetlands. The Project would not affect the integrity of the soil cap separating contaminated river sediments from surface water in the West Branch of the Grand Calumet River in Hammond.

In accordance with INDNR (Engineer Regulation 17897) guidelines, the Project would use existing structures for stream crossings where possible, thereby minimizing impacts on surface waters and wetlands. By complying with these guidelines, impacts on surface waters because of scouring and impacts on aquatic organisms would be minimized.

Because the Project would potentially affect more than 1 acre of wetlands, a USACE Section 404 Individual Permit and a Section 401 Water Quality Certification from IDEM would be required. In the NEPA concurrence letter dated January 9, 2018 (**Appendix F**), USACE stated that jurisdictional palustrine emergent wetlands would be required to be mitigated at a minimum 1.5:1 ratio, and jurisdictional palustrine forested wetlands would need to be mitigated at a 3:1 ratio. Based on these mitigation ratios, a minimum of 6.56 acres of wetland mitigation would be provided to ensure no net loss of wetlands The Section 401 Water Quality Certification would confirm that the Project complies with Indiana's water quality standards and, therefore, maintains the integrity of existing waterways.

NICTD would purchase wetland mitigation bank credits from established and approved off-site mitigation sponsors in accordance with the applicable USACE and INDNR requirements prior to construction of the Project. To mitigate impacts on wetlands, NICTD is considering two off-site mitigation sponsors near the Project, as well as the proposed in-lieu-fee program for the state of Indiana. These options are, discussed in greater detail below.

4.1.1 Shirley Heinze Land Trust

The Shirley Heinze Land Trust has indicated, through a Letter of Intent (see **Appendix F**), its interest in the perpetual protection of a 50-acre property (Property) in Pine Township, Porter County. The Property falls within the East Branch of the Little Calumet River corridor that was designated by INDNR as a Conservation Area in 2014. As a result, the Shirley Heinze Land Trust and other conservation partners have been able to protect over 400 acres in the area.

Mitigation associated with the Project's wetland impacts could be accommodated through the acquisition of this Property, which contains approximately 10 acres of forested wetlands and 40 acres of agricultural land that would be enhanced and restored, either as a part of mitigation or through funding that would be pursued by Shirley Heinze Land Trust following permanent protection of the Property. As part of the mitigation, the Shirley Heinze Land Trust would be committed to undertaking the required 5 years of monitoring and maintenance, with funding



Chapter 4 Mitigation

provided by NICTD. After the initial 5 years, Shirley Heinze Land Trust would be committed to protecting the work done in perpetuity.

4.1.2 Oak Ridge Prairie County Park

Lake County Parks has expressed interest in mitigating wetland impacts on its land through a Letter of Intent (**Appendix F**). Lake County Parks and its consultant EcoLogic Planning, Inc., have outlined a schedule of completion for a 106-acre mitigation bank at Oak Ridge Prairie County Park. Site management would begin in 2018 and would continue through 2023 until performance standards are met. Mitigation credits would be available for purchase in late 2018 into 2019.

Oak Ridge Prairie County Park is within the Lake Michigan Watershed. It is currently farmland that exhibits hydric soils and a high water table. Soil and hydrology characteristics as well as close proximity to many high-quality wetland communities make Oak Ridge Prairie County Park an ideal wetland mitigation bank. Additionally, this mitigation bank would provide excellent habitat for several federal- or state-listed species including the evening bat, eastern red bat, Franklin's ground squirrel, Blanding's turtle, northern leopard frog, rough greensnake, least bittern, whooping crane, Henslow's sparrow, sedge wren, greater yellowlegs, eastern meadowlark, black and white warbler, blue-winged teal, and American wigeon.

4.1.3 Indiana Stream and Wetland Mitigation Program

INDNR is proposing to sponsor the Indiana Stream and Wetlands Mitigation Program, a statewide in-lieu fee program, to provide an additional compensatory mitigation option to permittees. As with mitigation banks, permittees can buy compensatory mitigation credits from the sponsor. These funds can be accumulated to establish or restore large ecologically valuable stream or wetland habitat within the watershed where impacts occur. As part of the mitigation, INDNR would be responsible for the required 5 years of monitoring and maintenance.

INDNR is moving forward with the final stages of program approval, having recently submitted the Final Instrument to USACE and the Interagency Review Team and foresees program approval by the end of 2017. Advanced credits would be available for purchase after program approval.

4.2 Short-term Construction Effects

The No Build Alternative would not have any short-term construction impacts on water resources and, therefore, would not require mitigation.

The FEIS Preferred Alternative would minimize impacts on surface waters and wetlands such as the addition of fill material or increased sediment loads through the implementation of BMPs and erosion and sediment control plans which would be developed as part of the Section 404 Individual Permit and associated Section 401 Water Quality Certification and local and state requirements. Erosion and sediment control plans would be included with the contract drawings to prevent or reduce the displacement of soil and other sediments via stormwater runoff within the land development area.



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Appendix A

Appendix A. Exhibits



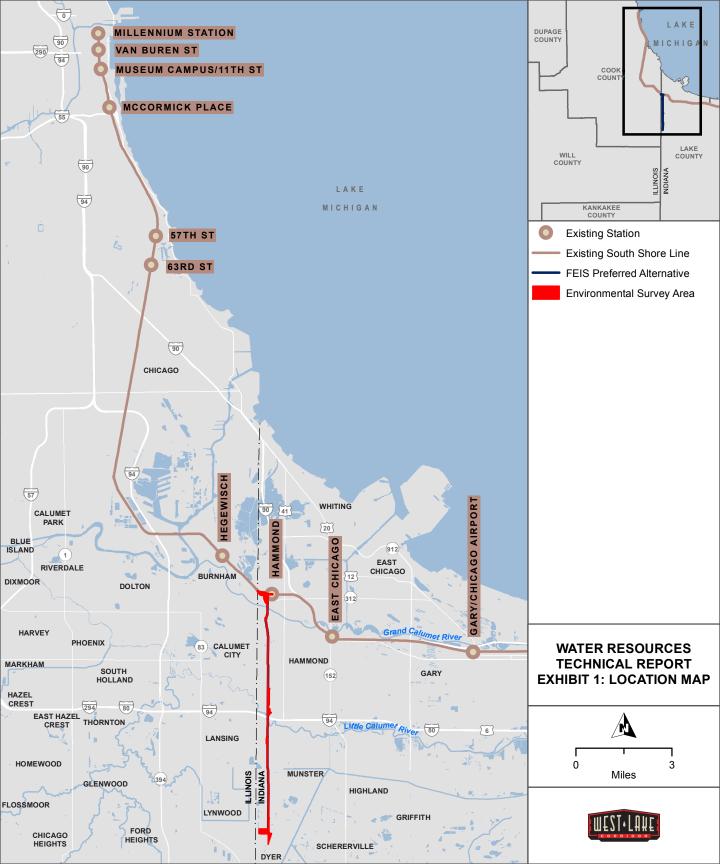
Appendix A

Exhibit 1: Location Map



Appendix A

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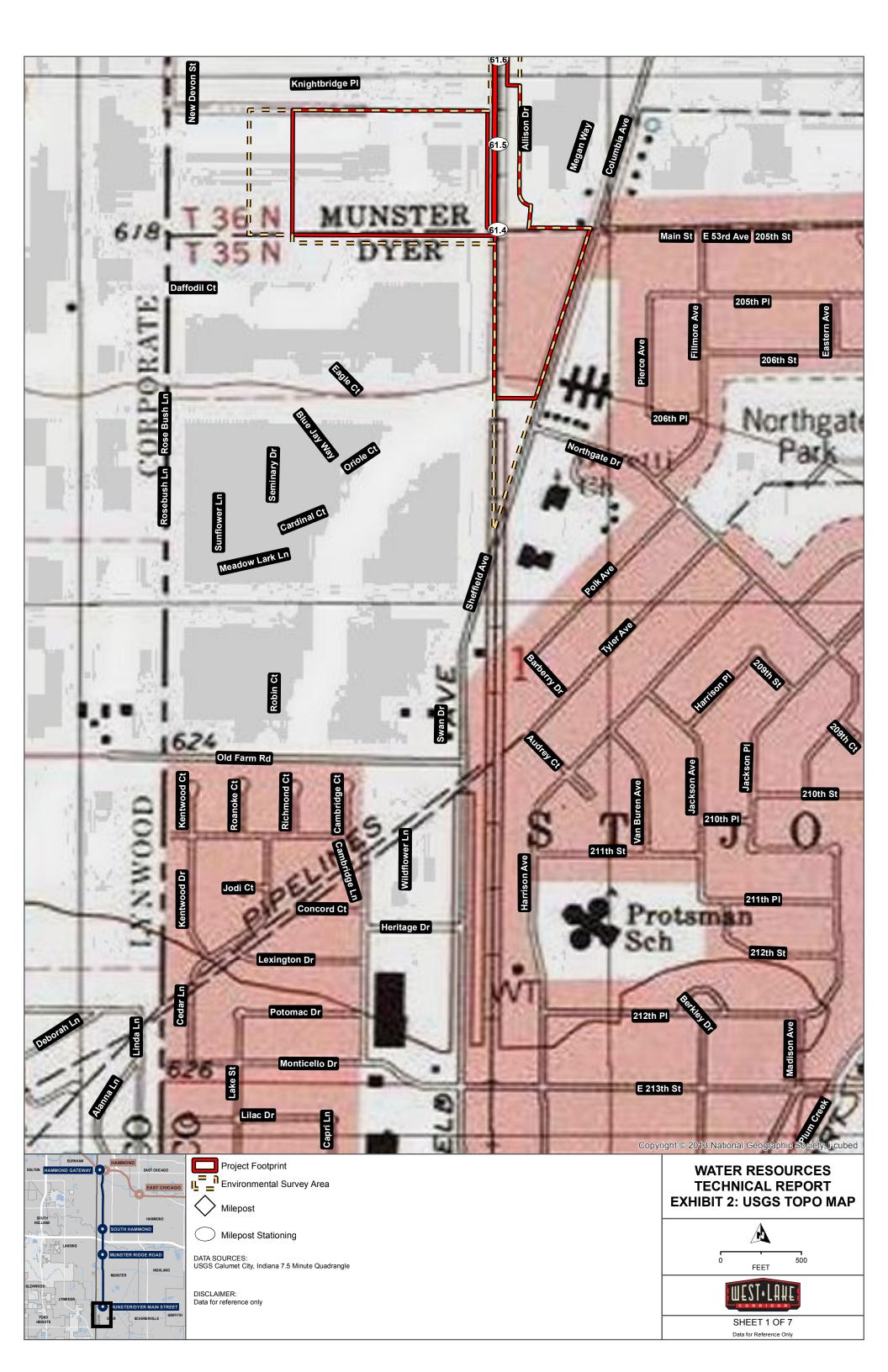
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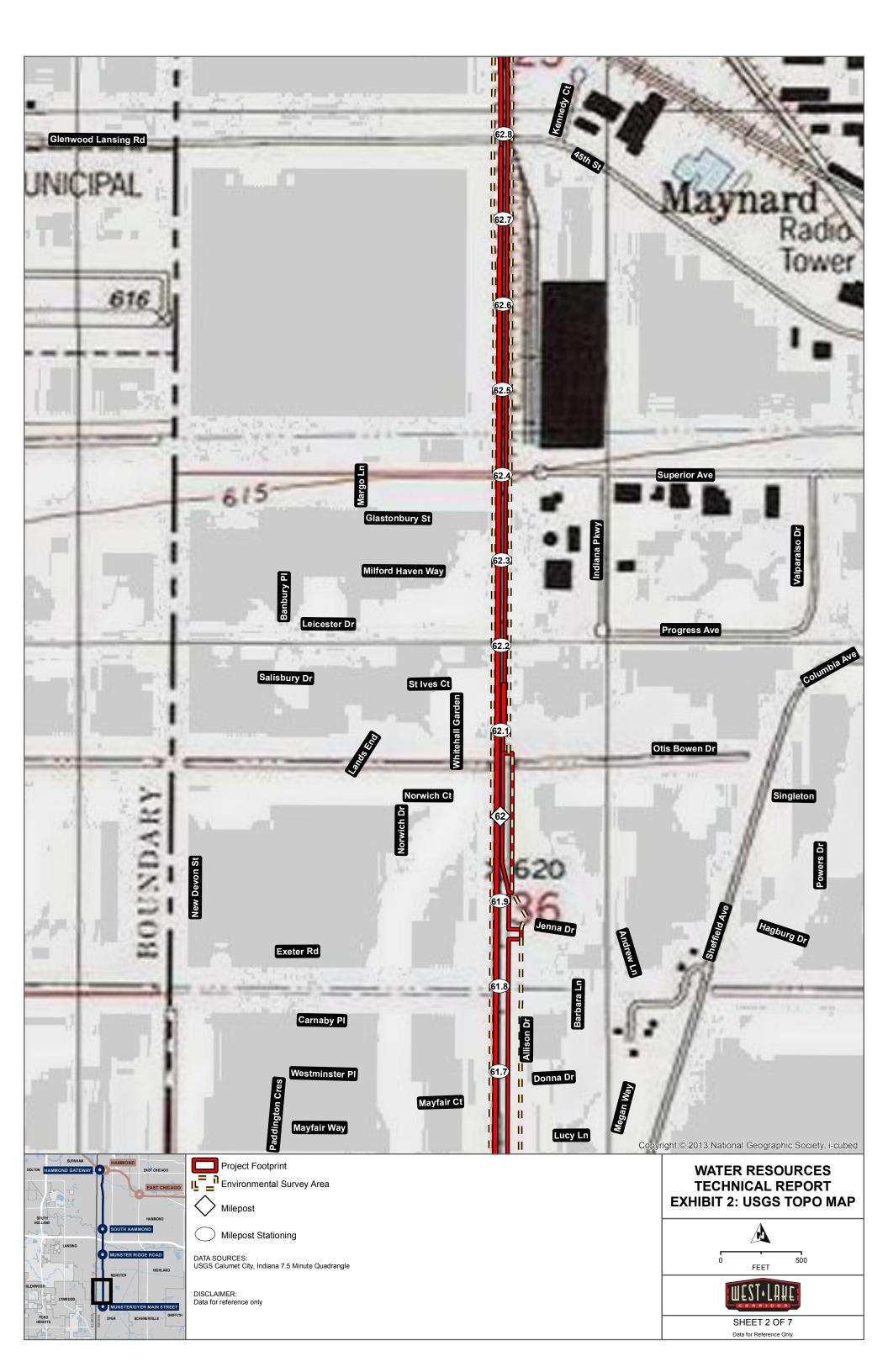
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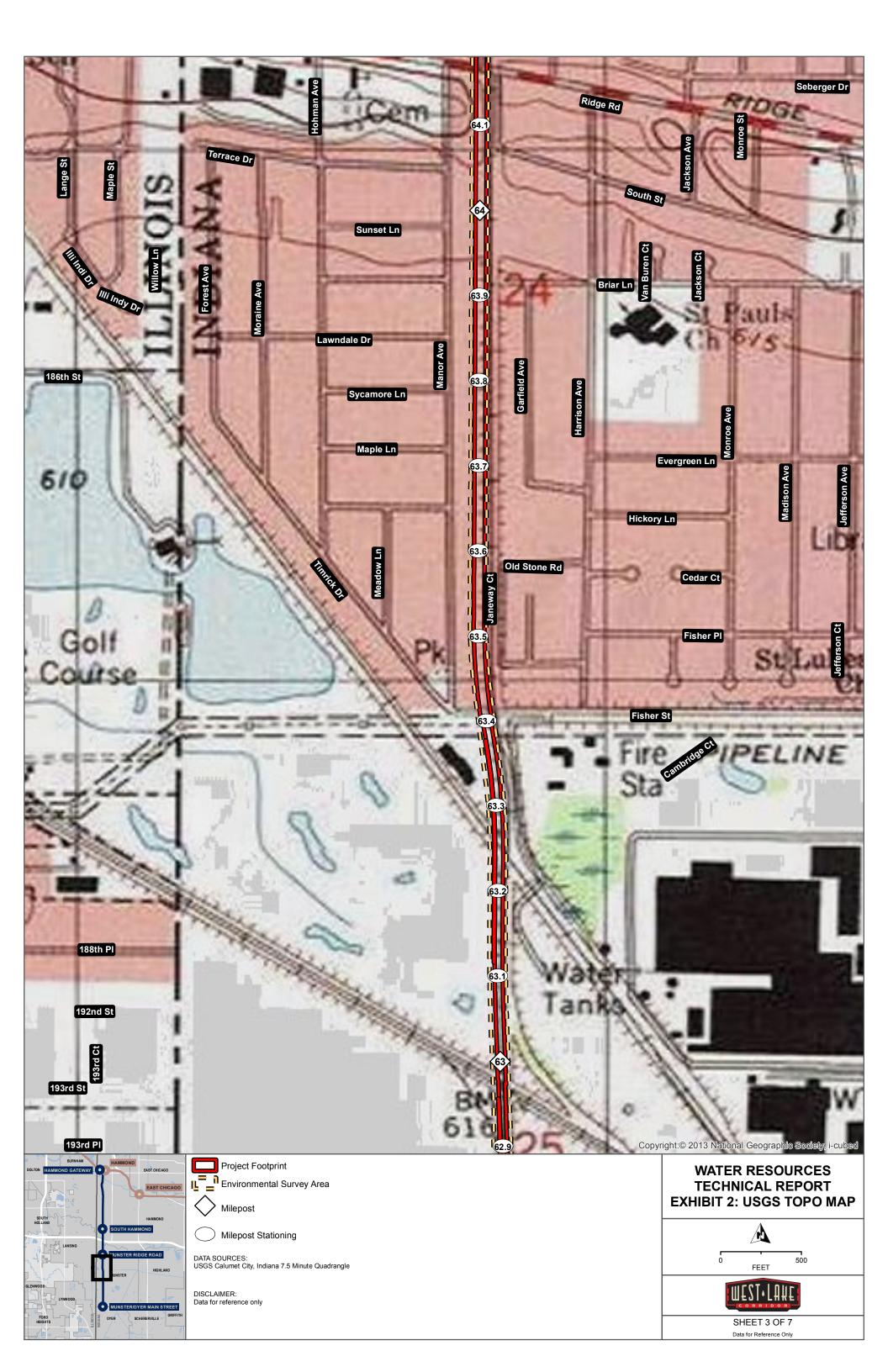


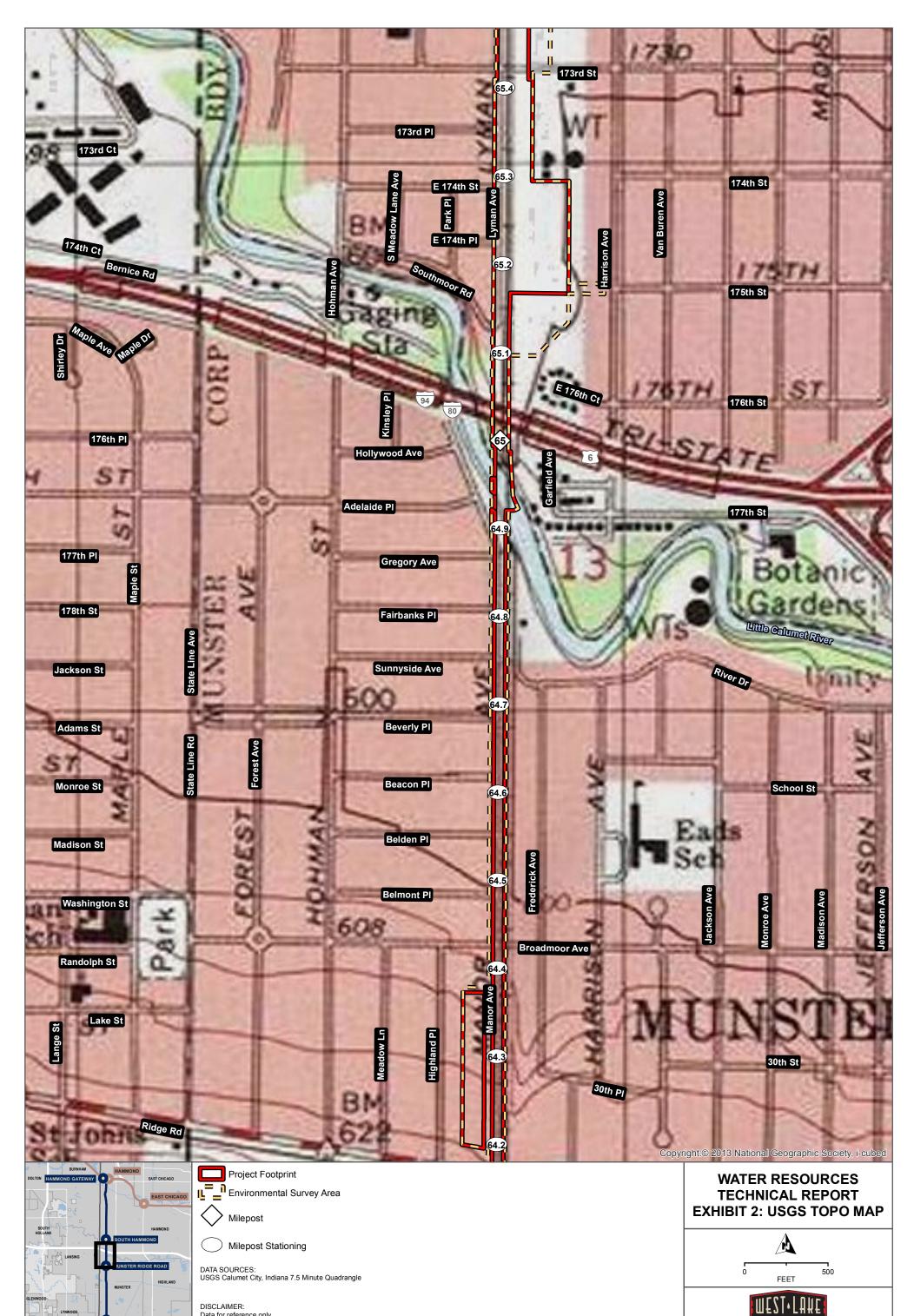
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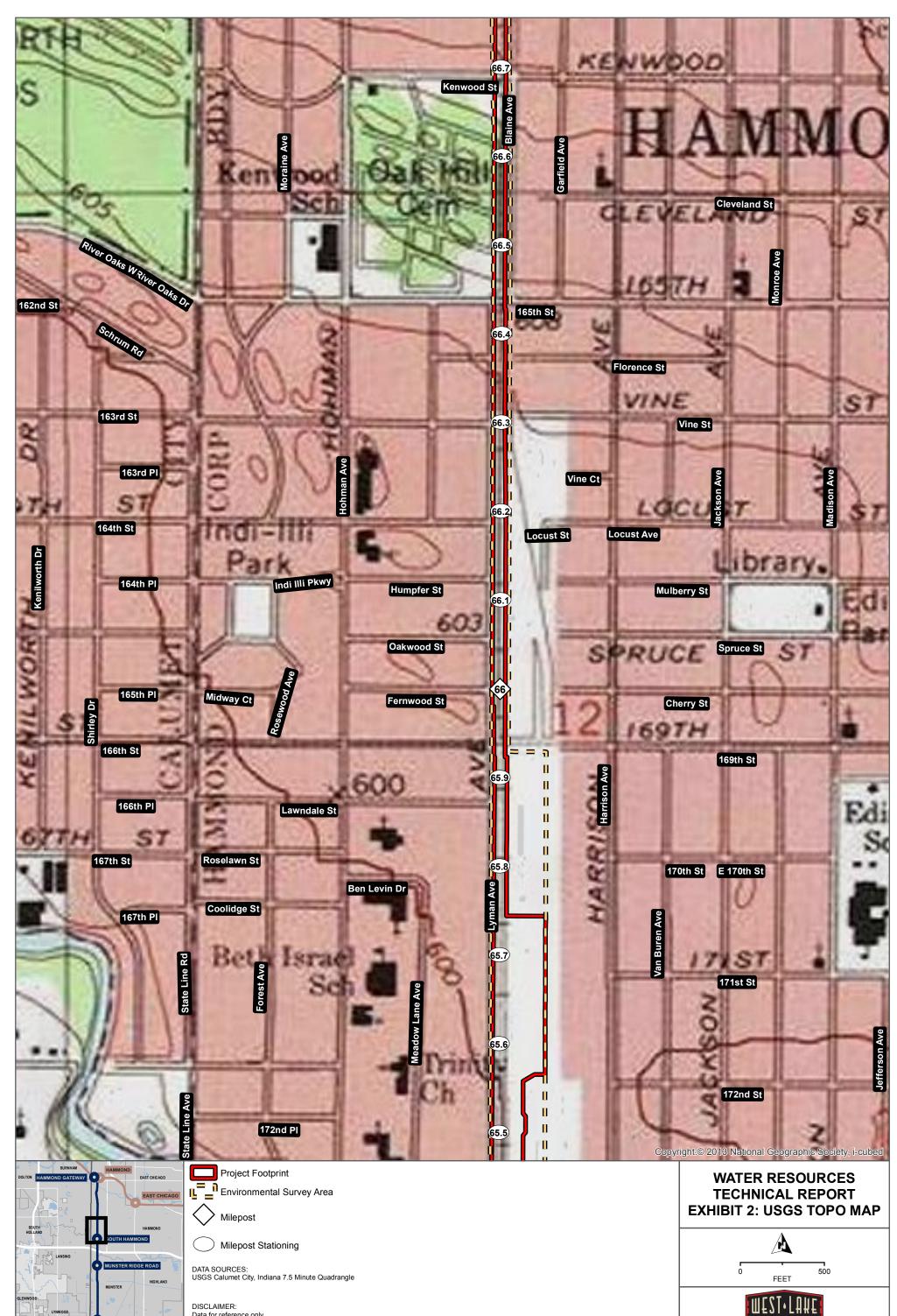
SHEET 4 OF 7 Data for Reference Only

DISCLAIMER: Data for reference only

• MU

SCHERERVILLE

FORD HEIGHTS



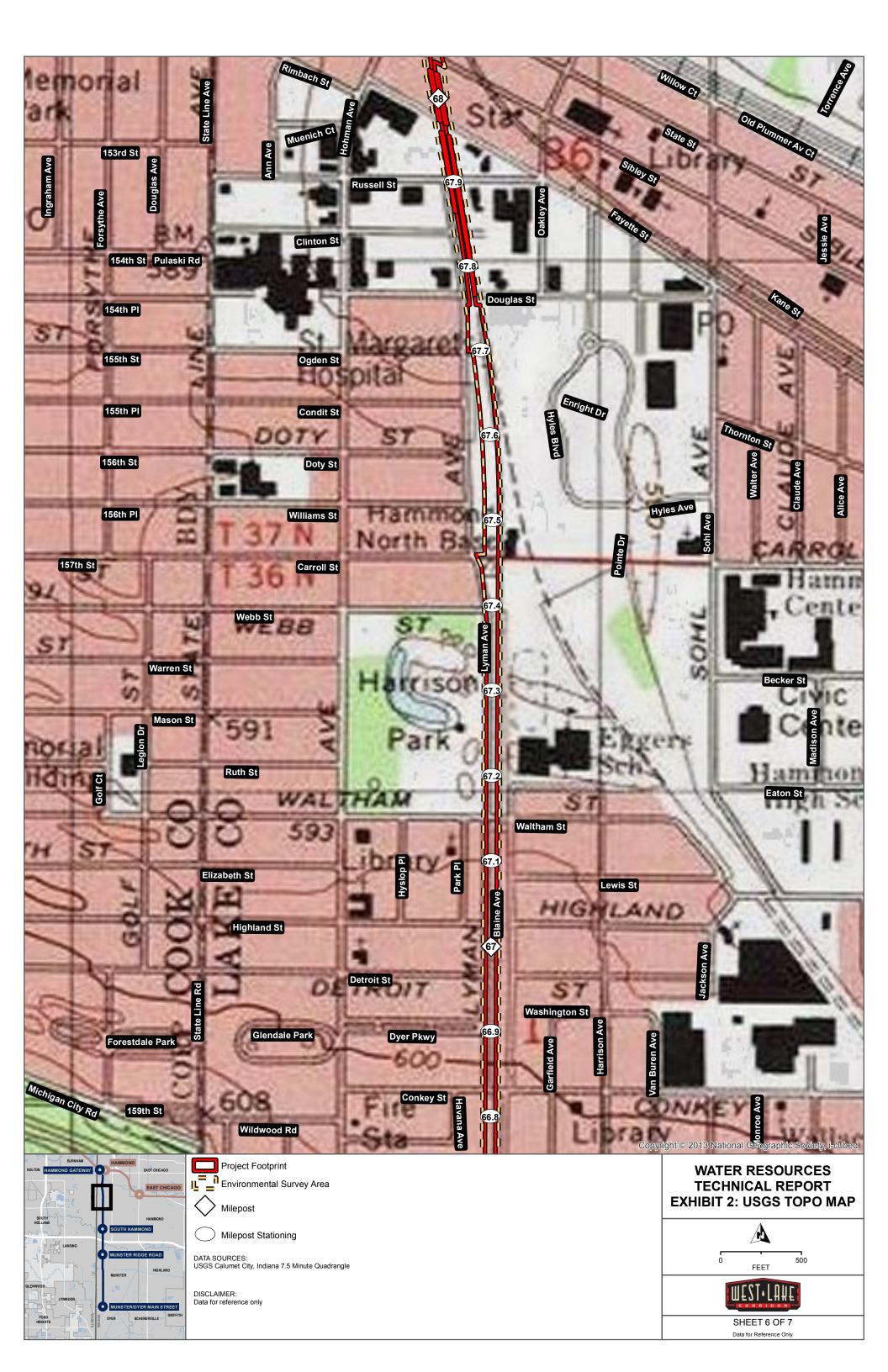
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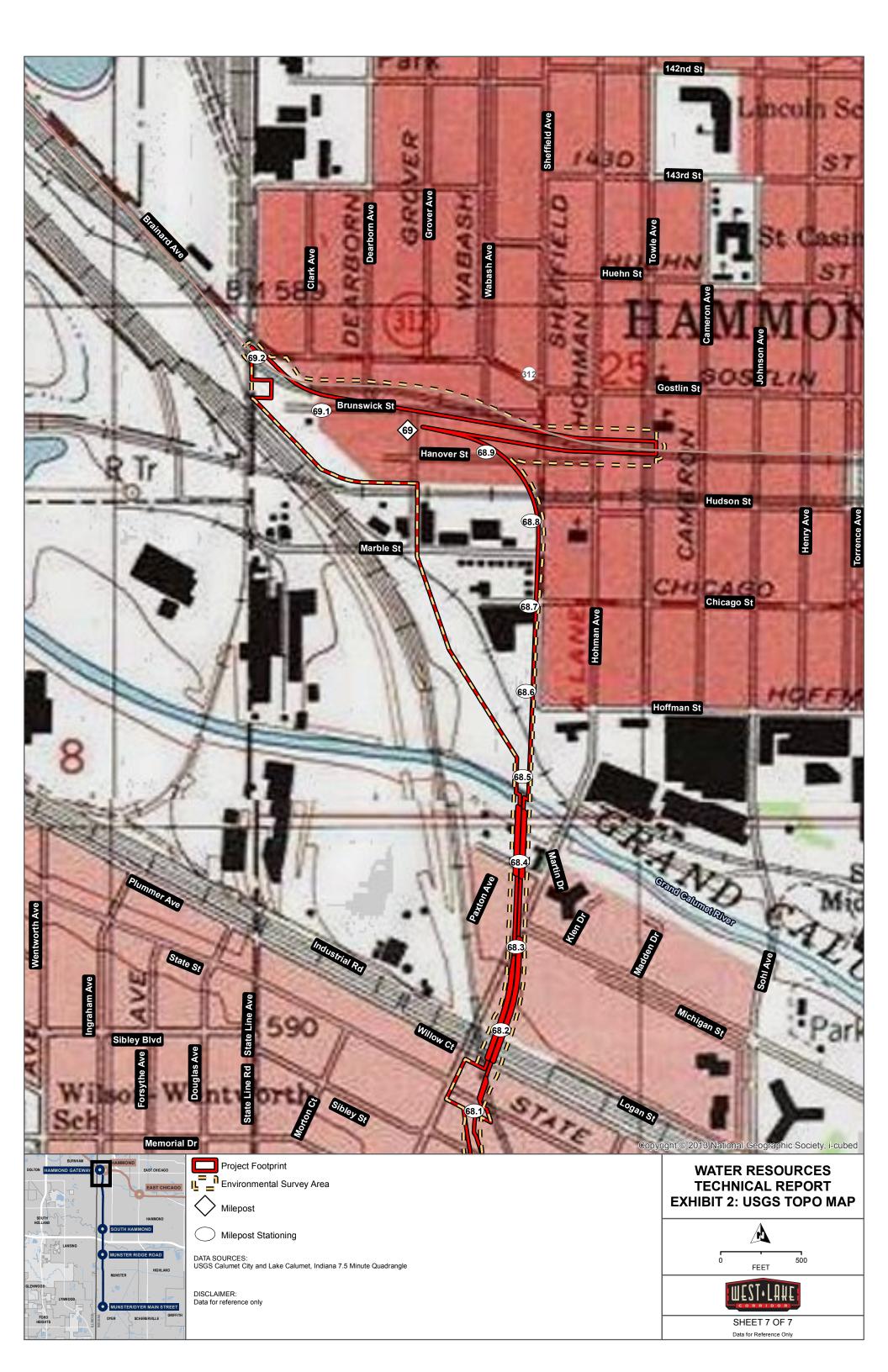
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SCHERERVILLE

FORD HEIGHTS







Appendix A

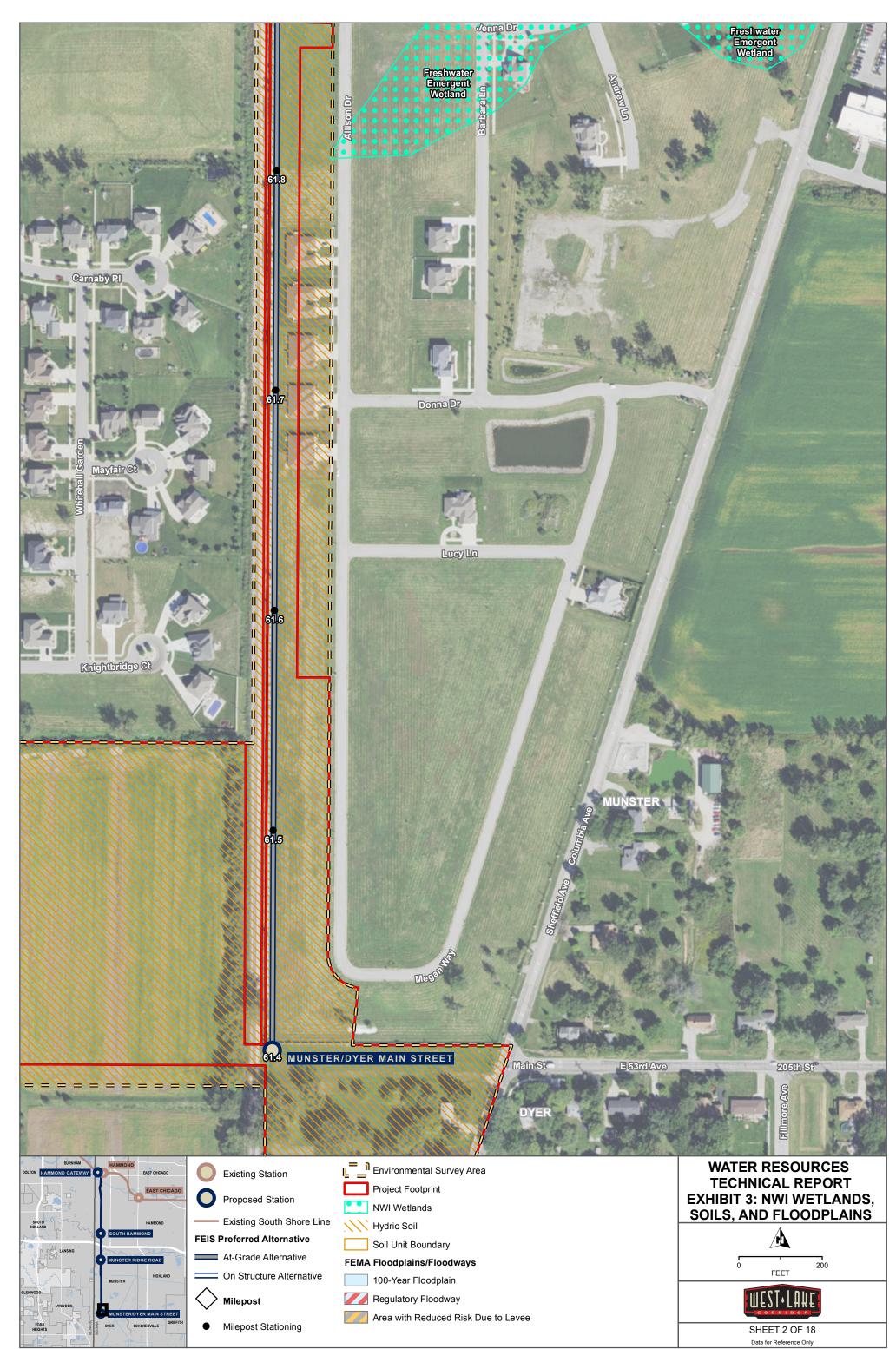
Exhibit 3: NWI Wetlands, Soils, and Floodplains

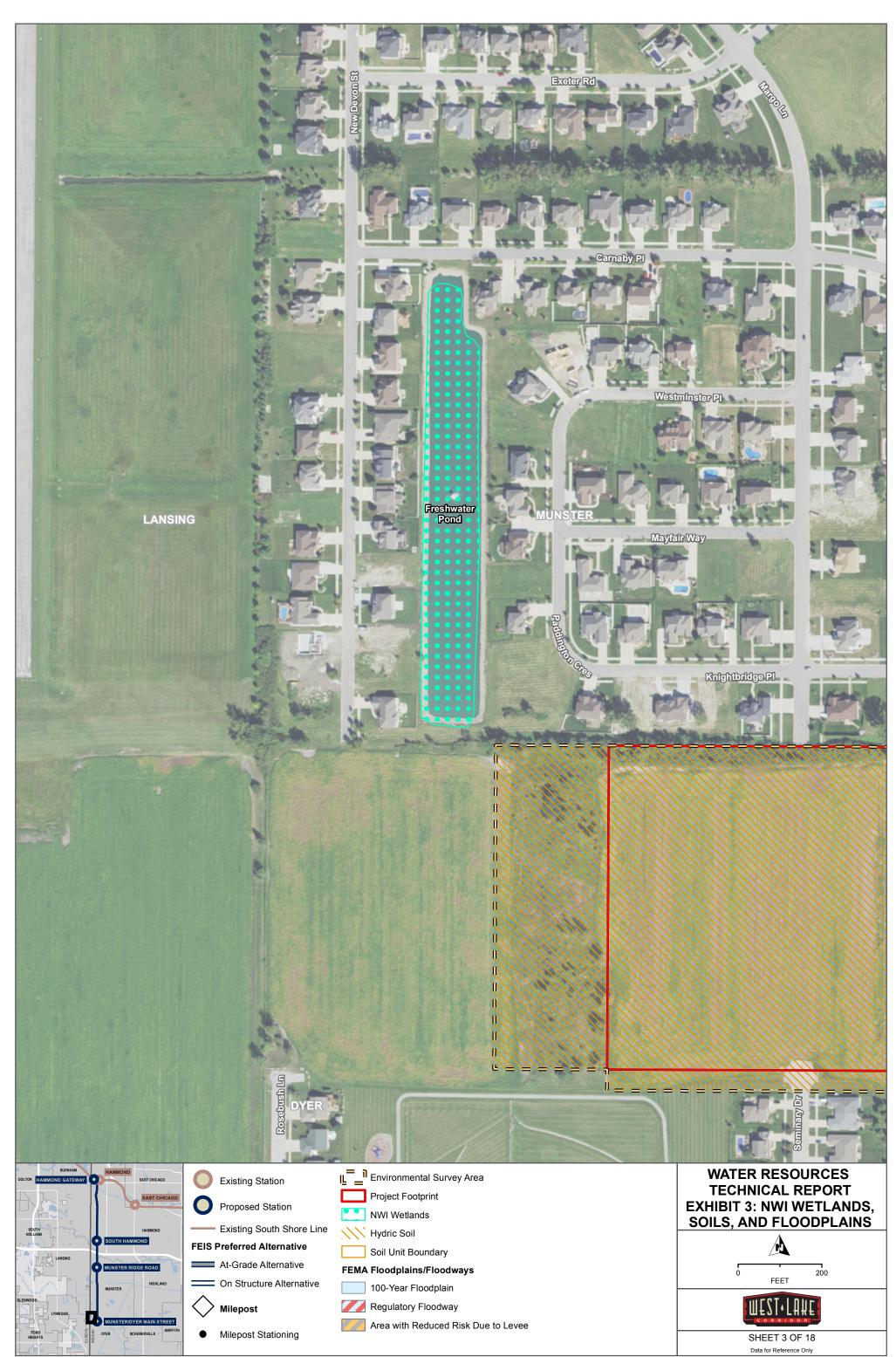


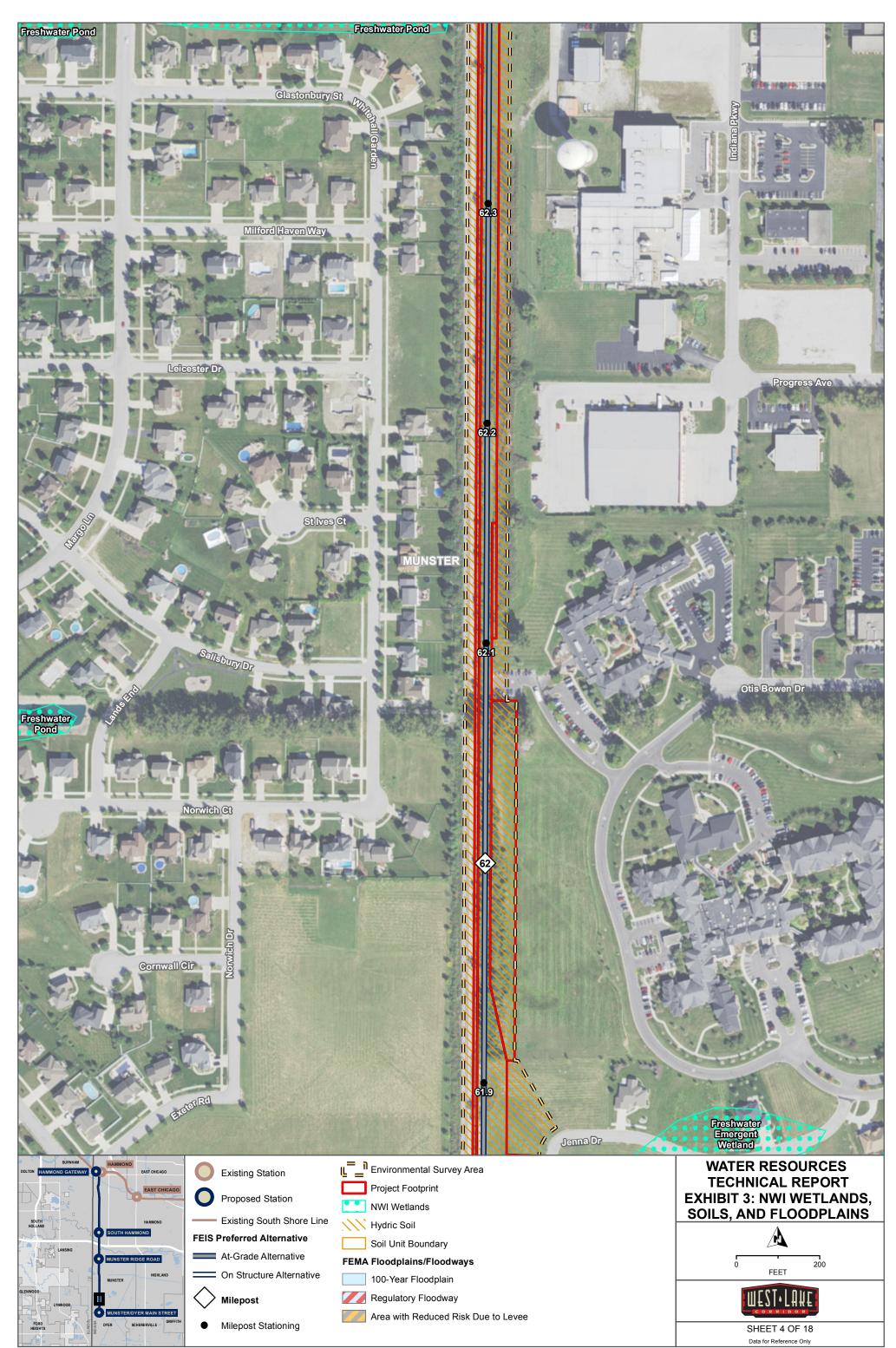
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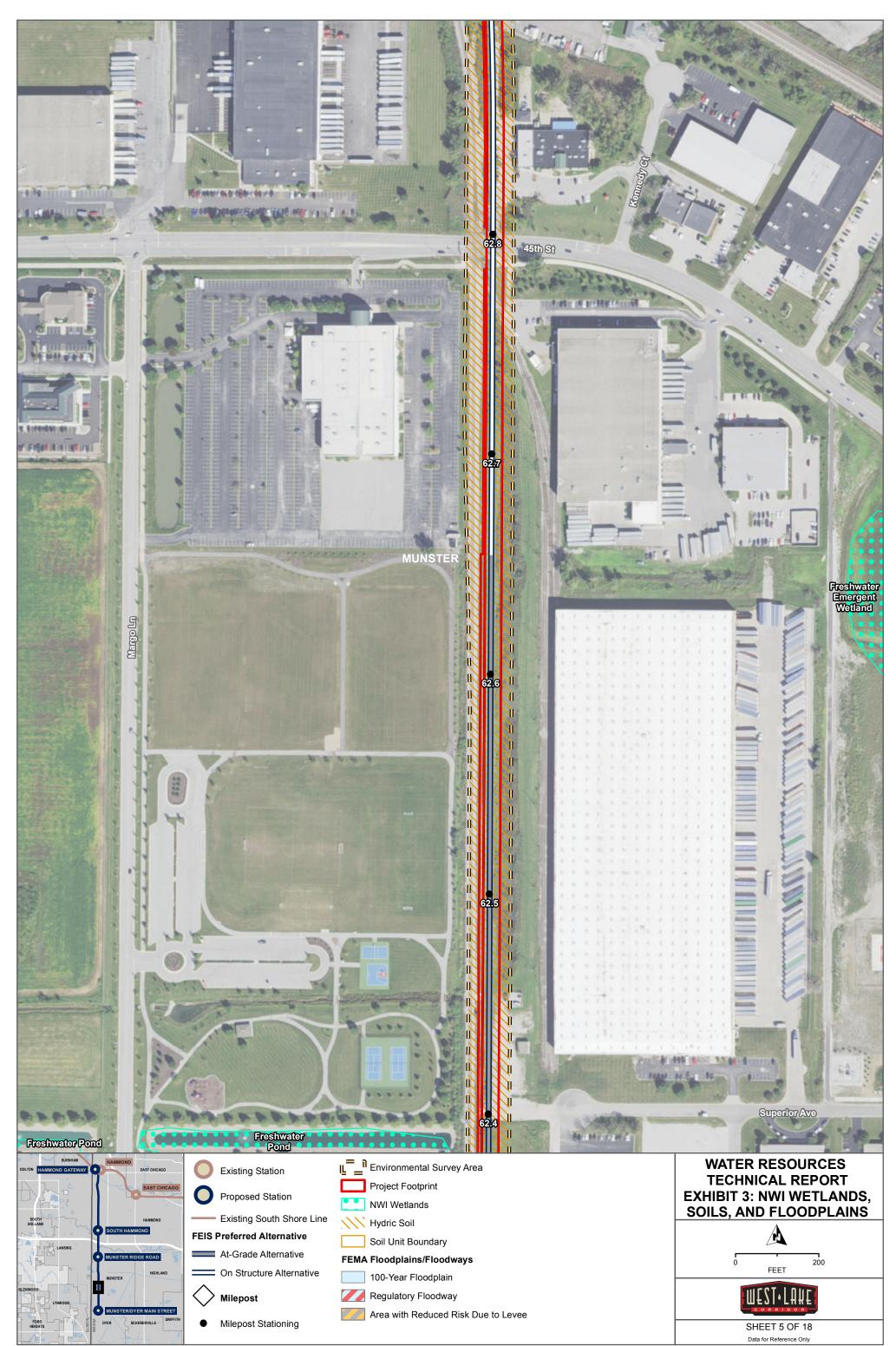
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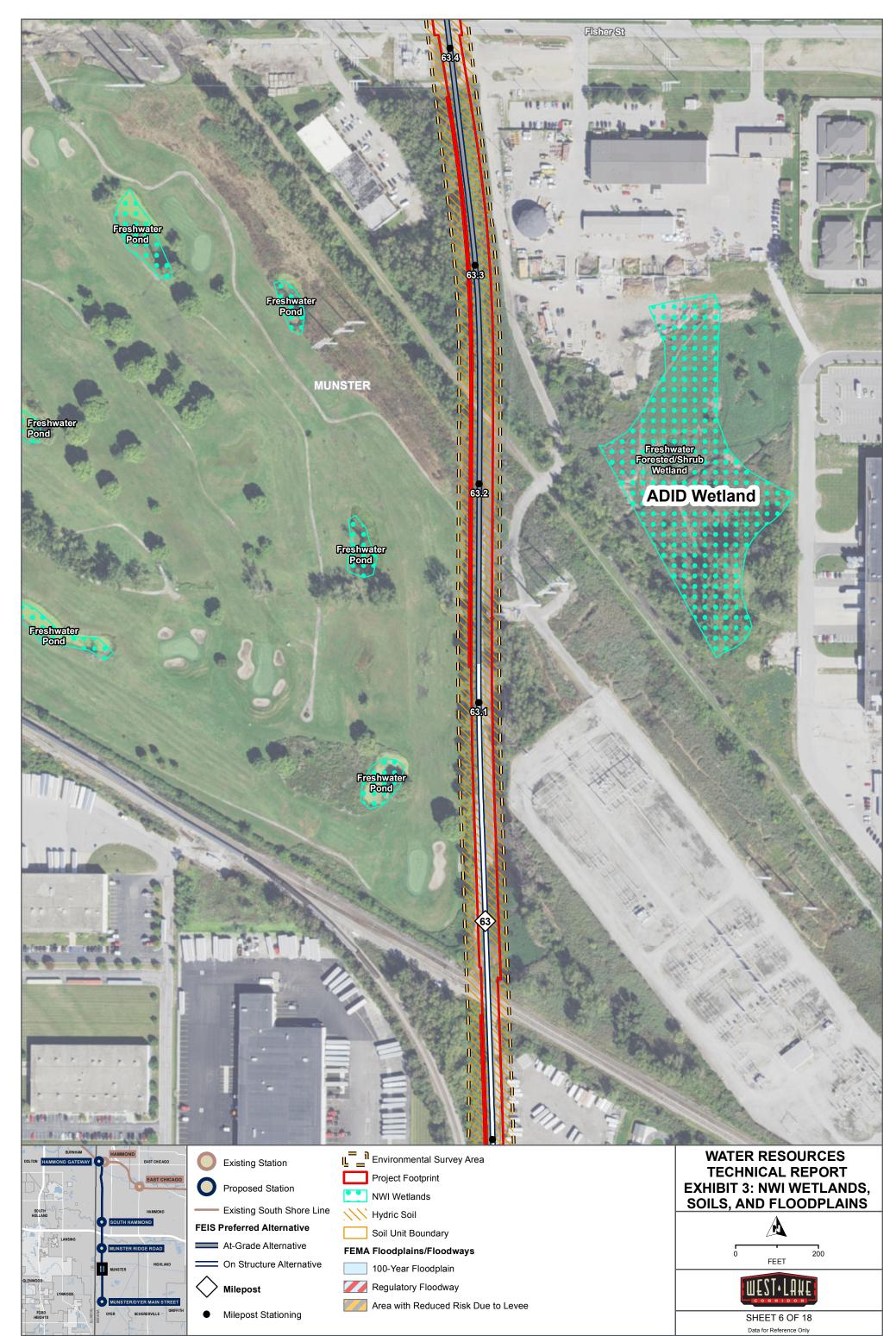


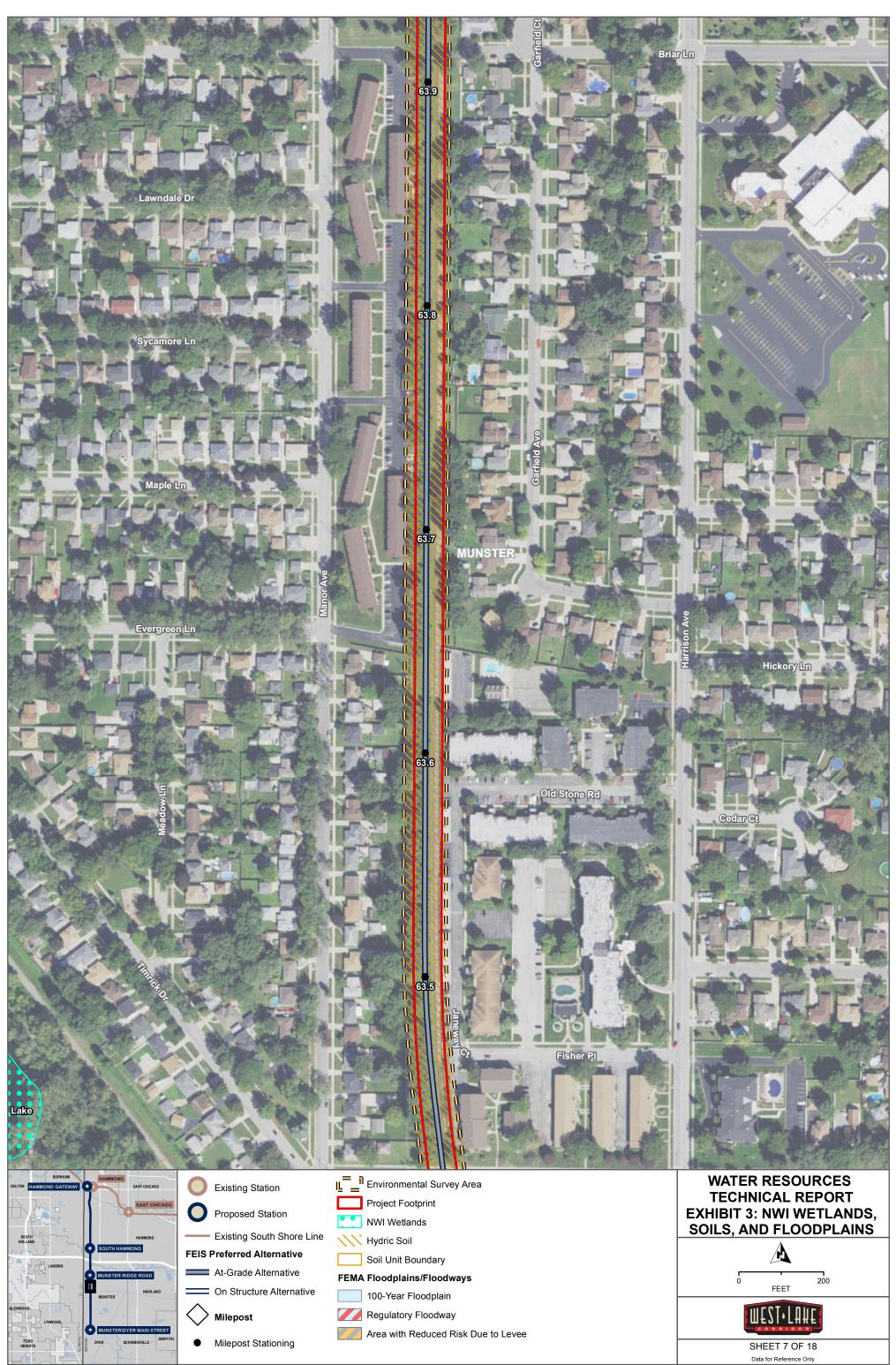


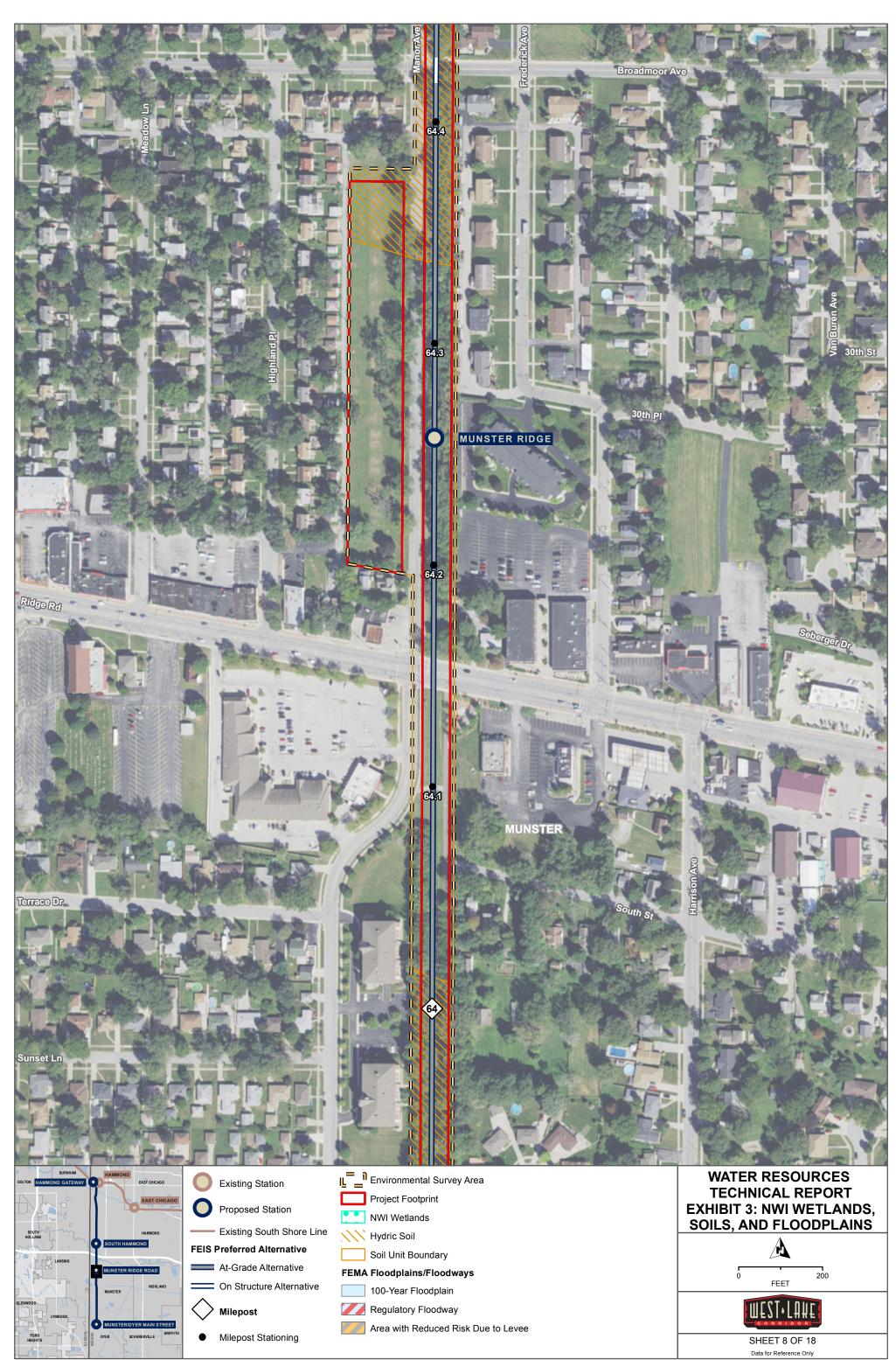


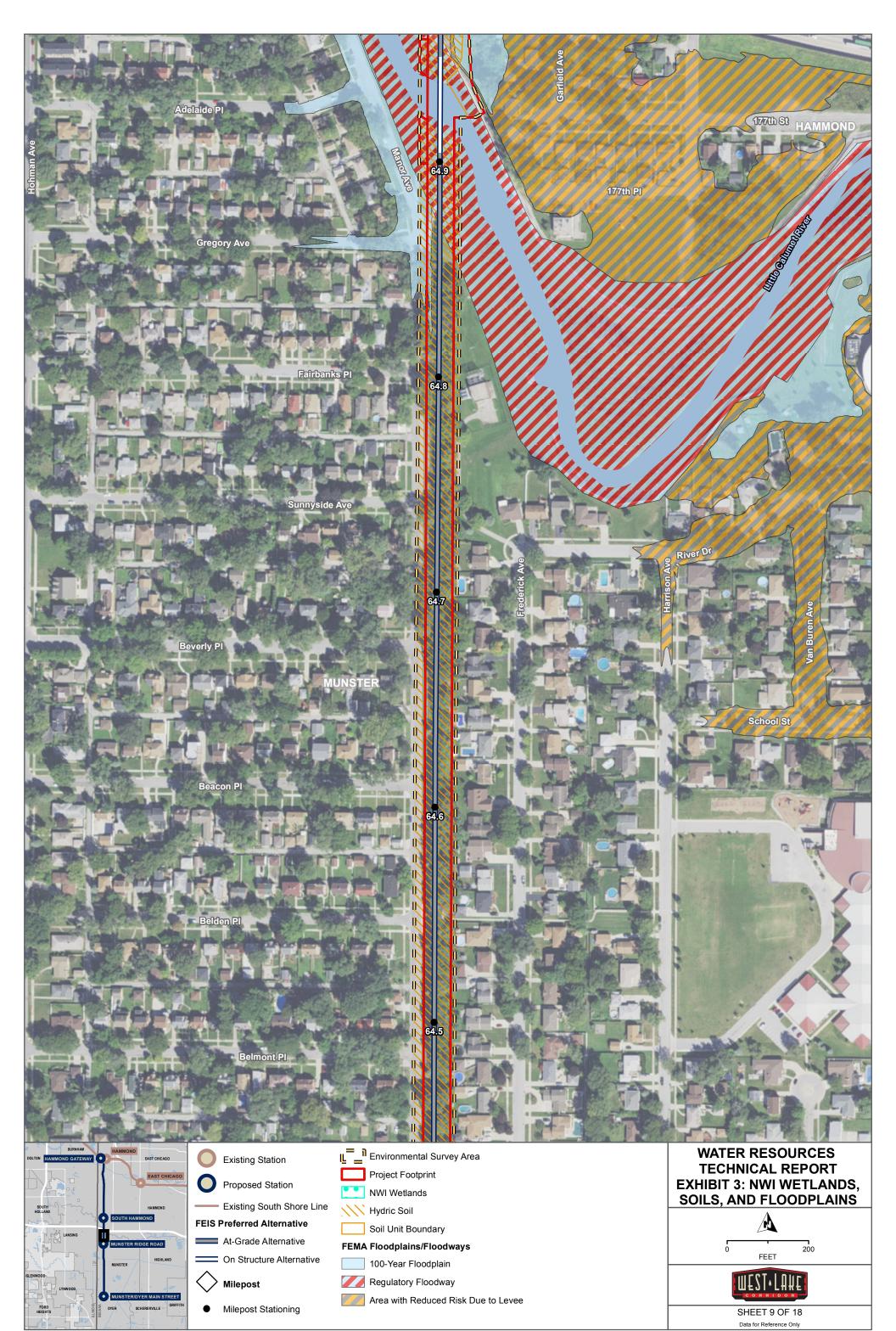


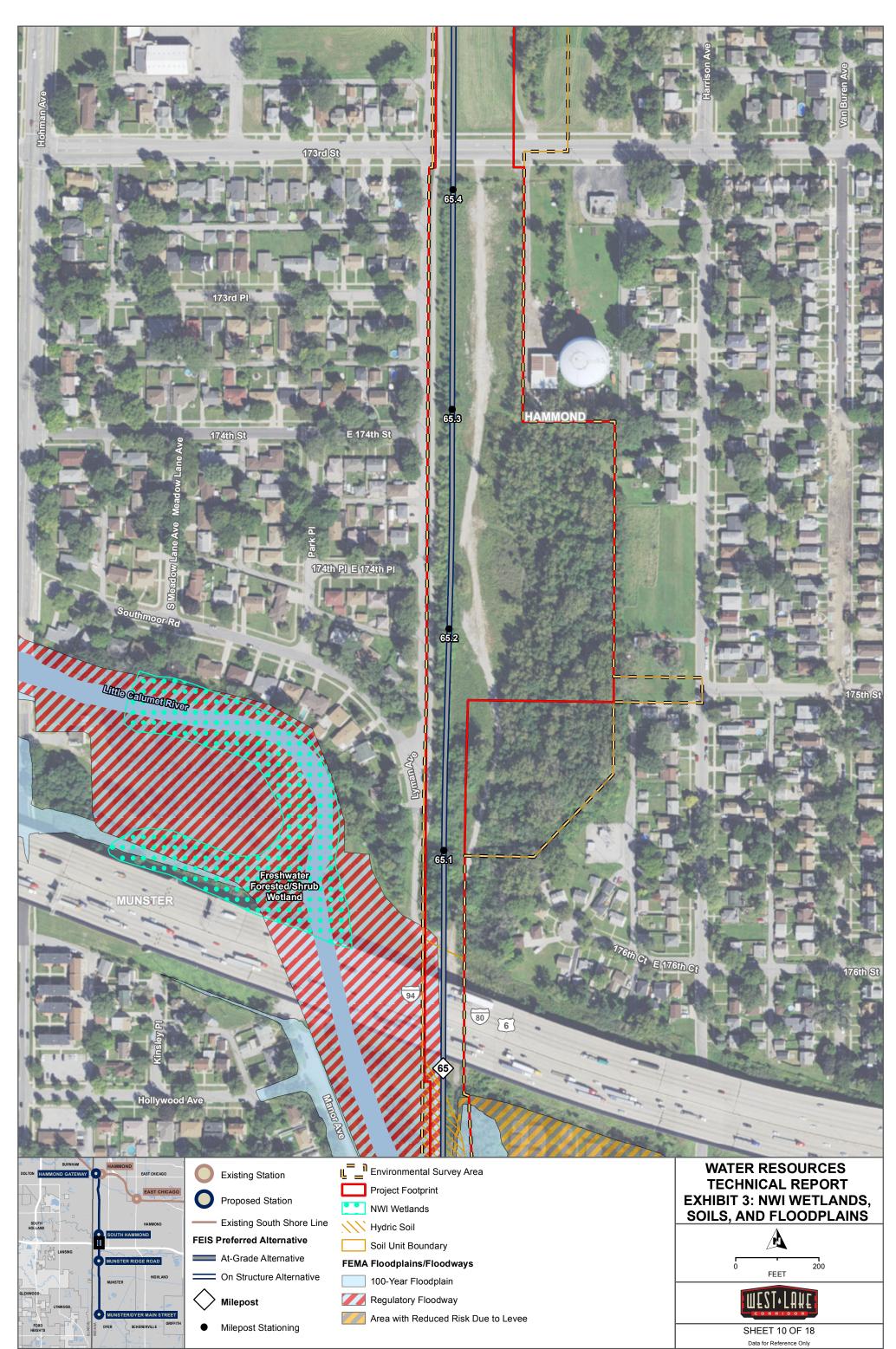


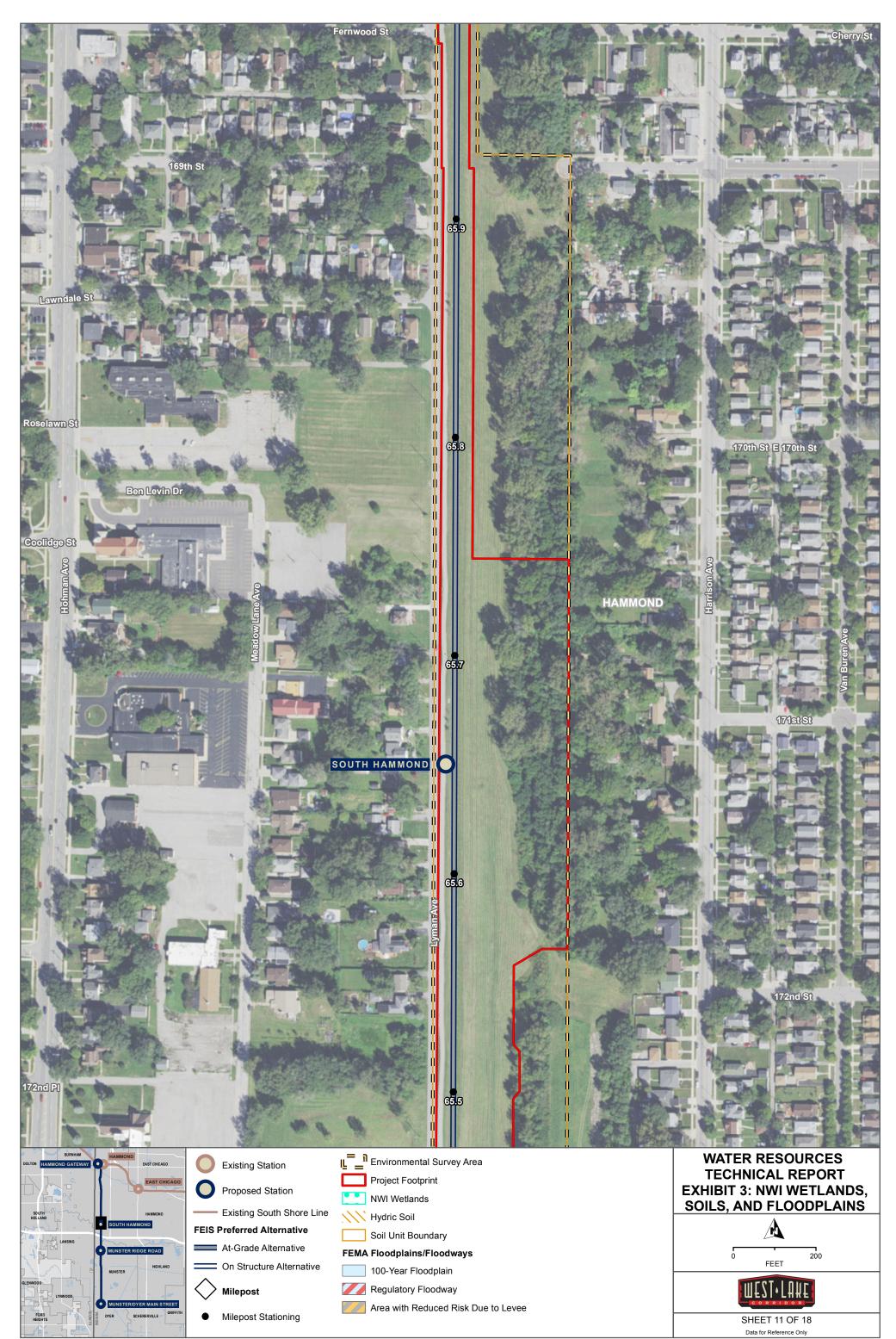


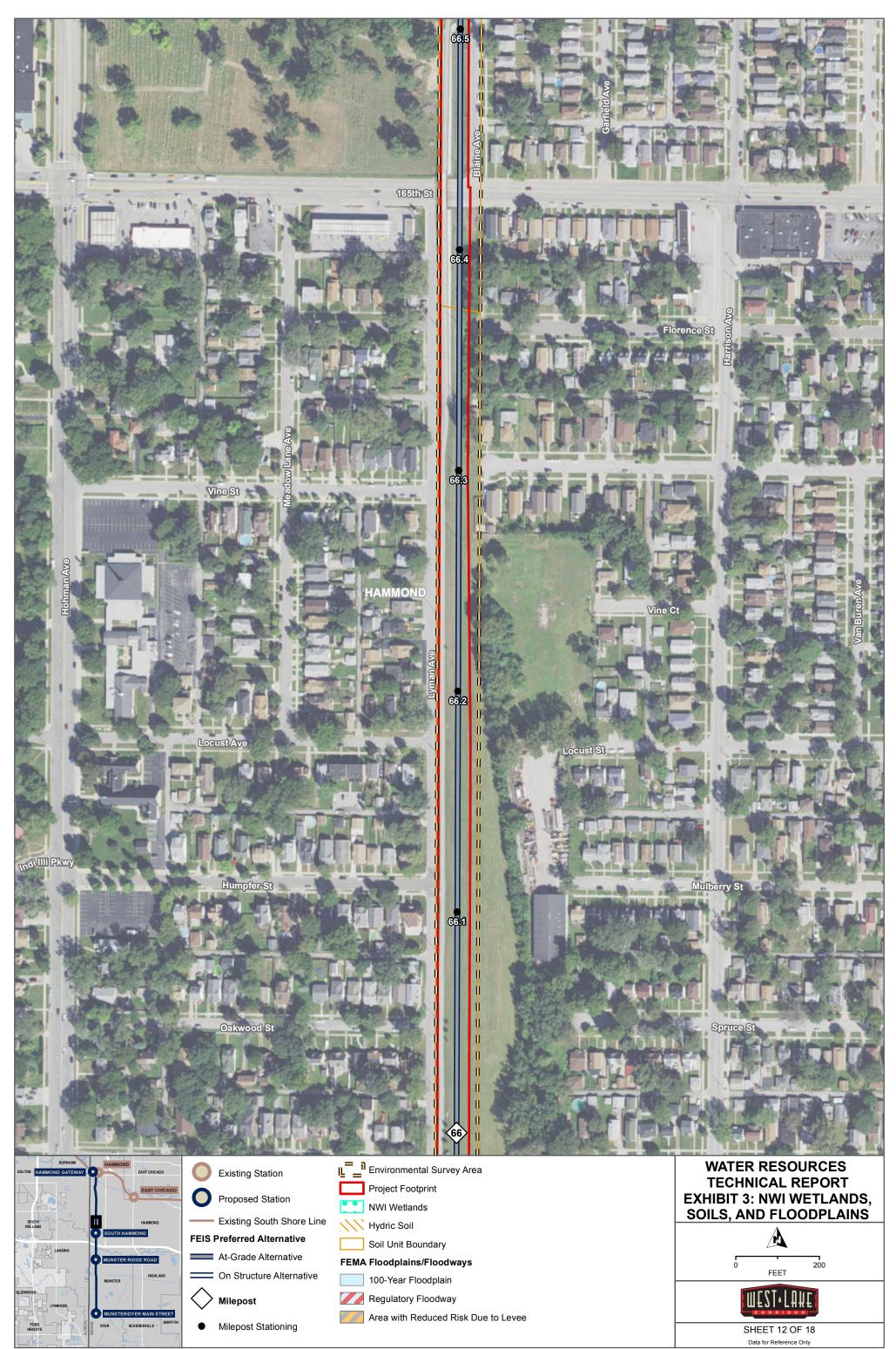


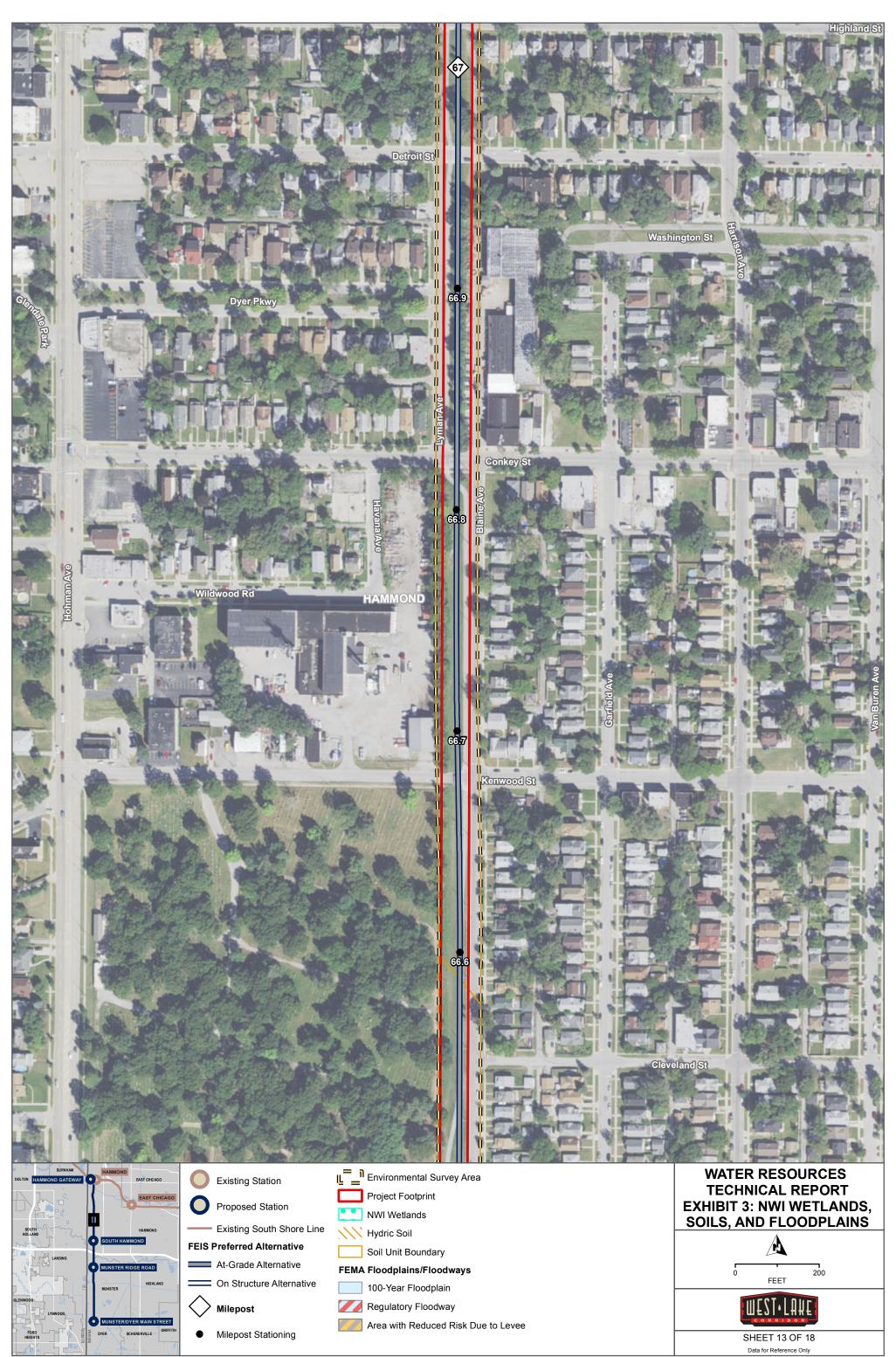


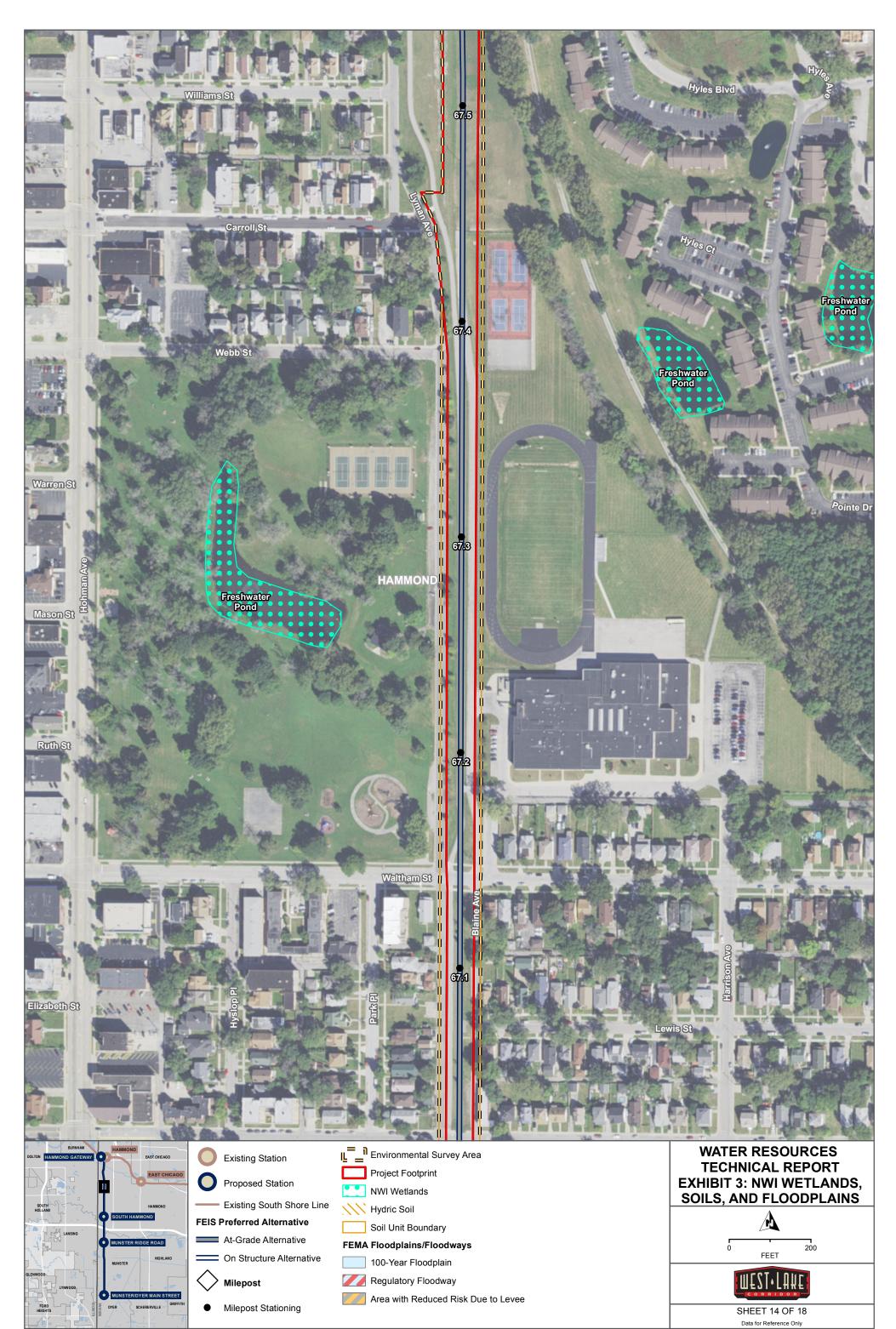




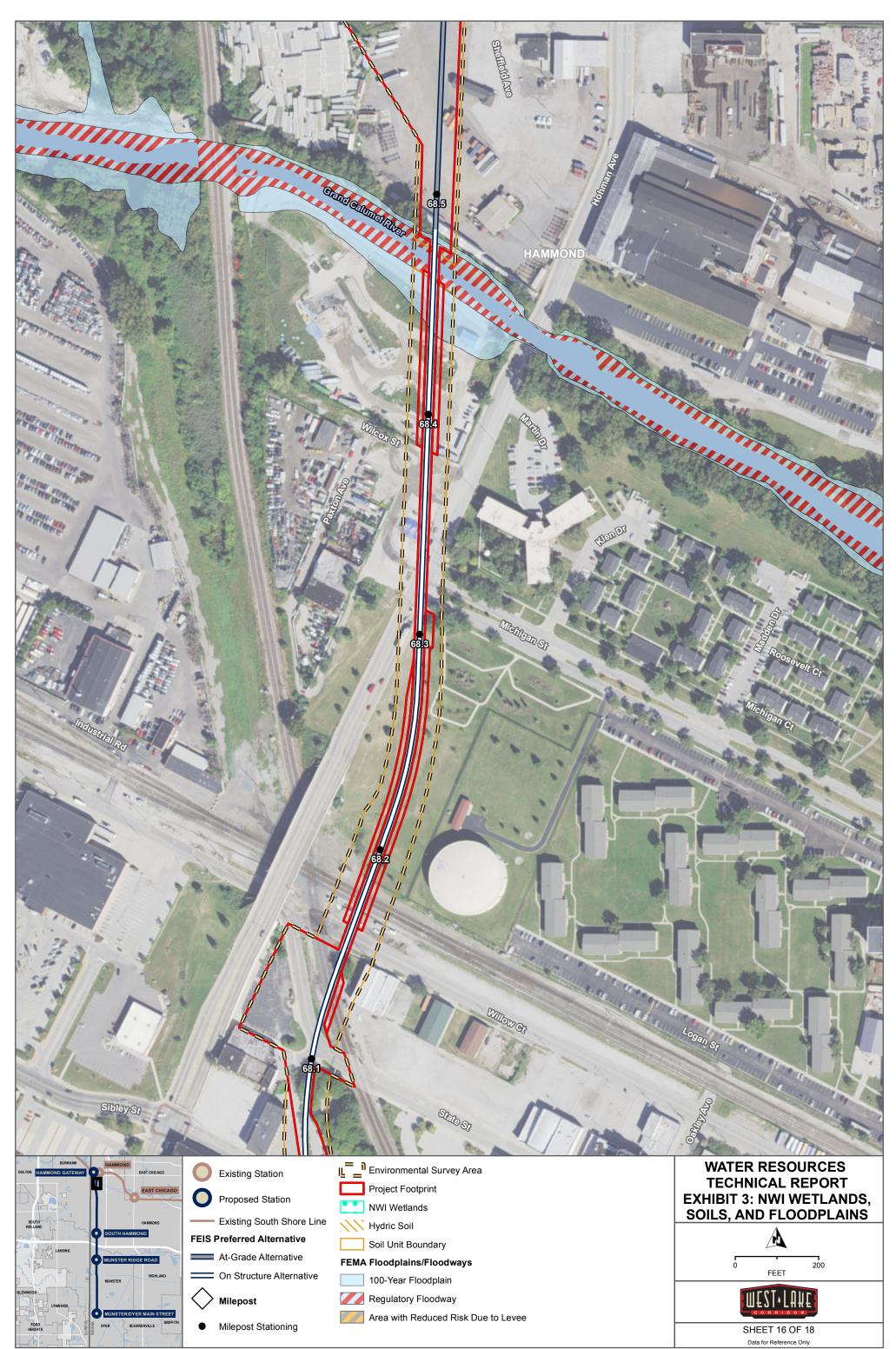


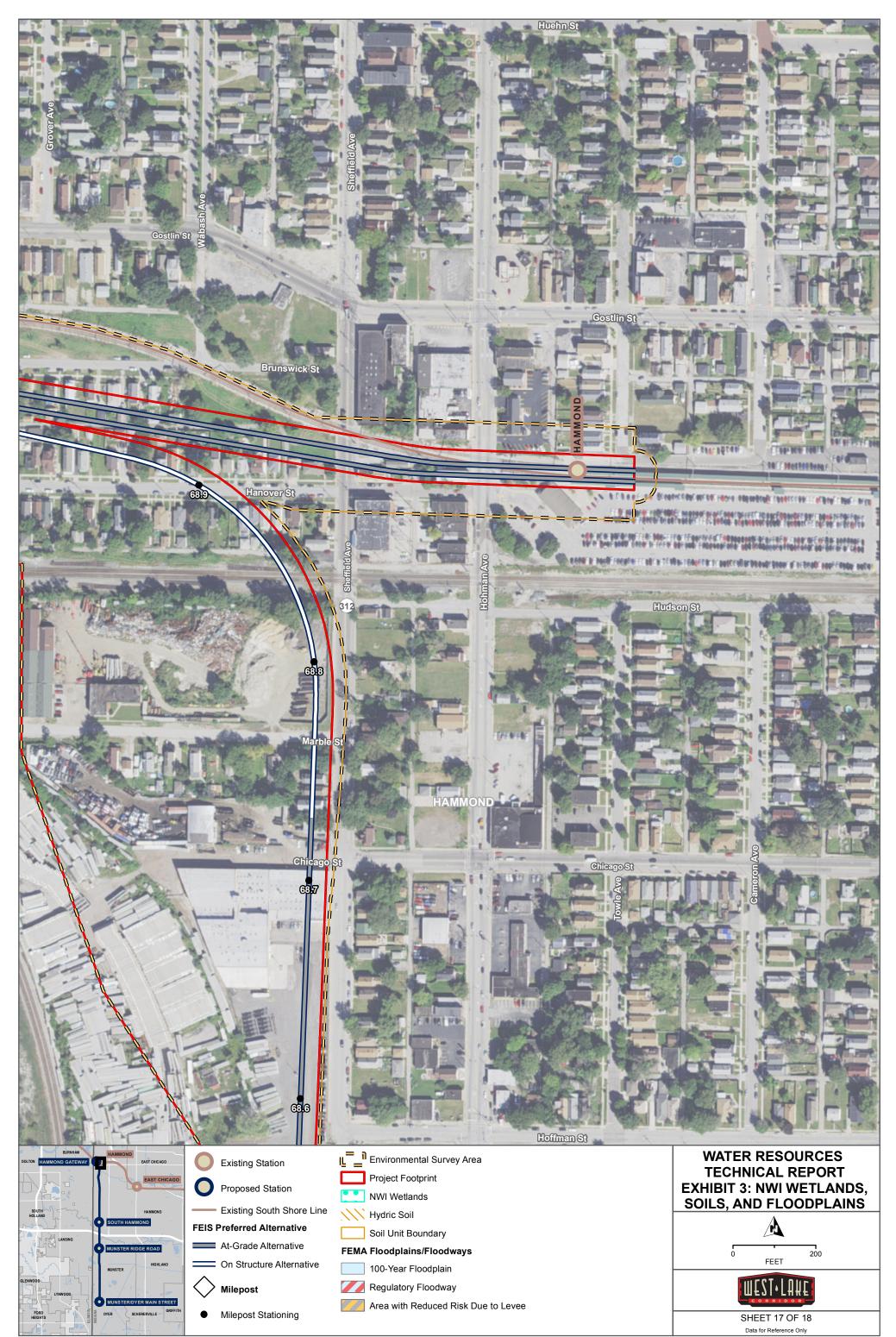


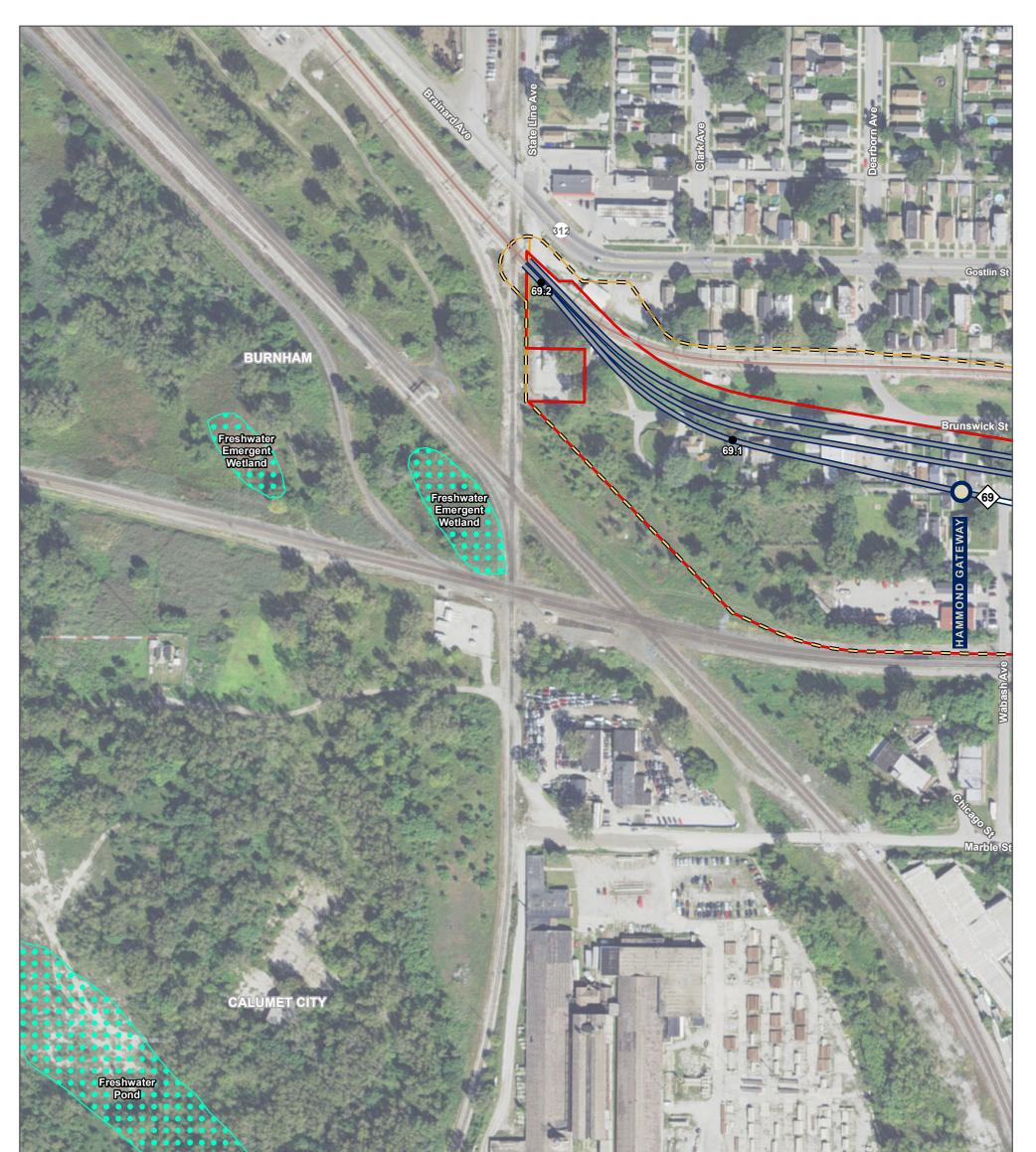




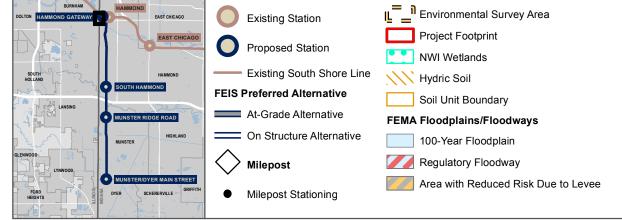












WATER RESOURCES **TECHNICAL REPORT EXHIBIT 3: NWI WETLANDS,** SOILS, AND FLOODPLAINS A 0 200 FEET WEST.LAHE SHEET 18 OF 18 Data for Reference Only



Appendix A

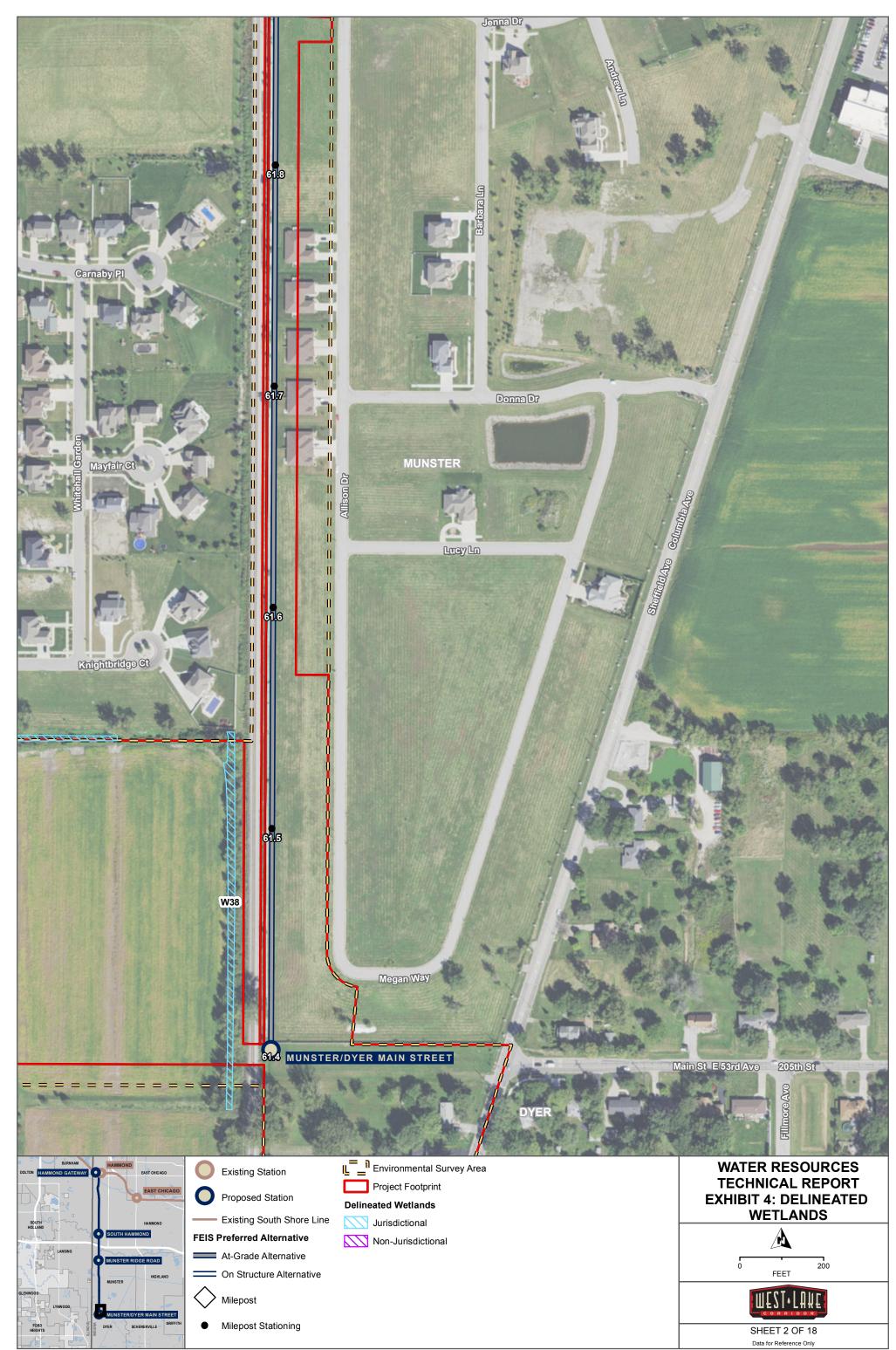
Exhibit 4: Delineated Wetlands



Appendix A

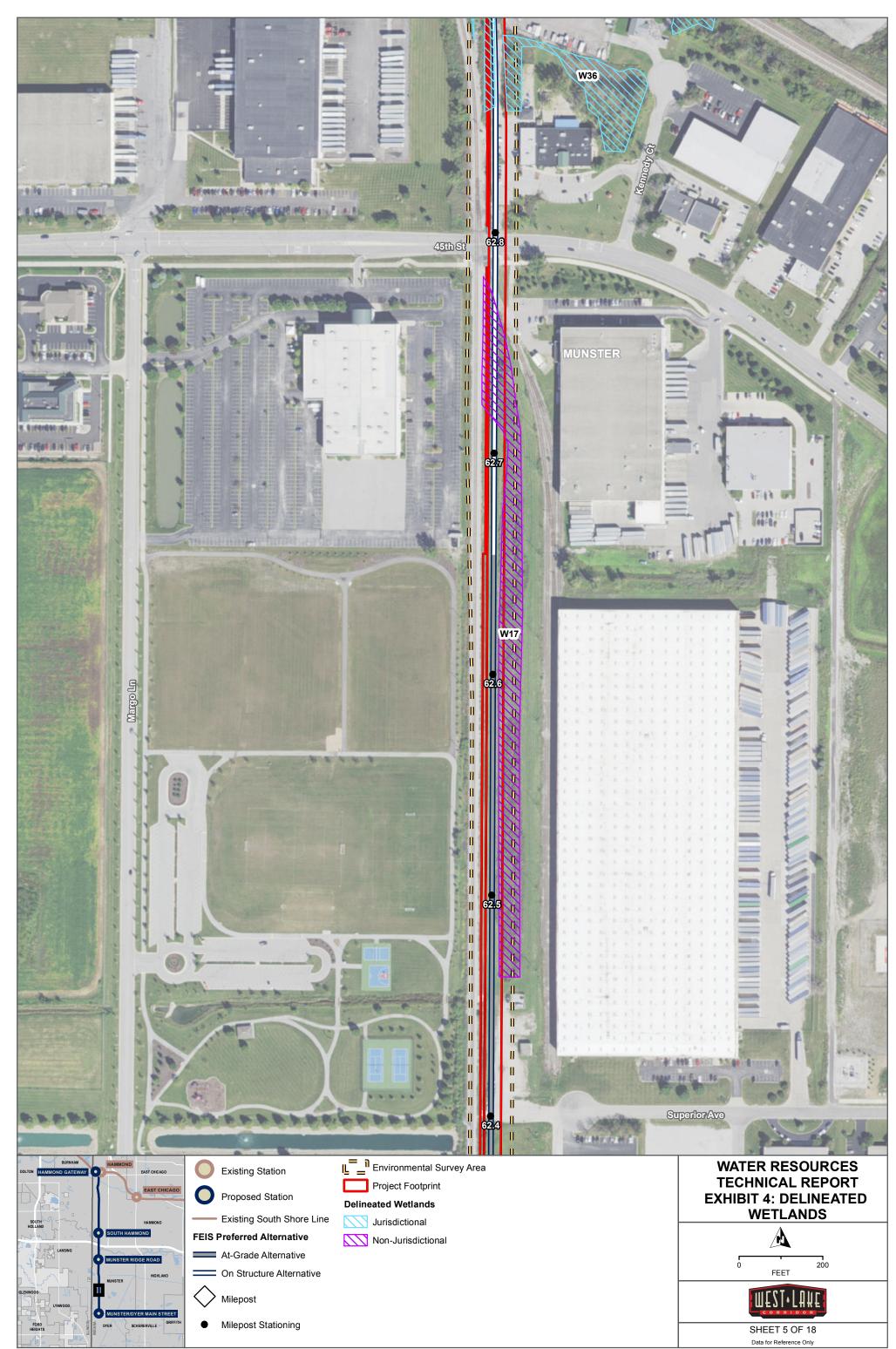
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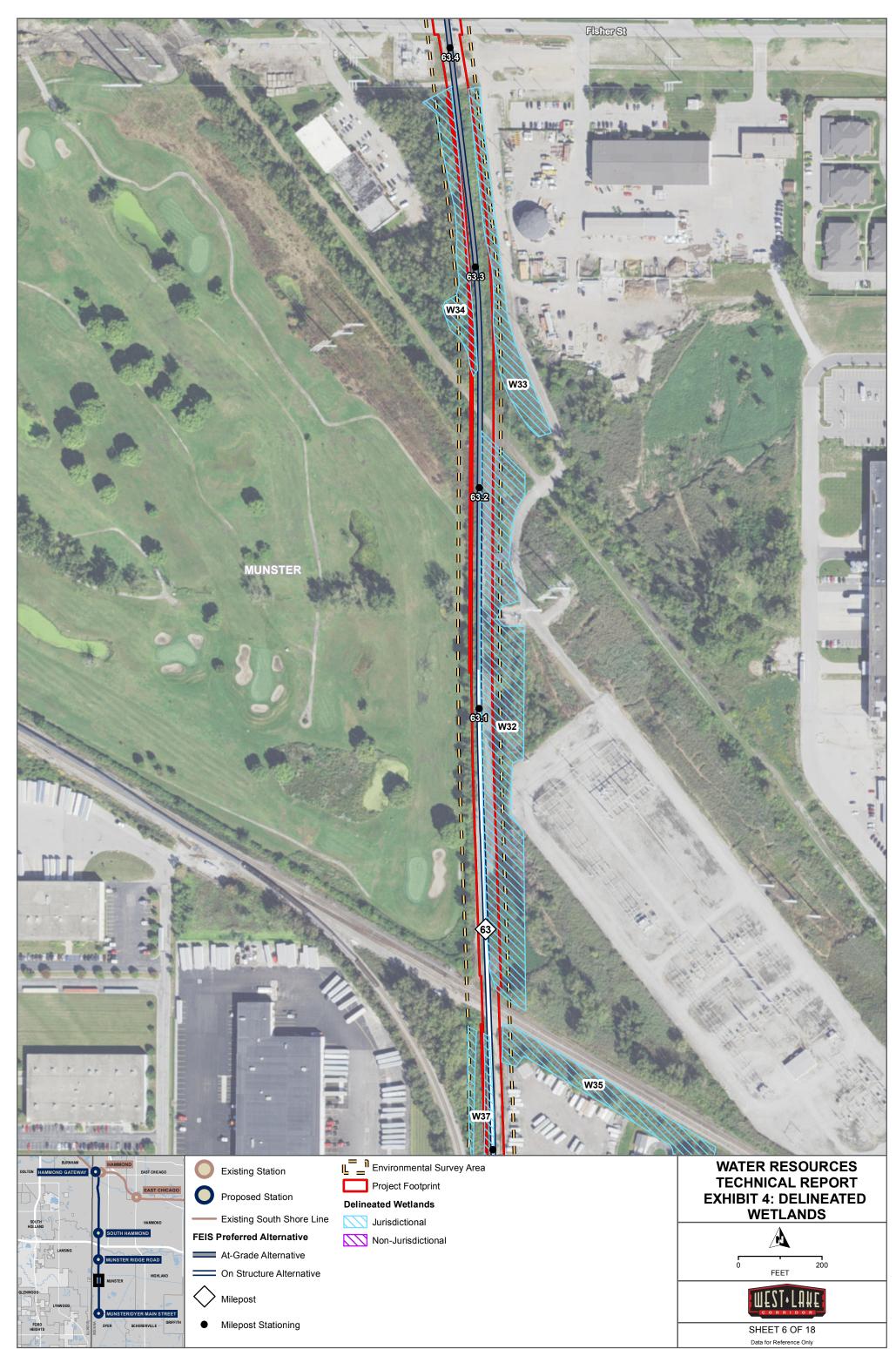


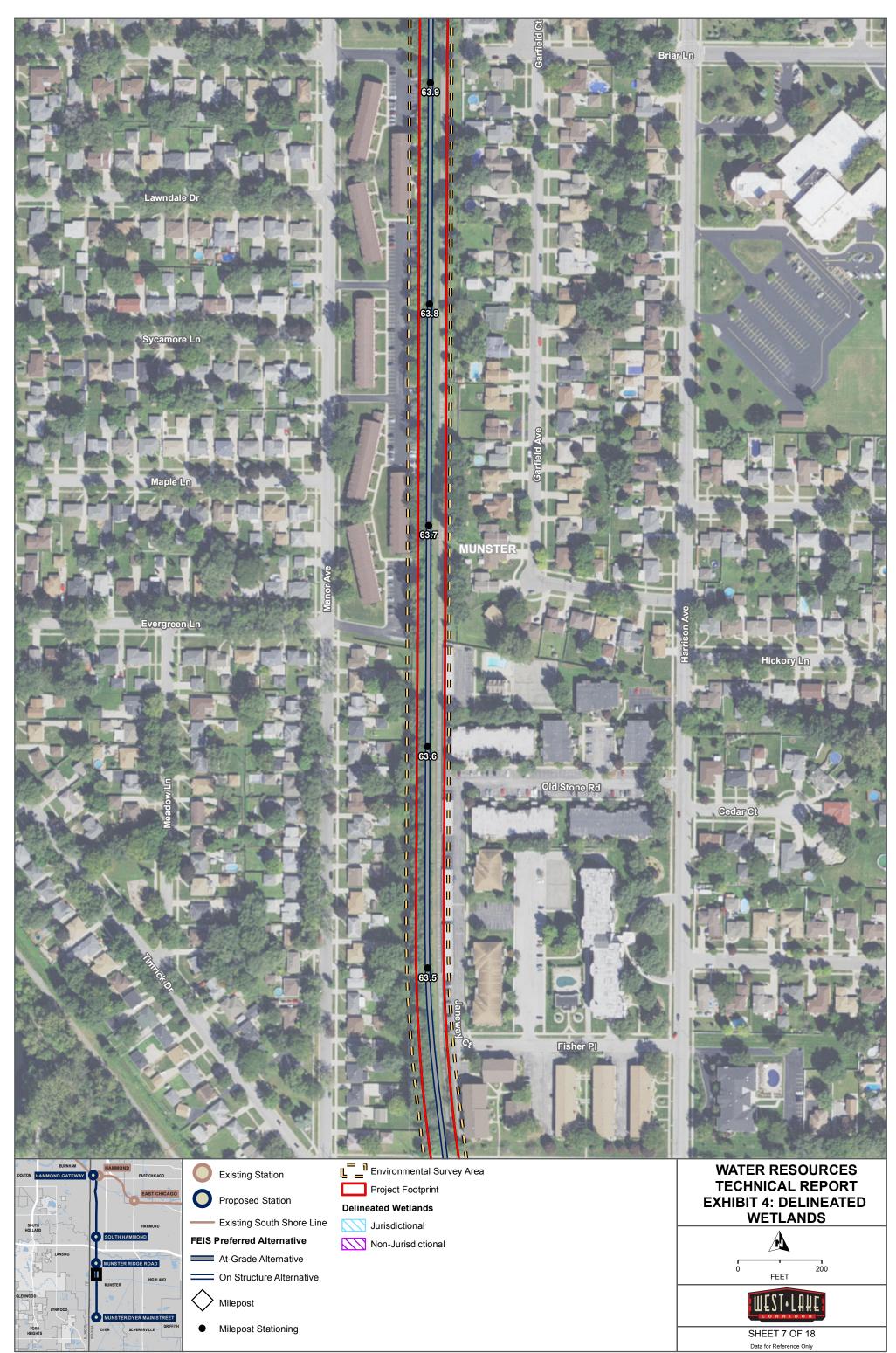


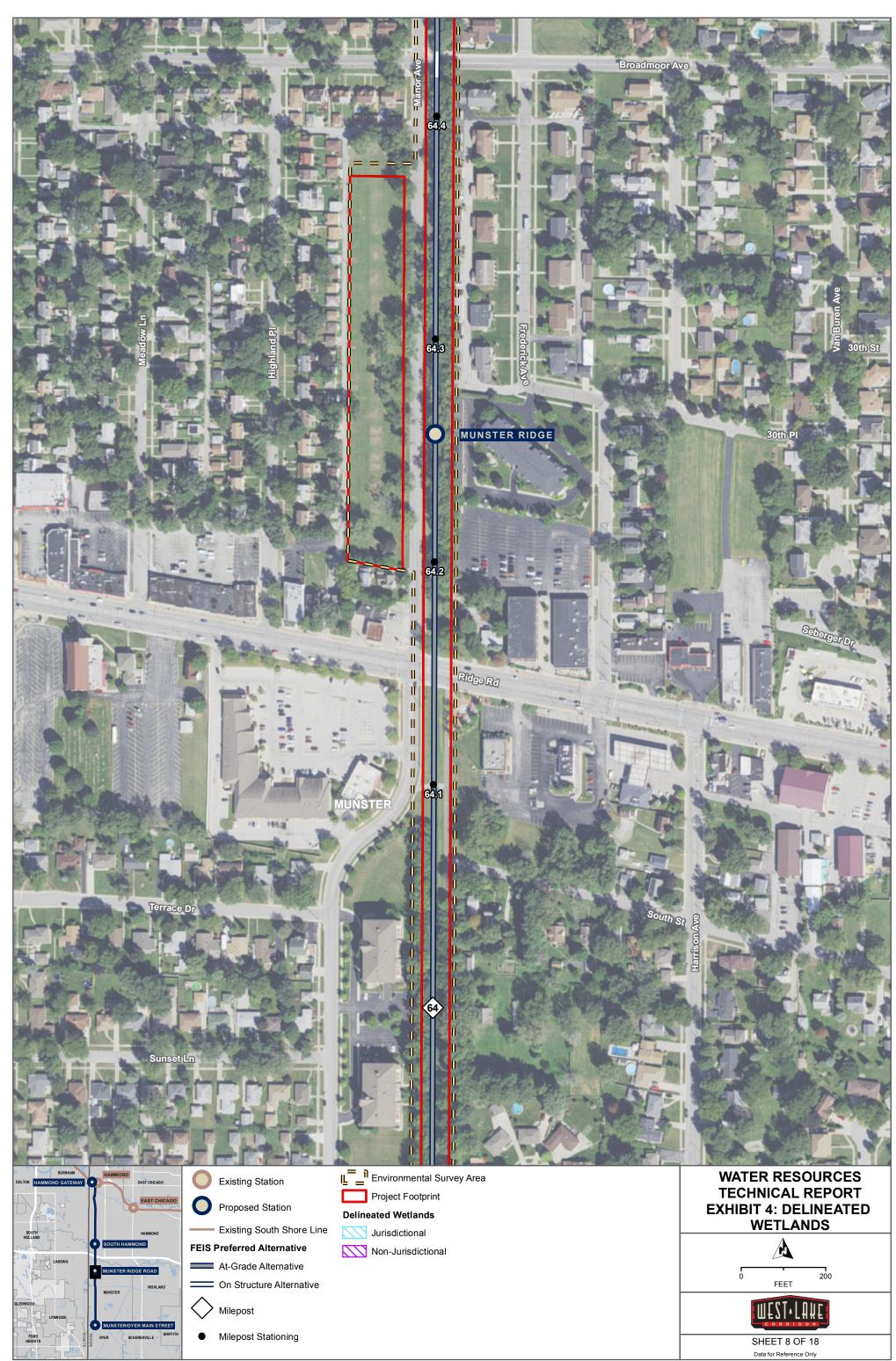


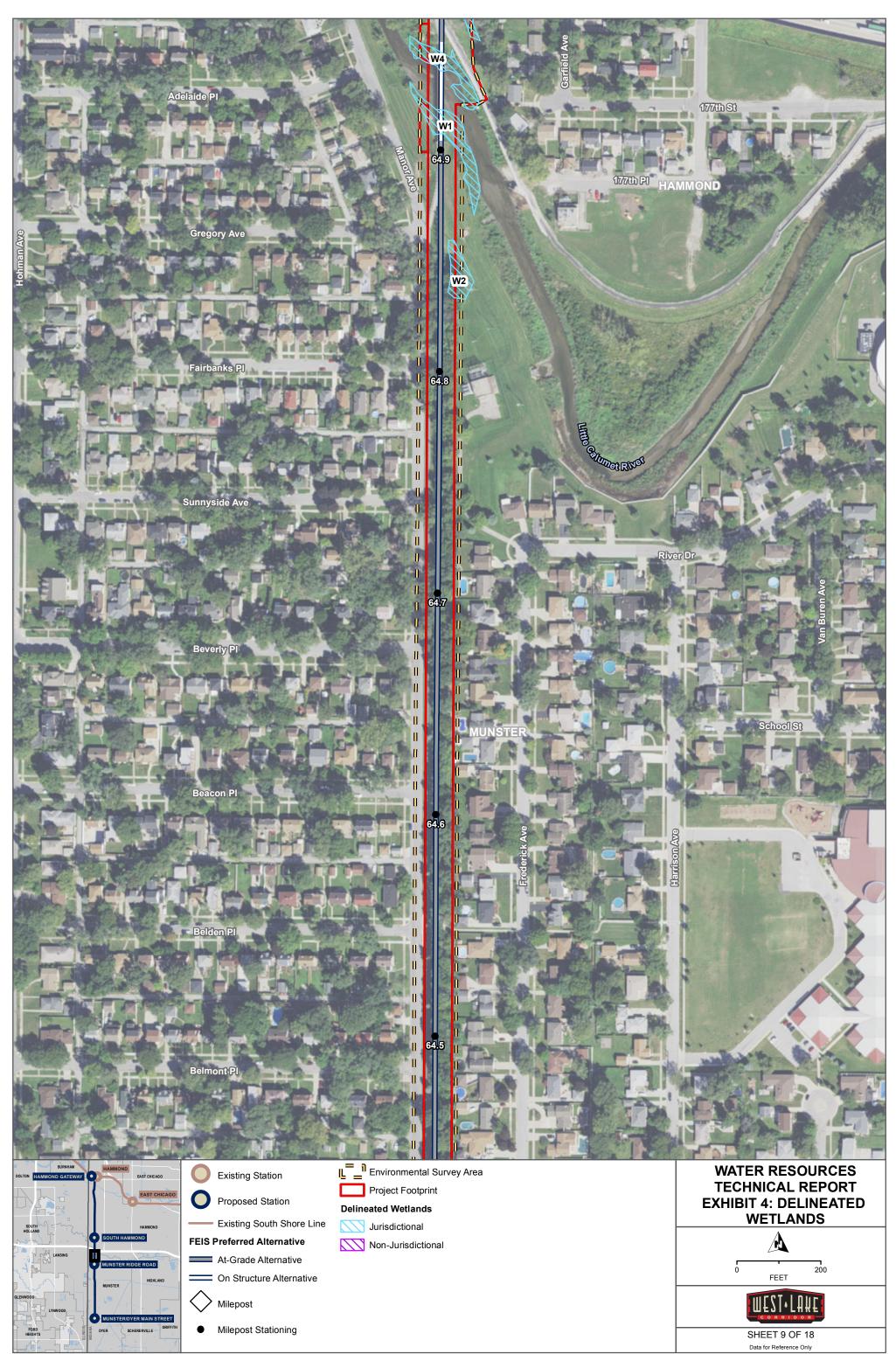


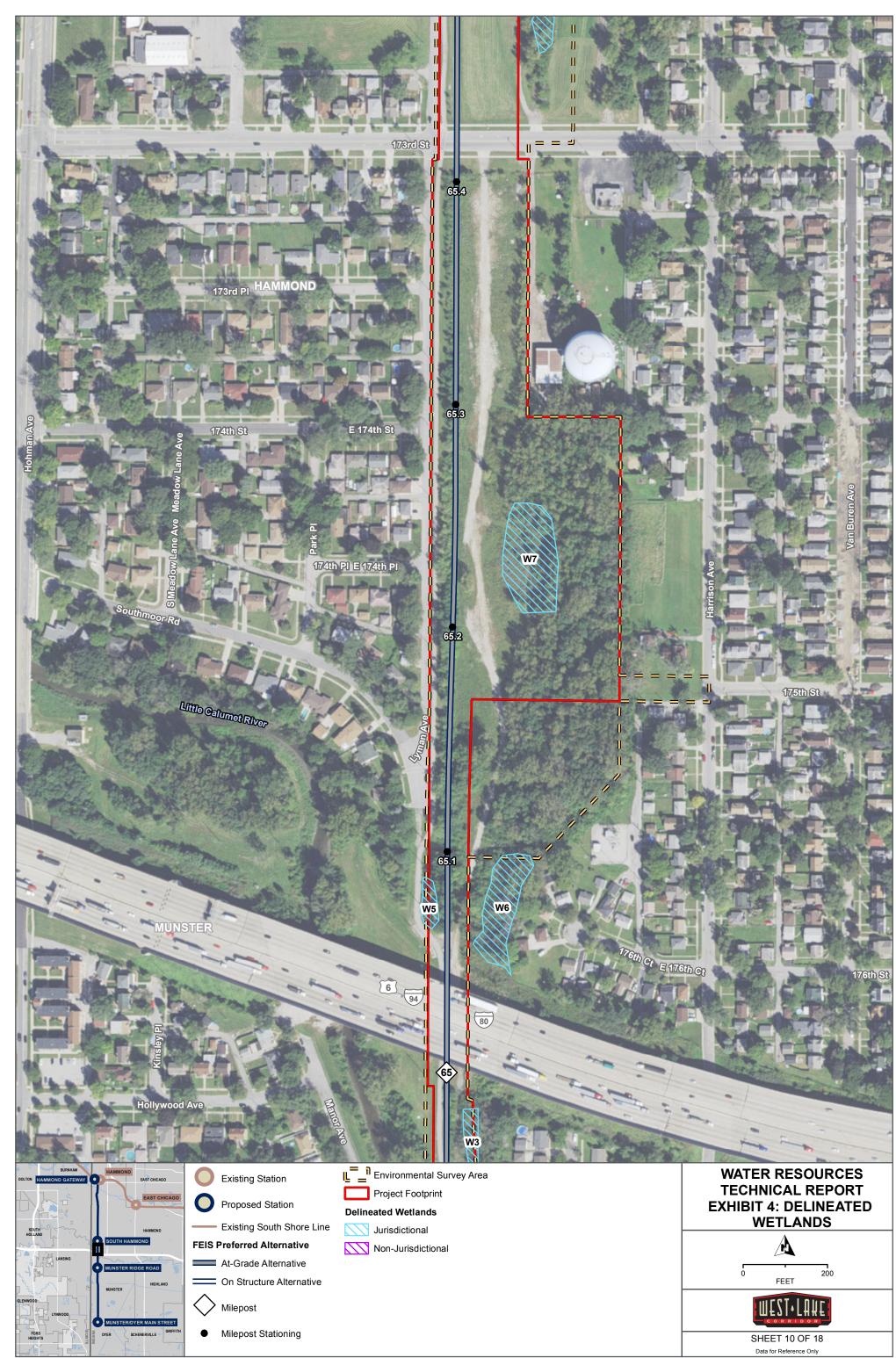


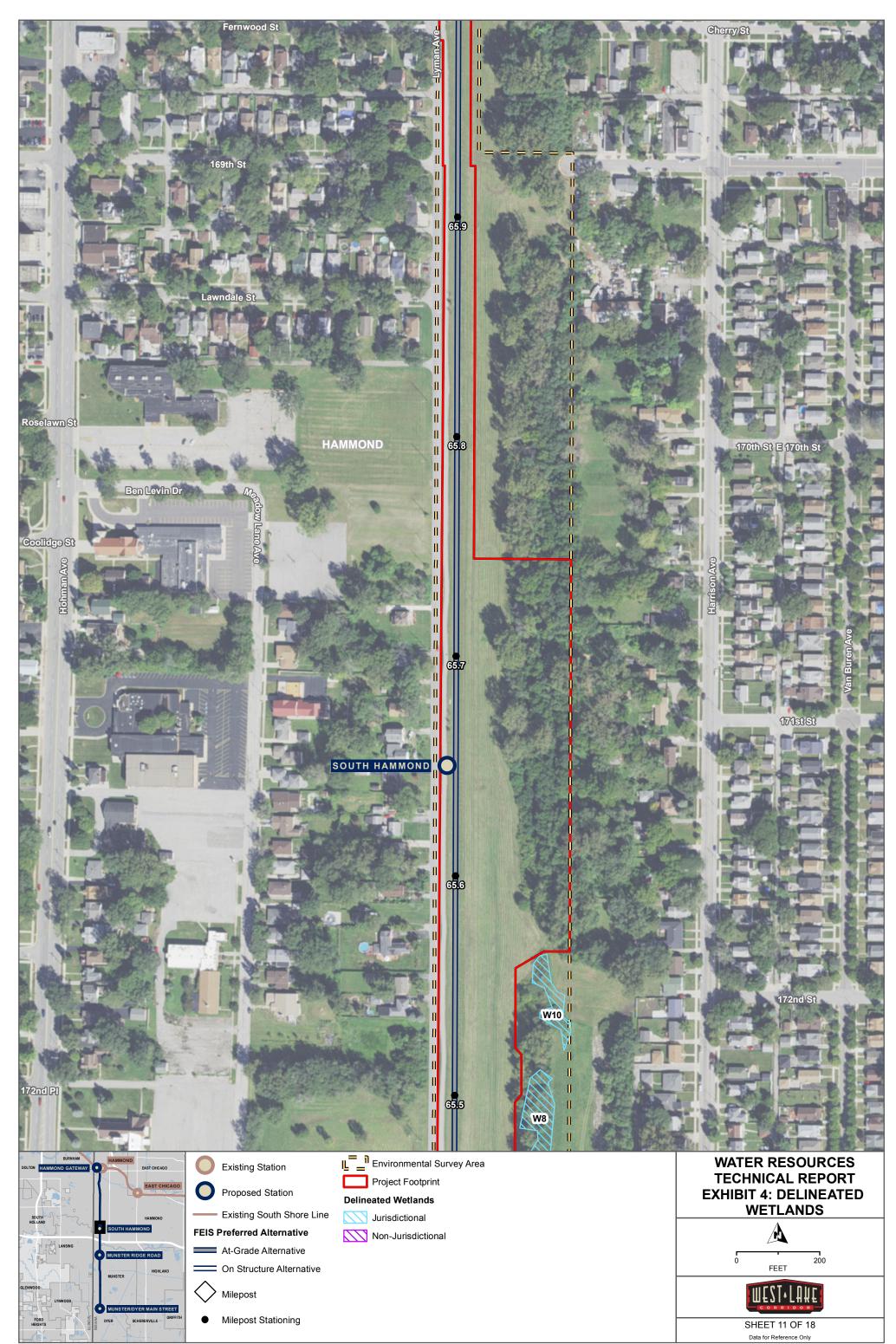


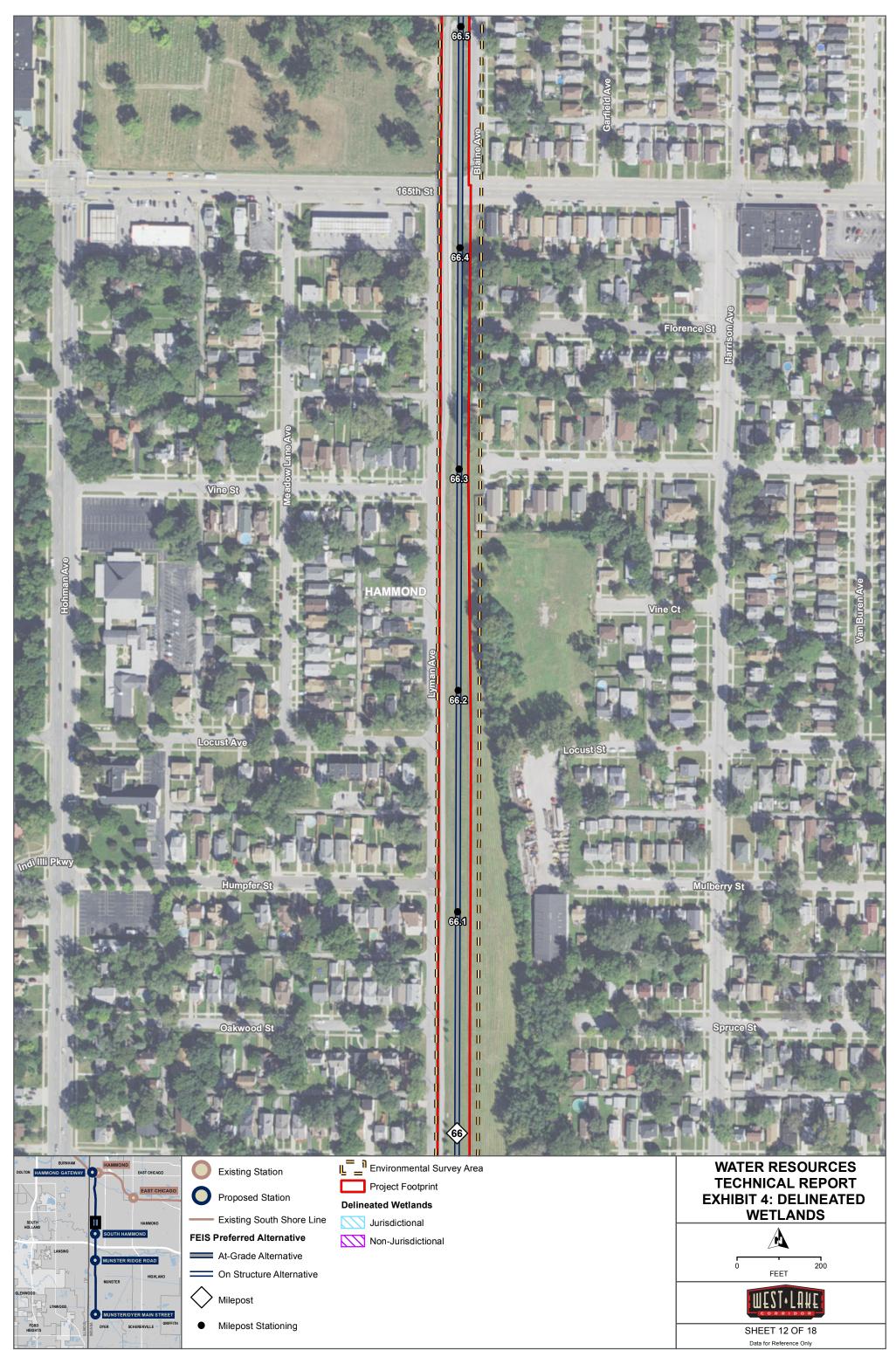


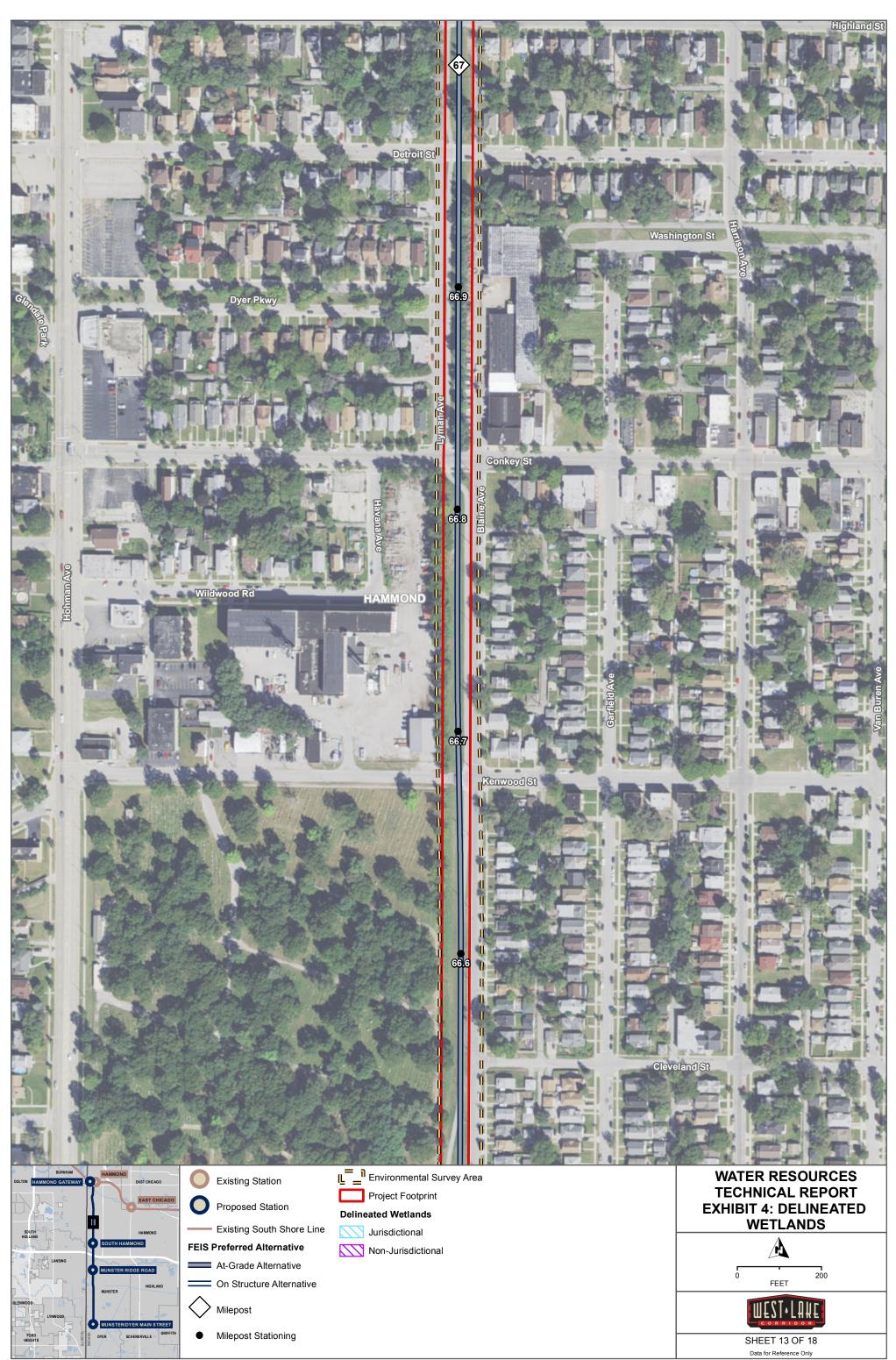


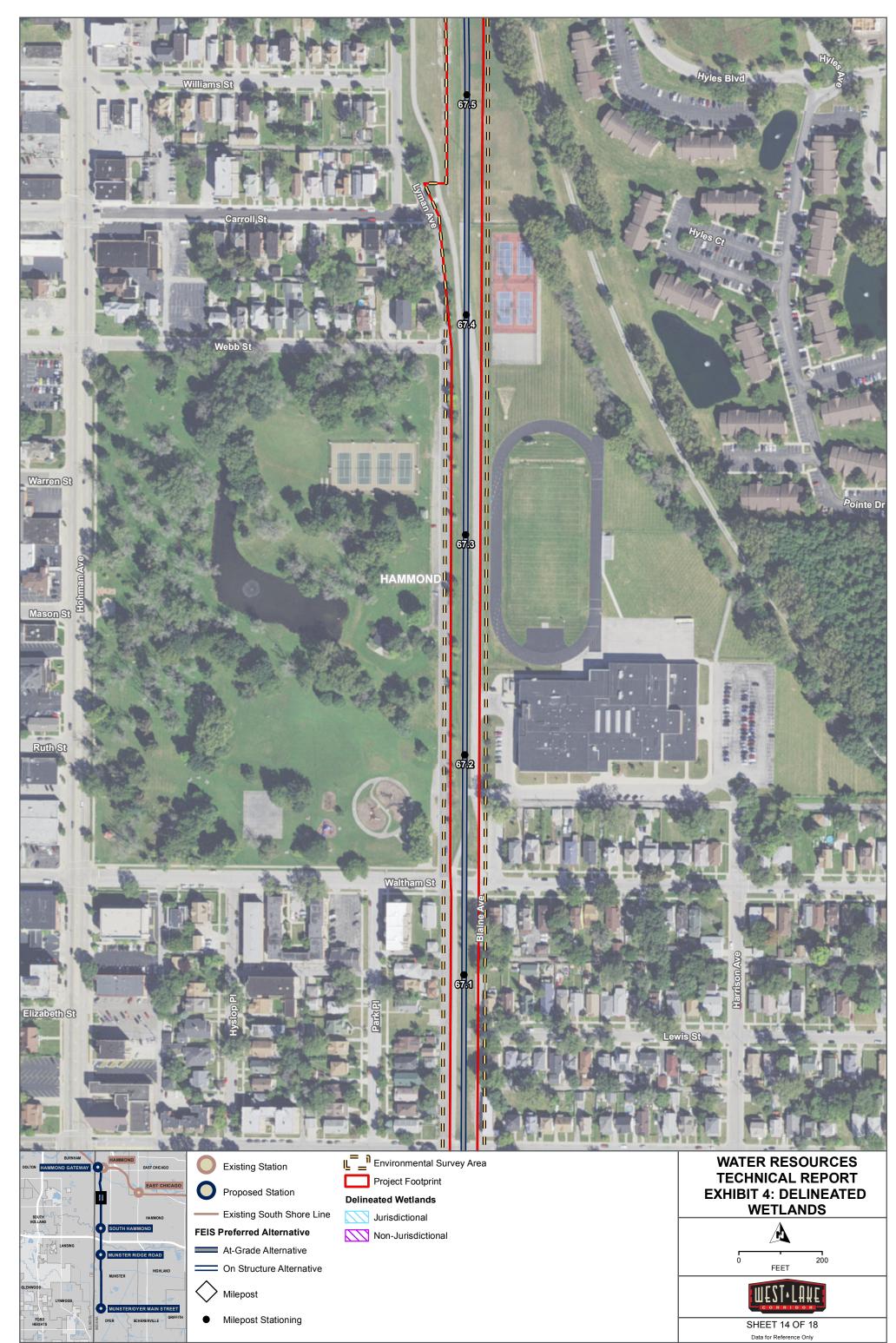




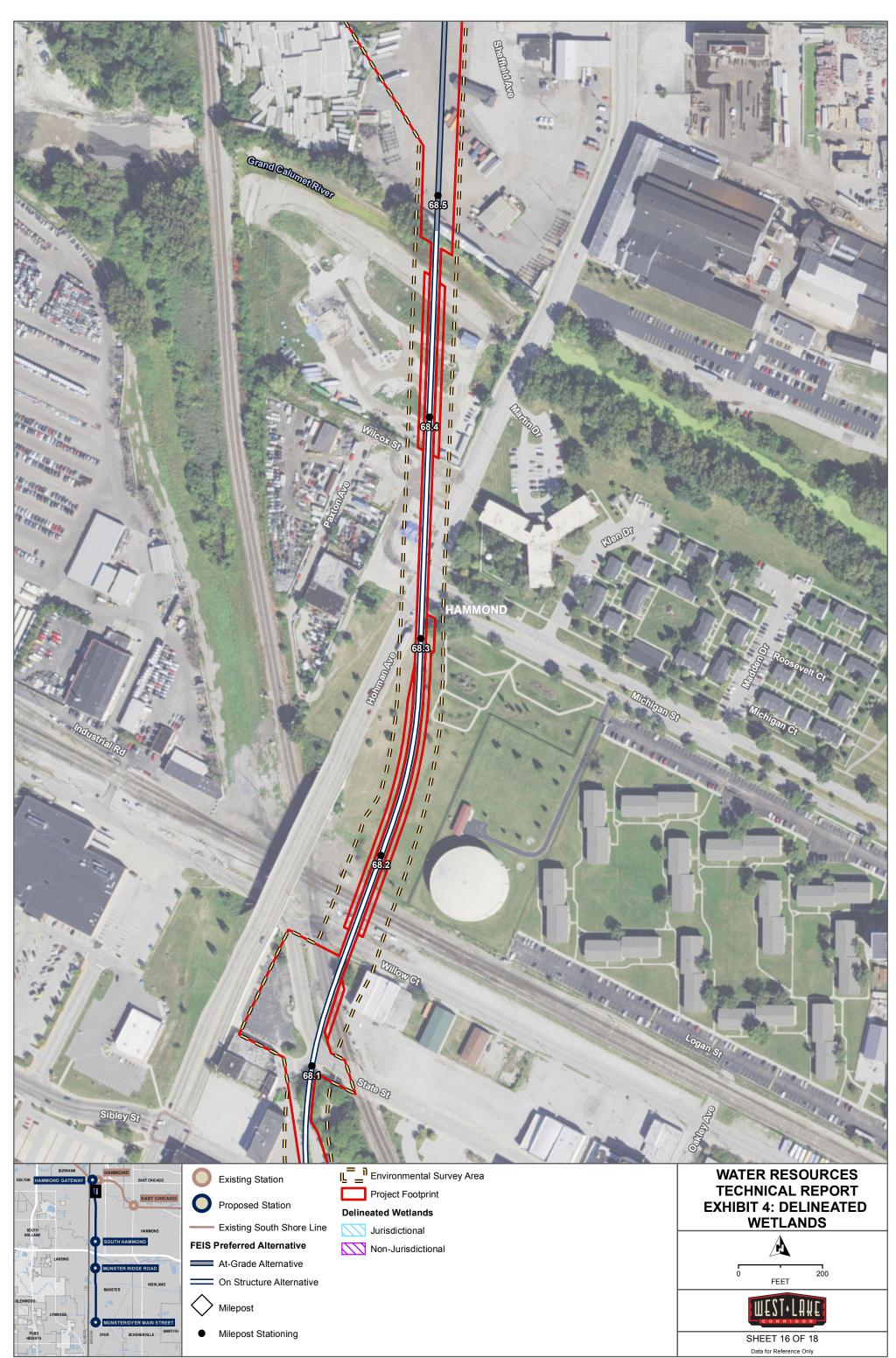


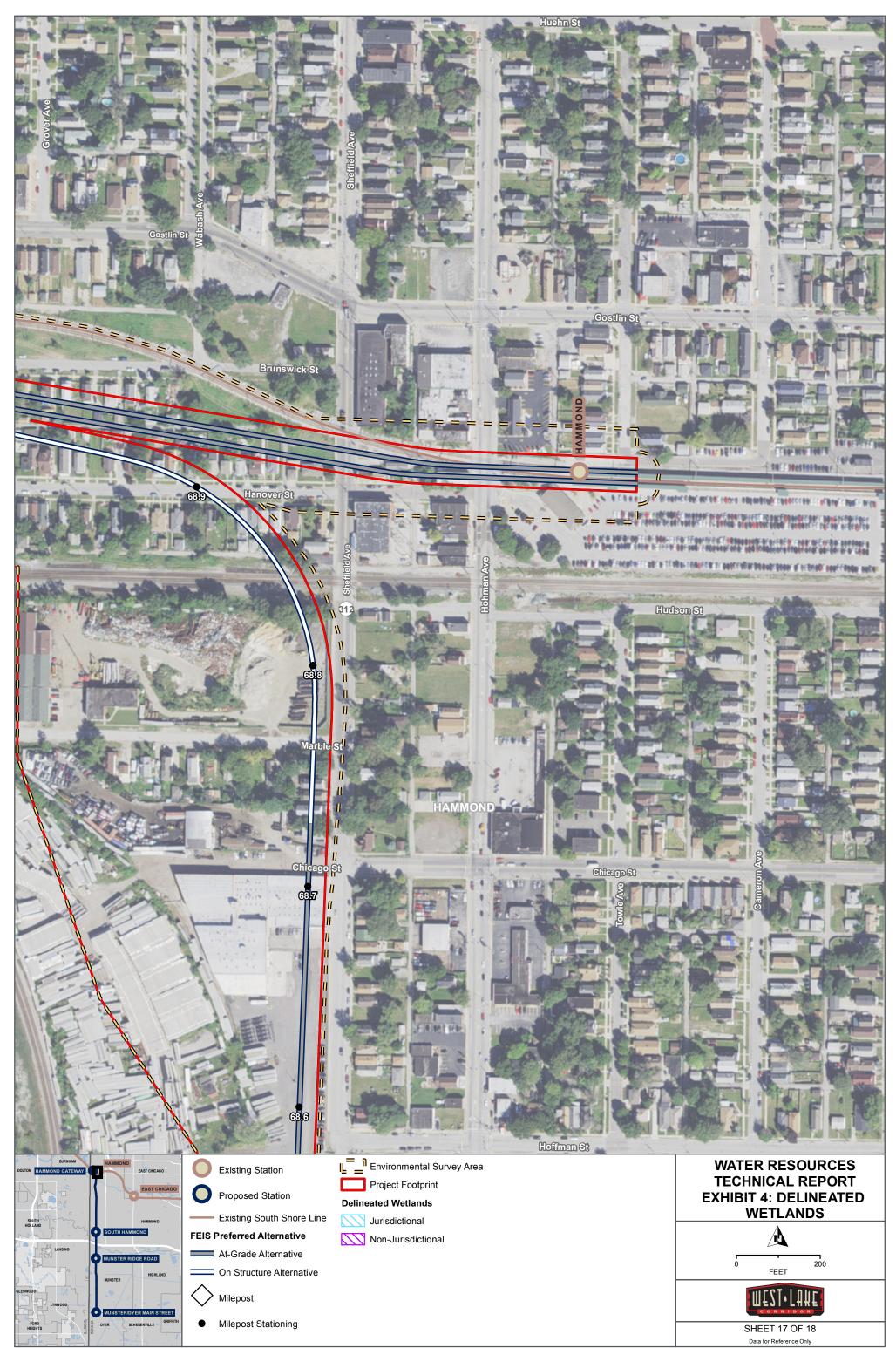






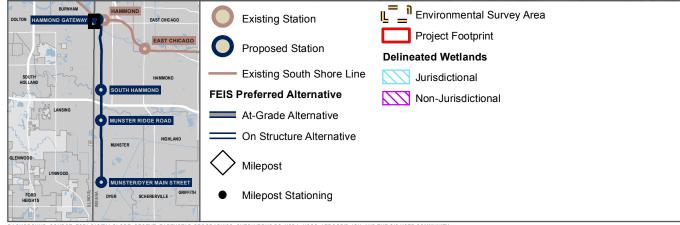


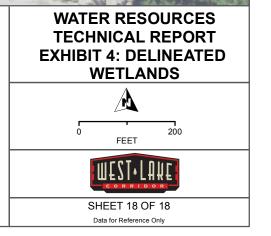














West Lake Corridor Water Resources Technical Report

Appendix B

Appendix B. USACE Wetland Determination Data Forms



West Lake Corridor Water Resources Technical Report

Appendix B

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Project/Site NICTD	West Lake Corrid	or	City/County:	Lake County	Sampling Date:	9/16/15
Applicant/Owner:	_		State:	IN	Sampling Point:	Wetland 9
Investigator(s): Ann	a Hochhalter and	Scott Beckmeyer	Sec	tion, Township, Ra	ange:	
Landform (hillslope,	terrace, etc.):		Local	relief (concave, co	onvex, none):	
Slope (%):	Lat:		Long:		Datum:	
Soil Map Unit Name	Bono silty clay lo	am		NWI Class	sification:	none
Are climatic/hydrolo	gic conditions of t	he site typical for this	time of the year?	(If no,	explain in remarks)	
Are vegetation	, soil	, or hydrology	significantl	y disturbed?	Are "normal circu	mstances"
Are vegetation	, soil	, or hydrology	naturally p	roblematic?		present?
SUMMARY OF I	FINDINGS			(If	needed, explain any a	nswers in remarks.)
Hydrophytic veg	getation present?	Y				
Hydric soil prese	ent?	Y	Is the s	sampled area wit	hin a wetland?	Y
Indicators of we	tland hydrology p	resent? Y	lf yes, c	ptional wetland si	te ID:	
Remarks: (Explain a	alternative proced	ures here or in a sep	arate report.)			
VEGETATION	Use scientific	names of plants.				

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:) 1)	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
2				Total Number of Dominant
3				Species Across all Strata: 3 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 sambucus nigra	50	Y	FACW	Total % Cover of:
2 frangula alnus	25	Y	FACW	OBL species 105 x 1 = 105
3 pyrus communis	5	<u>N</u>		FACW species <u>85</u> x 2 = <u>170</u>
4				FAC species $0 \times 3 = 0$
5				FACU species $0 x 4 = 0$
	80	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals <u>190</u> (A) <u>275</u> (B)
1 lythrum salicaria	80	Y	OBL	Prevalence Index = B/A = 1.45
2 epilobium coloratum	15	Ν	OBL	
3 persicaria amphibia	10	N	OBL	Hydrophytic Vegetation Indicators:
4 geum laciniatum	10	N	FACW	Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	115	= Total Cover		(explain)
Woody vine stratum (Plot size:1)			*Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation present? Y

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	or or confirm	the absence	of indicators.)
Depth	Matrix		Red	dox Feat	ures				•
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
0 - 24+	2.5Y 3/1	96	2.5Y4/4	4	RM	Μ	Clay Loam		
0-241	2.31 3/1	90	2.314/4	4		IVI		1	
*Type: C = C	Concentration, D =	Donlati	n RM = Reduce	d Matrix	MS = M	askad Sa	and Grains	**Location:	PL = Pore Lining, M = Matrix
	il Indicators:	- Depietit		u Matrix,		askeu oe			matic Hydric Soils:
-			Sor		d Motrix	(64)			lox (A16) (LRR K, L, R)
	isol (A1)			idy Gleye		(54)			
	tic Epipedon (A2)			idy Redo				k Surface (S7	
	ck Histic (A3)			pped Ma				-	or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	-		my Muck	-			-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)	1		my Gleye		(F2)		•	k Surface (TF12)
	n Muck (A10)			leted Ma			Oth	er (explain in i	remarks)
· · ·	leted Below Dark		. ,	lox Dark		. ,			
Thio	ck Dark Surface (A	412)	Dep	leted Da	rk Surfac	ce (F7)	*Indi	cators of hydro	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)	Rec	lox Depre	essions (F8)	hyd	rology must be	e present, unless disturbed or
									problematic
Restrictive	Layer (if observe	۰ <i>.</i>							
Type:							Hydrid	c soil present	? Y
Depth (inche	<i>vc)</i> :						nyan	c son present	···
Deptil (inche									
Remarks:									
Bono silt	y clay loam								
Hydric In	dicator: Yes								
-									
HYDROLO	DGY								
Wetland Hv	drology Indicato	rs:							
_	cators (minimum		required: check a	II that an	nly)		c	Secondary Ind	icators (minimum of two required)
-	Water (A1)			-	Fauna (B	12)	<u>></u>	-	Soil Cracks (B6)
	ter Table (A2)				Jatic Plan				Patterns (B10)
Saturatio	. ,					Odor (C1	`		on Water Table (C2)
	()								Burrows (C8)
	arks (B1)			(C3)	Rnizosp	neres on	Living Roots		n Visible on Aerial Imagery (C9)
	t Deposits (B2)			· ·		and Iron	(C4)		
	oosits (B3) It or Crust (B4)					iced Iron	. ,		r Stressed Plants (D1)
Ŭ	· · ·			(C6)	ron Redu	cuon in T	illed Soils	X FAC-Neu	hic Position (D2)
· · · · · ·	osits (B5) on Visible on Aeria	Imagon	(P7)	• •	ak Curfaa	a (C7)		FAC-Neu	trai Test (D5)
	Vegetated Conca				ck Surfac				
	-		е (во)	-	r Well Da	. ,			
	tained Leaves (B9)	1				Remarks)			
Field Obser					.				
Surface wate		Yes	No	<u>X</u>	Depth (i	-			
Water table		Yes	No	X	Depth (i	-			icators of wetland
Saturation p		Yes	No	Х	Depth (i	ncnes):		hy	drology present? Y
	pillary fringe)								
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	notos, pre	evious ins	spections), if	available:	
Remarks:									

Project/Site NICTD West Lake Corridor	City/County:	Lake County	Sampling Date:	9/16/15
Applicant/Owner:	State	: IN	Sampling Point:	Upland 9
Investigator(s): Anna Hochhalter and Scott Beckmeyer	Se	ection, Township, Ra	inge:	
Landform (hillslope, terrace, etc.):	Loc	al relief (concave, co	onvex, none):	
Slope (%): Lat:	Long:		Datum:	
Soil Map Unit NameBono silty clay loam		NWI Class	ification:	none
Are climatic/hydrologic conditions of the site typical for this	time of the year	? (If no,	explain in remarks)	
Are vegetation, soil, or hydrology	significar	ntly disturbed?	Are "normal circu	mstances"
Are vegetation , soil , or hydrology	naturally	problematic?		present?
SUMMARY OF FINDINGS		(If	needed, explain any a	nswers in remarks.)
Hydrophytic vegetation present? N				
Hydric soil present? N	Is the	e sampled area witl	hin a wetland?	Ν
Indicators of wetland hydrology present? N	If yes	optional wetland sit	e ID:	
Remarks: (Explain alternative procedures here or in a sepa	arate report.)			

VEGETATION Use scientific names of pla	nts.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 Acer saccharinum	5	Y	FACW	that are OBL, FACW, or FAC: 2 (A)
2 ulmus pumila	5	Y	UPL	Total Number of Dominant
3		·		Species Across all Strata: 6 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 33.33% (A/B)
	10	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1	8	Y		Total % Cover of:
2				OBL species 0 x 1 = 0
3				FACW species 5 x 2 = 10
4				FAC species 40 x 3 = 120
5				FACU species 40 x 4 = 160
	8	= Total Cover		UPL species 5 x 5 = 25
Herb stratum (Plot size:)			Column totals 90 (A) 315 (B)
1 agrostis hyemalis	40	Y	FAC	Prevalence Index = B/A = 3.50
2 Rubus occidentalis	40	Y		
3 cirsium arvense	40	Y	FACU	Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				Dominance test is >50%
6				Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	120	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? N
Remarks: (Include photo numbers here or on a sepa	rate sheet)			

SOIL

U	pland	9
~		

Profile Desc	cription: (Descri	be to the	e depth needed	to docun	nent the	indicato	r or confirm the absend	e of indicators.)
Depth	Matrix			dox Featu				,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0 - 13	2.5Y 3/2	100					Silty Clay Loam	
13 - 24+	2.5Y 4/1	80	10YR 4/6	15	RM	М	Silty Clay Loam	
			7/10 Y	5	RM	M	Silty Clay Loam	Gley
			7/10 1	5	I XIVI	141		Ciey
*Type: C = C	Concentration, D =	Depleti	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	nd Grains. **Locatio	n: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators for Prob	lematic Hydric Soils:
Hist	tisol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Coast Prairie Ro	edox (A16) (LRR K, L, R)
Hist	tic Epipedon (A2)		Sar	ndy Redo	x (S5)		Dark Surface (S	57) (LRR K, L)
Blac	ck Histic (A3)		Stri	pped Mat	trix (S6)		5 cm Mucky Pe	at or Peat (S3) (LRR K, L, R)
Hyd	Irogen Sulfide (A4)	Loa	my Muck	xy Minera	ıl (F1)	Iron-Manganese	e Masses (F12) (LRR K, L, R)
Stra	atified Layers (A5))	Loa	my Gleye	ed Matrix	: (F2)	Very Shallow D	ark Surface (TF12)
2 cr	m Muck (A10)			pleted Ma	. ,		Other (explain in	n remarks)
	leted Below Dark		. ,	lox Dark		. ,		
	ck Dark Surface (A	,		pleted Da		. ,		prophytic vegetation and weltand
San	ndy Mucky Minera	l (S1)	Rec	lox Depre	essions (F8)	hydrology must	be present, unless disturbed or
								problematic
Restrictive	Layer (if observe	ed):						
Туре:							Hydric soil prese	nt? N
Depth (inche	es):							
Remarks:								
No signs	of iron in the to	י 12" מכ	of soil					
i të eigne		ор <u>-</u> с						
HYDROLO	DGY							
Wetland Hy	drology Indicato	rs:						
Primary Indi	cators (minimum	of one is	required; check a	<u>II that ap</u>	<u>ply)</u>		Secondary In	ndicators (minimum of two required)
Surface	Water (A1)			Aquatic I	Fauna (B	13)	Surface	Soil Cracks (B6)
High Wa	iter Table (A2)			True Aqu	uatic Plan	ts (B14)	Drainag	e Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1) Dry-Sea	ason Water Table (C2)
	arks (B1)				Rhizosp	heres on	<u> </u>	n Burrows (C8)
	nt Deposits (B2)			(C3)				ion Visible on Aerial Imagery (C9)
	oosits (B3)			-		iced Iron		l or Stressed Plants (D1)
	at or Crust (B4)				ron Redu	ction in T		rphic Position (D2)
· · · · · ·	osits (B5)		(D7)	(C6)		(0-)	FAC-Ne	eutral Test (D5)
	on Visible on Aeria				ck Surfac			
	Vegetated Conca		e (B8)	-	r Well Da			
	tained Leaves (B9)		Other (E	xpiain in i	Remarks)		
Field Obser		Vaa	No	\sim	Donth /	nohoc);		
Surface wate Water table	•	Yes Yes	No No	$\frac{x}{x}$	Depth (i Depth (i		I.	dicators of wetland
Saturation p		Yes	No	× X	Depth (i			nydrology present? N
-	pillary fringe)	163				10103).	'	
-		maguar	monitoring well	aprial ph	notos pr	avioue in	spections), if available:	
Describe rec	טיטבע עמומ (טוופט	in yauye	, monitoring well,	acriai pi	10105, pre		spections, il available.	
Remarks:								
No visible	e signs of hydro	ology						
1	- /							

Project/Site NICTD	West Lake Corrid	or	City/County:	Lake County	Sampling Date:	10/27/15
Applicant/Owner:			State:	IN	Sampling Point:	Wetland 40
Investigator(s): Ann	na Hochhalter and	Scott Beckmeyer	Sect	ion, Township, Ra	nge:	
Landform (hillslope,	terrace, etc.):		Local	relief (concave, co	nvex, none):	
Slope (%):	Lat:	41.5237	Long:	-87.5231	Datum:	
Soil Map Unit Name	Bono silty clay			NWI Class	ification:	none
Are climatic/hydrolo	gic conditions of t	he site typical for this	time of the year?	(If no,	explain in remarks)	
Are vegetation	, soil	, or hydrology	significantly	/ disturbed?	Are "normal circu	mstances"
Are vegetation	, soil	, or hydrology	naturally pr	oblematic?		present?
SUMMARY OF	FINDINGS	_		(If	needed, explain any a	nswers in remarks.)
Hydrophytic veg	getation present?	Y				
Hydric soil pres	ent?	Y	Is the s	ampled area with	nin a wetland?	Y
Indicators of we	tland hydrology p	resent? Y	lf yes, o	ptional wetland sit	e ID:	
Remarks: (Explain a	alternative proced	ures here or in a sep	arate report.)			
VEGETATION	- Use scientific	names of plants.				

·	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	
1		opeoleo	Oldub	Number of Dominant Speciesthat are OBL, FACW, or FAC:2(A)
2				Total Number of Dominant
3				Species Across all Strata: 2 (B)
4		· ·		Percent of Dominant Species
5			<u> </u>	that are OBL, FACW, or FAC: 100.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratun (Plot size:)			Prevalence Index Worksheet
1 salix interior	, 35	Y	FACW	Total % Cover of:
2				OBL species $80 \times 1 = 80$
3		· ·		FACW species $50 \times 2 = 100$
4		· ·		FAC species $0 \times 3 = 0$
5		· ·		FACU species $0 \times 4 = 0$
°	35	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:	<u>ــــــــــــــــــــــــــــــــــــ</u>			Column totals 130 (A) 180 (B)
· · · · · · · · · · · · · · · · · · ·	,	V		
1 lythrum salicaria	80	Y	OBL	Prevalence Index = B/A = 1.38
2 juncus dudleyi	10	N	FACW	
3 epilobium ciliatum	5	N	FACW	Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7		. <u> </u>		Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	95	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2		· ·		Hydrophytic
	0	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a sepa	rate sheet)			•

SOIL

	Matrix		<u>R</u>	edox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 - 14	2.5Y 2.5/1	100					Clay		
14 - 20+	2.5Y 4/1	75	10YR 6/8	15	RM	М	Sandy Cla	у	
	2.5Y 2.5/1	10					Sandy Cla	-	
	2.01 2.0/1	10		_			Cullay Cla	y	
				-					
				_					
vne: (; = (Concentration, D =	Denleti	n RM = Reduc	ed Matrix	MS = M	asked S:	and Grains	**Location	n: PL = Pore Lining, M = Matrix
	oil Indicators:	Depiction							ematic Hydric Soils:
•	tisol (A1)		S	andy Gleye	ed Matrix	(\$4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			andy Redo		(0+)			7) (LRR K, L)
	ck Histic (A3)			ripped Ma	. ,				t or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A4	L)		amy Mucl	. ,	al (F1)			Masses (F12) (LRR K, L, R)
	atified Layers (A5)	,		amy Gley	-			-	rk Surface (TF12)
	m Muck (A10)	,		epleted Ma				er (explain in	(<i>)</i>
	pleted Below Dark	Surface		edox Dark					ionanoj
	ck Dark Surface (/			epleted Da		. ,	* ~~	actors of bud	
	ndy Mucky Minera	,		edox Depr		. ,			rophytic vegetation and weltar be present, unless disturbed or
0		1(01)			0001010	(10)	nyu	rology must i	problematic
						1			P. 00.000.000
	Layer (if observe	ed):							
pe:					-		Hydrid	c soil preser	nt? <u>Y</u>
epth (inche	es):								
					-				
					-				
emarks:	o bore. Clay				-				
emarks: Difficult t	o bore. Clay				-				
emarks: Difficult t	•				-				
emarks: Difficult t	•				<u>-</u>				
emarks: Difficult t Bono silt	y clay				<u> </u>				
emarks: Difficult t Bono silt YDROLO	y clay	.rc.			<u> </u>				
emarks: Difficult t Bono silt YDROLO etland Hy	y clay DGY drology Indicato			oll that ar	- 				
emarks: Difficult t Bono silt YDROL(etland Hy imary Indi	y clay DGY drology Indicato cators (minimum o		required; check			10)	<u>{</u>	-	
marks: Difficult t Bono silt YDROL(etland Hy imary Indi Surface	y clay DGY drology Indicato cators (minimum of Water (A1)		required; check	Aquatic	Fauna (B		<u></u>	X Surface	Soil Cracks (B6)
marks: Difficult t Bono silt YDROL(etland Hy mary Indi Surface High Wa	y clay DGY drology Indicato cators (minimum of Water (A1) ater Table (A2)		required; check	Aquatic True Aq	Fauna (B uatic Plar	nts (B14)		X Surface X Drainage	Soil Cracks (B6) e Patterns (B10)
marks: Difficult t Bono silt YDROL(etland Hy mary Indi Surface High Wa Saturatio	y clay DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3)		required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C)	X Surface X Drainage Dry-Sea	Soil Cracks (B6) e Patterns (B10) son Water Table (C2)
marks: Difficult t Bono silt YDROL(etland Hy imary Indi Surface High Wa Saturatic Water M	y clay DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1)		required; check	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C		X Surface X Drainage Dry-Sea Crayfish	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8)
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2)		required; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C heres on	l) Living Roots	X Surface X Drainage Dry-Sea Crayfish Saturatio	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide d Rhizosp	nts (B14) Odor (C heres on uced Iron	l) Living Roots (C4)	X Surface X Drainage Dry-Sea Crayfish Saturate Stunted	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1)
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) ht Deposits (B2) posits (B3) at or Crust (B4)			Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent	Fauna (B uatic Plar n Sulfide d Rhizosp	nts (B14) Odor (C heres on uced Iron	l) Living Roots	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
emarks: Difficult t Bono silt YDROLC etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one is		Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I ((C6)	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu	nts (B14) Odor (C heres on uced Iron action in T	l) Living Roots (C4)	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1)
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I ((C6) Thin Mu	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac	odor (C odor (C heres on uced Iron uction in T ee (C7)	l) Living Roots (C4)	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
Particular Partic	y clay DGY drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca	of one is I Imagery ve Surfac	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I ((C6) Thin Mu Gauge o	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9)	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
emarks: Difficult t Bono silt YDROLO retland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma C Iron Dep Inundati Sparsely Water-S	y clay DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9)	of one is I Imagery ve Surfac	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I ((C6) Thin Mu Gauge o	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9)	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor	e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2)
emarks: Difficult t Bono silt YDROLO Vetland Hy imary Indi Surface High Wa Saturatie Water M Sedimer Drift Dep Algal Ma C Iron Dep Inundati Sparsely Water-S eld Obser	y clay DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations:	of one is I Imagery ve Surfac	(B7) (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9) Remarks	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2)
emarks: Difficult t Bono silt YDROLO Vetland Hy imary Indi Surface High Wa Saturatie Water M Sedimer Drift Dep Algal Ma C Iron Dep Inundati Sparsely Water-S eld Obser urface wat	y clay DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9) vations: er present?	I Imagery ve Surfac) Yes	(B7) ⇒ (B8) No	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches):	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatid Stunted Geomor X FAC-Ne	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5)
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Clron Dep Inundati Sparsely Water-S eld Obser urface wat ater table	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria (Vegetated Conca tained Leaves (B9) vations: er present? present?	I Imagery ve Surfac) Yes Yes	(B7) (B7) (B8) No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu lron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C heres on uced Iron uction in T e (C7) ata (D9) Remarks nches): nches):	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor X FAC-Ne	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5)
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Vater M Sedimer Drift Dep Algal Ma C Iron Dep Inundati Sparsely Water-S eld Obser ater table aturation p	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present? resent?	I Imagery ve Surfac) Yes	(B7) ⇒ (B8) No	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in	nts (B14) Odor (C heres on uced Iron uction in T e (C7) ata (D9) Remarks nches): nches):	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor X FAC-Ne	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5)
emarks: Difficult t Bono silt YDROLO etland Hy imary Indi Surface High Wa Saturatio Vater M Sedimer Drift Dep Algal Ma C Iron Dep Inundati Sparsely Water-S eld Obser ater table aturation p	y clay DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria (Vegetated Conca tained Leaves (B9) vations: er present? present?	I Imagery ve Surfac) Yes Yes	(B7) (B7) (B8) No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu lron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C heres on uced Iron uction in T e (C7) ata (D9) Remarks nches): nches):	l) Living Roots (C4) illed Soils	X Surface X Drainagu Dry-Sea Crayfish Saturatic Stunted Geomor X FAC-Ne	Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5)
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Project/Site NICTD West Lake Corridor	City	/County:	Lake Cou	nty Sampling Date:	10/27/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 40
Investigator(s): Anna Hochhalter and Scott Bec	kmeyer	Sect	ion, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local	relief (concav	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameBono silty clay			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typ	ical for this time	of the year?	(f no, explain in remarks)	
Are vegetation, soil, or H	nydrology	significantly	/ disturbed?	Are "normal circu	imstances"
Are vegetation , soil , or h	nydrology	naturally pr	oblematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)
Hydrophytic vegetation present?	N				
Hydric soil present?	<u>N</u>	Is the s	ampled area	a within a wetland?	N
Indicators of wetland hydrology present?	N	lf yes, o	ptional wetla	nd site ID:	
Remarks: (Explain alternative procedures here	or in a separate	report.)			
	ricultural land		nant uplan	d condition	
VEGETATION Use scientific names o	f plants.				
	Absolute	Dominant	Indicator	Dominance Test Works	sheet
Tree Stratum (Plot size:1) % Cover	Species	Staus	Number of Dominant Spect that are OBL, FACW, or FA	
2				Total Number of Domin	ant
3				Species Across all Stra	ata: 0 (B)
4				Percent of Dominant Spec	
5		- Total Caus		that are OBL, FACW, or FA	AC: 0.00% (A/B)
Sapling/Shrub stratur (Plot size:)	= Total Cove	ſ	Prevalence Index Work	sheet
1)			Total % Cover of:	Sheet
2					к 1 = 0
3				· · · · · · · · · · · · · · · · · · ·	x 2 = 0
4				FAC species 0	x 3 = 0
5					x 4 = 0
	0	= Total Cove	r	· ·	x = 0
Herb stratum (Plot size:)				(A) <u>0</u> (B)
1				Prevalence Index = B/A	=
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydrop	
5				Dominance test is >	
6				Prevalence index is :	≤3.0*
7				Morphogical adaptat	ions* (provide
8 9				supporting data in R separate sheet)	emarks or on a
10	0	= Total Cove	 r	Problematic hydroph (explain)	ytic vegetation*
<u>Woody vine stratum</u> (Plot size: 1)			*Indicators of hydric soil and present, unless distur	, ,,
2	0	= Total Cove		Hydrophytic vegetation	
				present? N	
Remarks: (Include photo numbers here or on a	separate sheet)				

SOIL

Depth	cription: (Descri		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
0-19+	2.5Y 6/3	5					Sandy Cla	v Loam	
	2.5Y 3/2	64					Sandy Cla	-	
	2.5Y 7/8	1					Sandy Cla	-	
	2.5Y 5/2	30					Sandy Cla	iy Loam	
	Concentration, D =	Depleti	I on RM = Reduce	d Matrix	MS = M	asked Sa	and Grains	**Locatio	I n: PL = Pore Lining, M = Matrix
	il Indicators:	Depiction							lematic Hydric Soils:
	isol (A1)		Sa	ndv Gleve	ed Matrix	(S4)			edox (A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo		(01)			7) (LRR K, L)
	ck Histic (A3)			ipped Ma	. ,				at or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4	.)		• •	ky Minera	al (F1)		-	Masses (F12) (LRR K, L, R)
	tified Layers (A5)			-	ed Matrix			-	ark Surface (TF12)
	n Muck (A10)				atrix (F3)			er (explain ir	
	leted Below Dark	Surface			Surface				,
	k Dark Surface (/				ark Surfac	· · ·	*Indi	cators of hvd	rophytic vegetation and weltand
	dy Mucky Minera	,			essions (be present, unless disturbed or
	,	()				(lology maor	problematic
pe: D pth (inche marks:		ore dee	per		-		Hydri	c soil prese	nt? <u>N</u>
vpe: Diepth (inche emarks:		ore dee	per		-		Hydri	c soil prese	nt? <u>N</u>
/pe: <u>D</u> epth (inche emarks: Dense cl	ay, unable to b	ore dee	per		- -		Hydri	c soil prese	nt? <u>N</u>
ype: D epth (inche emarks: Dense cl YDROLC	ay, unable to b		per		-		Hydri	c soil prese	nt? <u>N</u>
ype: D epth (inche emarks: Dense cl YDROLC	ay, unable to b	rs:		all that ap	- - -				
rpe: D epth (inche emarks: Dense cl YDROLC etland Hy imary India	ay, unable to b OGY drology Indicato	rs:			- - pply) Fauna (B	13)		Secondary In	
rpe: epth (inche emarks: Dense cl YDROLC etland Hy imary India Surface	ay, unable to b OGY drology Indicato cators (minimum of	rs:		Aquatic		,		Secondary In	dicators (minimum of two requi
rpe: epth (inche emarks: Dense cl YDROLC etland Hy imary India Surface	ay, unable to b OGY drology Indicato cators (minimum of Water (A1) ter Table (A2)	rs:		Aquatic True Aq	Fauna (B uatic Plar	,		Secondary In Surface Drainag	dicators (minimum of two requi Soil Cracks (B6)
pe: pepth (inche emarks: Dense cl YDROLC etland Hy imary India Surface ' High Wa Saturatic Water M	ay, unable to b OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)	rs:		Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1		Secondary In Surface Drainag Crayfish	dicators (minimum of two requi Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2)
rpe: epth (inche emarks: Dense cl YDROLC etland Hy imary India Surface High Wa Saturatic Water M Sedimen	ay, unable to b OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2)	rs:		Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C1 heres on) Living Roots	Secondary In Surface Drainag Dry-Sea Crayfish Saturati	Idicators (minimum of two requi Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9)
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pe: pepth (incher emarks: Dense cl YDROLC etland Hy imary India Surface ' High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	ay, unable to b OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca	rs: of one is I Imagery ve Surfac	required; check a	Aquatic True Aq Hydroge Oxidized (C3) Presenc (C6) Thin Mu Gauge o	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da	nts (B14) Odor (C1 heres on ucced Iron uction in T ce (C7) ata (D9)) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requi Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2)
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Applicant/Comer: State: IN Sampling Point Wetland 39 Investigator(s): Anna Hochhallsope, terrace, etc.): Local relief (concave, convex, none):	Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	10/27/15	
Landrom (hillisipe, terrace, etc.): Local relief (concave, convex, none): Slope (%): Lat: 415248 Long: -875229 Datum: Soli Map Unit NameBono sity (aly VWI Classification: none Are climatichydrologic conditions of the site typical for this time of the year? (ff no, explain in remarks) Are vegetation , soil , or hydrology naturality problematic? SUMMARY OF FINDINGS (ff needed, explain any answers in remarks.) Hydrophytic vegetation present? Y Hydrophytic vegetation present? Y Indicators of wetland hydrology present? Y I satis tragilis 35 2 35 N 1 satis tragilis 35 4 Seccles 5 N 1 satis tragilis 35 4 Seccles 5 N 1 satis tragilis 35 4 Seccles 5 N 1 satis tragilis 30 4 Seccles 5 N 6 Seccles X + 1 7 </td <td>Applicant/Owner:</td> <td></td> <td>State:</td> <td>IN</td> <td>Sampling Point:</td> <td>Wetland 39</td>	Applicant/Owner:		State:	IN	Sampling Point:	Wetland 39	
Slope (%): Lat: 41.5248 Long: -87.5229 Datum: none Soil Map Unit Name Bono sity clay NVIX Classification: none none Are vegetation .soil .or hydrology significantly disturbed? Are "normal circumstances" Are vegetation .soil .or hydrology naturally problematic? Are "normal circumstances" Market common status .or hydrology naturally problematic? Are "normal circumstances" present? Hydrophytic vegetation present? Y Is the sampled area within a wetland? Y Indicators of wetland hydrology present? Y If yes, optional wetland site ID: Y Remarks: (Explain alternative procedures here or in a separate report.) ditch Bominance Test Worksheet Number of Dominant Species 1 salk interior 30 Y FAC Species Staus 3 (B) 2 populus detoides 5 N FAC Species Cons all Stratz: 3 (B) 3 add 5 N FAC Species Cons all Stratz: 3 (B) 4 add 5 N	Investigator(s): Anna Hochhalter and Scott Beckmeyer	-	Section, Township, Range:				
Soil Map Unit Name Bono sitly clay NWI Classification: none Are vegetation	Landform (hillslope, terrace, etc.):		Local r	elief (conca	/e, convex, none):		
Are climatichydrologic conditions of the site typical for this time of the year? (ff no, explain in remarks) Are vegetation , soil , or hydrology naturally problematic? Are "normal circumstances" SUBMARY OF FINDINGS (ff needed, explain any answers in remarks.) Hydrophytic vegetation present? Y is the sampled area within a wetland? Y Hydrophytic vegetation present? Y is the sampled area within a wetland? Y Indicators of wetland hydrology present? Y is the sampled area within a wetland? Y Remarks: (Explain alternative procedures here or in a separate report.) ditch Dominance Test Worksheet 1 salix fragilis 5 N FAC 2 papulus deficides 5 N FAC 3 40 = Total Cover Total % Cover of: OBL % Species Total % Cover of: 3 30 Y FACW FACW FAC % Species Total % Cover of: 3 30 Y FACW FAC % Species Total % Cover of: 3 30 Y FACW FAC % Species Total % Cover of: 0 1	Slope (%): Lat: 41.5248		Long:	-87.522	9 Datum:		
Are vegetation	Soil Map Unit NameBono silty clay			NWI	Classification:	none	
Are vegetation, soll, or hydrology	Are climatic/hydrologic conditions of the site typical for	this time o	f the year?	(lf no, explain in remarks)		
Are vegetation	Are vegetation , soil , or hydrolog	ду	significantly	disturbed?	Are "normal circum	stances"	
SUMMARY OF FINDINGS (ff needed, explain any answers in remarks.) Hydric soil present? Y Hydric soil present? Y Indicators of wetland hydrology present? Y Remarks: (Explain alternative procedures here or in a separate report.) ditch VEGETATION Use scientific names of plants. Dominant Indicator Tree Stratum (Plot size:) % Cover Species Staus 3 5 N FAC Total Number of Dominant Species 4	Are vegetation , soil , or hydrolog	ду	naturally pro	oblematic?			
Hydric soil present? Y Is the sampled area within a wetland? Y Indicators of wetland hydrology present? Y If yes, optional wetland site ID: Y Remarks: (Explain alternative procedures here or in a separate report.) ditch Iditch VEGETATION Use scientific names of plants. Dominant Indicator Dominante Test Worksheet 1 salix fragilis 35 N FAC 2 populus deitoides 5 N FAC 3 4	SUMMARY OF FINDINGS				(If needed, explain any ans	wers in remarks.)	
Indicators of wetland hydrology present? Y If yes, optional wetland site ID. Remarks: (Explain alternative procedures here or in a separate report.) ditch VEGETATION Use scientific names of plants. Dominant Indicator Image: Stratum (Plot size:) Absolute Dominant Indicator 1 salk regilis 35 Y FAC 2 populus deltoides 5 N FAC 3 4	Hydrophytic vegetation present? Y						
Provide control contrel contecontect control control control control contro	Hydric soil present? Y		Is the s	ampled area	a within a wetland?	Y	
ditch VEGETATION Use scientific names of plants. Tree Stratum (Plot size:) Absolute % Cover Dominant Species Indicator Staus Dominance Test Worksheet 1 salix fragilis 35 Y FAC 2 populus delitoides 5 N FAC 3 5 N FAC 4	Indicators of wetland hydrology present? Y		lf yes, op	otional wetla	nd site ID:		
ditch VEGETATION Use scientific names of plants. Tree Stratum (Plot size:) Absolute % Cover Dominant Species Indicator Staus Dominance Test Worksheet 1 salix fragilis 35 Y FAC 2 populus delitoides 5 N FAC 3 5 N FAC 4	Remarks: (Explain alternative procedures here or in a s	enarate re	enort)				
VEGETATION Use scientific names of plants. Tree Stratum (Plot size:) % Cover Dominant Indicator Species Dominant Species 1 salix fragilis 35 Y FAC 2 populus deltoides 5 N FAC 3 5 N FAC 4			sport.)				
Image: Stratum (Plot size:) Absolute Dominant Indicator 1 salix fragilis 35 Y FAC 3 5 N FAC 4 5 N FAC 5 N FAC 4 5 N FAC 4			ditch				
Image: Stratum (Plot size:) Absolute Dominant Indicator 1 salix fragilis 35 Y FAC 3 5 N FAC 4 5 N FAC 5 N FAC 4 5 N FAC 4	VECETATION Liss scientific names of plant	· C					
Tree Stratum (Plot size:) % Cover Species Staus 1 salix fragilis 35 Y FAC 2 populus deltoides 5 N FAC 3	·		Dominant	Indiastor	Dominance Test Workshe	et.	
1 salix fragilis 35 Y FAC 2 populus deltoides 5 N FAC 3							
2 populus deltoides 5 N FAC 3 Total Number of Dominant Species Across all Strata: 3 (B) 4	())		•				
3			N	FAC	Total Number of Dominant		
5	3						
40 = Total Cover 3 30 Y FACW 2 30 Y FACW 3 3 Y FACW 3 3 Y FACW 4 5 7 7 3 100 Y FACW 9 100 Y FACW Version 100 = 0 100 100 = 0 = 0 100 100 = 0 = 0 <td>4</td> <td></td> <td></td> <td></td> <td>Percent of Dominant Species</td> <td></td>	4				Percent of Dominant Species		
Sapling/Shrub stratum (Plot size:) 30 Y FACW 1 salix interior 30 Y FACW 2	5				that are OBL, FACW, or FAC:	100.00% (A/B)	
1salix interior30YFACWTotal % Cover of:2	_	40	= Total Cover				
2						eet	
3		30	Y	FACW		0	
4							
5	4				· · · · · · · · · · · · · · · · · · ·		
30 =Total Cover UPL species 0 x 5 = 0 1 phragmites australis 100 Y FACW Prevalence Index = B/A = 2.24 2	5						
1 phragmites australis 100 Y FACW Prevalence Index = B/A = 2.24 3		30 -	- Total Cover			= 0	
2	Herb stratum (Plot size:)					380 (B)	
2	1 phragmites australis	100	Y	FACW	Prevalence Index = B/A =	2.24	
4							
5	3				Hydrophytic Vegetation In	ndicators:	
6	4				Rapid test for hydrophy	tic vegetation	
7	5						
8	ان 				X Prevalence index is ≤3.	U*	
9	/						
10	<u> </u>					arks or on a	
100 = Total Cover (explain) 1	•				· · · · ·	c vegetation*	
1		100 :	Total Cover				
0 = Total Cover vegetation					5	, ,,	
	2						
		0 :	= Total Cover		_	<u>-</u>	

SOIL

1 - 4 4 - 8 8 - 28+ *Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	ndicators: (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) ed Layers (A5) Huck (A10) ed Below Dark Dark Surface (A Mucky Mineral Per (if observer) Surface (A 12) (S1)	Color (moist) 10YR 4/6 10YR 4/6 2.5YR 6/8 2.5YR 6/8 0, RM = Reduce Sar Sar Sar Loa Loa Loa Loa Dep A11) Rec	dox Featu % 5 2 5 2 5 5 4 4 5 5 5 5 5 5 5 5 6 7 7 7 7 7 7 7 7 7 7 7	Type* CS CS RM MS = Matrix (S5) trix (S6) trix (S6) trix (S6) cy Minera ed Matrix atrix (F3) Surface irk Surface	(S4) al (F1) a (F2) (F6) ce (F7)	Indicators Coast Dark S 5 cm I Iron-M Very S Other	**Location: s for Problem Prairie Redd Surface (S7) Mucky Peat of langanese M Shallow Dark (explain in re- tors of hydro logy must be	or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) & Surface (TF12)
1 - 4 4 - 8 8 - 28+ *Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	2.5Y 2.5/1 2.5Y 7/3 2.5Y 7/3 2.5Y 2.5/1 2.5Y 5/4 2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) en Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observer	50 35 68 30 65 30 Depletion) Surface (A 12) (S1)	10YR 4/6 10YR 4/6 2.5YR 6/8 2.5YR 6/8 	5 2 5 5 ad Matrix, andy Gleye amy Gleye pleted Ma dox Dark pleted Da	CS CS RM MS = Ma MS = Ma MS = Ma (S5) trix (S6) trix (S6) trix (S6) trix (S6) sy Minera ed Matrix atrix (F3) Surface irk Surface	M M M asked Sa (S4) (S4) (F1) a (F2) (F6) ce (F7)	Clay Loam Loamy Sand Loamy Sand Loamy Sand Loamy Sand Loamy Sand Loamy Sand Coast Dark S S cm I Indicators Coast Dark S Other Very S	**Location: s for Problem Prairie Redd Surface (S7) Mucky Peat of langanese M Shallow Dark (explain in re- tors of hydro logy must be	PL = Pore Lining, M = Matrix matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) & Surface (TF12) emarks) ophytic vegetation and weltand e present, unless disturbed or
4 - 8 8 - 28+ *Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	2.5Y 7/3 2.5Y 7/3 2.5Y 2.5/1 2.5Y 5/4 2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) ten Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observer	35 68 30 65 30 Depletion	10YR 4/6 2.5YR 6/8 2.5YR 6/8 0, RM = Reduce Sar Sar Sar Loa Loa Loa Loa Dep A11) Rec	2 5 ed Matrix, ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	CS RM MS = Matrix (S5) trix (S6) (y Minera ed Matrix (S3) Surface irk Surface	M M asked Sa (S4) (S4) (F1) (F2) (F6) (F6) (ce (F7)	Loamy Sand Loamy Sand Loamy Sand Loamy Sand Loamy Sand Loamy Sand Coast Dark S 5 cm I Iron-M Very S Other *Indica	**Location: s for Proble Prairie Rede Surface (S7) Mucky Peat of langanese M Shallow Dark (explain in re- tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
*Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	2.5Y 7/3 2.5Y 2.5/1 2.5Y 5/4 2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) uen Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral ver (if observer	68 30 65 30 Depletion) Surface (A 12) (S1)	10YR 4/6 2.5YR 6/8 2.5YR 6/8 0, RM = Reduce Sar Sar Sar Loa Loa Loa Loa Dep A11) Rec	2 5 ed Matrix, ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	CS RM MS = Matrix (S5) trix (S6) (y Minera ed Matrix (S3) Surface irk Surface	M M asked Sa (S4) (S4) (F1) (F2) (F6) (F6) (ce (F7)	Loamy Sand Loamy Sand Loamy Sand Loamy Sand Loamy Sand Indicators Coast Dark S 5 cm I Iron-M Very S Other *Indica	**Location: s for Proble Prairie Rede Surface (S7) Mucky Peat of langanese M Shallow Dark (explain in re- tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
*Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	2.5Y 2.5/1 2.5Y 5/4 2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) den Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observer	30 65 30 Depletion) Surface (<i>A</i> 12) (S1)	2.5YR 6/8	5 ad Matrix, ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	CS RM MS = Matrix (S5) trix (S6) trix (S6) trix (S6) cy Minera ed Matrix atrix (F3) Surface rrk Surface	M asked Sa (S4) (S4) (F1) (F2) (F6) (F6) (ce (F7)	Loamy Sand Loamy Sand Loamy Sand Loamy Sand Loamy Sand Indicators Coast Dark S 5 cm I Iron-M Very S Other *Indica	**Location: s for Proble Prairie Rede Surface (S7) Mucky Peat of langanese M Shallow Dark (explain in re- tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
*Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	2.5Y 2.5/1 2.5Y 5/4 2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) den Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observed	30 65 30 Depletion) Surface (<i>A</i> 12) (S1)	2.5YR 6/8	5 ad Matrix, ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	RM MS = Ma ed Matrix (S5) trix (S6) trix (S6) trix (S6) sy Minera ed Matrix atrix (F3) Surface irk Surface	M asked Sa (S4) (S4) (F1) (F2) (F6) (F6) (ce (F7)	Loamy Sand Loamy Sand Loamy Sand Ind Grains. Indicators Coast Dark S 5 cm I Iron-M Very S Other	**Location: a for Problem Prairie Redo Surface (S7) Mucky Peat of Mucky Peat of Manganese M Shallow Dark (explain in ro- tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
8 - 28+	2.5Y 5/4 2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) den Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral	65 30 Depletion	n, RM = Reduce Sar Sar Loa Loa A11) Rec	ed Matrix, ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	MS = Matrix ed Matrix x (S5) trix (S6) ky Minera ed Matrix atrix (F3) Surface irk Surface	asked Sa (S4) (F1) (F2) (F6) ce (F7)	Loamy Sand Loamy Sand Indicators Coast Dark S 5 cm I Iron-M Very S Other	**Location: 5 for Problen Prairie Rede Surface (S7) Mucky Peat of langanese M Shallow Dark (explain in re- tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
*Type: C = Conc Hydric Soil In Histisol Histic E Black H Hydroga Stratifie 2 cm Mi X Deplete Thick D Sandy M Restrictive Laya Type: Depth (inches): Remarks:	2.5Y 3/2 centration, D = ndicators: (A1) Epipedon (A2) distic (A3) len Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observer	30 Depletion	n, RM = Reduce Sar Sar Loa Loa A11) Rec	ed Matrix, ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	MS = Matrix ed Matrix x (S5) trix (S6) ky Minera ed Matrix atrix (F3) Surface irk Surface	asked Sa (S4) (F1) (F2) (F6) ce (F7)	Loamy Sand and Grains. Indicators Coast Dark S 5 cm I Iron-M Very S Other *Indica	**Location: s for Proble Prairie Redo Surface (S7) Mucky Peat o langanese M Shallow Dark (explain in ro tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	centration, D = ndicators: I (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) ed Layers (A5) Huck (A10) ed Below Dark Dark Surface (A Mucky Mineral Fer (if observer	Depletion) Surface (A 12) (S1)	Sar Sar Stri Loa Dep A11) Rec	ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	ed Matrix x (S5) trix (S6) ky Minera ed Matrix ed Matrix atrix (F3) Surface ırk Surfac	(S4) al (F1) a (F2) (F6) ce (F7)	and Grains. Indicators Coast Dark S 5 cm I Iron-M Very S Other *Indica	**Location: s for Problen Prairie Redo Surface (S7) Mucky Peat of Manganese M Shallow Dark (explain in ro- tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	ndicators: (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) ed Layers (A5) Huck (A10) ed Below Dark Dark Surface (A Mucky Mineral Per (if observer) Surface (A 12) (S1)	Sar Sar Stri Loa Dep A11) Rec	ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	ed Matrix x (S5) trix (S6) ky Minera ed Matrix ed Matrix atrix (F3) Surface ırk Surfac	(S4) al (F1) a (F2) (F6) ce (F7)	Indicators Coast Dark S 5 cm I Iron-M Very S Other	s for Problem Prairie Rede Surface (S7) Mucky Peat of Ianganese M Shallow Dark (explain in re tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	ndicators: (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) ed Layers (A5) Huck (A10) ed Below Dark Dark Surface (A Mucky Mineral Per (if observer) Surface (A 12) (S1)	Sar Sar Stri Loa Dep A11) Rec	ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	ed Matrix x (S5) trix (S6) ky Minera ed Matrix ed Matrix atrix (F3) Surface ırk Surfac	(S4) al (F1) a (F2) (F6) ce (F7)	Indicators Coast Dark S 5 cm I Iron-M Very S Other	s for Problem Prairie Rede Surface (S7) Mucky Peat of Ianganese M Shallow Dark (explain in re tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	ndicators: (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) ed Layers (A5) Huck (A10) ed Below Dark Dark Surface (A Mucky Mineral Per (if observer) Surface (A 12) (S1)	Sar Sar Stri Loa Dep A11) Rec	ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	ed Matrix x (S5) trix (S6) ky Minera ed Matrix ed Matrix atrix (F3) Surface ırk Surfac	(S4) al (F1) a (F2) (F6) ce (F7)	Indicators Coast Dark S 5 cm I Iron-M Very S Other	s for Problem Prairie Rede Surface (S7) Mucky Peat of Ianganese M Shallow Dark (explain in re tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
Hydric Soil In Histisol Histic E Black H Hydroge Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	ndicators: (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) ed Layers (A5) Huck (A10) ed Below Dark Dark Surface (A Mucky Mineral Per (if observer) Surface (A 12) (S1)	Sar Sar Stri Loa Dep A11) Rec	ndy Gleye ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	ed Matrix x (S5) trix (S6) ky Minera ed Matrix ed Matrix atrix (F3) Surface ırk Surfac	(S4) al (F1) a (F2) (F6) ce (F7)	Indicators Coast Dark S 5 cm I Iron-M Very S Other	s for Problem Prairie Rede Surface (S7) Mucky Peat of Ianganese M Shallow Dark (explain in re tors of hydro logy must be	matic Hydric Soils: ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand present, unless disturbed or
Histisol Histic E Black H Hydrogo Stratifie 2 cm M X Deplete Thick D Sandy N Restrictive Layo Type: Depth (inches): Remarks:	(A1) Epipedon (A2) Histic (A3) en Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral Fer (if observer	Surface (A .12) (S1)	Sar Stri Loa Deg A11) Rec Deg	ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	x (S5) trix (S6) ky Minera ed Matrix atrix (F3) Surface ark Surface	(F1) (F2) (F6) ce (F7)	Coast Dark S 5 cm I Iron-M Very S Other *Indica	Prairie Rede Surface (S7) Mucky Peat o langanese M Shallow Dark (explain in ro tors of hydro logy must be	ox (A16) (LRR K, L, R) (LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) ophytic vegetation and weltand e present, unless disturbed or
Histic E Black H Hydroge Stratifie 2 cm M X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	Epipedon (A2) Histic (A3) en Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observer	Surface (A .12) (S1)	Sar Stri Loa Deg A11) Rec Deg	ndy Redo ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	x (S5) trix (S6) ky Minera ed Matrix atrix (F3) Surface ark Surface	(F1) (F2) (F6) ce (F7)	Dark S 5 cm I Iron-M Very S Other	Surface (S7) Mucky Peat of Ianganese M Shallow Dark (explain in ro tors of hydro logy must be	(LRR K, L) or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) & Surface (TF12) emarks) ophytic vegetation and weltand e present, unless disturbed or
Black H Hydroge Stratifie 2 cm M X Deplete Thick D Sandy M Restrictive Laye Type: Depth (inches): Remarks:	Histic (A3) een Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observer	Surface (A .12) (S1)	Stri Loa Dep A11) Rec Dep	ipped Mat amy Muck amy Gleye pleted Ma dox Dark pleted Da	trix (S6) ky Minera ed Matrix atrix (F3) Surface ark Surfac	: (F2) (F6) ce (F7)	5 cm l Iron-M Very S Other	Mucky Peat Ianganese M Shallow Dark (explain in re tors of hydro logy must be	or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R) & Surface (TF12) emarks) ophytic vegetation and weltand e present, unless disturbed or
Hydrogo Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Layo Type: Depth (inches): Remarks:	en Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observed	Surface (A .12) (S1)	Loa Loa Dep A11) Rec Dep	amy Muck amy Gleye pleted Ma dox Dark pleted Da	ky Minera ed Matrix atrix (F3) Surface ark Surfac	: (F2) (F6) ce (F7)	Iron-M Very S Other *Indica	langanese M Shallow Dark (explain in re tors of hydro logy must be	Masses (F12) (LRR K, L, R) (Surface (TF12) emarks) (Phytic vegetation and weltand e present, unless disturbed or
Stratifie 2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	ed Layers (A5) luck (A10) ed Below Dark Dark Surface (A Mucky Mineral rer (if observe	Surface (A .12) (S1)	Loa Dep A11) Rec Dep	amy Gleye pleted Ma dox Dark pleted Da	ed Matrix atrix (F3) Surface ark Surfac	: (F2) (F6) ce (F7)	Very S	Shallow Dark (explain in re tors of hydro logy must be	x Surface (TF12) emarks) ophytic vegetation and weltand e present, unless disturbed or
2 cm Mi X Deplete Thick D Sandy N Restrictive Laye Type: Depth (inches): Remarks:	luck (A10) ed Below Dark Dark Surface (A Mucky Mineral ver (if observe	(S1)	A11) Dep Rec Dep	pleted Ma dox Dark pleted Da	atrix (F3) Surface irk Surfac	(F6) ce (F7)	Other	(explain in re tors of hydro logy must be	emarks) ophytic vegetation and weltand opresent, unless disturbed or
X Deplete Thick D Sandy N Restrictive Lay Type: Depth (inches): Remarks:	ed Below Dark Dark Surface (A Mucky Mineral ver (if observe	(S1)	A11) Rec Dep	dox Dark pleted Da	Surface irk Surfac	ce (F7)	*Indica	tors of hydro logy must be	phytic vegetation and weltand present, unless disturbed or
Thick D Sandy N Restrictive Lay Type: Depth (inches): Remarks:	oark Surface (A Mucky Mineral rer (if observe	(S1)	Dep	pleted Da	irk Surfac	ce (F7)		logy must be	present, unless disturbed or
Sandy N Restrictive Lay Type: Depth (inches): Remarks:	Mucky Mineral	(S1)				. ,		logy must be	present, unless disturbed or
Restrictive Lay Type: Depth (inches): Remarks:	ver (if observe					,			
Type: Depth (inches): Remarks:		d):							
HYDROLOG									
Wetland Hydrol	logy Indicator	'S:							
Primary Indicato	ors (minimum o	f one is re	equired; check a	all that ap	ply)		<u>Se</u>	condary Indi	cators (minimum of two require
Surface Wate	. ,			Aquatic I	Fauna (B	13)		Surface S	oil Cracks (B6)
X High Water 1				_	uatic Plan	. ,			Patterns (B10)
X Saturation (A					n Sulfide		· · · · · · · · · · · · · · · · · · ·		on Water Table (C2)
Water Marks					l Rhizosp	heres on	Living Roots		Burrows (C8)
X Sediment De				(C3)	(<u> </u>		Visible on Aerial Imagery (C9)
Drift Deposits				-	e of Redu				r Stressed Plants (D1)
Algal Mat or				(C6)	ron Redu	ction in 1	illed Soils		nic Position (D2)
Iron Deposits	/isible on Aerial	Imagery (F	B7)		ck Surfac	0 (07)	_	FAC-Neul	ral Test (D5)
	getated Concav		-		or Well Da	. ,			
	ed Leaves (B9)	e oundoe	(20)	-	xplain in l		1		
Field Observati	()						7	1	
		Voc	No	v	Donth (i	nchoc).			
Surface water pr Water table pres		Yes Yes	X No		Depth (i Depth (i		25	Indi	cators of wetland
Saturation prese		Yes	X NO X NO		Depth (i		10		drology present? Y
(includes capilla		103			- Deptil (I	101103).	10	iiyo	
	ry fringe)								
Describe recorde								- 1 - 1 1	
			monitoring well,	, aerial ph	notos, pre	evious ins	spections), if av	ailable:	
			monitoring well,	, aerial ph	notos, pre	evious in:	spections), if av	ailable:	
Remarks:			monitoring well,	, aerial ph	notos, pre	evious ins	spections), if av	ailable:	

Project/Site NICTD West Lake Corridor	City	/County:	Lake Cou	nty Sampling Date:	10/27/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 39
Investigator(s): Anna Hochhalter and Scott Bed	kmeyer	Sect	ion, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local	relief (concav	re, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameBono silty clay			NWI (Classification:	none
Are climatic/hydrologic conditions of the site typ	ical for this time	of the year?	(f no, explain in remarks)	
Are vegetation, soil, or	hydrology	significantly	/ disturbed?	Are "normal circu	mstances"
Are vegetation , soil , or	hydrology	naturally pr	oblematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)
Hydrophytic vegetation present?	N				
Hydric soil present?	N	Is the s	ampled area	within a wetland?	N
Indicators of wetland hydrology present?	N	lf yes, o	ptional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here	or in a separate	report.)			
	ricultural land		nant uplan	d condition	
VEGETATION Use scientific names c	f plants.				
	Absolute	Dominant	Indicator	Dominance Test Works	heet
Tree Stratum (Plot size:1) % Cover	Species	Staus	Number of Dominant Spect that are OBL, FACW, or FA	
2				Total Number of Domina	ant
3				Species Across all Stra	ta: 0 (B)
4				Percent of Dominant Spec	
5		Tatal Oau		that are OBL, FACW, or FA	AC: 0.00% (A/B)
Sapling/Shrub stratur (Plot size:)0	= Total Cove	r	Prevalence Index Work	shoot
1)			Total % Cover of:	Sheet
2					(1= 0
3		·			(2 = 0
4		·		FAC species 0	(3 = 0
5				FACU species 0	4 = 0
	0	= Total Cove	r	· · ·	(5 = 0
Herb stratum (Plot size:)				A) <u>0</u> (B)
1				Prevalence Index = B/A =	
23				Hydrophytic Vegetation	Indiastora
۵				Rapid test for hydrop	
5				Dominance test is >5	
6		·		Prevalence index is ≤	≤3.0*
7				Morphogical adaptati	ons* (provide
8 9				supporting data in Re separate sheet)	
10	0	= Total Cove	 r	Problematic hydroph (explain)	ytic vegetation*
<u>Woody vine stratum</u> (Plot size: 1)	-		*Indicators of hydric soil and v present, unless disturl	, ,,
2		·		Hydrophytic	
	0	= Total Cove	r	vegetation present? N	
Remarks: (Include photo numbers here or on a	separate sheet)				

SOIL

Depth	Matrix			dox Feat					_
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	re	Remarks
0-19+	2.5Y 6/3	5					Sandy Clay L	₋oam	
	2.5Y 3/2	64					Sandy Clay L	₋oam	
	2.5Y 7/8	1					Sandy Clay L	_oam	
	2.5Y 5/2	30					Sandy Clay L		
•	Concentration, D =	Depletio	on, RM = Reduce	d Matrix,	MS = M	asked Sa			PL = Pore Lining, M = Matri
-	oil Indicators:								ematic Hydric Soils:
	tisol (A1)				ed Matrix	: (S4)			lox (A16) (LRR K, L, R)
	tic Epipedon (A2)			ndy Redo	. ,) (LRR K, L)
	ck Histic (A3)			pped Ma	. ,				or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A4			-	ky Minera			-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)				ed Matrix				k Surface (TF12)
	n Muck (A10)	Surface			atrix (F3)		Other	(explain in	remarks)
	oleted Below Dark ck Dark Surface (A				Surface ark Surface	. ,			and a distance of the state of the
	ndy Mucky Minera	,			essions (• •			ophytic vegetation and welta e present, unless disturbed o
		(31)		юх рері	63310113 ((10)	Tiyuru	•••	problematic
	Layer (if observe								F
strictive	i aver (it observe	ea):							
		,					11	- 11	
pe: D	ense Clay	,			-		Hydric s	oil presen	t? <u>N</u>
vpe: D epth (inche	ense Clay	,			-		Hydric s	oil presen	t? <u>N</u>
ype: D epth (inche emarks:	ense Clay es): 19		per		-		Hydric s	oil presen	t? <u>N</u>
pe: D pth (inche emarks:	ense Clay		per		-		Hydric s	oil presen	!? <u>N</u>
pe: <u>D</u> epth (inche emarks: Dense cl	ense Clay es): <u>19</u> ay, unable to b		per		-		Hydric s	oil presen	t? <u>N</u>
pe: D pth (inche marks: Dense cl	ense Clay es): <u>19</u> lay, unable to b	ore dee	per		-		Hydric s	oil presen	!? <u>N</u>
pe: D epth (inche emarks: Dense cl YDROLC etland Hy	ense Clay es): <u>19</u> ay, unable to b DGY drology Indicato	ore dee			- - 				
pe: D pth (inche marks: Dense cl YDROL(etland Hy imary Indi	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of	ore dee				13)		condary Inc	licators (minimum of two req
pe: ppth (inche marks: Dense cl YDROL(etland Hy imary Indi Surface	ense Clay es): <u>19</u> ay, unable to b DGY drology Indicato cators (minimum of Water (A1)	ore dee		Aquatic	Fauna (B			condary Inc	licators (minimum of two req Soil Cracks (B6)
pe: pth (inche marks: Dense cl (DROLC etland Hy mary Indi Surface High Wa	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) tter Table (A2)	ore dee		Aquatic True Aq	Fauna (B uatic Plar	nts (B14)		condary Inc Surface S Drainage	<u>licators (minimum of two req</u> Soil Cracks (B6) Patterns (B10)
pe: ppth (inche marks: Dense cl YDROL(etland Hy mary Indi Surface High Wa Saturatio	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3)	ore dee		Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1	<u>Se</u>	condary Inc Surface S Drainage Dry-Seas	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2)
pe: ppth (inche marks: Dense cl YDROLC etland Hy mary Indi Surface High Wa Saturatic Water M	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1)	ore dee		Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1		condary Inc Surface S Drainage Dry-Seas Crayfish	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8)
pe: ppth (inche marks: Dense cl YDROLC etland Hy mary Indi Surface High Wa Saturatio Vater M Sedimer	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3)	ore dee		Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C1) Living Roots	condary Inc Surface S Drainage Dry-Seas Crayfish Saturatio	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2)
pe: pepth (inche emarks: Dense cl YDROLC etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2)	ore dee		Aquatic True Aqu Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide d Rhizosp	nts (B14) Odor (C1 heres on uced Iron) Living Roots	condary Inc Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9
pe: pepth (inche emarks: Dense cl YDROLC etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ore dee		Aquatic True Aqu Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide d Rhizosp	nts (B14) Odor (C1 heres on uced Iron) Living Roots	condary Inc Surface S Drainage Dry-Seas Crayfish Saturatio Sturted c Geomorp	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C4 or Stressed Plants (D1)
pe: ppth (inche marks: Dense cl YDROLO etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	ore dee	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6)	Fauna (B uatic Plar n Sulfide d Rhizosp	nts (B14) Odor (C1 heres on uced Iron uction in T) Living Roots	condary Inc Surface S Drainage Dry-Seas Crayfish Saturatio Sturted c Geomorp	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C4 or Stressed Plants (D1) hic Position (D2)
pe: ppth (inche marks: Dense cl Cetland Hy Mary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	ense Clay es): 19 ay, unable to b DGY drology Indicato cators (minimum of Water (A1) ther Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca	ore dee	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9)) Living Roots (C4) illed Soils	condary Inc Surface S Drainage Dry-Seas Crayfish Saturatio Sturted c Geomorp	licators (minimum of two req Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C4 or Stressed Plants (D1) hic Position (D2)
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Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	10/27/15
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 38
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Secti	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local r	elief (concav	ve, convex, none):	
Slope (%): Lat: 41.5246		Long:	-87.518	2 Datum:	
Soil Map Unit NameBono silty clay			NWL	Classification:	none
Are climatic/hydrologic conditions of the site typical for	r this time o	of the year?	(f no, explain in remarks)	
Are vegetation , soil , or hydrole	ogy	significantly	disturbed?	Are "normal circum	istances"
Are vegetation , soil , or hydrole	ogy	naturally pro	oblematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any ans	swers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area	a within a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetla	nd site ID:	
Remarks: (Explain alternative procedures here or in a	senarate r	enort)			
	Separate r	cpon.)			
	for	ested ditch			
VEGETATION Use scientific names of plar	nte				
	Absolute	Dominant	Indicator	Dominance Test Worksh	eet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species	
1 acer saccharinum	20	Ϋ́Υ	FACW	that are OBL, FACW, or FAC	
2 poplar deltoides	20	Y		Total Number of Dominar	
3 prunus serotina	10	Y	FACU	Species Across all Strata	: <u>8</u> (B)
4				Percent of Dominant Specie	
5				that are OBL, FACW, or FAC	50.00% (A/B)
	50	= Total Cover			
Sapling/Shrub stratum (Plot size:)	10	V		Prevalence Index Works	neet
1 cornus stolonifera 2 salix interior	10 10	Y Y	FACW	Total % Cover of: OBL species 0 x 2	1 = 0
3	10		TACW	FACW species 40 x 2	
4				FAC species 5 x 3	
5				FACU species 10 x 4	
	20	= Total Cover		UPL species 0 x 5	5 = 0
Herb stratum (Plot size:)				Column totals 55 (A) <u>135</u> (B)
1 phragmites australis	10	Y	FACW	Prevalence Index = B/A =	2.45
2 equisetum arvense	5	Y	FAC		
3				Hydrophytic Vegetation I	
4				Rapid test for hydrophy	
5				Dominance test is >50	
6				X Prevalence index is ≤3	
8				Morphogical adaptation supporting data in Ren	
9				separate sheet)	
10				Problematic hydrophyt	ic vegetation*
	15	= Total Cover		(explain)	0
Woody vine stratum (Plot size:)				*Indicators of hydric soil and we	tland hydrology must be
1 rubus occidentalis	5	Y		present, unless disturbe	
2				Hydrophytic	
	5	= Total Cover		vegetation present? Y	
Demorke: (Include photo purchase have as as a surger	oto obcoti				
Remarks: (Include photo numbers here or on a separa	ale sheet)				

SOIL

Depth (Inches) 1 - 4							or or confirm		or maleater of
, ,	<u>Matrix</u>		<u> </u>	Redox Feat	ures				
1 - 4	Color (moist)	%	Color (moist) %	Type*	Loc**	Text	ture	Remarks
	2.5Y 2.5/1	50					Clay Loam		
	2.5Y 7/3	35	10YR 4/6	5	CS	М	Loamy Sar	nd	
4 - 8	2.5Y 7/3	68	10YR 4/6	2	CS	М	Loamy Sar		
	2.5Y 2.5/1		101111.00		00		,		
		30					Loamy Sar		
8 - 28+	2.5Y 5/4	65	2.5YR 6/8	5	RM	М	Loamy Sar		
	2.5Y 3/2	30					Loamy Sar	nd	
*Type: C = (Concentration, D =	- Depletic	on, RM = Redu	ced Matrix.	MS = M	asked Sa	and Grains.	**I ocation	: PL = Pore Lining, M = Matrix
	oil Indicators:	Dopious		oou maang					ematic Hydric Soils:
•	tisol (A1)		ç	andy Gleye	ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			andy Redo		(-)) (LRR K, L)
	ck Histic (A3)			Stripped Mat	• •				t or Peat (S3) (LRR K, L, R)
	drogen Sulfide (A4	+)		oamy Muck	. ,	al (F1)			Masses (F12) (LRR K, L, R)
	atified Layers (A5)	-		oamy Gleye	-			-	k Surface (TF12)
	m Muck (A10)			Depleted Ma		()		er (explain in	
	pleted Below Dark	Surface		Redox Dark	• •	(F6)		· (· F ·	
	, ck Dark Surface (/		. ,	Depleted Da		. ,	*Indic	ators of hydr	ophytic vegetation and weltand
	ndy Mucky Minera	,		Redox Depre		. ,		•	e present, unless disturbed or
	5	· · ·		·	,		,		problematic
Remarks: Bono silty clay									
HYDROLOGY Wetland Hydrology Indicators:									
-									
	icators (minimum)	of one is	requirea; cneci						
0	, ,			Aquatic I		10)	<u> </u>	-	licators (minimum of two required
Surface			_		Fauna (B		<u>-</u>	Surface	Soil Cracks (B6)
X High Wa			_		uatic Plan	its (B14)	-	Surface S X Drainage	Soil Cracks (B6) Patterns (B10)
X High Wa X Saturatio	on (A3)		-	Hydroge	uatic Plan n Sulfide	its (B14) Odor (C1)	Surface S X Drainage Dry-Seas	Soil Cracks (B6) Patterns (B10) son Water Table (C2)
X High Wa X Saturatio Water M	on (A3) Iarks (B1)		-	Hydroge Oxidized	uatic Plan n Sulfide	its (B14) Odor (C1	-	Surface S X Drainage Dry-Seas Crayfish	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8)
X High Wa X Saturatio Water M X Sedimer	on (A3) 1arks (B1) nt Deposits (B2)		- - -	Hydroge Oxidized (C3)	uatic Plan n Sulfide I Rhizosp	tts (B14) Odor (C1 heres on) Living Roots	Surface S X Drainage Dry-Seas Crayfish Saturatio	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
X High Wa X Saturatio Water M X Sedimer Drift Dep	on (A3) Iarks (B1) nt Deposits (B2) posits (B3)		-	Hydroge Oxidized (C3) Presence	uatic Plan n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on liced Iron) Living Roots	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted of	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma	on (A3) 1arks (B1) nt Deposits (B2)		- - -	Hydroge Oxidized (C3) Presence	uatic Plan n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on liced Iron) Living Roots (C4)	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep	on (A3) 1arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	l Imagery	- - - - (B7)	Hydroge Oxidized (C3) Presence Recent I (C6)	uatic Plan n Sulfide I Rhizosp e of Redu	its (B14) Odor (C1 heres on iced Iron ction in T) Living Roots (C4)	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati	on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		· · · ·	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu	ts (B14) Odor (C1 heres on iced Iron ction in T e (C7)) Living Roots (C4)	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely	on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	ve Surfac	· · · ·	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	tts (B14) Odor (C1 heres on icced Iron ction in T e (C7) ita (D9)) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely	on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9)	ve Surfac	· · · ·	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da	tts (B14) Odor (C1 heres on icced Iron ction in T e (C7) ita (D9)) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S	on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9) rvations:	ve Surfac	· · · ·	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da	tts (B14) Odor (C1 heres on icced Iron ction in T e (C7) ita (D9) Remarks)) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser	on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9) rvations: ther present?	ve Surfac)	e (B8)	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac r Well Da xplain in I	tts (B14) Odor (C1 heres on icced Iron ction in T e (C7) ita (D9) Remarks) nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat	on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca Stained Leaves (B9) rvations: er present? present?	ve Surfac) Yes	e (B8) No	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in l Depth (i	tts (B14) Odor (C1 heres on icced Iron ction in T e (C7) ita (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat Water table Saturation p	on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca Stained Leaves (B9) rvations: er present? present?	ve Surfac) Yes Yes	xe (B8)	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	tts (B14) Odor (C1 heres on icced Iron ction in T e (C7) ita (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat Water table Saturation p (includes ca	on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca bained Leaves (B9) rvations: present? present? present? pillary fringe)	ve Surfac) Yes Yes Yes	x No X No	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	tts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat Water table Saturation p (includes ca	on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9) rvations: rer present? present?	ve Surfac) Yes Yes Yes	x No X No	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	tts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat Water table Saturation p (includes ca	on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca bained Leaves (B9) rvations: present? present? present? pillary fringe)	ve Surfac) Yes Yes Yes	x No X No	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	tts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
X High Wa X Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundati Sparsely Water-S Field Obser Surface wat Water table Saturation p (includes ca	on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca bained Leaves (B9) rvations: present? present? present? pillary fringe)	ve Surfac) Yes Yes Yes	x No X No	Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge o Other (E	uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	tts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o X Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)

Project/Site NICTD West Lake Corridor	City	//County:	Lake Cou	nty Sampling Date:	10/27/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 38
Investigator(s): Anna Hochhalter and Scott Bed	kmeyer	Sect	ion, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local	relief (concav	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit Namebono silty clay			NWI (Classification:	none
Are climatic/hydrologic conditions of the site typ	ical for this time	of the year?	(f no, explain in remarks)	
Are vegetation, soil, or	hydrology	significantly	/ disturbed?	Are "normal circu	mstances"
Are vegetation, soil, or	hydrology	naturally pr	oblematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any ar	nswers in remarks.)
Hydrophytic vegetation present?	N				
Hydric soil present?	N	Is the s	ampled area	a within a wetland?	N
Indicators of wetland hydrology present?	N	lf yes, o	ptional wetla	nd site ID:	
Remarks: (Explain alternative procedures here	or in a separate	report.)			
	ricultural land		nant uplan	d condition	
VEGETATION Use scientific names of	f plants.				
	Absolute	Dominant	Indicator	Dominance Test Works	heet
Tree Stratum (Plot size:1) % Cover	Species	Staus	Number of Dominant Speci- that are OBL, FACW, or FA	
2				Total Number of Domina	Int
3				Species Across all Strat	ta: 0 (B)
4				Percent of Dominant Speci	
5		- Total Caulo		that are OBL, FACW, or FA	C: 0.00% (A/B)
Sapling/Shrub stratur (Plot size:)0	= Total Cove	ſ	Prevalence Index Works	sheet
1)			Total % Cover of:	Sileet
2					1 = 0
3					2 = 0
4				FAC species 0 x	3 = 0
5					4 = 0
	0	= Total Cove	r	· · ·	5 = 0
Herb stratum (Plot size:)				A) <u>0</u> (B)
1				Prevalence Index = B/A =	
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydropl	
5				Dominance test is >5	
6				Prevalence index is ≤	3.0*
7				Morphogical adaptation	ons* (provide
8 9				supporting data in Re separate sheet)	marks or on a
10	0	= Total Cove		Problematic hydrophy (explain)	tic vegetation*
Woody vine stratum (Plot size:1)	-		*Indicators of hydric soil and w present, unless disturb	, ,,
2				Hydrophytic	
	0	= Total Cove	r	vegetation present? N	_
Remarks: (Include photo numbers here or on a	separate sheet)				

SOIL

Depth	cription: (Descri Matrix	be to the	-	to docur dox Feat		indicato	or or confirm	the absence	e of indicators.)
(Inches)	Color (moist)	%	Color (moist)	<u>uux real</u> %	Type*	Loc**	Tev	kture	Remarks
0-19+	2.5Y 6/3	5		70	Турс				T C III d III S
0-19+		-					Sandy Cla	-	
	2.5Y 3/2	64					Sandy Cla		
	2.5Y 7/8	1					Sandy Cla	ay Loam	
	2.5Y 5/2	30					Sandy Cla	ay Loam	
		Deviation		d Martin				**! ('	Di Dava L'alta M. Matria
	Concentration, D =	= Depletio	on, RM = Reduce	ed Matrix,	MS = M	asked Sa			: PL = Pore Lining, M = Matrix
-	il Indicators:		Sa	adu Clour	od Motriy	(84)			ematic Hydric Soils:
	isol (A1)			ndy Gleye ndy Redo		(54)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			-				k Surface (S7	t or Peat (S3) (LRR K, L, R)
	ck Histic (A3) Irogen Sulfide (A4			pped Ma my Mucl	. ,			-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)	-		amy Gley	-			-	rk Surface (TF12)
	n Muck (A10)	1		oleted Ma				ier (explain in	
	bleted Below Dark	Surface		dox Dark	• •		0		Ternarks)
	ck Dark Surface (A			oleted Da		. ,	*!	a atoma of lavel	
	idy Mucky Minera			dox Depr					rophytic vegetation and weltand be present, unless disturbed or
		1(01)		JOX Depi	63310113 (10)	nyu	irology musi i	problematic
pe: D	Layer (if observe ense Clay	,			-		Hydri	c soil presen	nt? <u>N</u>
epth (inche	es): 19				-				
YDROLO	DGY								
etland Hy	drology Indicato	rs:							
rimary Indi	cators (minimum	of one is	required; check a	all that ap	oply)			Secondary Ind	dicators (minimum of two requir
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface	Soil Cracks (B6)
High Wa	ter Table (A2)				uatic Plar			Drainage	e Patterns (B10)
Saturatio					en Sulfide	•			son Water Table (C2)
	arks (B1)				d Rhizosp	heres on	Living Roots		Burrows (C8)
	diment Deposits (B2) (C3)						(0.1)		on Visible on Aerial Imagery (C9)
	osits (B3)			-	e of Redu				or Stressed Plants (D1)
-	t or Crust (B4)		Recent Iron Reduction in Tilled Soils						phic Position (D2)
	osits (B5) on Visible on Aoria	Imagon	(P7)	(C6)	ak Surfaa	a (C7)		FAC-Nei	utral Test (D5)
	on Visible on Aeria Vegetated Conca			-	ck Surfac				
	tained Leaves (B9		e (bb)	-	or Well Da Explain in		`		
_	-)			лріант ін	nemarks)		
eld Obser		Vac	Ma	~	Donth /	nohoo);			
	er present?	Yes	No No	$\frac{X}{X}$	Depth (i Depth (i			- In-	dicators of wetland
/ater table aturation p		Yes Yes	No	$\frac{x}{x}$	Depth (i				ydrology present? N
-	pillary fringe)	165		~		10103).		- "	
					hatar -		an anti-	available:	
escribe rec	orded data (strea	im gauge	, monitoring well.	, aerial pl	notos, pre	evious in	spections), if	available:	
mortes									
emarks:									

Project/Site:	NICTD West Lake	Sorridor	City/County: Lake	County		Sampling Date:	17-Sep-15	
Applicant/Owner:					State: IN	Sampling Point:	Wetland 11	
Investigator(s):	Anna Hochhalter a	nd Scott Beckmeyer	Section, Township	o, Range:				
Landform (hillside,	terrace, etc.):				Local relief	(concave, convex, none:		
Slope %:		Lat:		Long:			Datum:	
Soil Unit Name:	Bono silty clay					NWI Classification:	none	
Are climatic / hydro	ologic conditions on th	he site typical for this ti	ime of year?	Yes	No	_		
Are Vegetation	Soil	or hydrology	_ Significantly disturbed?	Are	e "Normal Circums	tances" present?	Yes	No
Are Vegetation	Soil	or hydrology	Naturally problematic?	(if	needed, explain ar	ny answers in Remarks.)		
SUMMARY OF	FINDINGS - Atta	ch site map show	wing sampling point loca	tions, tr	ansects, impo	rtant features, etc.		
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent?	Yes Yes Yes	No No No		s the Sampling A within a Wetland?	Yoc	x	No
Remarks: Wetland investiga	ation used Approach	B, which entails identif	fying the dominant species and	does not i	nclude collecting s	oil samples or calculating	g floristic qual	ity.

VEGETATION - Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: 30ft)	% Cover	Species?	Status	Number of Dominant Species
1		•		That Are OBL, FACW, or FAC (A)
2				()
3				Total Number of Dominant
4				Species Across All Strata: (B)
5				、
Total Cover:				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC: (A/B)
<u> </u>				(
2				Prevalence Index Worksheet:
3				Total % Cover of Multiply by:
4				OBL species x 1 = 0
5				FACW species x 2 = 0
Total Cover:				FAC species x 3 = 0
Herb Stratum (Plot size: 5ft)				FACU species x 4 = 0
1. phragmites australis			FACW+	UPL species $x 5 = 0$
2				Column Totals 0 (A) 0 (B)
3				
4				Prevalence Index = B/A =
5				· · · · · · · · · · · · · · · · · · ·
6				Hydrophytic Vegetation Indicators:
7				Dominance Test is >50%
8				Prevalence Index is ≦3.0*
9				Morphological Adaptations* (Provide supporting
10				data in remarks or on a separate sheet)
Total Cover:				Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum (Plot size: 15ft)				*Indicators of hydric soil and wetland hydrology must be present.
1				
2				Hydrophytic
Total Cover:				Vegetation Yes No
				Present?
Remarks: (Include photo numbers here or on a separate shee	:t.)			
)			

Project/Site NICTD	West Lake Corri	dor	City/	County:	Lake Cou	nty Sampling Dat	te: 9/17/15
Applicant/Owner:			State:	IN	Sampling Poir	nt: Wetland 12	
Investigator(s): An	na Hochhalter an	nd Scott Beckmeyer		Secti	ion, Townshi	p, Range:	
Landform (hillslope	e, terrace, etc.):			Local r	elief (conca	ve, convex, none):	
Slope (%):	Lat:			Long:		Datum:	
Soil Map Unit Nam	eBono silty clay				NWI	Classification:	None
Are climatic/hydrolo	ogic conditions of	the site typical for thi	s time c	of the year?	(f no, explain in remarks)
Are vegetation	, soil	, or hydrology		significantly	/ disturbed?	Are "normal c	ircumstances"
Are vegetation	, soil	, or hydrology		naturally pro	oblematic?		present?
SUMMARY OF	FINDINGS					(If needed, explain ar	y answers in remarks.)
Hydrophytic ve	getation present?	? <u>Y</u>					
Hydric soil pres	sent?	Y		Is the s	ampled area	a within a wetland?	Y
Indicators of we	etland hydrology	present? Y		lf yes, op	ptional wetla	nd site ID:	
Remarks: (Explain	alternative proce	dures here or in a sep	arate re	eport.)			
VEGETATION -	Use scientific	c names of plants.					
			solute	Dominant	Indicator	Dominance Test Wo	rksheet
Tree Stratum 1	(Plot size:) %	Cover	Species	Staus	Number of Dominant S that are OBL, FACW, o	•
2						Total Number of Dou Species Across all	
4						Percent of Dominant S	
<u> </u>			0	= Total Cover	r	,,_	(
Sanling/Shrub str	ratum (Plot size:)				Prevalence Index W	orksheet

5				that are OBL, FAC	•		00.00%	(A/B)
	0	= Total Cover						- ` <i>`</i>
Sapling/Shrub stratum (Plot size:)	-		Prevalence Ind	ex Wo	rksheet		
1				Total % Cover o	f:			
2				OBL species	15	x 1 =	15	_
3				FACW species	95	x 2 =	190	_
4				FAC species	0	x 3 =	0	
5				FACU species	0	x 4 =	0	_
	0	= Total Cover		UPL species	0	x 5 =	0	_
Herb stratum (Plot size:)			Column totals	110	(A)	205	(B)
1 phragmites australis	90	Y	FACW	Prevalence Inde	x = B//	۹ =	1.86	
2 lythrum salicaria	10	N	OBL					-
3 juncus dudleyi	5	N	FACW	Hydrophytic Ve	egetati	on Indic	ators:	
4 cyperus erythrorhizos	5	N	OBL	Rapid test for	or hydr	ophytic v	vegetatio	n
5				X Dominance	test is	>50%		
6				X Prevalence	index i	s ≤3.0*		
7				Morphogical	adapt	ations* (provide	
8				supporting c				
9				separate sh				
10				Problematic	hydro	ohytic ve	getation	*
	110	= Total Cover		(explain)		-	-	
Woody vine stratum (Plot size:)			*Indicators of hydrid	c soil an	d wetland	hydrology	must be
1				present, un		turbed or p	oroblematio	>
2				Hydrophyti	С			
	0	= Total Cover		vegetation present?		Y		
Pomarka: (Include photo numbers here or on a	congrate choot	\						
Remarks: (Include photo numbers here or on a	separate sneet)						

Depth	Matrix			Redox F	eatures				
(Inches)	Color (moist)	%	Color (mo	oist) %	Type*	Loc**	Тех	dure	Remarks
0 - 8	2.5Y 2.5/1	30	2.5Y 6/-	4 1) RM	М	Silty Clay	Loam	
	6/10Y	60					Silty Clay	Loam	Gleyed
8+	0.101								Gravel
01									Glaver
$v_{\text{DO}} = 0$	L Concentration, D =	- Doplati	n PM – Pe	duced Ma	riv MS - N	lasked Sr	and Grains	**Locati	ion: PL = Pore Lining, M = Matrix
	il Indicators:	- Depietit	JII, IXIVI – IXE		, IVIO – IV	laskeu 3			blematic Hydric Soils:
-	isol (A1)			Sandy G	eyed Matri	v (S4)			Redox (A16) (LRR K, L, R)
	ic Epipedon (A2)			-	edox (S5)	x (34)			(S7) (LRR K, L)
					Matrix (S6)				eat or Peat (S3) (LRR K, L, R)
	ck Histic (A3)				· · /				
	Irogen Sulfide (A4	-	V		ucky Miner			-	se Masses (F12) (LRR K, L, R)
	atified Layers (A5)		<u>X</u>		leyed Matri			-	Dark Surface (TF12)
	n Muck (A10)	o <i>í</i>	(-	Matrix (F3		Oth	ier (explain	in remarks)
	leted Below Dark		(A11)	_	ark Surface	. ,			
	ck Dark Surface (/	-			Dark Surfa				ydrophytic vegetation and weltar
San	idy Mucky Minera	l (S1)		_Redox D	epressions	(F8)	hyd	rology mus	t be present, unless disturbed o
									problematic
estrictive	l avar (if abaarva	ed):							
	Layer (if observe	.,							
	ravel						Hydri	c soil pres	ent? Y
rpe: G	ravel						Hydri	c soil pres	ent? Y
/pe: G epth (inche	ravel				_		Hydri	c soil pres	ent? Y
/pe: <u>G</u> epth (inche emarks:	ravel es): 8		9 inchos		_		Hydri	c soil pres	ent? Y
ype: <u>G</u> epth (inche emarks: Hydric Se	ravel es): <u>8</u> oils apparent in	upper					Hydri	c soil pres	ent? <u>Y</u>
/pe: G epth (inche emarks: Hydric Se	ravel es): 8	upper					Hydri	c soil pres	ent? <u>Y</u>
pe: <u>G</u> epth (inche emarks: Hydric Se	ravel es): <u>8</u> oils apparent in	upper					Hydri	c soil pres	ent? <u>Y</u>
pe: <u>G</u> epth (inche emarks: Hydric So Mapped	ravel es): <u>8</u> oils apparent in Soil: Bono silty	upper					Hydri	c soil pres	ent? <u>Y</u>
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped	ravel es): 8 oils apparent in Soil: Bono silty	upper clay loa					Hydri	c soil pres	ent? <u>Y</u>
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato	upper clay loa	am.						
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of	upper clay loa rs: of one is	am.					Secondary	Indicators (minimum of two requ
pe: <u>G</u> epth (inche emarks: Hydric Se Mapped YDROLC etland Hy imary India Surface	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1)	upper clay loa rs: of one is	am.	Aqua	tic Fauna (E			Secondary Surfac	Indicators (minimum of two requires Soil Cracks (B6)
pe: <u>G</u> epth (inche emarks: Hydric Se Mapped YDROLC etland Hy imary India Surface High Wa	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2)	upper clay loa rs: of one is	am.	Aqua True	tic Fauna (E Aquatic Pla	nts (B14)		Secondary Surfac X Draina	Indicators (minimum of two requ ce Soil Cracks (B6) age Patterns (B10)
pe: <u>G</u> epth (inche emarks: Hydric Se Mapped YDROLC etland Hy imary India Surface High Wa Saturatic	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3)	upper clay loa rs: of one is	am.	Aqua True Hydr	tic Fauna (E Aquatic Pla ogen Sulfide	nts (B14) e Odor (C	1)	Secondary Surfac X Draina Dry-So	Indicators (minimum of two requires Soil Cracks (B6) age Patterns (B10) eason Water Table (C2)
pe:G epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Surface High Wa Saturatic Water M	oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)	upper clay loa rs: of one is	am.	Aqua True Hydr Oxid	tic Fauna (E Aquatic Pla ogen Sulfide	nts (B14) e Odor (C		Secondary Surfac X Draina Dry-Si Crayfi	Indicators (minimum of two requise Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8)
pe:G epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Surface High Wa Saturatic Water M Sedimer	ravel es): 8 oils apparent in Soil: Bono silty DGY drology Indicato cators (minimum of the trable (A2) on (A3) arks (B1) th Deposits (B2)	upper clay loa rs: of one is	am.	Aqua True Hydr Oxid (C3)	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj	nts (B14) e Odor (C pheres on	I) Living Roots	Secondary Surfac X Draina Dry-Si Crayfi Satura	Indicators (minimum of two requise Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9
pe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary Indio Surface High Wa Saturatic Water M Sedimer Drift Dep	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of the trable (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B2)	upper clay loa rs: of one is	am.	Aqua True Hydr Oxid (C3) Pres	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red	nts (B14) e Odor (C pheres on luced Iron	I) Living Roots (C4)	Secondary Surfac X Draina Dry-So Crayfi Satura Sturte	Indicators (minimum of two requ ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1)
pe:G epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) th Deposits (B2) posits (B3) it or Crust (B4)	upper clay loa rs: of one is	am.	Aqua True Hydr Oxid (C3) Pres Rece	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj	nts (B14) e Odor (C pheres on luced Iron	I) Living Roots (C4)	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requ ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) th Deposits (B2) posits (B3) th or Crust (B4) osits (B5)	upper clay loa rs: of one is	am.	Aqua True Hydr Oxid (C3) Pres Rece (C6)	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red int Iron Red	nts (B14) e Odor (C pheres on luced Iron uction in T	I) Living Roots (C4)	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requ ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1)
pe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Saturatic Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) th Deposits (B2) posits (B3) tor Crust (B4) osits (B5) on Visible on Aeria	upper clay loa rs: of one is	am. <u>required; ch</u>	Aqua True Hydr Oxid (C3) Pres Rece (C6)	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red	nts (B14) e Odor (C pheres on luced Iron uction in T	I) Living Roots (C4)	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requipte Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
pe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Saturatic Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) th Deposits (B2) posits (B3) th or Crust (B4) osits (B5)	upper clay loa rs: of one is	am. <u>required; ch</u>	Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red int Iron Red	nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7)	I) Living Roots (C4)	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requipte Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
rpe: <u>G</u> epth (inche emarks: Hydric Se Mapped YDROLC etland Hy imary India Saturatic Vater M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely	ravel es): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) th Deposits (B2) posits (B3) tor Crust (B4) osits (B5) on Visible on Aeria	upper clay loa rs: of one is l Imagery ve Surfac	am. <u>required; ch</u>	Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gau	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red nt Iron Red Muck Surfa	nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7) ata (D9)	I) Living Roots (C4) illed Soils	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requipte Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
rpe: <u>G</u> epth (inche emarks: Hydric Se Mapped YDROLC etland Hy imary India Saturatic Vater M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely	ravel as): 8 bils apparent in Soil: Bono silty DGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9)	upper clay loa rs: of one is l Imagery ve Surfac	am. <u>required; ch</u>	Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gau	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosp ence of Red nt Iron Red Muck Surfa- ge or Well D	nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7) ata (D9)	I) Living Roots (C4) illed Soils	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requipte Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
rpe: <u>G</u> epth (inche emarks: Hydric Se Mapped YDROLC etland Hy imary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Sparsely Water-Si eld Obser	ravel as): 8 bils apparent in Soil: Bono silty DGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9)	upper clay loa rs: of one is l Imagery ve Surfac	am. <u>required; ch</u> (B7) æ (B8)	Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gau	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red nt Iron Red Muck Surfa ge or Well D r (Explain in	nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7) ata (D9)	I) Living Roots (C4) illed Soils	Secondary Surfac X Draina Dry-Se Crayfi Satura Stunte Geom	Indicators (minimum of two requipte Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India G Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Sparsely Water-Si eld Obser	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B3) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present?	upper clay loa rs: of one is	am. <u>required; ch</u> (B7) æ (B8) X	Aqua True Hydr Oxid (C3) Pres Reca (C6) Thin Gaug	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red nt Iron Red Muck Surfa ge or Well D r (Explain in	nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7) ata (D9) I Remarks	I) Living Roots (C4) illed Soils	Secondary Surfac X Draina Dry-Si Crayfi Satura Stunte Geom FAC-N	Indicators (minimum of two requipte Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2)
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India G Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Sparsely Water-Si eld Obser	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B2) posits (B3) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria vegetated Conca tained Leaves (B9) vations: er present? present?	upper clay loa rs: of one is l Imagery ve Surfac	am. <u>required; ch</u> (B7) (B7) (B7) (B7) (B7) (C) (C) (C) (C) (C) (C) (C) (C	Aqua True Hydr Oxid (C3) Pres Recc (C6) Thin Gaug	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red nt Iron Red Muck Surfa ge or Well D r (Explain in Depth (nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7) ata (D9) Remarks (inches):	I) Living Roots (C4) illed Soils	Secondary Surfac X Draina Dry-Si Crayfi Satura Stunte Geom FAC-N	Indicators (minimum of two requipe Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) forphic Position (D2) Neutral Test (D5)
pe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser atter table atturation p	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B2) posits (B3) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria vegetated Conca tained Leaves (B9) vations: er present? present?	Upper clay loa rs: of one is I Imagery ve Surfac Yes Yes	am. <u>required; ch</u> (B7) (B7) (B7) (B7) (B7) (C) (C) (C) (C) (C) (C) (C) (C	Aqua True Hydr Oxid (C3) Pres Recc (C6) Thin Gauq Othe	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red nt Iron Red Muck Surfa ge or Well D r (Explain in Depth (nts (B14) e Odor (C pheres on luced Iron uction in T ce (C7) ata (D9) Remarks (inches): (inches):	I) Living Roots (C4) illed Soils	Secondary Surfac X Draina Dry-Si Crayfi Satura Stunte Geom FAC-N	Indicators (minimum of two requipe Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2) Neutral Test (D5)
rpe: <u>G</u> epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India Surface High Wa Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-Si eld Obser aturation p includes ca	ravel as): 8 oils apparent in Soil: Bono silty OGY drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B2) oosits (B3) ark or Crust (B4) oosits (B5) on Visible on Aeria or Vegetated Conca tained Leaves (B9) vations: er present? present? present? pillary fringe)	upper clay loa rs: of one is I Imagery ve Surfac Yes Yes Yes Yes	am. <u>required; ch</u> (B7) (B7) (B7) (B7) (B7) (C) (C) (C) (C) (C) (C) (C) (C	Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gau Othe	tic Fauna (E Aquatic Pla ogen Sulfide zed Rhizosj ence of Red int Iron Red Muck Surfa ge or Well D r (Explain in Depth (Depth (nts (B14) e Odor (C' pheres on luced Iron uction in T ce (C7) ata (D9) Remarks (inches): (inches):	I) Living Roots (C4) illed Soils)	Secondary Surfac X Draina Dry-So Crayfi Satura Stunte Geom FAC-N	Indicators (minimum of two requipe Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) iorphic Position (D2) Neutral Test (D5)
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Project/Site NICTD West Lake Corridor		County:		Sampling Date:	9/17/15
Applicant/Owner:		State:		Sampling Point:	Upland 12
Investigator(s): Anna Hochhalter and Scott Beckm	ever		on, Townshi		• • • • • • • •
Landform (hillslope, terrace, etc.):	-			ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit Namebono silty clay		· J	NWI	Classification:	none
Are climatic/hydrologic conditions of the site typica	I for this time c	of the vear?	(f no, explain in remarks)	
	Irology			Are "normal circur	nstances"
	lrology			Are normal circui	present?
SUMMARY OF FINDINGS		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(If needed, explain any an	swers in remarks.)
Hydrophytic vegetation present?	Y				
	N	Is the sa	ampled area	a within a wetland?	Ν
— · · · · —	N		tional wetla	—	
VEGETATION Use scientific names of p	lants. Absolute	Dominant	Indicator	Dominance Test Worksh	neet
Tree Stratum (Plot size:) 1 2 3	% Cover	Species	Staus	Number of Dominant Specie that are OBL, FACW, or FAC Total Number of Domina Species Across all Strat	C: <u>1</u> (A) nt
4 5		·		Percent of Dominant Specie that are OBL, FACW, or FAC	
	0	= Total Cover			
Sapling/Shrub stratur (Plot size: 1	_) 			FACW species0xFAC species100x	1 = 0 2 = 0
	0	= Total Cover		· · · · · · · · · · · · · · · · · · ·	5 = 0
Herb stratum (Plot size: 1 poa pratensis 2	_) 100	Υ	FAC	Column totals 100 (A Prevalence Index = B/A =	A) <u>300</u> (B) <u>3.00</u>
3 4 5 6 7				Hydrophytic Vegetation Rapid test for hydroph X Dominance test is >50 X Prevalence index is <10	nytic vegetation 0% 3.0*

8 9 10		 Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation*
	100 = Total Cover	(explain)
<u>Woody vine stratum</u> (Plot size: 1)	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	0 = Total Cover	Hydrophytic vegetation present? Y
Remarks: (Include photo numbers here or on	a separate sheet)	

Profile Des	cription: (Descri	ibe to the	-			indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix			dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
1 - 4	2.5Y 3/1	97	2.5Y6/8	3	RM	М	Silty Clay	Loam	
4 - 9	2.5Y 5/2	70	2.5Y 6/8	5	RM	М	Silty Clay	Loam	
	2.5Y 3/1	25					Silty Clay		
9 - 12	2.5Y 3/1		2.5Y 6/8	1		Ν.4			
9-12		95	2.51 0/0	1	RM	М	Silty Clay		
	2.5Y 5/2	4					Silty Clay		
12 - 22	2.5Y 3/1	95	2.5Y 6/8	5	RM	М	Silty Clay	Loam	
*Type: C = 0	Concentration, D =	= Depletio	on, RM = Reduce	d Matrix,	MS = M	asked Sa	and Grains.	**Location	: PL = Pore Lining, M = Matrix
	il Indicators:			,					ematic Hydric Soils:
-	tisol (A1)		Sar	dy Gleye	ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			idy Redo		. ,		k Surface (S7	
	ck Histic (A3)			pped Ma					t or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A4	4)			ky Minera	al (F1)		-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)	,		-	ed Matrix			-	rk Surface (TF12)
	m Muck (A10)	•		leted Ma		()		er (explain in	
	pleted Below Dark	Surface			Surface	(F6)			· · · · · · · · · · · · · · · · · · ·
	ck Dark Surface (· · ·		irk Surfac	. ,	*Indi	cators of hydr	ophytic vegetation and weltand
	ndy Mucky Minera	,			essions (•	be present, unless disturbed or
	,	()			(/	nya		problematic
		1) -							
	Layer (if observe	ea):					l la calad		(2 N
Type:					-		Hydrie	c soil presen	it? <u>N</u>
Depth (inche					-				
Remarks:									
Soil: Bor	no silty clay loai	m							
			poment. While	soils co	ntain re	dox cor	centrations	s. soil is not	indicative of a true hydric
soil.			•						ý
HYDROLO	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	cators (minimum	of one is	required; check a	III that ap	(vla		S	Secondary Ind	dicators (minimum of two require
-	Water (A1)				Fauna (B	13)	-	-	Soil Cracks (B6)
	iter Table (A2)			-	uatic Plan				Patterns (B10)
Saturatio					n Sulfide	• •)		son Water Table (C2)
	arks (B1)					•	, Living Roots		Burrows (C8)
	nt Deposits (B2)			(C3)			5	Saturatio	on Visible on Aerial Imagery (C9)
	oosits (B3)			Presenc	e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
	at or Crust (B4)						illed Soils		phic Position (D2)
-	osits (B5)			(C6)					utral Test (D5)
Inundati	on Visible on Aeria	I Imagery	(B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge o	r Well Da	ita (D9)			
Water-S	tained Leaves (B9)		Other (E	xplain in	Remarks))		
Field Obser	vations:			•					
Surface wat	er present?	Yes	No	х	Depth (i	nches):			
Water table		Yes	No	Х	Depth (i			Inc	dicators of wetland
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		- h	ydrology present? N
(includes ca	pillary fringe)				•			-	
Describe rec	corded data (strea	am aauae	, monitorina well	aerial pł	notos. pre	evious in	spections), if	available:	
		990	,		, p.,		, , , . .		
Remarks:									
Upland c	of wetland								

Project/Site:	NICTD West Lake C	orridor	City/County: Lake	County		Sampling Date:	28-Sep-15	
Applicant/Owner:					State: IN	Sampling Point:	Wetland 17	
Investigator(s):	Anna Hochhalter ar	nd Scott Beckmeyer	Section, Townshi	p, Range:				
Landform (hillside,	terrace, etc.):				Local relief (concave, convex, none:		
Slope %:		Lat:		Long:			Datum:	
Soil Unit Name:	Rensselaer loam, ca	alcareous subsoil va	riant, Bono silty clay			NWI Classification:	None	
Are climatic / hydro	ologic conditions on the	e site typical for this tir	me of year?	Yes	No			
Are Vegetation	Soil	or hydrology	Significantly disturbed?	Are	e "Normal Circumsta	ances" present?	Yes	No
Are Vegetation	Soil	or hydrology	Naturally problematic?	(if	needed, explain any	y answers in Remarks.)		
SUMMARY OF	FINDINGS - Attac	ch site map show	ring sampling point loca	ations, tra	ansects, import	ant features, etc.		
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent?	Yes Yes Yes	No No No		Is the Sampling Ar within a Wetland?	Yes	<u>x</u>	No
Remarks: Wetland investiga	ation used Approach B	ا, which entails identify	ving the dominant species and	does not ir	nclude collecting so	il samples or calculating	ı floristic qualit	iy.

VEGETATION - Use scientific names of plants.

			Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum	n (Plot size: <u>30ft</u>)	% Cover	Species?	Status	Number of Dominant Species	
1						That Are OBL, FACW, or FAC (A)	
2							
3						Total Number of Dominant	
4						Species Across All Strata:(B)	
5. <u></u>							
		Total Cover:				Percent of Dominant Species	
Sapling/Shru	ub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC: (A/B)	
1							
2						Prevalence Index Worksheet:	
3. <u></u>				·		Total % Cover of Multiply by:	
4				·		OBL species x 1 = 0	
5. <u></u>				·		FACW species x 2 = 0	
		Total Cover:				FAC species x 3 =0	
Herb Stratum	n (Plot size: 5ft)				FACU species x 4 = 0	
1. phra	agmites australis				FACW+	UPL species x 5 = 0	
2. lythr	rum salicaria				OBL	Column Totals 0 (A) 0 (B)	
3							
4						Prevalence Index = B/A =	
5							
6						Hydrophytic Vegetation Indicators:	
7						Dominance Test is >50%	
8						Prevalence Index is ≦3.0*	
9. <u></u>						Morphological Adaptations* (Provide supporting	
10. <u></u>						data in remarks or on a separate sheet)	
		Total Cover:				Problematic Hydrophytic Vegetation (Explain)	
Woody Vine	Stratum (Plot size: 15ft)				*Indicators of hydric soil and wetland hydrology must be present.	
1	· · ·						-
2						Hydrophytic	
		Total Cover:				Vegetation Yes No	
						Present?	
Bomarka: //r	nclude photo numbers here or on a	congrato cho	(+)				
itenialks. (II	neidde prioto numbers here of off a	separate shee	<i></i>				

US Army Corps of Engineers

Midwest Region - Interim Version

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	09/30/15
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 36
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Sectio	on, Townshi	o, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	e, convex, none):	
Slope (%): Lat: 41.5437		Long:	-87.516	B Datum:	
Soil Map Unit NameRensselaer loam, calcareous sub	soil variant		NWI (Classification:	none
Are climatic/hydrologic conditions of the site typical fo	r this time o	of the year?	(f no, explain in remarks)	
Are vegetation , soil , or hydrol	ogy	significantly	disturbed?	Are "normal circum	istances"
Are vegetation , soil , or hydrol	ogy	naturally pro	blematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any ans	swers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	mpled area	within a wetland?	Y
Indicators of wetland hydrology present? Y		lf yes, op	tional wetla	nd site ID:	
Remarks: (Explain alternative procedures here or in a	senarate r	enort)			
	Separate i	epon.)			
	for	ested ditch			
VECETATION Lies asigntific names of plan	ato				
VEGETATION Use scientific names of plan		D	1	Dominance Test Worksh	oot
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species	Indicator Staus		
1 poplar deltoides	40	Y	Claud	Number of Dominant Specie that are OBL, FACW, or FAC	
2				Total Number of Dominar	
3				Species Across all Strata	
4				Percent of Dominant Specie	s
5				that are OBL, FACW, or FAC	: <u>50.00%</u> (A/B)
	40	= Total Cover			
Sapling/Shrub stratum (Plot size:)				Prevalence Index Works	heet
1		·		Total % Cover of:	1 - 10
2				OBL species 40 x 7 FACW species 50 x 2	1 = 40 2 = 100
3				FAC species $\frac{50}{x^2}$	
5				· ·	4 = 0
	0	= Total Cover		UPL species 0 x s	
Herb stratum (Plot size:)				Column totals 90 (A) <u>140</u> (B)
1 phragmites australis	50	Y	FACW	Prevalence Index = B/A =	1.56
2 typha angustifolia	30	Y	OBL		
3 lythrum salicaria	10	Ν	OBL	Hydrophytic Vegetation	ndicators:
4				Rapid test for hydroph	ytic vegetation
5				Dominance test is >50	
6				X Prevalence index is ≤3	.0*
7				Morphogical adaptatio	
8 9		<u> </u>		supporting data in Ren separate sheet)	narks or on a
10				Problematic hydrophyt	io vogotation*
···	90	= Total Cover		(explain)	
Woody vine stratum (Plot size:)					tional budgeleasy much be
1 rubus occidentalis	5	Y		*Indicators of hydric soil and we present, unless disturbe	
2				Hydrophytic	
	5	= Total Cover		vegetation	
				present? Y	
Remarks: (Include photo numbers here or on a separate	ate sheet)				

Depth	Matrix				dox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	kture	Remarks
pe: C = C	oncentration, D =	Depleti	on. RM =	Reduce	d Matrix	MS = M	asked Sa	nd Grains.	**Location	n: PL = Pore Lining, M = Matri
	il Indicators:	Bopiou		1100000	a maan,					lematic Hydric Soils:
-				Sar	dy Clove	od Matrix	(64)			edox (A16) (LRR K, L, R)
	isol (A1)		-		ndy Gleye		(34)			
	ic Epipedon (A2)		-		ndy Redo				-	7) (LRR K, L)
	ck Histic (A3)		-		pped Ma				-	at or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4		_		my Muck	-			-	Masses (F12) (LRR K, L, R)
Stra	tified Layers (A5)			Loa	my Gleye	ed Matrix	(F2)	Ver	y Shallow Da	ark Surface (TF12)
2 cm	n Muck (A10)		-	Dep	pleted Ma	atrix (F3)		Oth	er (explain in	remarks)
Dep	leted Below Dark	Surface	(A11)	Red	dox Dark	Surface	(F6)			
Thic	k Dark Surface (A12)		Dep	pleted Da	irk Surfac	ce (F7)	*Indi	cators of hvd	rophytic vegetation and welta
	dy Mucky Minera	-	-	-	dox Depre					be present, unless disturbed of
	· , · · , · · ·	(-)	-			(- /		lielegy meet	problematic
etrictiva l		I\ -								
	Layer (if observe	ea):								
	Layer (if observe	ea):						Hvdri	c soil presei	nt? Y
be:		ea):				-		Hydri	c soil presei	nt? <u>Y</u>
pe: pth (inche marks:		_	ample. I	Rensse	elaer loa	am is ma	apped s		c soil presei	nt? <u>Y</u>
be: pth (inche marks: standing	water prevente	_	ample. I	Rensse	elaer loa	am is ma	apped s		c soil presei	nt? <u>Y</u>
be: pth (inche marks: standing apped so	water prevente	ed soil s	ample. I	Rensse	elaer loa	am is ma	apped s		c soil presei	nt? <u>Y</u>
be: pth (inche marks: standing apped so stland Hyo	water prevente oils: drology Indicato	ed soil s					apped s	oil		
pe: pth (inche marks: standing apped so etland Hyo mary Indic	water prevente oils: drology Indicato cators (minimum	ed soil s rs: of one is	required;				apped s	oil		nt? Y
be: poth (inche marks: tanding apped so tland Hyo mary Indic	water prevente oils: drology Indicato	ed soil s rs: of one is	required;	check a		<u>ply)</u>		oil	Secondary In	
be: Doth (inche marks: tanding tanding tland Hyd mary Indic Surface N	water prevente oils: drology Indicato cators (minimum	ed soil s rs: of one is	required;	check a	all that ap Aquatic I	<u>ply)</u>	13)	oil	Secondary In	dicators (minimum of two requ
be: Doth (inche marks: tanding tanding tland Hyd mary Indic Surface V High Wat	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2)	ed soil s rs: of one is	required;	check a	all that ap Aquatic I True Aqu	i <u>ply)</u> Fauna (B	13) its (B14)	oil	Secondary In Surface Drainag	dicators (minimum of two required to the second sec
be: poth (inche marks: tanding apped so tland Hyo mary Indic Surface V High Wat	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3)	ed soil s rs: of one is	required;	check a	all that ap Aquatic I True Aqu Hydroge	<u>ply)</u> Fauna (B uatic Plan n Sulfide	13) hts (B14) Odor (C1	oil	Secondary In Surface Drainag	<u>dicators (minimum of two req</u> u Soil Cracks (B6) e Patterns (B10)
be: both (inche marks: tanding apped so tland Hyo mary Indic Surface N High Wat Saturatio Water Ma	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3)	ed soil s rs: of one is	required;	check a	all that ap Aquatic I True Aqu Hydroge	<u>ply)</u> Fauna (B uatic Plan n Sulfide	13) hts (B14) Odor (C1	oil	Secondary In Surface Drainag Dry-Sea	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2)
be: both (inche marks: tanding apped so tland Hyo mary Indic Surface V High Wat Saturatio Water Ma Sedimen	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)	ed soil s rs: of one is	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3)	<u>ply)</u> Fauna (B uatic Plan n Sulfide	13) hts (B14) Odor (C1 heres on) Living Roots	Secondary In Surface Drainag Dry-Sea Crayfish Saturatio	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2)
be: both (inche marks: tanding apped so tland Hyo Mary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)	ed soil s rs: of one is	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence	p <u>ply)</u> Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	13) hts (B14) Odor (C1 heres on) Living Roots	Secondary In Surface Drainag Dry-Sea Crayfish Saturatio Stunted	dicators (minimum of two required Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C5
be: pth (inche marks: tanding tanding apped so tand Hyo mary Indic Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)	ed soil s rs: of one is	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I	p <u>ply)</u> Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	13) hts (B14) Odor (C1 heres on) Living Roots (C4)	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requised Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
pet: pth (inche marks: standing apped so etland Hyo Mary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mar Iron Depo	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	ed soil s	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6)	p <u>ply)</u> Fauna (B uatic Plan In Sulfide I Rhizosp e of Redu ron Redu	13) hts (B14) Odor (C1 heres on uced Iron ction in T) Living Roots (C4)	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1)
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peti marks: standing apped so standing apped so stand Hyo Baturatio Water Ma Saturatio Water Ma Saturatio Drift Dep Algal Ma Iron Depo Inundatio Sparsely	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	ed soil s rs: of one is I Imagery ve Surfac	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	p <u>ply)</u> Fauna (B uatic Plan In Sulfide I Rhizosp e of Redu ron Redu	13) Its (B14) Odor (C1 heres on iced Iron iction in T e (C7) ita (D9)) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requised Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
pe: pth (inche marks: standing apped so etland Hyo Burface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Inundatic Sparsely Water-St	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9	ed soil s rs: of one is I Imagery ve Surfac	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	ply) Fauna (B uatic Plan In Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da	13) Its (B14) Odor (C1 heres on iced Iron iction in T e (C7) ita (D9)) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requised Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
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be: pth (inche marks: standing apped so standing apped so standing Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mar Iron Depo Inundatio Sparsely Water-St stand Observ fface wate	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present?	ed soil s rs: of one is I Imagery ve Surfac	required;	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	pply) Fauna (B uatic Plan in Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac ir Well Da xplain in I	13) odor (C1 heres on uced Iron iction in T e (C7) ita (D9) Remarks) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (CS or Stressed Plants (D1) phic Position (D2) utral Test (D5)
pe: pth (inche marks: standing apped so standing apped so standing Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Inundatic Sparsely Water-St stace wate ater table p	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present? present?	ed soil s Frs: <u>of one is</u> I Imagery ve Surfac) Yes Yes Yes	required; (B7) ce (B8)	Check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	pply) Fauna (B uatic Plan in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in l Depth (i	13) Odor (C1 heres on iced Iron iction in T e (C7) ata (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (CS or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland
pe: pth (inche marks: standing apped so etland Hyo Batland Hyo Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Inundatio Sparsely Water-St eld Observ fface wate ater table p turation pr	water preventer oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? present?	ed soil s rs: of one is I Imagery ve Surfac	required; (B7) ce (B8)	check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	pply) Fauna (B uatic Plan in Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac ir Well Da xplain in I	13) Odor (C1 heres on iced Iron iction in T e (C7) ata (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (CS or Stressed Plants (D1) phic Position (D2) utral Test (D5)
pe: ppth (inche marks: standing apped so tanding apped so tanding apped so tanding standing standing standing apped so tanding surface Na Sedimen Drift Dep Algal Ma' Iron Depo Inundatio Sparsely Water-St ater table p turation pr	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present? present?	ed soil s Frs: <u>of one is</u> I Imagery ve Surfac) Yes Yes Yes	required; (B7) ce (B8)	Check a	all that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	pply) Fauna (B uatic Plan in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in l Depth (i	13) Odor (C1 heres on iced Iron iction in T e (C7) ata (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (CS or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland
pe: ppth (inche marks: standing apped so etiland Hyo aution Hyo Surface V High Water Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Depo Inundatio Sparsely Water-St eld Observ rface wate ater table p turation pr cludes cap	water preventer oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? present?	ed soil s rs: <u>of one is</u> I Imagery ve Surfac) Yes Yes Yes Yes	required; (B7) (c (B8) X	check a	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches):) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (CS or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland
be: pth (inche marks: tanding apped so tanding apped so tanding Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mai Iron Depo Inundatio Sparsely Water-St tid Observ fface water turation pr cludes cap	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? present? present? poillary fringe)	ed soil s rs: <u>of one is</u> I Imagery ve Surfac) Yes Yes Yes Yes	required; (B7) (c (B8) X	check a	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches):) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland
pe: pth (inche marks: standing apped so etland Hyo Batratio Surface V High Wate Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St eld Observ fface wate ater table p turation pr cludes cap	water prevente oils: drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? present? present? poillary fringe)	ed soil s rs: <u>of one is</u> I Imagery ve Surfac) Yes Yes Yes Yes	required; (B7) (c (B8) X	check a	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud Gauge o Other (E	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i	13) ots (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches): nches):) Living Roots (C4) illed Soils	Secondary In Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland

Project/Site:	NICTD West Lake (Corridor	City/County: Lal	ke County		Sampling Date:	30-Sep-15	
Applicant/Owner:					State: IN	Sampling Point:	Wetland 37	
Investigator(s):	Anna Hochhalter a	nd Scott Beckmeyer	Section, Townsł	hip, Range:				
Landform (hillside,	terrace, etc.):				Local relief ((concave, convex, none:		
Slope %:		Lat: <u>41.54</u>	434	Long:	-87.518		Datum:	
Soil Unit Name:	Rensselaer loam, o	alcareous subsoil va	ariant			NWI Classification:	none	
Are climatic / hydro	ologic conditions on th	ne site typical for this ti	ime of year?	Yes	No	-		
Are Vegetation	Soil	or hydrology	Significantly disturbed?	A	re "Normal Circumst	tances" present?	Yes	No
Are Vegetation	Soil	or hydrology	Naturally problematic?	(it	f needed, explain an	y answers in Remarks.)		
SUMMARY OF	FINDINGS - Atta	ch site map show	ving sampling point loc	cations, t	ransects, impor	tant features, etc.		
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent?	Yes Yes Yes	No No No		Is the Sampling A within a Wetland?	201	x	No
Remarks: Wetland investiga	ation used Approach I	3, which entails identif	ying the dominant species an	nd does not	include collecting sc	bil samples or calculating	floristic quali	ty.

VEGETATION - Use scientific names of plants.

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree St	ratum (Plot size: 30ft)	% Cover	Species?	Status	Number of Dominant Species	
1.	salix interior	50		#N/A	That Are OBL, FACW, or FAC (A)	
2.	populus deltoides	5		FAC+		
3.					Total Number of Dominant	
4.					Species Across All Strata: (B)	
5.						
	Total Cov	/er:			Percent of Dominant Species	
Sapling	/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC: (A/B)	
1.	cornus stononlifera	10		#N/A		
2.	fraxinus pennsylvanica	5		FACW	Prevalence Index Worksheet:	
3.					Total % Cover of Multiply by:	
4.					OBL species x 1 = 0	
5.					FACW species x 2 = 0	
	Total Cov	/er:			FAC species x 3 = 0	
Herb St	ratum (Plot size: 5ft)				FACU species x 4 = 0	
1.	typha angustifolia	85		OBL	UPL species $x = 0$	
2.					Column Totals 0 (A) 0 (B)	
3.						
4.					Prevalence Index = B/A =	
5.						
6.					Hydrophytic Vegetation Indicators:	
7.					Dominance Test is >50%	
8.					Prevalence Index is ≦3.0*	
9.					Morphological Adaptations* (Provide supporting	
10.					data in remarks or on a separate sheet)	
10.						
	Total Cov	/er:			Problematic Hydrophytic Vegetation (Explain)	
	Vine Stratum (Plot size: <u>15ft</u>)	F		#N/A	*Indicators of hydric soil and wetland hydrology must be present.	
1. 2.	Vitris riparia	5		#N/A		
Ζ.					Hydrophytic	
	Total Cov	/er:			Vegetation Yes No	_
					Present?	
Remark	s: (Include photo numbers here or on a separate	sheet.)				
I						

Project/Site:	NICTD West Lake	Corridor	City/County: Lak	ce County		Sampling Date:	30-Sep-15	
Applicant/Owner:			_	St	ate: IN	Sampling Point:	Wetland 35	
Investigator(s):	Anna Hochhalter	and Scott Beckmeye	r Section, Townsh	nip, Range:				
Landform (hillside,	terrace, etc.):				Local relief (c	oncave, convex, none:		
Slope %:		Lat: <u>41.5</u>	44721	Long: <u>-8</u>	7.51663		Datum:	
Soil Unit Name:	Rensselaer loam,	calcareous subsoil v	variant			NWI Classification:	none	
Are climatic / hydro	logic conditions on	the site typical for this	time of year?	Yes	No			
Are Vegetation	Soil	or hydrology	Significantly disturbed?	Are '	Normal Circumsta	nces" present?	Yes	No
Are Vegetation	Soil	or hydrology	Naturally problematic?	(if ne	eded, explain any	answers in Remarks.)		
SUMMARY OF	FINDINGS - Att	ach site map sho	wing sampling point loc	ations, trai	nsects, importa	ant features, etc.		
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent?	Yes Yes	No No No		the Sampling Are thin a Wetland?	a Yes	x	No
Remarks: Wetland investiga	ation used Approach	B, which entails ident	ifying the dominant species and	d does not inc	lude collecting soil	samples or calculating	ı floristic qualit	у.

VEGETATION - Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: 30ft)	% Cover	Species?	Status	Number of Dominant Species
1. salix interior	50		#N/A	That Are OBL, FACW, or FAC (A)
2. populus deltoides	5		FAC+	
3				Total Number of Dominant
4				Species Across All Strata: (B)
5				
Total Cover:				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC: (A/B)
1. cornus stolonifera	10		FACW	
2. fraxinus pennsylvanica	5		FACW	Prevalence Index Worksheet:
3		· <u> </u>		Total % Cover of Multiply by:
4				OBL species x 1 = 0
5				FACW species x 2 = 0
Total Cover:				FAC species x 3 = 0
Herb Stratum (Plot size: 5ft)				FACU species x 4 = 0
1. typha angustifolia	85		OBL	UPL species $x = 0$
2				Column Totals 0 (A) 0 (B)
3				
4				Prevalence Index = B/A =
5				
6		· <u> </u>		Hydrophytic Vegetation Indicators:
7		· <u> </u>		Dominance Test is >50%
8		· <u> </u>		Prevalence Index is ≤3.0*
9		·		Morphological Adaptations* (Provide supporting
10		·		data in remarks or on a separate sheet)
				· · · · · · · · · · · · · · · · · · ·
Total Cover:				Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum (Plot size: 15ft)				*Indicators of hydric soil and wetland hydrology must be present.
1. vitis riparia	5		FACW-	· · · ·
2				Hydrophytic
Total Cover:				Vegetation Yes x No
				Present?
Remarks: (Include photo numbers here or on a separate shee	et.)			

Project/Site:	NICTD West Lake	Corridor	City/County: La	ke County		Sampling Date:	30-Sep-15	
Applicant/Owner:					State: IN	Sampling Point:	Wetland 32	
Investigator(s):	Anna Hochhalter	and Scott Beckmeye	r Section, Townsł	hip, Range:				
Landform (hillside,	terrace, etc.):				Local relief (concave, convex, none:		
Slope %:		Lat: <u>41.5</u>	4766	Long:	-87.517816		Datum:	
Soil Unit Name:	rensselaer loam, o	calcareous subsoil v	ariant			NWI Classification:	none	
Are climatic / hydro	logic conditions on t	the site typical for this	time of year?	Yes	No			
Are Vegetation	Soil	or hydrology	Significantly disturbed?	Ar	e "Normal Circumst	ances" present?	Yes	No
Are Vegetation	Soil	or hydrology	Naturally problematic?	(if	needed, explain an	y answers in Remarks.)		
SUMMARY OF	FINDINGS - Att	ach site map sho	wing sampling point loo	cations, tr	ansects, impor	tant features, etc.		
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent?	Yes Yes Yes	No No No		Is the Sampling Ai within a Wetland?	YAC	<u>x</u>	No
Remarks: Wetland investiga	ation used Approach	B, which entails ident	tifying the dominant species an	nd does not i	nclude collecting sc	il samples or calculating	ı floristic qualit	у.

VEGETATION - Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: 30ft)	% Cover	Species?	Status	Number of Dominant Species
1. Populus deltoides	50		FAC+	That Are OBL, FACW, or FAC (A)
2				
3				Total Number of Dominant
4				Species Across All Strata: (B)
5				
Total Cover:	50			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15ft)				That Are OBL, FACW, or FAC: (A/B)
1. Rhamnus frangula	5		FAC+	
2. salix interior	5		#N/A	Prevalence Index Worksheet:
3				Total % Cover of Multiply by:
4				OBL species x 1 = 0
5				FACW species x 2 = 0
Total Cover:	10			FAC species x 3 = 0
Herb Stratum (Plot size: 5ft)				FACU species x 4 = 0
1. phragmites australis	100		FACW+	UPL species $x 5 = 0$
2				Column Totals 0 (A) 0 (B)
3				
4				Prevalence Index = B/A =
5				· · · · · · · · · · · · · · · · · · ·
6				Hydrophytic Vegetation Indicators:
7				Dominance Test is >50%
8				Prevalence Index is ≦3.0*
9				Morphological Adaptations* (Provide supporting
10				data in remarks or on a separate sheet)
				· · · · · · · · · · · · · · · · · · ·
Total Cover:	100			Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum (Plot size: 15ft)				*Indicators of hydric soil and wetland hydrology must be present.
1				
2				Hydrophytic
Total Cover:				Vegetation Yes No
				Present?
Remarks: (Include photo numbers here or on a separate shee	at)			
Remarks. (include photo numbers here of on a separate shee)			

US Army Corps of Engineers

Midwest Region - Interim Version

Project/Site NICTD W	est Lake Corridor		City/	/County:	Lake Cou	Inty Sampling Date:	09/30/15
Applicant/Owner:			<u> </u>	State:	IN	Sampling Point:	Wetland 33
Investigator(s): Anna	Hochhalter and So	cott Beckmeyer		Sect	ion, Townshi	ip, Range:	
Landform (hillslope, te	errace, etc.):			Local	relief (conca	ve, convex, none):	
Slope (%):	Lat:	41.5495		Long:	-87.517	7 Datum:	
Soil Map Unit NameN	laumee loamy fine	sand, Rensselae	er loam		none		
Are climatic/hydrologi	c conditions of the	site typical for the	is time o	of the year?	(If no, explain in remarks)	
Are vegetation	, soil	, or hydrology	r	significantly	y disturbed?	Are "normal circu	imstances"
Are vegetation				naturally pr	oblematic?		present?
SUMMARY OF FI	NDINGS					(If needed, explain any a	nswers in remarks.)
Hydrophytic vege	tation present?	Y					
Hydric soil preser	ıt?	Y		Is the s	ampled are	a within a wetland?	Y
Indicators of wetla	and hydrology pres	sent? Y		If yes, o	ptional wetla	nd site ID:	
VEGETATION U	lse scientific na	ames of plants					
		•	osolute	Dominant	Indicator	Dominance Test Works	sheet
<u>Tree Stratum</u> 1	(Plot size:		Cover	Species	Staus	Number of Dominant Spect that are OBL, FACW, or FA	ies
2 3						Total Number of Domina Species Across all Stra	
4 5						Percent of Dominant Spec that are OBL, FACW, or FA	
Quality (Ohruch strat		、 —	0	= Total Cove	r	D	<u> </u>
Sapling/Shrub strate	· ·)	10	Y	FAC	Prevalence Index Work Total % Cover of:	sheet
			10	·	FAC		v 1 – O

ა			Species Across an	Silaia.	(D)
4			Percent of Dominant S	•	00.000/ / / //
5			that are OBL, FACW, o		00.00% (A/E
Conling/Chruh strature (Distaire)	0 = Total Co	over	Prevalence Index V	/aulvahaat	
Sapling/Shrub stratum (Plot size:)	540		vorksneet	
1 populus deltoides	10 Y	FAC	Total % Cover of:		•
2			OBL species 0		0
3				0 x 2 =	200
4			FAC species 10		30
5			FACU species 0		0
	10 = Total Co	over	UPL species 0		0
Herb stratum (Plot size:)		Column totals 11	0 (A)	230 (B)
1 phragmites australis	100 Y	FACW	Prevalence Index =	3/A =	2.09
2					
3			Hydrophytic Vegeta	ation Indic	ators:
4			Rapid test for hy	drophytic v	regetation
5			X Dominance test	is >50%	
6			X Prevalence inde	x is ≤3.0*	
7			Morphogical ada	ntationa* (nrovido
8			supporting data		
9			separate sheet)		5010114
10			Problematic hyd	ronhytic vo	actation*
	100 = Total Co	over	(explain)		getation
Woody vine stratum (Plot size:					
1	/		*Indicators of hydric soil present, unless of		, ,,
2			Hydrophytic		
	0 = Total Co	over	vegetation		
			present?	Y	

	cription: (Descri Matrix	De to the	e aepth ne		dox Feat					
Depth (Inches)	Color (moist)	%	Color (n	-	<u>30x Fear</u> %		Loc**	То	ture	Remarks
				ioist)	70	Type*				Remains
0 - 5	2.5Y 3/1	100						Silty Clay		
5 - 7	5Y 2.5/1	75						Clay Loan	1	
	5Y 7/2	15	2.5Y	5/6	10	RM	М	Clay Loam	า	
17 - 22	2.5Y 3/2	100						Loamy Sa	nd	
22 - 25+	2.5Y5/2	100						Loamy Sa	nd	
									441 (·	
	Concentration, D = bil Indicators:	= Depletic	5n, RIVI = F	Reduce	a Matrix,	MS = M	asked Sa			n: PL = Pore Lining, M = Matrix Iematic Hydric Soils:
-	tisol (A1)			Sar		ed Matrix	(\$4)			edox (A16) (LRR K, L, R)
	tic Epipedon (A2)		_		idy Gleye		(04)			57) (LRR K, L)
	ck Histic (A3)		<u> </u>		pped Ma	. ,			-	at or Peat (S3) (LRR K, L, R)
	drogen Sulfide (A4	N	-			ky Minera	al (F1)		-	e Masses (F12) (LRR K, L, R)
	atified Layers (A5)	-	_		-	ed Matrix			-	ark Surface (TF12)
	m Muck (A10)	,	_		pleted Ma				er (explain ir	
	bleted Below Dark	Surface	(A11) —			Surface				(internetion)
	ck Dark Surface (A					ark Surfac	• •	*Indi	actors of bys	translution and waltar
	ndy Mucky Minera		-			essions (. ,			drophytic vegetation and weltar be present, unless disturbed o
		. (01)					,	nya	rology must	problematic
oth (inche marks:		nd				-			c soil prese	nt? <u>Y</u>
pth (inche marks:	es):	nd				-			c son prese	
pth (inche marks: Maumee	loamy fine sar	nd				-			c son prese	
pth (inche marks: Maumee	loamy fine sar					-				
pth (inche marks: Maumee (DROLC etland Hy	loamy fine sar	ors:	required; o	check a	ill that ap	- - - -				
pth (inche marks: /aumee /DROLC tland Hy mary Indi	DGY drology Indicato	ors:	required; c	check a		- - - - - - - - - - - - - - - - - - -	13)		Secondary Ir	
pth (inche marks: /aumee /DROLC tland Hy mary Indi Surface High Wa	DGY drology Indicato cators (minimum Water (A1) tter Table (A2)	ors:	required; c	check a	Aquatic True Aqu	Fauna (B uatic Plar	nts (B14)		Secondary Ir Surface Drainag	ndicators (minimum of two requ Soil Cracks (B6) Je Patterns (B10)
pth (inche marks: /aumee /DROLC tiland Hy mary Indi Surface High Wa Saturatio	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3)	ors:	required; c	check a	Aquatic True Aqu Hydroge	Fauna (B uatic Plar n Sulfide	nts (B14) Odor (C1)	Secondary Ir Surface Drainag	ndicators (minimum of two requ soil Cracks (B6) ge Patterns (B10) ason Water Table (C2)
pth (inche marks: Maumee /DROLC etland Hy mary Indi Surface High Wa Saturatio Water M	DGY drology Indicato cators (minimum Water (A1) tter Table (A2) on (A3) larks (B1)	ors:	required; c	check a	Aquatic True Aqu Hydroge Oxidized	Fauna (B uatic Plar n Sulfide	nts (B14) Odor (C1		Secondary Ir Surface Drainag Dry-Sea Crayfish	ndicators (minimum of two requ soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8)
pth (inche marks: Maumee YDROLC etland Hy Mary Indi Surface High Wa Saturatic Water M Sedimer	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2)	ors:	required; o	check a	Aquatic True Aqu Hydroge Oxidized (C3)	Fauna (B uatic Plar n Sulfide I Rhizosp	nts (B14) Odor (C1 heres on) Living Roots	Secondary Ir Surface Drainag Dry-Sea Crayfish Saturati	ndicators (minimum of two requ soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8) ion Visible on Aerial Imagery (C9
pth (inche marks: Maumee /DROLC etland Hy mary Indi Surface High Wa Saturatio Saturatio Sedimer Drift Dep	DGY drology Indicato cators (minimum) Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ors:	required; o	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on uced Iron) Living Roots (C4)	Secondary Ir Surface Drainag Dry-Sea Crayfish Saturati	ndicators (minimum of two requ soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8) ion Visible on Aerial Imagery (C9 or Stressed Plants (D1)
pth (inche marks: Maumee Yaumee Yaumee Yaumee Yaumee High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	DGY drology Indicato cators (minimum Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ors:	required; c		Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on uced Iron) Living Roots	Secondary Ir Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomo	ndicators (minimum of two requ e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8) ion Visible on Aerial Imagery (C9 I or Stressed Plants (D1) rphic Position (D2)
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Project/Site NICTD V	Nest Lake Corric	lor	City/County:	Lake County	Sampling Date:	9/30/15	
Applicant/Owner:			State:	IN	Sampling Point:	Wetland 34	
Investigator(s): Anna	a Hochhalter and	d Scott Beckmeyer	Sect	ion, Township, Ra	nge:		
Landform (hillslope,	terrace, etc.):		Local	relief (concave, co	nvex, none):		
Slope (%):	Lat:	41.551335	Long:	-87.51837	Datum:		
Soil Map Unit Name	Maumee loamy	fine sand		NWI Classi	ification:	none	
Are climatic/hydrolog	gic conditions of	the site typical for this	time of the year?	(If no,	explain in remarks)		
Are vegetation	, soil	, or hydrology	significantly	/ disturbed?	Are "normal circu	mstances"	
Are vegetation	, soil	, or hydrology	naturally pr	oblematic?		present?	
SUMMARY OF F	INDINGS			(If r	needed, explain any a	nswers in remarks.)	
Hydrophytic veg	etation present?	Y					
Hydric soil prese	ent?	Y	Is the s	ampled area with	in a wetland?	Y	
Indicators of wet	land hydrology p	present? Y	lf yes, o	ptional wetland site	e ID:		
Remarks: (Explain a	Iternative proced	lures here or in a sepa	arate report.)				
VEGETATION	Use scientific	names of plants.					

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:) 1	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
2				Total Number of Dominant Species Across all Strata: 5 (B)
4 5				Percent of Dominant Species that are OBL, FACW, or FAC: 80.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 cornus stolonifer	20	Y		Total % Cover of:
2 frangula alnus	5	Y	FACW	OBL species 42 x 1 = 42
3				FACW species 57 x 2 = 114
4				FAC species 0 x 3 = 0
5				FACU species $0 \times 4 = 0$
	25	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals 99 (A) 156 (B)
1 lythrum salicaria	30	Y	OBL	Prevalence Index = B/A = 1.58
2 phragmites australis	30	Y	FACW	
3 geum laciniatum	20	Y	FACW	Hydrophytic Vegetation Indicators:
4 typha angustifolia	10	N	OBL	Rapid test for hydrophytic vegetation
5 scirpus atrovirens	2	N	OBL	X Dominance test is >50%
6 juncus torreyi	2	Ν	FACW	X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
89				supporting data in Remarks or on a separate sheet)
10				Problematic hydrophytic vegetation*
	94	= Total Cover		(explain)
Woody vine stratum (Plot size: 1)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a sepa	rate sheet)			

	cription: (Descri Matrix	be to the	e aepth n I		dox Feat					/
Depth (Inches)	Color (moist)	%	Color (I		<u>30x Feat</u> %		Loc**	То	ture	Remarks
		r		moist)	70	Type*				Remarks
0 - 5	2.5Y 3/1	100						Silty Clay		
5 - 7	5Y 2.5/1	75						Clay Loan	1	
	5Y 7/2	15	2.5Y	5/6	10	RM	М	Clay Loam	า	
17 - 22	2.5Y 3/2	100						Loamy Sa	nd	
22 - 25+	2.5Y5/2	100						Loamy Sa	nd	
								,		
	Concentration, D =	= Depletio	on, RM =	Reduce	d Matrix,	MS = M	asked Sa			n: PL = Pore Lining, M = Matrix
	il Indicators:			-						lematic Hydric Soils:
	isol (A1)		-			ed Matrix	(S4)			edox (A16) (LRR K, L, R)
	ic Epipedon (A2)		_		ndy Redo	. ,				67) (LRR K, L)
	ck Histic (A3)		_		pped Ma	. ,			-	at or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	-	_		-	ky Minera			-	e Masses (F12) (LRR K, L, R)
	tified Layers (A5))	-			ed Matrix	(⊢2)		-	ark Surface (TF12)
	n Muck (A10)	Ourf	(pleted Ma	· · ·		Oth	er (explain i	n remarks)
	leted Below Dark		(A11)			Surface	· · ·			
	ck Dark Surface (,	-			ark Surfac	. ,			drophytic vegetation and weltan
San	idy Mucky Minera	I (S1)	-	Rec	lox Depr	essions (F8)	hyd	rology must	be present, unless disturbed or problematic
							1			•
SUICTIVE	Layer (if observe	eu).								- ··
200								Lludei	a aail mraaa	
· · · · · · · · · · · · · · · · · · ·	<i>ve)</i> :					-		Hydri	c soil prese	nt? <u>Y</u>
epth (inche	es):					-		Hydri	c soil prese	nt? <u>Y</u>
epth (inche	es):					-		Hydri	c soil prese	nt? <u>Y</u>
epth (inche emarks:	es): loamy fine sar	nd				-		Hydri	c soil prese	nt? <u>Y</u>
/pe: epth (inche emarks: Maumee		nd				-		Hydri	c soil prese	nt? <u>Y</u>
epth (inche emarks:		nd						Hydri	c soil prese	nt? <u>Y</u>
epth (inche emarks: Maumee	loamy fine sar	nd				- -		Hydri	c soil prese	nt? <u>Y</u>
epth (inche marks: Maumee YDROLC	loamy fine sar					-		Hydri	c soil prese	nt? <u>Y</u>
epth (inche emarks: Maumee YDROLC	loamy fine sar					-		Hydri	c soil prese	nt? <u>Y</u>
pth (inche marks: Maumee YDROLC etland Hy	loamy fine sar	ors:	required;	check a	ill that ap	- - - -				
pth (inche marks: Maumee (DROLC etland Hy mary India	loamy fine sar DGY drology Indicato	ors:	required;	check a		- - - - - - - - - - - - - - - - - - -	13)		Secondary Ir	
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Ppth (inche marks: Maumee YDROLC etland Hy Mary India Surface High Wa Saturatic Saturatic Sedimer Drift Dep	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)	ors:	required;		Aquatic True Aqu Hydroge Oxidized (C3)	Fauna (B uatic Plan n Sulfide I Rhizosp	nts (B14) Odor (C1) Living Roots	Secondary Ir Surface Drainag Dry-Sea Crayfisl Saturati	ndicators (minimum of two requestions (B6) e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9 d or Stressed Plants (D1)
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Project/Site NICTD	West Lake Corridor		City/Coun	ıty:	Lake County	Sampling Date:	9/14/15
Applicant/Owner:				State:	IN	Sampling Point:	Wetland 2
Investigator(s): Ann	a Hochhalter, Scott I	Beckmeyer, Cheryl	Nash	Secti	on, Township, Ran	ige:	
Landform (hillslope,	terrace, etc.):			Local r	elief (concave, con	ivex, none):	
Slope (%):	Lat:		Lor	ng:		Datum:	
Soil Map Unit Name	Urban Land				NWI Classif	ication:	
Are climatic/hydrolog	gic conditions of the	site typical for this f	time of the	year?	(If no, e	explain in remarks)	
Are vegetation	, soil	, or hydrology	sigr	nificantly	disturbed?	Are "normal circur	nstances"
Are vegetation	, soil	, or hydrology	nati	urally pre	oblematic?		present?
SUMMARY OF F	INDINGS				(If n	eeded, explain any an	swers in remarks.)
Hydrophytic veg	getation present?	Y					
Hydric soil prese	ent?	Y		Is the s	ampled area withi	n a wetland?	Y
Indicators of we	tland hydrology pres	ent? Y	1	f yes, or	otional wetland site	ID:	
Remarks: (Explain a	alternative procedure	s here or in a sepa	rate report	.)			
				•)			

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 quercus macrocarpa	40	Y	FAC	that are OBL, FACW, or FAC: 6 (A)
2 Ulmus rubra	30	Y	FAC	Total Number of Dominant
3 crataegus mollis	10	N	FAC	Species Across all Strata: 7 (B)
4 quercus alba	5	N	FACU	Percent of Dominant Species
5				that are OBL, FACW, or FAC: 85.71% (A/B)
	85	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 Acer negundo	30	Y	FAC	Total % Cover of:
2 Fraxinus pennsylvanica	10	Y	FACW	OBL species <u>5</u> x 1 = <u>5</u>
3 Ulmus rubra	5	N	FAC	FACW species 35 x 2 = 70
4				FAC species 115 x 3 = 345
5				FACU species 25 x 4 = 100
	45	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals 180 (A) 520 (B)
1 parthenocissus quinquefolia	20	Y	FACU	Prevalence Index = B/A = 2.89
2 phalaris arundinacea	10	Y	FACW	
3 geum laciniatum	5	N	FACW	Hydrophytic Vegetation Indicators:
4 persicaria hydropiper	5	N	OBL	Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7		. <u> </u>		Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	40	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be
1 vitis riparia	10	Y	FACW	present, unless disturbed or problematic
2				Hydrophytic
	10	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a separ	rate sheet)			

(Inches) Color (moist) % Type* Loc** Texture Remarks 0 - 5 10YR 4/1 75 10YR 7/8 20 RM M Clay Loam Gley 5 - 27+ 10YR 4/1 50 10YR 7/8 40 RM M Sitty Clay Loam Gley 5 - 27+ 10YR 4/1 50 10YR 7/8 40 RM M Sitty Clay Loam Gley - R - - - R -	Profile Dese	cription: (Descri	be to the	-			indicato	or or confirm	n the absenc	e of indicators.)
0.5 10YR 4/1 75 10YR 7/8 20 RM M Clay Loam Gley 5-27+ 10YR 4/1 50 10YR 7/8 40 RM M Sity Clay Loam Gley 5-27+ 10YR 4/1 50 10YR 7/8 40 RM M Sity Clay Loam Gley 5-27+ 10YR 4/1 50 10YR 7/8 40 RM M Sity Clay Loam Gley 5-27+ 10YR 4/1 50 10YR 7/8 40 RM M Sity Clay Loam Gley	•	Matrix								
5 - 27+ 10YR 4/1 50 10YR 7/8 40 RM M Sitty Clay Learn Gley 5 - 27+ 10YR 4/1 50 10YR 7/8 40 RM M Sitty Clay Learn Image: Classical Clasical Classical Classical Classical Classical Clasic	(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Te	xture	Remarks
5 - 27* 10YR 4/1 50 10YR 7/8 40 RM M Sitty Clay Learn	0 - 5	10YR 4/1	75	10YR 7/8	20	RM	М	Clay Loan	n	
5 - 27 * 10YR 4/1 50 10YR 7/8 40 RM M Sitty Clay Leam ************************************				7/10 BG	5			Clay Loan	n	Gley
Type: C = Concentration. D = Depletion. RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = I "Type: C = Concentration. D = Depletion. RM = Reduced Matrix, (S4) Indicators in reductors: "Histisc Dipoleon (A2) Sandy Cleved Matrix (S4) Coast Prairie Redox (A16) (LRR K, L, D) Black Histic (A3) Stroped Matrix (S5) Dark Surface (S7) (LRR K, L, D) Black Histic (A3) Stroped Matrix (S6) 5 cm Mucky Peat or Peat (S3) (LRR K, L, D) 2 cm Muck (A10) Depleted Matrix (F3) Other (explain in remarks) X Depleted Blow Dark Surface (A11) Redox Dark Surface (F7) "Indicators of hydropytoix exgetation and hydrology must be present, unless disturt problematic Restrictive Layer (if observed): True Aquatic Pana (B13) Stroped Natrix (F2) Verif Sallow Dark Surface (F6) Type:	5 07 ⊥		50		40	DM	N/			
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = I Hydric Soil Indicators: Histisci (A1) Sandy Gleyed Matrix (S4) Black Histic (A3) Stripped Matrix (S4) Black Histic (A3) Stripped Matrix (S6) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Depleted Matrix (S6) Tron-Manganese Masses (F12) (LRR K, L) Stripped Matrix (S6) Som Mucky Peat or Peat (S3) (LRR K, L) Depleted Matrix (S6) Loany Gleyed Matrix (S6) Sandy Mucky Mineral (S1) Depleted Matrix (F2) Very Shallow Dark Surface (A12) Depleted Dark Surface (F6) Thrike Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Type: Indicators: Primary Indicators: Y Type: Mydric Rating: Yes HYDROLOGY Aquatic Fiants (B14) Optimary Indicators: Drainage Patterm (B10) Staturation Visible on Areal Imagery (S7) Thin Aquatic Plants (B14) Optimary Indicators: Ordized Rhizospheres on Living Roots Secondary Indicators: Crayib Harma (C1) Staturation Visible on Ar	5-27+	10111 4/1	50		-	RIVI	IVI	Silty Clay	LUain	
Hydric Soil Indicators: Indicators for Problematic Hydric Soils: Histisci Cappedon (A2) Sandy Gleyed Matrix (S4) Black Histic (A3) Stripped Matrix (S5) Histisci Cappedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) Y Depleted Matrix (F2) Very Shallow Dark Surface (A11) Redox As Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) *Indicators for Hydrophytic vegetation and very Hydrology must be present, unless disturt problematic Popter (Indes):				7/10 BG	10					
Hydric Soil Indicators: Indicators for Problematic Hydric Soils: Histisci Cappedon (A2) Sandy Gleyed Matrix (S4) Black Histic (A3) Stripped Matrix (S5) Histisci Cappedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) Y Depleted Matrix (F2) Very Shallow Dark Surface (A11) Redox As Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) *Indicators for Hydrophytic vegetation and very Hydrology must be present, unless disturt problematic Popter (Indes):										
Hydric Soil Indicators: Indicators for Problematic Hydric Soils: Histisci Cappedon (A2) Sandy Gleyed Matrix (S4) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mudwy Mineral (F1) Loamy Gleyed Matrix (S5) 5 cm Muck (Peat or Peat (S3) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Very Shallow Dark Surface (TF12) Z cm Muck (A10) Depleted Matrix (F3) Other (explain in remarks) X Depleted Below Dark Surface (A11) Redox Depressions (F8) *Indicators of hydrophytic vegetation and v hydrology must be present, unless disturt problematic Sandy Mucky Mineral (S1) Redox Depressions (F8) *Indicators (minimum of two present); Type:										
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Hydric Soil Indicators: Indicators for Problematic Hydric Soils: Histisci Cappedon (A2) Sandy Gleyed Matrix (S4) Black Histic (A3) Stripped Matrix (S5) Histisci Cappedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) Y Depleted Matrix (F2) Very Shallow Dark Surface (A11) Redox As Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) *Indicators for Hydrophytic vegetation and very Hydrology must be present, unless disturt problematic Popter (Indes):										
Hydric Soil Indicators: Indicators for Problematic Hydric Soils: Histisci Cappedon (A2) Sandy Gleyed Matrix (S4) Black Histic (A3) Stripped Matrix (S5) Histisci Cappedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) Y Depleted Matrix (F2) Very Shallow Dark Surface (A11) Redox As Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) *Indicators for Hydrophytic vegetation and very Hydrology must be present, unless disturt problematic Popter (Indes):										
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High Water Table (A2) True Aquatic Plants (B14) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) X Water Marks (B1) Oxidized Rhizospheres on Living Roots Crayfish Burrows (C8) Sediment Deposits (B2) (C3) Saturation Visible on Aerial Imager Drift Deposits (B3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imager Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: No X Surface water present? Yes No X Depth (inches): Indicators of wetland hydrology present? Yes No X Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <	Primary Indi	cators (minimum o	of one is	required; check a	all that ap	oply)			Secondary In	dicators (minimum of two require
Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) X Water Marks (B1) Oxidized Rhizospheres on Living Roots Crayfish Burrows (C8) Sediment Deposits (B2) (C3) Saturation Visible on Aerial Imager Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Indicators of wetland hydrology present? Field Observations: X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? Gincludes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Indicatore	Surface	Water (A1)							Surface	Soil Cracks (B6)
X Water Marks (B1) Oxidized Rhizospheres on Living Roots Crayfish Burrows (C8) Sediment Deposits (B2) (C3) Saturation Visible on Aerial Imager Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) FAC-Neutral Test (D5) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Other (Explain in Remarks) Field Observations: Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? Gincludes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Indicatore	High Wa	iter Table (A2)			True Aqu	uatic Plar	nts (B14)		Drainage	e Patterns (B10)
Sediment Deposits (B2) (C3) Saturation Visible on Aerial Imager Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) FAC-Neutral Test (D5) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Other (Explain in Remarks) Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? Geocrible recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Describle recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C2	1)	Dry-Sea	son Water Table (C2)
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) FAC-Neutral Test (D5) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Other (Explain in Remarks) Indicators of wetland hydrology present? Field Observations: No X Depth (inches): Indicators of wetland hydrology present? Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	X Water M	arks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) FAC-Neutral Test (D5) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Other (Explain in Remarks) Water-Stained Leaves (B9) Other (Explain in Remarks) Indicators of wetland hydrology present? Field Observations: No X Depth (inches): Indicators of wetland hydrology present? Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Sedimer	nt Deposits (B2)			(C3)			-	Saturatio	on Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils Geomorphic Position (D2) Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) FAC-Neutral Test (D5) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Other (Explain in Remarks) Water-Stained Leaves (B9) Other (Explain in Remarks) Indicators of wetland hydrology present? Field Observations: No X Depth (inches): Indicators of wetland hydrology present? Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					Presenc	e of Redu	uced Iron	(C4)	Stunted	or Stressed Plants (D1)
Iron Deposits (B5) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Other (Explain in Remarks) Field Observations: No X Depth (inches): Surface water present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					-			. ,		
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Other (Explain in Remarks) Surface water present? Yes Water table present? Yes No X Saturation present? Yes No X Opeth (inches): Indicators of wetland hydrology present? (includes capillary fringe) No Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		. ,								
X Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Other (Explain in Remarks) Surface water present? Yes Water table present? Yes No X Depth (inches): Water table present? Yes No X Depth (inches): Saturation present? Yes No X Depth (inches): (includes capillary fringe) No Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Inundatio	on Visible on Aeria	I Imagery	(B7)	Thin Mu	ck Surfac	e (C7)			× ,
Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No X Depth (inches): Indicators of wetland hydrology present? Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) No X Depth (inches): Indicators of wetland hydrology present? Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Indicators of welland hydrology present?					-					
Field Observations: Surface water present? Yes No X Depth (inches): Indicators of wetland hydrology present? Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) No X Depth (inches): Indicators of wetland hydrology present? Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Indicators of wetland hydrology present?		-			-		• •)		
Surface water present? Yes No X Depth (inches): Indicators of wetland hydrology present? Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Depth (inches): Indicators of wetland hydrology present? Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								•		
Water table present? Yes No X Depth (inches): Indicators of wetland hydrology present? Saturation present? Yes No X Depth (inches): Indicators of wetland hydrology present? (includes capillary fringe) Depth (inches): Indicators of wetland hydrology present? Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			Vec	No	x	Denth (i	nches).			
Saturation present? Yes No X Depth (inches): hydrology present? (includes capillary fringe)							-		-	dicators of wetland
(includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							-		_	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	-		163		~	-	10103).		- "	
Remarks:	Describe rec	corded data (strea	m gauge	e, monitoring well	, aerial pł	notos, pre	evious in	spections), if	available:	
Remarks:										
Remarks:										
	Remarks:									

Project/Site NICTD V	West Lake Corrido)r	City/Co	unty:	Lake Cour	nty Sa	ampling Date:	9/14/15	
Applicant/Owner:				State:	IL	Sa	mpling Point:	Upland 2	
Investigator(s): Ann	a Hochhalter, Sco	ott Beckmeyer, Chery	/I Nash	Secti	on, Township	p, Range:			
Landform (hillslope,	terrace, etc.):			Local relief (concave, convex, none):					
Slope (%):	Lat:		L	_ong:		Da	atum:		
Soil Map Unit Name	Bono silty clay loa	am			NWI (Classification	1:	none	
Are climatic/hydrolog	gic conditions of th	he site typical for this	time of th	ne year?	(1	lf no, explain	in remarks)		
Are vegetation	, soil	, or hydrology	si	ignificantly	disturbed?	Ar	e "normal circu	mstances"	
Are vegetation	Are vegetation , soil , or hydrology				oblematic?		present?		
SUMMARY OF F	INDINGS					(If needed	, explain any a	nswers in remarks.)	
Hydrophytic veg	getation present?	Y							
Hydric soil prese	ent?	Y		Is the s	ampled area	a within a we	etland?	Ν	
Indicators of wet	tland hydrology pro	resent? N		lf yes, op	otional wetlar	nd site ID:			
Remarks: (Explain a	Iternative procedu	ures here or in a sepa	arate repo	ort.)					
VEGETATION	Use scientific r	names of plants.							
		Abs	solute D	Oominant	Indicator	Dominanc	ce Test Works	heet	

Tree Stratum (Plot size:) 1)	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
2	<u></u>			Total Number of Dominant Species Across all Strata:3(B)
45_				Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1				Total % Cover of:
2				OBL species 0 x 1 = 0
3				FACW species 60 x 2 = 120
4				FAC species <u>30</u> x 3 = <u>90</u>
5				FACU species 0 x 4 = 0
	0	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size:)			Column totals 90 (A) 210 (B)
1 Echinochloa crus-galli	30	Y	FACW	Prevalence Index = $B/A = 2.33$
2 agrostis gigantea	30	Y	FACW	
3 setaria pumila	30	Y	FAC	Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5		·		X Dominance test is >50%
6	·	·		X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	90	= Total Cover		(explain)
<u>Woody vine stratum</u> (Plot size:1)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation present? Y
5				
Remarks: (Include photo numbers here or on a sepa	arate sheet)			

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth <u>Matrix</u> <u>Redox Features</u>				ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 - 27+	10YR 3/1.5	90	5YR 5/8	3	RM	М	Silty Clay I	Loam	
_	ROCK	7		-					Rock/Asphault
	ROOK	1							Rock/Aspiradit
*Turnet C = C	Concentration D -	Doplati		d Motrix		asked Ce	and Crains	**L cootion	· DL - Dava Lining M - Matrix
	Concentration, D =	Depleti	on, RM = Reduce	a Matrix,	MS = M	asked Sa			: PL = Pore Lining, M = Matrix
-	il Indicators:		Corr		d Matrix	(04)			ematic Hydric Soils:
	isol (A1)				ed Matrix	(54)			dox (A16) (LRR K, L, R) ⁄) (LRR K, L)
	ic Epipedon (A2)			idy Redo				•	
	ck Histic (A3)	`		pped Mai	. ,			-	t or Peat (S3) (LRR K, L, R) Masses (F12) (LRR K, L, R)
	rogen Sulfide (A4			-	ky Minera			-	
	tified Layers (A5)				ed Matrix			-	rk Surface (TF12)
	n Muck (A10)	0		leted Ma	. ,		Oth	er (explain in	remarks)
	leted Below Dark		. ,		Surface	. ,			
	k Dark Surface (/	,			rk Surfac				rophytic vegetation and weltand
San	dy Mucky Minera	I (S1)	Rec	lox Depre	essions (F8)	hyd	rology must b	be present, unless disturbed or
									problematic
	Layer (if observe	ed):							
Туре:							Hydrid	c soil presen	t? <u>Y</u>
Depth (inche	es):								
Remarks:									
Mapped	Soil: Bono								
mappea	Com Dono								
Emankm	ent for Monon	Trail H	iahly Disturbed						
			.9,						
HYDROLC	DGY								
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum o	of one is	required; check a	II that ap	ply)		9	Secondary In	dicators (minimum of two required)
Surface	Water (A1)		-	Aquatic I	Fauna (B	13)	_	Surface	Soil Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plan	nts (B14)			e Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1)	Dry-Sea	son Water Table (C2)
Water M	arks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Sedimen	t Deposits (B2)			(C3)					on Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Presence	e of Redu	iced Iron	(C4)	Stunted	or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in T	illed Soils		ohic Position (D2)
	osits (B5)			(C6)				FAC-Nei	utral Test (D5)
	on Visible on Aeria		. ,	-	ck Surfac				
	Vegetated Conca		ce (B8)	-	r Well Da				
	tained Leaves (B9)			Other (E	xplain in	Remarks)			
Field Obser									
Surface wate		Yes	No	<u> </u>	Depth (i				Produce of a start st
Water table		Yes	No	X	Depth (i			_	dicators of wetland
Saturation p		Yes	No	Х	Depth (i	ncnes):		. n	ydrology present? N
(includes cap									
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	notos, pre	evious ins	spections), if	available:	
Remarks:									
i temainto.									
l									

Project/Site NICTD W	est Lake Corrido	or	City/Co	ounty:	Lake Cour	nty San	npling Date:	9/14/15
Applicant/Owner:				State:	IN	Sam	pling Point:	Wetland 1
Investigator(s): Anna	Hochhalter, Sco	tt Beckmeyer, Chery	/l Nash	Secti	on, Township	o, Range:		
Landform (hillslope, te	errace, etc.):			Local r	elief (concav	e, convex, noi	ne):	
Slope (%):	Lat:			Long:		Dati	um:	
Soil Map Unit Name					NWI C	Classification:		
Are climatic/hydrologi	c conditions of th	ne site typical for this	time of	the year?	(11	f no, explain ir	n remarks)	
Are vegetation	, soil	, or hydrology		significantly	disturbed?	Are	"normal circu	mstances"
Are vegetation	, soil	, or hydrology	I	naturally pro	oblematic?			present? Yes
SUMMARY OF FI	NDINGS					(If needed, e	explain any a	nswers in remarks.)
Hydrophytic vege	tation present?	Y						
Hydric soil presen	ıt?	Y		Is the s	ampled area	within a wet	land?	Y
Indicators of wetla	and hydrology pr	esent? Y		lf yes, op	otional wetlan	nd site ID:		
Remarks: (Explain alt	ernative procedu	ires here or in a sepa	arate rep	ort.)				
VEGETATION U	Jse scientific r	names of plants.						
		Abe	oluto I	Dominant	Indicator	Dominance	Test Works	heet

Tree Otreture (Distaine)	% Cover	Creation	Staus	
Tree Stratum (Plot size:)	% Cover	Species	Slaus	Number of Dominant Species
1				that are OBL, FACW, or FAC: 3 (A)
2		· ·		Total Number of Dominant
3				Species Across all Strata: 3 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratun (Plot size:)			Prevalence Index Worksheet
1	,			Total % Cover of:
2				OBL species $0 \times 1 = 0$
3				FACW species $70 \times 2 = 140$
<u> </u>		·		
4				· <u> </u>
5				FACU species $0 \times 4 = 0$
	0	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals <u>100</u> (A) <u>230</u> (B)
1 persicaria lapathifolia	40	Y	FACW	Prevalence Index = B/A = 2.30
2 phalaris arundinacea	30	Y	FACW	
3 ipomoea hederacea	30	Y	FAC	Hydrophytic Vegetation Indicators:
3 ipomoea hederacea 4	30	Y	FAC	
3 ipomoea hederacea 45	30	Y	FAC	Rapid test for hydrophytic vegetation
3 ipomoea hederacea 4 5 6	30	Y	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50%
3 ipomoea hederacea 4 5 6 7	30	Y	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0*
4 5 6 7	30	Y	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide
4 5 6 7 8	30	Y	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a
4 5 6 7 8 9	30	Y	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
4 5 6 7 8			FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation*
4 5 6 7 8 9 10			FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
4 5 6 7 8 9			FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be
4 5 6 7 8 9 10			FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
4 5 6 7 8 9 10 Woody vine stratum (Plot size:			FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic
4			FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation
4	 	= Total Cover	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic
4	 	= Total Cover		Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation
4	 	= Total Cover	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation
4	 	= Total Cover	FAC	Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Red	lox Featu	ures				-
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	Remarks
0 - 15	10YR 3/1.5	97	5YR 5/8	3	RM	M	Silty Clay L		
				-				oum	
15 - 27+	10YR 3/1.5	97	5YR 5/8	3	RM	M	Silty Clay		
		Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicato	rs for Proble	ematic Hydric Soils:
Hist	isol (A1)		San	dy Gleye	ed Matrix	(S4)	Coa	st Prairie Red	dox (A16) (LRR K, L, R)
Hist	ic Epipedon (A2)		San	dy Redo	x (S5)				') (LRR K, L)
Blac	ck Histic (A3)		Strip	oped Mat	trix (S6)		5 cm	n Mucky Peat	t or Peat (S3) (LRR K, L, R)
Hyd	rogen Sulfide (A4	·)	Loa	my Muck	xy Minera	al (F1)	Iron-	-Manganese	Masses (F12) (LRR K, L, R)
Stra	tified Layers (A5)		Loa	my Gleye	ed Matrix	(F2)	Very	/ Shallow Dar	rk Surface (TF12)
2 cr	n Muck (A10)			leted Ma			Othe	er (explain in	remarks)
	leted Below Dark		(A11) X Red	ox Dark	Surface	(F6)			
Thic	k Dark Surface (/	A12)	Dep	leted Da	rk Surfac	ce (F7)	*Indic	ators of hydr	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)	Red	ox Depre	essions (F8)			e present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydric	soil presen	t? Y
Depth (inche	s).								···
					•				
Remarks:									
	y clay loam								
Hydric R	ating: Yes								
HYDROLO									
Wetland Hy	drology Indicato	rs:							
Primary Indi	cators (minimum o	of one is	required; check a	ll that ap	<u>ply)</u>		<u>S</u>	Secondary Inc	dicators (minimum of two required)
Surface	Water (A1)				Fauna (B			Surface S	Soil Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plan	its (B14)	-	X Drainage	Patterns (B10)
Saturatio	()			Hydroge	n Sulfide	Odor (C1)		son Water Table (C2)
	arks (B1)				Rhizosp	heres on	Living Roots		Burrows (C8)
	t Deposits (B2)			(C3)			-		n Visible on Aerial Imagery (C9)
· ·	osits (B3)					iced Iron			or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in T	illed Soils		phic Position (D2)
	osits (B5)		(D7)	(C6)		(0-)	-	FAC-Neu	utral Test (D5)
	on Visible on Aeria				ck Surfac				
	Vegetated Conca		e (B8)	-	r Well Da				
	tained Leaves (B9)			Other (E	xpiain in i	Remarks)			
Field Obser		X			D				
Surface wate		Yes	No No	<u> </u>	Depth (i	-			liantana of wattanat
Water table		Yes	No	X	Depth (i	-			licators of wetland
Saturation p		Yes	No	Х	Depth (i	ncnes):		ny ny	/drology present? Y
(includes cap							<i></i>		
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	notos, pre	evious ins	spections), if a	available:	
Domorka									
Remarks:									

Project/Site NITCD	West Lake Corrido)r	City/C	County:	Lake County	Sampling Date	9/14/15
Applicant/Owner:				State:	IN	Sampling Point	:: Upland 1
Investigator(s): Ann	a Hochhalter, Scc	ott Beckmeyer, Chery	/I Nash	Secti	on, Township, R	lange:	
Landform (hillslope,	terrace, etc.):			Local r	elief (concave, c	convex, none):	
Slope (%):	Lat:			Long:		Datum:	
Soil Map Unit Name	Bono silty clay loa	am			NWI Clas	ssification:	none
Are climatic/hydrolog	gic conditions of th	he site typical for this	time of	the year?	(If no	o, explain in remarks)	
Are vegetation	, soil	, or hydrology		significantly	disturbed?	Are "normal cir	cumstances"
Are vegetation	, soil	, or hydrology		naturally pro	oblematic?		present?
SUMMARY OF F	FINDINGS				(1	f needed, explain any	answers in remarks.)
Hydrophytic veg	getation present?	Y					
Hydric soil prese	ent?	Y		Is the s	ampled area wi	thin a wetland?	<u>N</u>
Indicators of we	tland hydrology pr	resent? N		lf yes, op	otional wetland s	site ID:	
Remarks: (Explain a	alternative procedu	ures here or in a sepa	arate rep	port.)			
VEGETATION	Use scientific r	names of plants.					
		Abs	solute	Dominant	Indicator D	Oominance Test Worl	ksheet

Tree Stratum (Plot size:) 1	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
23				Total Number of Dominant Species Across all Strata: 3 (B)
45	0	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1)			Total % Cover of:
2	·			OBL species $0 \times 1 = 0$
3				FACW species $60 \times 2 = 120$
4	·			FAC species $30 \times 3 = 90$
5	·			FACU species 0 x 4 = 0
	0	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals 90 (A) 210 (B)
1 Echinochloa crus-galli	30	Y	FACW	Prevalence Index = $B/A = 2.33$
2 agrostis gigantea	30	Y	FACW	
3 setaria pumila	30	Y	FAC	Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	90	= Total Cover		(explain)
<u>Woody vine stratum</u> (Plot size:1)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a sepa	arate sheet)			

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix		Red	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
0 - 27+	10YR 3/1.5	90	5YR 5/8	3	RM	М	Silty Clay	Loam	
-	ROCK	7							Rock/Asphault
	ROOK	'							RockAspilaut
	Concentration, D =	= Depleti	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix
-	il Indicators:		_						ematic Hydric Soils:
	isol (A1)				ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo	. ,				7) (LRR K, L)
	ck Histic (A3)			oped Ma	. ,				t or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A4			-	ky Minera			-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)				ed Matrix	(F2)		-	rk Surface (TF12)
	n Muck (A10)				atrix (F3)		Oth	er (explain in	remarks)
· · ·	leted Below Dark				Surface	. ,			
	ck Dark Surface (/	,			rk Surfac	. ,			rophytic vegetation and weltand
San	idy Mucky Minera	l (S1)	Rec	lox Depr	essions (F8)	hyd	rology must b	be present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydri	c soil presen	nt? Y
Depth (inche	es):				•		2	-	
Remarks:									
	Cally Dama								
Mapped	Soil: Bono								
		Tasil II	alah Diatumba d						
Emankm	ent for Monon	Irall, H	gniy Disturbed						
HYDROLO)GY								
	drology Indicato	re.							
	cators (minimum o	of one is	required; cneck a			40)	3		dicators (minimum of two required)
	Water (A1)				Fauna (B	,			Soil Cracks (B6)
	ter Table (A2)				uatic Plan	, ,	`		e Patterns (B10)
Saturatio						Odor (C1			son Water Table (C2)
	arks (B1) it Deposits (B2)			(C3)	Rnizosp	neres on	Living Roots		Burrows (C8) on Visible on Aerial Imagery (C9)
	oosits (B3)				e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
·	it or Crust (B4)						illed Soils		phic Position (D2)
	osits (B5)			(C6)	Ion Redu				utral Test (D5)
	on Visible on Aeria	l Imagerv	(B7)		ck Surfac	e (C7)			
	Vegetated Conca				r Well Da	. ,			
	tained Leaves (B9)			-		Remarks))		
Field Obser	. ,	,							
Surface wate		Yes	No	Х	Depth (i	nches).			
Water table	•	Yes	No	X	Depth (i	-		Ind	dicators of wetland
Saturation p		Yes	No	X	Depth (i	-			ydrology present? N
-	pillary fringe)				(1			•	
	corded data (strea	m nauron	monitoring well	aerial n	notos pr		spections) if	available	
Describered		in yauye	, monitoring well,	achai pi	iotos, pre				
Remarks:									
1									

Project/Site NICTD \	West Lake Corrido	r	City/Coun	ty:	Lake County	Sampling Date:	9/14/15
Applicant/Owner:				State:	IN	Sampling Point:	Wetland 4
Investigator(s): Ann	a Hochhalter, Sco	ott Beckmeyer, Cheryl	Nash	Sectio	on, Township, Ran	ige:	
Landform (hillslope,	terrace, etc.):			Local re	elief (concave, cor	ivex, none):	
Slope (%):	Lat:		Lor	ıg:		Datum:	
Soil Map Unit Name	Bono silty clay loa	im			NWI Classif	fication:	none
Are climatic/hydrolog	gic conditions of th	ne site typical for this t	time of the	year?	(lf no, ε	explain in remarks)	
Are vegetation	, soil	, or hydrology	sign	ificantly	disturbed?	Are "normal circu	umstances"
Are vegetation	, soil	, or hydrology	natı	rally pro	blematic?		present?
SUMMARY OF F	INDINGS				(lf n	ieeded, explain any a	answers in remarks.)
Hydrophytic veg	getation present?	Y					
Hydric soil prese	ent?	Y		is the sa	mpled area with	in a wetland?	Y
Indicators of wet	tland hydrology pre	esent? Y	If	f yes, opt	tional wetland site	• ID:	
Remarks: (Explain a	alternative procedu	ires here or in a sepai	rate report.	.)			

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size:) 1 <i>fraxinus pennsylvanica</i>	% Cover 5	Species Y	Staus FACW	Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)
2		<u> </u>	FAGIN	Total Number of Dominant
3		<u> </u>		Species Across all Strata: 4 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
	5	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 acer negundo	60	Y	FAC	Total % Cover of:
2 salix fragilis	10	N	FAC	OBL species 0 x 1 = 0
3 ulmus rubra	5	N	FAC	FACW species 70 x 2 = 140
4 acer saccharinum	5	N	FACW	FAC species 80 x 3 = 240
5 morus alba	5	N	FAC	FACU species 12 x 4 = 48
	85	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals <u>162</u> (A) <u>428</u> (B)
1 lysimachia nummularia	25	Y	FACW	Prevalence Index = B/A = 2.64
2 phragmites australis	25	Y	FACW	
3 solidago gigantea	10	N	FACW	Hydrophytic Vegetation Indicators:
4 solidago altissima	5	N	FACU	Rapid test for hydrophytic vegetation
5 parthenocissus quinquefolia	5	N	FACU	X Dominance test is >50%
6 symphyotrichum pilosum	2	Ν	FACU	X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	72	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
2	0	= Total Cover		vegetation
	U			present? Y
Remarks: (Include photo numbers here or on a separ	rate sheet)			
	uto oncost,			

Profile Desc	cription: (Descri	be to the	e depth needed	o docun	nent the	indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix			dox Feati					-
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
0 + 27+	2.5YR 3/1	95	2.5YR 3/3	5	RM	М	Silty Clay		
0 1 27 1	2.511(5/1	30	2.511(5/5	5	I XIVI	IVI	Silty Clay	Laoin	
*Type: C = C	Concentration, D =	Depleti	on. RM = Reduce	d Matrix.	MS = M	asked Sa	and Grains	**Location	: PL = Pore Lining, M = Matrix
	il Indicators:	Dopiou	,	a 1110a (1174)					ematic Hydric Soils:
-	isol (A1)		Sar	idy Gleye	d Matrix	(\$4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			idy Redo		(04)			7) (LRR K, L)
	ck Histic (A3)			pped Mat					t or Peat (S3) (LRR K, L, R)
	· · ·	`						-	Masses (F12) (LRR K, L, R)
	lrogen Sulfide (A4 atified Layers (A5)			my Muck my Gleye	-			-	
	• • • •					K (F∠)		-	rk Surface (TF12)
	n Muck (A10)	C		leted Ma			Oth	er (explain in	remarks)
	leted Below Dark		. ,	lox Dark		` '			
	ck Dark Surface (/			leted Da		. ,			rophytic vegetation and weltand
San	idy Mucky Minera	I (S1)	Rec	lox Depre	essions (F8)	hyd	rology must t	be present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydri	c soil preser	nt? Y
Depth (inche	es):				•		-	-	
Remarks:									
HYDROLO	DGY								
Wetland Hy	drology Indicato	rs:							
-	cators (minimum		required: check a	III that ap	nlv)		9	Secondary In	dicators (minimum of two required)
	Water (A1)			Aquatic I		13)	-		Soil Cracks (B6)
	ter Table (A2)			True Aqu					e Patterns (B10)
Saturatio						Odor (C1)		son Water Table (C2)
	arks (B1)						, Living Roots	·	Burrows (C8)
	t Deposits (B2)			(C3)			g		on Visible on Aerial Imagery (C9)
	oosits (B3)				e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
·	it or Crust (B4)			-			illed Soils		phic Position (D2)
	osits (B5)			(C6)					utral Test (D5)
	on Visible on Aeria	I Imagery	(B7)	Thin Mu	ck Surfac	e (C7)			
Sparsely	Vegetated Conca	ve Surfac	ce (B8)	Gauge o					
Water-St	tained Leaves (B9))		-		Remarks))		
Field Obser	vations:					,			
Surface wate		Yes	No	х	Depth (i	nches):			
Water table		Yes	X No		Depth (i			Inc	dicators of wetland
Saturation p		Yes	X No		Depth (i				ydrology present? Y
	pillary fringe)					- /		-	
	corded data (strea	m dauge	monitoring well	aerial nh	notos pre	avioue ind	snections) if	available	
		m gauge	, monitoring well,	acriai pi	.5.03, pre				
Remarks:									
	ater fed wetlar	d							

Project/Site NICTD West Lake Corridor		City/County:	Lake Coun	nty Sampling Date	e: 9/14/15			
Applicant/Owner:		State:	IN	Sampling Poin	nt: Upland 4			
Investigator(s): Anna Hochhalter and Scott I	Beckmeyer	Secti	Section, Township, Range:					
Landform (hillslope, terrace, etc.):		Local r	Local relief (concave, convex, none):					
Slope (%): Lat:		Long:		Datum:				
Soil Map Unit NameBono silty clay loam			NWI C	Classification:	none			
Are climatic/hydrologic conditions of the site	typical for this ti	me of the year?	(If	f no, explain in remarks))			
	or hydrology or hydrology	significantly		Are "normal ci (If needed, explain an	ircumstances" present? y answers in remarks.)			
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present?	N N ? N		Is the sampled area within a wetland? N					
Remarks: (Explain alternative procedures he		ate report.)						
			Indicator	Dominance Test Wo				

2				Total Number of Dominant
3				Species Across all Strata: 2 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 50.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1				Total % Cover of:
2				OBL species 0 x 1 = 0
3				FACW species 0 x 2 = 0
4				FAC species 50 x 3 = 150
5				FACU species 50 x 4 = 200
	0	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)	_		Column totals 100 (A) 350 (B)
1 poa pratensis	50	Y	FAC	Prevalence Index = B/A = 3.50
2 vicia sativa	30	Y	FACU	
3 sonchus asper	10	N	FACU	Hydrophytic Vegetation Indicators:
4 trifolium repens	5	N	FACU	Rapid test for hydrophytic vegetation
5 Cirsium vulgare	5	N	FACU	Dominance test is >50%
6				Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	100	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? N
Remarks: (Include photo numbers here or on a se	eparate sheet))		

11	n	lar	hd	Λ
U	D	a	ıu	4

Profile Dese	cription: (Descri	be to the				indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix		Ree	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0+									Gravel
	Concentration D -	- Doplati	n DM - Doduco	d Motrix	M S = M		and Craina	**L continu	· DL – Doro Lining, M – Motriv
	Concentration, D =	- Depietio		u matrix,	1013 - 101	askeu Sa			: PL = Pore Lining, M = Matrix ematic Hydric Soils:
			Cor	du Claur	d Matrix	(04)			dox (A16) (LRR K, L, R)
	tisol (A1)				ed Matrix	(54)		k Surface (S7	
	tic Epipedon (A2)			dy Redo					
	ck Histic (A3)			oped Ma	()			-	t or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	-		-	ky Minera			-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)				ed Matrix	(⊢∠)			rk Surface (TF12)
	n Muck (A10)	o		leted Ma			Oth	er (explain in	remarks)
	bleted Below Dark				Surface	. ,			
	ck Dark Surface (/				irk Surfac				ophytic vegetation and weltand
Sar	ndy Mucky Minera	1(S1)	Rec	lox Depr	essions (F8)	hyd	rology must b	e present, unless disturbed or
									problematic
	Layer (if observe	ed):							
<u> </u>	ravel				-		Hydrid	c soil presen	t? <u>N</u>
Depth (inche	es): 0				-				
Remarks:									
Unable to	o take sample.	Too mu	ich gravel in su	rroundi	ng area				
			5		J				
HYDROLO									
Wetland Hy	drology Indicato	rs:							
Primary Indi	cators (minimum o	of one is	required; check a	II that ap	ply)		<u> </u>	Secondary Inc	dicators (minimum of two required
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface S	Soil Cracks (B6)
High Wa	iter Table (A2)			True Aqu	uatic Plan	its (B14)		Drainage	Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1)	Dry-Seas	son Water Table (C2)
	arks (B1)			Oxidized	l Rhizosp	heres on	Living Roots		Burrows (C8)
	nt Deposits (B2)			(C3)					n Visible on Aerial Imagery (C9)
	oosits (B3)			Presenc	e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
	at or Crust (B4)				ron Redu	ction in T	illed Soils		phic Position (D2)
	osits (B5)		(2-)	(C6)				FAC-Neu	utral Test (D5)
	on Visible on Aeria				ck Surfac				
	Vegetated Conca		e (B8)		r Well Da	. ,			
	tained Leaves (B9))		Other (E	xplain in	Remarks))		
Field Obser					_				
Surface wate		Yes	No	X	Depth (i				
Water table		Yes	No	X	Depth (i	-			licators of wetland
Saturation p		Yes	No	Х	Depth (i	ncnes):		hy	/drology present? N
	pillary fringe)								
Describe rec	corded data (strea	im gauge	, monitoring well,	aerial pł	notos, pre	evious in	spections), if	available:	
Remarks:									
	nd budenterer	roco=1							
INO WELLA	nd hydrology p	resent							

Project/Site NICTD West Lake Corridor	City/C	ounty: Lake County		Sampling Date:	ate: 9/14/15		
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 3		
Investigator(s): Anna Hochhalter, Scott Beckn	neyer, Cheryl Nash	Section	on, Township, Rang	ge:			
Landform (hillslope, terrace, etc.):		Local r	elief (concave, conv	vex, none):			
Slope (%): Lat:		Long:		Datum:			
Soil Map Unit NameUrban land		NWI Classification:					
Are climatic/hydrologic conditions of the site ty	pical for this time of	the year?	(If no, ex	xplain in remarks)			
Are vegetation, soil, or	hydrology	significantly	disturbed?	Are "normal circur	nstances"		
Are vegetation, soil, of	r hydrology	naturally pro	blematic?		present?		
SUMMARY OF FINDINGS			(lf ne	eeded, explain any an	swers in remarks.)		
Hydrophytic vegetation present?	Y						
Hydric soil present?	Y	Is the sampled area within a wetland?					
Indicators of wetland hydrology present?	Y	lf yes, op	tional wetland site	ID:			
Remarks: (Explain alternative procedures here	e or in a separate rep	oort.)					
		,					
VEGETATION Use scientific names	of plants.						

	Absolute	Dominant	Indicator	Dominance Test Worksheet			
Tree Stratum (Plot size:) 1)	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)			
2				Total Number of Dominant			
3				Species Across all Strata: 6 (B)			
4				Percent of Dominant Species			
5				that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)			
	0	= Total Cover					
Sapling/Shrub stratur (Plot size:)			Prevalence Index Worksheet			
1 sambucus nigra	5	Y	FACW	Total % Cover of:			
2				OBL species 0 x 1 = 0			
3				FACW species 55 x 2 = 110			
4				FAC species 12 x 3 = 36			
5				FACU species 10 x 4 = 40			
	5	= Total Cover		UPL species $0 \times 5 = 0$			
Herb stratum (Plot size:)			Column totals 77 (A) 186 (B)			
1 phalaris arundinacea	40	Y	FACW	Prevalence Index = B/A = 2.42			
2 persicaria lapathifolia	10	Y	FACW				
3 symphyotrichum pilosum	10	Y	FACU	Hydrophytic Vegetation Indicators:			
4 helianthus tuberosus	10	Y		Rapid test for hydrophytic vegetation			
5 eupatorium serotinum	10	Y	FAC	X Dominance test is >50%			
6 ipomoea hederacea	2	Ν	FAC	X Prevalence index is ≤3.0*			
7				Morphogical adaptations* (provide			
8				supporting data in Remarks or on a			
9				separate sheet)			
10				Problematic hydrophytic vegetation*			
	82	= Total Cover		(explain)			
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
2	·	<u> </u>		Hydrophytic			
	0	= Total Cover		vegetation			
				present? Y			

Depth	Matrix		Ree	dox Featu	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	dure	Remarks
0 - 24+	2.5YR 3/2	90	7.5YR 4/6	10	RM	М	Silty Clay		
•							enty enty		
/pe: C = C	Concentration, D =	Depleti	on, RM = Reduce	d Matrix,	MS = M	asked Sa	nd Grains.	**Locatio	on: PL = Pore Lining, M = Matrix
	oil Indicators:								plematic Hydric Soils:
-	tisol (A1)		Sar	idy Gleye	ed Matrix	(S4)			edox (A16) (LRR K, L, R)
	tic Epipedon (A2)			dy Redo		(-)			67) (LRR K, L)
	ck Histic (A3)			pped Mat					at or Peat (S3) (LRR K, L, R)
	drogen Sulfide (A4)		my Muck	. ,	al (F1)		•	e Masses (F12) (LRR K, L, R)
	atified Layers (A5)	-		my Gleye	•	. ,		-	ark Surface (TF12)
	m Muck (A10)			oleted Ma		(i Z)		er (explain i	
	()	Surfa							
	pleted Below Dark			lox Dark		. ,			
	ck Dark Surface (A	,		leted Da					drophytic vegetation and weltar
Sar	ndy Mucky Minera	(51)	Rec	lox Depre	essions (r8)	hyd	rology must	be present, unless disturbed o
									problematic
estrictive	Layer (if observe	ed):							
vpe:							Hydri	c soil prese	ent? Y
epth (inche	es):						-		
amarke.									
emarks:									
Bono silt	y clay loams								
Bono silt	y clay loams idicator: Yes								
Bono silt									
Bono silt Hydric In	dicator: Yes								
Bono silt Hydric In YDROLC	dicator: Yes								
Bono silt Hydric In YDROLC /etland Hy	dicator: Yes DGY drology Indicato								
Bono silt Hydric In YDROLC retland Hy	odicator: Yes DGY drology Indicato cators (minimum d		required; check a	Il that ap	ply)				
Bono silt Hydric In YDROLC etland Hy imary Indi Surface	OGY drology Indicato cators (minimum of Water (A1)		required; check a	Ill that ap Aquatic F		13)			ndicators (minimum of two requerson) Soil Cracks (B6)
Bono silt Hydric In YDROLC etland Hy imary Indi Surface	odicator: Yes DGY drology Indicato cators (minimum d		required; check a	Aquatic I True Aqu	Fauna (B uatic Plan	nts (B14)		Surface	e Soil Cracks (B6) ge Patterns (B10)
Bono silt Hydric In YDROLC etland Hy imary Indi Surface	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2)		required; check a	Aquatic I True Aqu	Fauna (B uatic Plan	,		Surface	e Soil Cracks (B6)
Bono silt Hydric In YDROLC etland Hy imary Indi Surface High Wa Saturatio	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2)		required; check a	Aquatic I True Aqu Hydroge	Fauna (B uatic Plan n Sulfide	nts (B14) Odor (C1		Surface X Drainag Dry-Sea	e Soil Cracks (B6) ge Patterns (B10)
Bono silt Hydric In YDROLC etland Hy imary Indi Surface High Wa Saturatic Water M	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3)		required; check a	Aquatic I True Aqu Hydroge	Fauna (B uatic Plan n Sulfide	nts (B14) Odor (C1)	Surface X Drainag Dry-Sea Crayfis	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1)		required; check a	Aquatic I True Aqu Hydroge Oxidized (C3)	Fauna (B uatic Plan n Sulfide I Rhizosp	nts (B14) Odor (C1) Living Roots	Surface X Drainag Dry-Sea Crayfis Saturat	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8)
Bono silt Hydric In YDROLC etland Hy imary Indi Surface High Wa Saturatio Water M C Sedimer Drift Dep	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		required; check a	Aquatic I True Aqu Hydroge Oxidized (C3) Presence	Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on uced Iron) Living Roots	Surface X Drainag Dry-Sea Crayfisl Saturat Stunted	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9
Bono silt Hydric In YDROLC Tetland Hy rimary Indii Surface High Wa Saturatio Water M C Sedimer Drift Dep Algal Ma	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)		required; check a	Aquatic I True Aqu Hydroge Oxidized (C3) Presence	Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on uced Iron) Living Roots (C4)	X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	of one is		Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6)	Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	ts (B14) Odor (C1 heres on uced Iron ction in T) Living Roots (C4)	X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) rphic Position (D2)
Bono silt Hydric In YDROLC etland Hy imary Indi Surface High Wa Saturatic Water M Saturatic Urift Dep Algal Ma Iron Dep Inundatic	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one is	(B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Mud	Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu	ts (B14) Odor (C1 heres on uced Iron uction in T e (C7)) Living Roots (C4)	X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) rphic Position (D2)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Saturatic Urift Dep Drift Dep Iron Dep Inundatic Sparsely	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	of one is I Imagery ve Surfac	(B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence (C6) Thin Muc Gauge o	Fauna (B uatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da	ts (B14) Odor (C1 heres on uced Iron uction in T e (C7)) Living Roots (C4) illed Soils	X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) rphic Position (D2)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M C Sedimer Drift Dep Algal Ma Iron Dep Inundatid Sparsely Water-S	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9)	of one is I Imagery ve Surfac	(B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence (C6) Thin Muc Gauge o	Fauna (B uatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da	nts (B14) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9)) Living Roots (C4) illed Soils	X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) rphic Position (D2)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M C Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9) vations:	of one is I Imagery ve Surfac	(B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E	Fauna (B uatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in	nts (B14) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9) Remarks)) Living Roots (C4) illed Soils	X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo	ge Patterns (B10) ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) rphic Position (D2)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S eld Obser Irface wate	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9) vations: er present?	of one is I Imagery ve Surfac Yes	(B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E	Fauna (B uatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i	nts (B14) Odor (C1 heres on uced Iron iction in T e (C7) ata (D9) Remarks) nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser urface wate ater table	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present?	of one is I Imagery ve Surfac Yes Yes	(B7) (B7) (B8) (De (B8) (De (B8)) (De (Da	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X	Fauna (B Juatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron iction in T e (C7) ata (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S eld Obser atter table atturation p	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present?	of one is I Imagery ve Surfac Yes	(B7)	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E	Fauna (B uatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i	nts (B14) Odor (C1 heres on uced Iron iction in T e (C7) ata (D9) Remarks) nches): nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Sea Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Saturatic Water M Saturatic Water M Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser Inface wate ater table	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present? pillary fringe)	I Imagery ve Surfac Yes Yes Yes	(B7) (B7) (B8) (B8) (No No No	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X X	Fauna (B Juatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) tta (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Se Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Bono silt Hydric In YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Saturatic Water M Saturatic Water M Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser Inface wate ater table	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present?	I Imagery ve Surfac Yes Yes Yes	(B7) (B7) (B8) (B8) (No No No	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X X	Fauna (B Juatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) tta (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Se Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Algal Mater S Algal Abserved Algal Abserved	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present? pillary fringe)	I Imagery ve Surfac Yes Yes Yes	(B7) (B7) (B8) (B8) (No No No	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X X	Fauna (B Juatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) tta (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Se Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Algal Mater Sales water table turation pcludes ca	DGY drology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) vations: er present? present? pillary fringe)	I Imagery ve Surfac Yes Yes Yes	(B7) (B7) (B8) (B8) (No No No	Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X X	Fauna (B Juatic Plan n Sulfide l Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) tta (D9) Remarks) nches): nches): nches):) Living Roots (C4) illed Soils	Surface X Drainag Dry-Se Crayfisl Saturat Stunted Geomo FAC-Ne	e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)

Project/Site NICTD	West Lake Corridor	City/	/County:	Lake Cou	unty Sa	mpling Date:	9/14/15	9/14/15	
Applicant/Owner:			·	State:	IN	Sar	mpling Point:	Upland 3	3
Investigator(s): Ann	a Hochhalter and S	cott Beckmeyer		Secti	ion, Townshi	ip, Range:			
Landform (hillslope,	terrace, etc.):			Local relief (concave, convex, none):					
Slope (%):	Lat:			Long:		Da	itum:		
Soil Map Unit Name	Bono silty clay loar			NWI Classification:			None		
Are climatic/hydrolog	gic conditions of the	e site typical for th	is time c	of the year?	((If no, explain i	in remarks)		
Are vegetation , soil , or hydrology			/	significantly	disturbed?	Are	e "normal circum	al circumstances"	
Are vegetation	tion , soil , or hydrology		/	naturally pro	oblematic?		r	present?	
SUMMARY OF F	FINDINGS	-		(If needed, explain any answers in remarks.)					
Hydrophytic veg	getation present?	N							
Hydric soil prese	ent?	N		Is the sampled area within a wetland?					
Indicators of we	tland hydrology pre	esent? N		If yes, optional wetland site ID:					
Remarks: (Explain a	alternative procedur	es here or in a se	parate r	eport.)					
				- F - 7					
VEGETATION	· Use scientific n	ames of plants							
_			bsolute	Dominant	Indicator	Dominanc	e Test Workshe	et	
Tree Stratum	(Plot size:) %	Cover	Species	Staus	Number of [Dominant Species	5	
1						that are OBL	L, FACW, or FAC:	1	(A)
2						Total Nur	mber of Dominant	t	-

23				Total Number of Dominant Species Across all Strata: 2 (B)
4 5	0	= Total Cover		Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet Total % Cover of:
2				OBL species $0 \times 1 = 0$
3				FACW species $0 \times 2 = 0$
4				FAC species $50 \times 3 = 150$
5				FACU species $50 \times 4 = 200$
	0	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)	—		Column totals 100 (A) 350 (B)
1 poa pratensis	50	Y	FAC	Prevalence Index = $B/A = 3.50$
2 vicia sativa	30	- <u> </u>	FACU	
3 sonchus asper	10		FACU	Hydrophytic Vegetation Indicators:
4 trifolium repens	5	N	FACU	Rapid test for hydrophytic vegetation
5 Cirsium vulgare	5		FACU	Dominance test is >50%
6				Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	100	= Total Cover		(explain)
<u>Woody vine stratum</u> (Plot size:))			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation present? N
Pomarka: (Include photo numbers here or on a sena	rate sheet	<u></u>		
Remarks: (Include photo numbers here or on a separate	ale sneet	.)		

Upland 3

Profile Desc	cription: (Descri	be to the	e depth needed	o docun	nent the	indicato	or or confirm	the absence	of indicators.)
Depth	Matrix			dox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	Remarks
0+									Gravel
+T		Dealet		-1. 1. 4 - 4				**! 1'	DL Deve Listers M. Matrix
	Concentration, D =	Depletio	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix
-	il Indicators:					(0 1)			ematic Hydric Soils:
	tisol (A1)				ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			idy Redo				Surface (S7	
	ck Histic (A3)			pped Ma	. ,			-	or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4			•	ky Minera	. ,		-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)				ed Matrix	(⊦2)			k Surface (TF12)
	m Muck (A10)			leted Ma		(50)	Othe	er (explain in	remarks)
	leted Below Dark				Surface	. ,			
	ck Dark Surface (A	-			irk Surfac				ophytic vegetation and weltand
San	ndy Mucky Minera	l (S1)	Rec	lox Depre	essions (F8)	hydr	ology must b	e present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Туре: G	ravel						Hydric	soil presen	t? N
Depth (inche	es): 0				•				
Remarks:		-							
Unable to	o take sample.	Too mu	ich gravel in su	rroundi	ng area				
HYDROLO									
-	drology Indicato								
-	cators (minimum o	of one is	required; check a				<u>S</u>		dicators (minimum of two required
	Water (A1)				Fauna (B	,	-		Soil Cracks (B6)
	iter Table (A2)			-	uatic Plan		、	-	Patterns (B10)
Saturatio					n Sulfide		-		son Water Table (C2)
	arks (B1)				Rhizosp	heres on	Living Roots		Burrows (C8)
	nt Deposits (B2)			(C3)	a of Dodu	and Iron	(C4)		n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
	oosits (B3) at or Crust (B4)				e of Redu		• •		ohic Position (D2)
	osits (B5)			(C6)	ion Redu	Cuon in T	illed Soils		itral Test (D5)
	on Visible on Aeria	Imagery	(B7)		ck Surfac	o (C7)	-		
	Vegetated Conca			-	or Well Da				
	tained Leaves (B9)			- °	xplain in l	• •	1		
Field Obser	()						,		
Surface wate		Yes	No	Х	Depth (i	nchee).			
Water table	•	Yes	No	×	Depth (i			Inc	licators of wetland
Saturation p		Yes	No	<u> </u>	Depth (i				/drology present? N
-	pillary fringe)	103		~	- Sobri (i			(')	
-		maguas	monitoring well	aorial n	notos pre		enectione) if	available:	
Describe rec	corded data (strea	m yauye	, monitoring well,	aenai pr	iolos, pre	Evious In	speciions), if a	avalidule.	
Remarks:									
	nd hydrology p	resent							
110 11010		00011							

Project/Site NICTD	West Lake Corrido	or	City/Count	ty:	Lake County	Sampling Date:	9/15/15
Applicant/Owner:				State:	IN	Sampling Point:	Wetland 5
Investigator(s): Ann	a Hochhalter and	Scott Beckmeyer		Secti	on, Township, Ra	inge:	
Landform (hillslope,	terrace, etc.):			Local r	elief (concave, co	onvex, none):	
Slope (%):	Lat:		Lon	ig:		Datum:	
Soil Map Unit Name	Watseka silt loam	l			NWI Class	ification:	
Are climatic/hydrolo	gic conditions of t	he site typical for this	time of the	year?	(If no,	explain in remarks)	
Are vegetation	, soil	, or hydrology	sign	ificantly	disturbed?	Are "normal circur	nstances"
Are vegetation	, soil	, or hydrology	natu	irally pro	oblematic?		present?
SUMMARY OF F	INDINGS				(If	needed, explain any an	swers in remarks.)
Hydrophytic veg	jetation present?	Y					
Hydric soil prese	ent?	Y	1	s the sa	ampled area witl	nin a wetland?	Y
Indicators of we	tland hydrology pr	resent? Y	lf	yes, op	tional wetland sit	e ID:	
Remarks: (Explain a	alternative procedu	ures here or in a sepa	arate report.)			
, , ,	·			,			
VEGETATION	l lea scientific	names of plants					

er Species	FAC FAC FACW FACW	Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)Total Number of Dominant Species Across all Strata: 4 (B)Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)Prevalence Index WorksheetTotal % Cover of: OBL species 10 x 1 = 10 FACW species 100 x 2 = 200 FAC species 15 x 3 = 45 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column table 125 (A)
Y Y Y N	FAC FAC FACW FACW	Species Across all Strata:4(B)Percent of Dominant Speciesthat are OBL, FACW, or FAC: 100.00% (A/B)Prevalence Index WorksheetTotal % Cover of:OBL species $10 \times 1 = 10$ FACW species $100 \times 2 = 200$ FAC species $15 \times 3 = 45$ FACU species $0 \times 4 = 0$ UPL species $0 \times 5 = 0$
Y Y Y N	FAC FAC FACW FACW	Percent of Dominant Speciesthat are OBL, FACW, or FAC:100.00%Prevalence Index WorksheetTotal % Cover of:OBL species10x 1 =10FACW species100x 2 =200FAC species15x 3 =45FACU species0x 4 =0UPL species0x 5 =0
Y Y Y N	FAC FAC FACW FACW	that are OBL, FACW, or FAC: 100.00% (A/B)Prevalence Index WorksheetTotal % Cover of:OBL species10 $x 1 = 10$ FACW species100 $x 2 = 200$ FAC species15 $x 3 = 45$ FACU species0 $x 4 = 0$ UPL species0 $x 5 = 0$
Y Y Y N	FAC FAC FACW FACW	Prevalence Index WorksheetTotal % Cover of:OBL species10 $x 1 =$ 10FACW species100 $x 2 =$ 200FAC species15 $x 3 =$ 45FACU species0 $x 4 =$ 0UPL species0 $x 5 =$ 0
Y Y Y N	FAC FAC FACW FACW	Total % Cover of:OBL species10 $x 1 =$ 10FACW species100 $x 2 =$ 200FAC species15 $x 3 =$ 45FACU species0 $x 4 =$ 0UPL species0 $x 5 =$ 0
Y Y N	FAC FACW FACW	Total % Cover of:OBL species10 $x 1 =$ 10FACW species100 $x 2 =$ 200FAC species15 $x 3 =$ 45FACU species0 $x 4 =$ 0UPL species0 $x 5 =$ 0
Y Y N	FAC FACW FACW	OBL species10x 1 =10FACW species100x 2 =200FAC species15x 3 =45FACU species0x 4 =0UPL species0x 5 =0
Y N	FACW FACW	FACW species100x 2 =200FAC species15x 3 =45FACU species0x 4 =0UPL species0x 5 =0
<u>N</u>	FACW	FAC species15 $x 3 =$ 45FACU species0 $x 4 =$ 0UPL species0 $x 5 =$ 0
		FACU species 0 $x 4 =$ 0 UPL species 0 $x 5 =$ 0
= Total Cover		UPL species 0 x 5 = 0
= Total Cover		
		Column totals 125 (A) 255 (D)
		Column totals 125 (A) 255 (B)
Y	FACW	Prevalence Index = B/A = 2.04
N	OBL	
N	FACW	Hydrophytic Vegetation Indicators:
N	FACW	Rapid test for hydrophytic vegetation
N	FACW	X Dominance test is >50%
		X Prevalence index is ≤3.0*
		Morphogical adaptations* (provide
		supporting data in Remarks or on a
		separate sheet)
		Problematic hydrophytic vegetation*
= Total Cover		(explain)
		*Indicators of hydric soil and wetland hydrology must be
	FACW	present, unless disturbed or problematic
		Hydrophytic
= Total Cover		vegetation present? Y
	N N N =	N FACW N FACW N FACW = Total Cover = Total Cover

	cription: (Descri	be to the	e depth nee				indicato	or or confirm	the absenc	e of indicators.)
Depth	<u>Matrix</u>	0/	Oslav (dox Feat		1	-		Denned
(Inches)	Color (moist)	%	Color (mo	-	%	Type*	Loc**		xture	Remarks
0 - 10	2.5YR 5/2	90	2.5YR 5	/6	3	RM	М	Silt Loam		
	6/10 Y	7						Silt Loam		Gley
10 - 20	10YR 4/1	95	7YR 5/	8	5	RM	М	Sandy Cla	avloam	
	101111-1/1	00	1110	0	Ŭ		101	Culluy Old	ly Louin	Deals
20+								-		Rock
	Concentration, D =	= Depleti	n, RM = Re	duce	d Matrix,	MS = M	asked Sa			n: PL = Pore Lining, M = Matrix
	il Indicators:			_						ematic Hydric Soils:
	tisol (A1)			-	ndy Gleye		(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			_	ndy Redo	. ,				7) (LRR K, L)
	ck Histic (A3)			_	pped Ma	. ,			-	t or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	-		-	my Mucł	-			-	Masses (F12) (LRR K, L, R)
Stra	atified Layers (A5))			my Gley				-	rk Surface (TF12)
2 cr	m Muck (A10)		X	Dep	pleted Ma	atrix (F3)		Oth	ner (explain in	remarks)
Dep	leted Below Dark	Surface	(A11)	Red	dox Dark	Surface	(F6)			
Thio	ck Dark Surface (A	A12)		Dep	oleted Da	ark Surfa	ce (F7)	*Indi	cators of hyd	rophytic vegetation and weltand
San	ndy Mucky Minera	l (S1)		Red	dox Depr	essions ((F8)			be present, unless disturbed or
				_					0,7	problematic
Postriotivo	Layer (if observe	v4)•					1			
		eu):						والمرابع		42 V
<i></i>	ock					-		Hydri	c soil preser	ot? <u>Y</u>
Depth (inche	es): 20					-				
Remarks:										
Mapped	Soil: Watseka	(No hvd	ric rating)							
mappea		(
HYDROLO	DGY									
	drology Indicato	ors:								
-	cators (minimum		roquirod: ob	ook r	all that an				Sacandanula	diastara (minimum of two require
	•		required, cri	ECK C			10)			dicators (minimum of two require
	Water (A1)					Fauna (B				Soil Cracks (B6)
-	iter Table (A2)				-	uatic Plar				e Patterns (B10)
X Saturatio							Odor (C		·	son Water Table (C2)
	arks (B1)					l Rhizosp	heres on	Living Roots		Burrows (C8)
	nt Deposits (B2)				(C3)	((0.1)		on Visible on Aerial Imagery (C9)
	oosits (B3)				-		uced Iron	. ,		or Stressed Plants (D1)
-	at or Crust (B4)					ron Redu	iction in T	Filled Soils		phic Position (D2)
	osits (B5)				(C6)				FAC-Ne	utral Test (D5)
	on Visible on Aeria				-	ck Surfac				
	Vegetated Conca		e (B8)		-	or Well Da				
Water-St	tained Leaves (B9)			Other (E	xplain in	Remarks	5)		
Field Obser	vations:									
Surface wate	er present?	Yes		No	Х	Depth (i	inches):			
Water table	present?	Yes		No	Х	Depth (i	inches):		- In	dicators of wetland
Saturation p	resent?	Yes	Х	No		Depth (i	inches):		- h	ydrology present? Y
(includes ca	pillary fringe)					-			-	
	corded data (strea	m naune	monitoring	well	aerial n	notos pr	evious in	spections) if	available	
		an yauye	, monitoring	weil	, acriai pi	.5.03, pr				
Remarks:										
CINAINS.										

Project/Site NICTD	West Lake Corridor	5	City/County:	Lake County	Sampling Date:	9/17/15
Applicant/Owner:			State:	IN	Sampling Point:	Upland 5
Investigator(s): Anr	na Hochhalter and S	Scott Beckmeyer	Se	ction, Township, Ra	ange:	
Landform (hillslope,	, terrace, etc.):		Loca	l relief (concave, co	onvex, none):	
Slope (%):	Lat:		Long:		Datum:	
Soil Map Unit Name	₂Watseka silt loam			NWI Class	sification:	None
Are climatic/hydrolo	ogic conditions of the	e site typical for this	time of the year?	(If no,	, explain in remarks)	
Are vegetation	, soil	, or hydrology	significan	tly disturbed?	Are "normal circ	umstances"
Are vegetation	, soil	, or hydrology	naturally	problematic?		present?
SUMMARY OF	FINDINGS			(If	f needed, explain any a	answers in remarks.)
Hydrophytic veg	getation present?	Y				
Hydric soil pres	ent?	Ν	Is the	sampled area wit	hin a wetland?	Ν
Indicators of we	etland hydrology pre	sent? N	If yes,	optional wetland sit	te ID:	
Remarks: (Explain a	alternative procedur	res here or in a sep	arate report.)			

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 alianthus altissima	20	Y		that are OBL, FACW, or FAC: 3 (A)
2 caltalpa speciosa	20	Y		Total Number of Dominant
3				Species Across all Strata: 8 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: <u>37.50%</u> (A/B)
	40	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 rhamnus frangula	10	Y		Total % Cover of:
2 acer negundo	5	Y	FAC	OBL species 0 x 1 = 0
3 ulmus species	5	Y		FACW species 88 x 2 = 176
4				FAC species $5 \times 3 = 15$
5				FACU species 20 x 4 = 80
	20	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size:)			Column totals 113 (A) 271 (B)
1 poa palustris	80	Y	FACW	Prevalence Index = B/A = 2.40
2 solidago altissima	20	Y	FACU	
3				Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8		. <u></u>		supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	100	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be
1 vitis riparia	8	Y	FACW	present, unless disturbed or problematic
2				Hydrophytic
	8	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a separation of the sep	rate sheet)			

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	Matrix		-	dox Feat					•
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
1 - 10	10YR 4/1	100					Loamy Sa	nd	No observed redo features
10 - 25+	2.5Y 2.5/1	100					Loamy Sa		No observed redo features
10-231	2.51 2.5/1	100					LUaniy Sa	nu	NO Observed redo realdres
	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix
-	il Indicators:								ematic Hydric Soils:
	isol (A1)				ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			idy Redo				k Surface (S7	
	ck Histic (A3)			pped Ma	. ,			-	t or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A4				ky Minera	. ,		-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)				ed Matrix	(F2)	Ver	y Shallow Da	rk Surface (TF12)
2 cr	n Muck (A10)		Dep	leted Ma	atrix (F3)		Oth	er (explain in	remarks)
Dep	leted Below Dark	Surface	(A11) Rec	lox Dark	Surface	(F6)			
Thic	ck Dark Surface (/	A12)	Dep	leted Da	rk Surfac	ce (F7)	*Indi	cators of hydr	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)	Rec	lox Depr	essions (F8)			e present, unless disturbed or
							-		problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydri	c soil presen	t? N
Depth (inche	is).				•		i i j ci i		
					•				
Remarks:									
	loamy fine san	d							
No hydrio	c indicators								
HYDROLO									
-	drology Indicato								
Primary India	cators (minimum o	of one is	required; check a	Ill that ap	ply)		<u>.</u>	Secondary Ind	dicators (minimum of two required)
	Water (A1)			Aquatic	Fauna (B	13)		Surface \$	Soil Cracks (B6)
-	ter Table (A2)				uatic Plan				Patterns (B10)
Saturatio				Hydroge	n Sulfide	Odor (C1)		son Water Table (C2)
	arks (B1)				l Rhizospl	heres on	Living Roots		Burrows (C8)
	t Deposits (B2)			(C3)					n Visible on Aerial Imagery (C9)
	oosits (B3)			-	e of Redu		. ,		or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in T	illed Soils		ohic Position (D2)
	osits (B5)		(5-7)	(C6)				FAC-Neu	utral Test (D5)
	on Visible on Aeria			-	ck Surfac				
	Vegetated Conca		e (B8)		r Well Da	. ,			
	tained Leaves (B9)			Other (E	xplain in l	Remarks)			
Field Obser									
Surface wate	•	Yes	No	X	Depth (ii	-			
Water table		Yes	No	X	Depth (i	-			licators of wetland
Saturation p		Yes	No	Х	Depth (i	ncnes):		. h	/drology present? N
-	pillary fringe)								
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial ph	notos, pre	evious ins	spections), if	available:	
Remarks:									
No obser	rved hydrology								

Project/Site NICTD	West Lake Corride	or	City/Coun	ty:	Lake County	Sampling Date:	9/15/15
Applicant/Owner:				State:	IN	Sampling Point:	Wetland 6
Investigator(s): Ann	na Hochhalter and	Scott Beckmeyer		Section	on, Township, Ran	ige:	
Landform (hillslope,	, terrace, etc.):			Local re	elief (concave, con	ivex, none):	
Slope (%):	Lat:		Lon	ıg:		Datum:	
Soil Map Unit Name	Watseka silty clav	y loam			NWI Classif	ication:	
Are climatic/hydrolo	gic conditions of t	the site typical for this	time of the	year?	(If no, e	explain in remarks)	
Are vegetation	, soil	, or hydrology	sign	ificantly	disturbed?	Are "normal circur	nstances"
Are vegetation	, soil	, or hydrology	natu	arally pro	oblematic?		present?
SUMMARY OF	FINDINGS				(If n	eeded, explain any an	swers in remarks.)
Hydrophytic veç	getation present?	Y					
Hydric soil pres	ent?	Y		s the sa	ampled area withi	n a wetland?	Y
Indicators of we	etland hydrology pr	resent? Y	If	f yes, op	otional wetland site	ID:	
Remarks: (Explain a	alternative proced	ures here or in a sepa	arate report.	.)			

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 crataegus mollis	30	Y	FAC	that are OBL, FACW, or FAC: 6 (A)
2 fraxinus pennsylvanica	30	Y	FACW	Total Number of Dominant
3 populus deltoides	5	Ν	FAC	Species Across all Strata: 6 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	65	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 fraxinus pennsylvanica	15	Y	FACW	Total % Cover of:
2 ulmus americana	5	Y	FACW	OBL species 20 x 1 = 20
3 crataegus mollis	5	Y	FAC	FACW species 105 x 2 = 210
4				FAC species 50 x 3 = 150
5				FACU species 0 x 4 = 0
	25	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:))			Column totals <u>175</u> (A) <u>380</u> (B)
1 impatiens capensis	50	Y	FACW	Prevalence Index = B/A = 2.17
2 symphyotrichum lanceolatum	10	N	FAC	
3 scutellaria lateriflora	10	Ν	OBL	Hydrophytic Vegetation Indicators:
4 bidens cernua	10	N	OBL	Rapid test for hydrophytic vegetation
5 phragmites australis	5	N	FACW	X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	85	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a separ	ate sheet)			

Depth	Matrix		R	edox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks
0 - 9	5Y 2.5/1	100	,				Silty Clay		
9 - 23+	5Y 4/2	97	10YR 6/8	3	RM	М	Silt Loam	Louin	
9-23+	514/2	97	101 K 0/0	3	RIVI	IVI	Silt Loan		
				_					
				_					
ype: C = C	Concentration, D =	= Depletio	on, RM = Reduc	ed Matrix,	, MS = M	asked Sa	and Grains.	**Locatior	n: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicate	ors for Prob	ematic Hydric Soils:
Hist	isol (A1)		Sa	andy Gley	ed Matrix	(S4)	Coa	ast Prairie Re	edox (A16) (LRR K, L, R)
Hist	ic Epipedon (A2)		Sa	andy Redo	ox (S5)		Dar	k Surface (S	7) (LRR K, L)
Bla	ck Histic (A3)		St	ripped Ma	trix (S6)		5 ci	n Mucky Pea	at or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	1)		amy Mucl		al (F1)			Masses (F12) (LRR K, L, R)
	atified Layers (A5)			amy Gley	-			-	ark Surface (TF12)
	n Muck (A10)			epleted Ma		. ,		er (explain in	· ,
	eted Below Dark	Surface		edox Dark	. ,			(pe	,
	ck Dark Surface (epleted Da		. ,	*lodi	octors of bud	rophytic vegetation and weltan
	idy Mucky Minera			edox Depr					be present, unless disturbed of
0ai		1(01)		Suox Depi	63310113 ((10)	nyu	rology must	problematic
						1			P
octrictivo.	l avor (it obcorva	yy.							
	Layer (if observe	<i>.</i>							
/pe:					_		Hydri	c soil presei	nt? Y
vpe: epth (inche emarks:		-	ric rating)		-		Hydri	c soil presei	nt? <u>Y</u>
rpe: epth (inche emarks:	es):	-	ric rating)		-		Hydri	c soil prese	nt? <u>Y</u>
vpe: epth (inche emarks: Mapped	soil: Watseka	-	ric rating)		-		Hydri	c soil prese	nt? <u>Y</u>
vpe: epth (inche emarks: Mapped YDROLC	soil: Watseka	(No hyd	ric rating)		-		Hydri	c soil prese	nt? <u>Y</u>
vpe: epth (inche emarks: Mapped YDROLC etland Hy	es): Soil: Watseka DGY drology Indicato	(No hyd		all that ap	- -				
rpe: epth (inche emarks: Mapped YDROLC etland Hy imary Indi	soil: Watseka Soil: Watseka OGY drology Indicato cators (minimum	(No hyd	required; check	-		13)		Secondary In	dicators (minimum of two requ
pe: pth (inche marks: Mapped YDROLC etland Hy imary Indi Surface	Soil: Watseka OGY drology Indicato cators (minimum Water (A1)	(No hyd	required; check	Aquatic	Fauna (B			Secondary In	dicators (minimum of two requ Soil Cracks (B6)
pe: pth (inche marks: Mapped YDROLO etland Hy mary Indi Surface High Wa	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2)	(No hyd	required; check	Aquatic	Fauna (B uatic Plar	nts (B14)		Secondary In X Surface	<u>dicators (minimum of two requ</u> Soil Cracks (B6) e Patterns (B10)
pe: marks: Mapped YDROLO etland Hy mary Indi Surface High Wa Saturatio	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3)	(No hyd	required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C	1)	Secondary In X Surface Drainag	dicators (minimum of two requ Soil Cracks (B6)
pe: epth (inche emarks: Mapped YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M	Soil: Watseka DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)	(No hyd	required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C		Secondary In X Surface Drainag Dry-Sea	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2)
pe: marks: Mapped YDROLC etland Hy imary India Surface High Wa Saturatio Water M Sedimer	Soil: Watseka DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2)	(No hyd	required; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C heres on	1) Living Roots	Secondary In X Surface Drainag Dry-Sea Crayfish Saturatio	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9
pe: epth (inche emarks: Mapped YDROLC etland Hy imary India Surface High Wa Saturatio Vater M Sedimer Drift Dep	Soil: Watseka DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)	(No hyd	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C heres on uced Iron	1) Living Roots	Secondary In X Surface Drainag Dry-Sea Crayfish Saturati Stunted	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2)
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pe: epth (inche emarks: Mapped YDROLC etland Hy imary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) th Deposits (B2) posits (B3) t or Crust (B4)	(No hyd	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C wheres on uced Iron uction in T	1) Living Roots (C4)	Secondary In X Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1)
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rpe: epth (inche emarks: Mapped YDROLC etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) tor Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9	(No hyd	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent (C6) Thin Mu Gauge o	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu ck Surfac or Well Da	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9)	1) Living Roots (C4) illed Soils	Secondary In X Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
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ype: epth (inche emarks: Mapped YDROLO Yetland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatii Sparsely Water-S eld Obser urface wate	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B1) arks (B2) posits (B3) arks (B3) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria vegetated Conca tained Leaves (B9 vations: er present?	(No hyd ors: of one is I Imagery ve Surfac) Yes	required; check 	Aquatic True Aq Hydroge Oxidized (C3) Presend (C6) Thin Mu Gauge o Other (E	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu ck Surfac or Well Da Explain in	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9) Remarks	1) Living Roots (C4) illed Soils	Secondary In X Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) Ison Water Table (C2) I Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2)
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ype: epth (inche emarks: Mapped YDROLC Yetland Hy fimary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S Vater table aturation p	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) it or Crust (B4) oosits (B5) on Visible on Aeria vegetated Conca tained Leaves (B9 vations: er present? present? resent?	(No hyd ors: of one is I Imagery ve Surfac) Yes	required; check 	Aquatic True Aq Hydroge Oxidized (C3) Presend (C6) Thin Mu Gauge o Other (E	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu ck Surfac or Well Da Explain in	nts (B14) Odor (C heres on uced Iron uction in T e (C7) ata (D9) Remarks inches): inches):	1) Living Roots (C4) illed Soils	Secondary In X Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5)
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pe: epth (inche emarks: Mapped YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser ater table tturation p cludes ca	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) it or Crust (B4) oosits (B5) on Visible on Aeria vegetated Conca tained Leaves (B9 vations: er present? present? resent?	(No hyd ors: of one is of one is l Imagery ve Surfac) Yes Yes Yes Yes	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E X X X	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da Explain in Depth (i Depth (i	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9) Remarks inches): inches):	1) Living Roots (C4) illed Soils)	Secondary In X Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland
pe: epth (inche emarks: Mapped YDROLC etland Hy imary Indii Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S eld Obser ater table tturation p cludes ca	Soil: Watseka OGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 vations: er present? present? pillary fringe)	(No hyd ors: of one is of one is l Imagery ve Surfac) Yes Yes Yes Yes	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E X X X	Fauna (B uatic Plar en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da Explain in Depth (i Depth (i	nts (B14) Odor (C heres on uced Iron uction in T ee (C7) ata (D9) Remarks inches): inches):	1) Living Roots (C4) illed Soils)	Secondary In X Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne	dicators (minimum of two requ Soil Cracks (B6) e Patterns (B10) ison Water Table (C2) i Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) phic Position (D2) utral Test (D5) dicators of wetland

Project/Site NICTD West Lake Corridor	City/County:		Lake County	Sampling Date:	9/17/15			
Applicant/Owner:	St	ate:	IN	Sampling Point:	Upland 6			
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section	n, Township, Ran	ge:				
Landform (hillslope, terrace, etc.):	L	Local relief (concave, convex, none):						
Slope (%): Lat:	Long:	Long:		Datum:				
Soil Map Unit NameWaseka silty clay loam			NWI Classifi	cation:	none			
Are climatic/hydrologic conditions of the site typical for this	time of the ye	ear?	(If no, e	xplain in remarks)				
Are vegetation, soil, or hydrology	signifi	cantly c	listurbed?	Are "normal circu	mstances"			
Are vegetation , soil , or hydrology	natura	ally prob	lematic?		present?			
SUMMARY OF FINDINGS		(If needed, explain any answers in remarks.)						
Hydrophytic vegetation present? Y								
Hydric soil present? N	ls	the sar	npled area withi	n a wetland?	Ν			
Indicators of wetland hydrology present? N	lf y	If yes, optional wetland site ID:						
Remarks: (Explain alternative procedures here or in a sepa	arate report.)							

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 alianthus altissima	20	Y		that are OBL, FACW, or FAC: 3 (A)
2 catalpa speciosa	20	Y	FACU	Total Number of Dominant
3		·		Species Across all Strata: 8 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: <u>37.50%</u> (A/B)
	40	= Total Cover		
Sapling/Shrub stratum (Plot size:))			Prevalence Index Worksheet
1 rhamnus frangula	10	Y		Total % Cover of:
2 acer negundo	5	Y	FAC	OBL species 0 x 1 = 0
3 ulmus species	5	Y		FACW species 88 x 2 = 176
4				FAC species 5 x 3 = 15
5				FACU species 40 x 4 = 160
	20	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size:))			Column totals 133 (A) 351 (B)
1 poa palustris	80	Y	FACW	Prevalence Index = B/A = 2.64
2 solidago altissima	20	Y	FACU	
3				Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	100	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be
1 vitis riparia	8	Y	FACW	present, unless disturbed or problematic
2				Hydrophytic
	8	= Total Cover		vegetation present? Y
Remarks: (Include photo numbers here or on a separ	ate sheet)			

Profile Desc	cription: (Descri	be to the	e depth needed	o docun	nent the	indicato	or or confirm t	the absence	e of indicators.)
Depth	Matrix			dox Feat					· · ·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remarks
1 - 10	10YR 4/1	100					Loamy San	d	No observed redo features
10 - 25+	2.5Y 2.5/1	100					Loamy San	d	No observed redo features
							,, ,		
*Type: C = C	Concentration, D =	Depletio	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	and Grains.	**Location	: PL = Pore Lining, M = Matrix
	il Indicators:								ematic Hydric Soils:
Hist	tisol (A1)		Sar	dy Gleye	ed Matrix	(S4)	Coas	st Prairie Red	dox (A16) (LRR K, L, R)
Hist	tic Epipedon (A2)			idy Redo		. ,	Dark	Surface (S7	7) (LRR K, L)
Blac	ck Histic (A3)		Stri	pped Ma	trix (S6)		5 cm	Mucky Pea	t or Peat (S3) (LRR K, L, R)
Hyd	Irogen Sulfide (A4	·)	Loa	my Muck	ky Minera	ıl (F1)	Iron-I	Manganese	Masses (F12) (LRR K, L, R)
Stra	atified Layers (A5)		Loa	my Gley	ed Matrix	: (F2)	Very	Shallow Da	rk Surface (TF12)
2 cr	m Muck (A10)		Dep	leted Ma	atrix (F3)		Othe	r (explain in	remarks)
Dep	leted Below Dark	Surface	(A11) Rec	lox Dark	Surface	(F6)			
Thio	ck Dark Surface (/	A12)	Dep	leted Da	rk Surfac	ce (F7)	*Indica	ators of hydr	ophytic vegetation and weltand
San	ndy Mucky Minera	l (S1)	Rec	lox Depr	essions (F8)			e present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Туре:	2 .						Hydric	soil presen	t? N
Depth (inche	es):				-		-	-	
Remarks:					_				
	loamy fine sar	d							
	c indicators	u							
No Hyun									
HYDROLO	DGY								
Wetland Hy	drology Indicato	rs:							
Primary Indi	cators (minimum	of one is	required; check a	III that ap	ply)		S	econdarv Ind	dicators (minimum of two required)
-	Water (A1)		• • •		Fauna (B	13)		-	Soil Cracks (B6)
	iter Table (A2)				uatic Plan		_		Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1) –	Dry-Seas	son Water Table (C2)
Water M	arks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			_	Saturatio	n Visible on Aerial Imagery (C9)
	oosits (B3)			Presenc	e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
-	at or Crust (B4)				ron Redu	ction in T	illed Soils		phic Position (D2)
	osits (B5)		(2-)	(C6)			_	FAC-Neu	utral Test (D5)
	on Visible on Aeria			-	ck Surfac				
	Vegetated Conca		e (B8)		r Well Da	. ,			
	tained Leaves (B9)			Utner (E	xplain in I	Remarks)			
Field Obser		V	N	v	Donth /	noh c - \-			
Surface wate		Yes	No No	X 	Depth (i			1	licators of watland
Water table Saturation p		Yes Yes	No No	$\frac{X}{X}$	Depth (i Depth (i				dicators of wetland vdrology present? N
-		165		^	Deptil (I	101103).			
(includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Describe rec	טיטבע עמומ (גוופט	m yauye	, monitoring well,	acriai pi	iotos, pre	svious III	speciions), ii a	validuie.	
Remarks:									
No obsei	rved hydrology								
-	, 0,								

Project/Site NICTD West Lake Corridor			City/Cou	nty:	Lake County	Sampling Date:	9/17/15			
Applicant/Owner:				State:	IN	Sampling Point:	Wetland 7			
Investigator(s): An	na Hochhalter and S	cott Beckmeyer		Secti	on, Township, Ra	nge:				
Landform (hillslope	, terrace, etc.):			Local relief (concave, convex, none):						
Slope (%):	Lat:		Lo	ng:		Datum:				
Soil Map Unit Name	eWatseka loamy fine	e sand			NWI Class	ification:				
Are climatic/hydrolo	ogic conditions of the	site typical for this	time of the	e of the year? (If no, explain in remarks)						
Are vegetation	, soil	, or hydrology	sig	nificantly	disturbed?	Are "normal circu	mstances"			
Are vegetation	, soil	, or hydrology	na	turally pro	oblematic?		present?			
SUMMARY OF	FINDINGS	-		(If needed, explain any answers in remarks.)						
Hydrophytic ve	getation present?	Y								
Hydric soil pres	sent?	Y		Is the s	ampled area with	nin a wetland?	Y			
Indicators of we	etland hydrology pres	sent? Y		lf yes, op	tional wetland site	e ID:				
Remarks: (Explain	alternative procedure	es here or in a sep	arate repor	t.)						
	·		·	,						

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 salix interior	40	Y	FACW	that are OBL, FACW, or FAC: 6 (A)
2 populus deltoides	20	Y	FAC	Total Number of Dominant
3 acer saccharinum	5	Ν	FACW	Species Across all Strata: 6 (B)
4 morus alba	2	N	FAC	Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	67	= Total Cover		
Sapling/Shrub stratum (Plot size:)				Prevalence Index Worksheet
1 salix interior	40	Y	FACW	Total % Cover of:
2 fraxinus pennsylvanica	15	Y	FACW	OBL species x 1 =45
3				FACW species 150 x 2 = 300
4				FAC species 22 x 3 = 66
5				FACU species 0 x 4 = 0
	55	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size:)				Column totals 217 (A) 411 (B)
1 phragmites australis	50	Y	FACW	Prevalence Index = B/A = 1.89
2 lythrum salicaria	25	Y	OBL	
3 typha angustifolia	15	Ν	OBL	Hydrophytic Vegetation Indicators:
4 alisma triviale	5	Ν	OBL	Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	95	= Total Cover		(explain)
Woody vine stratum (Plot size:)				*Indicators of hydric soil and wetland hydrology must be
1				present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a separa	ate sheet)			

Profile Desc	cription: (Descri	ibe to the	e depth needed t	o docun	nent the	indicato	or or confirm the a	bsence of	indicators.)
Depth	Matrix		Rec	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0 - 1	10YR 3/1	100					Loamy Sand		
1 - 3	2.5Y 4/2	98	10YR 6/8	2	RM	М	Loamy Sand		
3 - 4	10YR 3/1	98	10YR 6/8	2	RM	M	Loamy Sand		
			1011000	2	T XIVI	101	-		
4 - 22+	10YR 3/1	100					Loamy Sand		
*Type: C = C	Concentration, D =	= Depleti	on. RM = Reduce	d Matrix.	MS = M	asked Sa	and Grains. **I	ocation: Pl	= Pore Lining, M = Matrix
	il Indicators:	Dopious		a maanx,					tic Hydric Soils:
-	tisol (A1)		San	dv Gleve	ed Matrix	(S4)			(A16) (LRR K, L, R)
	tic Epipedon (A2)			dy Redo		(0.)		ace (S7) (L	
	ck Histic (A3)		X Strij	-					Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	1)		•	ky Minera	al (F1)		•	sses (F12) (LRR K, L, R)
	atified Layers (A5)	,		-	ed Matrix				urface (TF12)
	n Muck (A10)	, ,			atrix (F3)	()		plain in rem	
	leted Below Dark	Surface			Surface	(F6)		•	,
	ck Dark Surface (A			leted Da	irk Surfac	ce (F7)	*Indicators	of hydroph	ytic vegetation and weltand
	dy Mucky Minera	-			essions (esent, unless disturbed or
				-			, ,		blematic
Restrictive	Layer (if observe	əd).							
Type:							Hydric soil	nresent?	Y
Depth (inche	<i>be).</i>				-		riyane son	presenti	<u>.</u>
					•				
Remarks:		_							
	loamy fine sar								
Visile iro	n depletions be	elow stip	ped layer (>3"	deep)					
HYDROLO									
-	drology Indicato								
-	cators (minimum			-				-	tors (minimum of two required)
	Water (A1)				Fauna (B			Surface Soil	. ,
	iter Table (A2)				uatic Plan			Drainage Pat	
Saturatio						Odor (C1	·	-	Water Table (C2)
	arks (B1)				I Rhizosp	heres on	<u> </u>	Crayfish Burr	()
	nt Deposits (B2)			(C3)	o of Dodu	upod Iron			sible on Aerial Imagery (C9) ressed Plants (D1)
	oosits (B3) it or Crust (B4)					Iced Iron	· /		Position (D2)
	osits (B5)			(C6)	Ion Redu			AC-Neutral	
· · · · · · · · · · · · · · · · · · ·	on Visible on Aeria	l Imagery	(B7)		ck Surfac	e (C7)		AC-Neuliai	Test (D3)
	Vegetated Conca				or Well Da	` '			
	tained Leaves (B9					Remarks))		
Field Obser		,					, 		
Surface wate		Yes	No	Х	Depth (i	nches).			
Water table		Yes	No	X	Depth (i			Indica	tors of wetland
Saturation p		Yes	No	X	Depth (i				plogy present? Y
-	pillary fringe)				(1				· J/ P· · · · ·
		m dauge	monitoring well	aerial n	notos pre	evious in	spections), if availa	ble [.]	
		an gauge			10103, pro		opeouone), ii avalla		
Remarks:									

Project/Site NICTD West Lake Corridor			City/Cou	nty:	Lake County	Sampling Date:	9/17/15			
Applicant/Owner:				State:	IN	Sampling Point:	Upland 7			
Investigator(s): Ani	na Hochhalter and	Scott Beckmeyer		Secti	on, Township, Ra	inge:				
Landform (hillslope	, terrace, etc.):			Local relief (concave, convex, none):						
Slope (%):	Lat:		Lo	Long:Datum:						
Soil Map Unit Name	ne sand		NWI Classification: none							
Are climatic/hydrolo	ogic conditions of th	e site typical for this	time of the	e year?	(If no,	explain in remarks)				
Are vegetation	, soil	, or hydrology	sig	nificantly	disturbed?	Are "normal circ	umstances"			
Are vegetation	, soil	, or hydrology	na	turally pro	oblematic?		present?			
SUMMARY OF	FINDINGS				(If	needed, explain any a	answers in remarks.)			
Hydrophytic ve	getation present?	Y								
Hydric soil pres	sent?	<u>N</u>		Is the s	ampled area witl	hin a wetland?	Ν			
Indicators of we	etland hydrology pr	esent? N		lf yes, op	otional wetland sit	e ID:				
Remarks: (Explain	alternative procedu	res here or in a sep	arate repor	t.)						
	•			,						
VEGETATION -	- Use scientific r	names of plants.								
		· · · · · · · · · · · · · · · · · · ·					• •			

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 populus deltoides	10	Y	FAC	that are OBL, FACW, or FAC: 3 (A)
23				Total Number of Dominant Species Across all Strata: 3 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	10	= Total Cover		、 ,
Sapling/Shrub stratun (Plot size:)			Prevalence Index Worksheet
1 salix interior	50	Y	FACW	Total % Cover of:
2				OBL species 0 x 1 = 0
3				FACW species $60 \times 2 = 120$
4				FAC species $10 \times 3 = 30$
5				FACU species $0 \times 4 = 0$
	50	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals 70 (A) 150 (B)
1 phragmites australis	, 10	Y	FACW	Prevalence Index = $B/A = 2.14$
2		·	17.011	
3				Hydrophytic Vegetation Indicators:
0				The operation indicators.
4				Rapid test for hydrophytic vegetation
45				Rapid test for hydrophytic vegetation
456				X Dominance test is >50%
4 5 6 7				X Dominance test is >50% X Prevalence index is ≤3.0*
4 5 6 7 8				X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide
4 5 6 7 8 9				X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a
9				X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
•				X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation*
9 10				X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain)
9	 			X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be
9 10) 			X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
9 10)	·		X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be
9 10)	= Total Cover		X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic
9 10 <u>Woody vine stratum</u> (Plot size: 1 2)0	·		X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation
9 10)0	·		X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation
9 10 <u>Woody vine stratum</u> (Plot size: 1 2)0	·		X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic vegetation vegetation

Profile Desc	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix	Matrix Redox Features							
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
1 - 10	10YR 4/1	100					Loamy Sa	nd	No observed redo features
10 - 25+	2.5Y 2.5/1	100					Loamy Sa	na	No observed redo features
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix									
Hydric So	il Indicators:								ematic Hydric Soils:
Hist	isol (A1)				ed Matrix	(S4)			dox (A16) (LRR K, L, R)
Hist	ic Epipedon (A2)		Sar	idy Redo	x (S5)				7) (LRR K, L)
Black Histic (A3) Stripped Matrix (S6) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)									
· · ·	rogen Sulfide (A4			-	ky Minera			-	Masses (F12) (LRR K, L, R)
Stra	tified Layers (A5)		Loa	my Gleye	ed Matrix	(F2)	Ver	y Shallow Da	rk Surface (TF12)
2 cr	n Muck (A10)		Dep	leted Ma	atrix (F3)		Oth	er (explain in	remarks)
Dep	leted Below Dark	Surface	(A11) Rec	lox Dark	Surface	(F6)			
Thic	k Dark Surface (/	A12)	Dep	leted Da	rk Surfac	ce (F7)	*India	cators of hydr	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)	Rec	lox Depre	essions (F8)			be present, unless disturbed or
								••	problematic
Restrictive	Layer (if observe	ed):							
Туре:							Hydrid	c soil presen	t? N
Depth (inche	s):				•				
					•				
Remarks:									
	loamy fine san	d							
No hydrid	c indicators								
HYDROLC									
	drology Indicato								
Primary India	cators (minimum o	of one is	required; check a	Ill that ap	ply)		<u><u> </u></u>		dicators (minimum of two required)
	Water (A1)				Fauna (B	,			Soil Cracks (B6)
-	ter Table (A2)				uatic Plan				e Patterns (B10)
Saturatio						Odor (C1			son Water Table (C2)
	arks (B1)				l Rhizosp	heres on	Living Roots		Burrows (C8)
	t Deposits (B2)			(C3)					on Visible on Aerial Imagery (C9)
	osits (B3)					iced Iron			or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in 1	illed Soils		phic Position (D2)
	osits (B5)	Imagan	(P7)	(C6)	al Cumfaa	- (07)		FAC-Net	utral Test (D5)
	on Visible on Aeria			-	ck Surfac				
	Vegetated Conca tained Leaves (B9)		.e (B0)	-	r Well Da		,		
	. ,	1				Remarks)	/		
Field Obser		Vaa	No	\mathbf{v}	Donth /	nohoc);			
Surface wate	•	Yes	No No	<u> </u>	Depth (i	-		- I	dicators of wetland
Water table Saturation p		Yes Yes	No No	X X	Depth (i Depth (i	-			ydrology present? N
	pillary fringe)	165		^	Deptil (I	101105).		. I n	
			monitaria	oordel of	otc -		anaption -) 'f	ovelleble:	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Remarks:									
	and budralass								
Ino obser	ved hydrology								

Project/Site NICTD West Lake Corridor		City/Cou	nty:	Lake County	Sampling Date:	9/17/15			
Applicant/Owner:				State:	IN	Sampling Point:	Wetland 10		
Investigator(s): An	na Hochhalter and S	cott Beckmeyer		Secti	on, Township, Ra	nge:			
Landform (hillslope	, terrace, etc.):			Local relief (concave, convex, none):					
Slope (%):	Slope (%): Lat:		Lo	Long:		Datum:			
Soil Map Unit NameWatseka loamy fine sand					NWI Classi	ification:	none		
Are climatic/hydrolo	ogic conditions of the	site typical for this	s time of the	e year?	(If no, e	explain in remarks)			
Are vegetation	, soil	, or hydrology	sig	nificantly	disturbed?	Are "normal circu	imstances"		
Are vegetation	, soil	, or hydrology	nat	turally pro	oblematic?		present?		
SUMMARY OF	FINDINGS				(If r	needed, explain any a	nswers in remarks.)		
Hydrophytic ve	getation present?	Y							
Hydric soil pres	sent?	Y		Is the s	ampled area with	in a wetland?	Y		
Indicators of we	etland hydrology pres	sent? Y		lf yes, op	tional wetland site	= ID:			
Remarks: (Explain	alternative procedure	es here or in a sep	arate repor	t.)					
			·	,					

VEGETATION -- Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 fraxinus pennsylvanica	30	Y	FACW	that are OBL, FACW, or FAC: 4 (A)
2 populus deltoides	20	Y	FAC	Total Number of Dominant
3 salix interior	10	N	FACW	Species Across all Strata: 4 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	60	= Total Cover		
Sapling/Shrub stratum (Plot size:)				Prevalence Index Worksheet
1 fraxinus pennsylvanica	10	Y	FACW	Total % Cover of:
2				OBL species 75 x 1 = 75
3				FACW species $62 \times 2 = 124$
4				FAC species $30 \times 3 = 90$
5				FACU species $0 \times 4 = 0$
	10	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)				Column totals 167 (A) 289 (B)
1 lythrum salicaria	70	Y	OBL	Prevalence Index = $B/A = 1.73$
2 symphyotrichum lanceolatum	10	N	FAC	
3 bidens cernua	5	N	OBL	Hydrophytic Vegetation Indicators:
4 cyperus esculentus	5	N	FACW	Rapid test for hydrophytic vegetation
5 persicaria lapathifolia	5	N	FACW	X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				—
8				Morphogical adaptations* (provide supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	95	= Total Cover		(explain)
Woody vine stratum (Plot size:)				*Indicators of hydric soil and wetland hydrology must be
1 vitis riparia	2		FACW	present, unless disturbed or problematic
2				Hydrophytic
	2	= Total Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a separ	ate sheet)			•

Profile Des	cription: (Descri	ibe to the	-			indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix			dox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	xture	Remarks
0 - 6	10YR 2/1	100					Loamy Sa	ind	
6 - 7	2.5Y 4/3	100					Loamy Sa	ind	
7 - 15	2.5Y 6/6	10					Sand	-	
-		-		10				un al	
15 - 19+	5Y 2.5/1	85	7.5YR 6/8	10	RM	М	Loamy Sa		
			7.5YR 3/4	5	RM	М	Loamy Sa	ind	
$T_{VDO} = 0$	L Concentration, D =	- Depleti	I DD DM - Deduce	d Matrix	MS – M	askod Sr	and Grains	**Location	: PL = Pore Lining, M = Matrix
	bil Indicators:	- Depietio		u Malinx,	1013 - 101	askeu Sa			ematic Hydric Soils:
	tisol (A1)		Sar	ndy Gleye	ad Matrix	(\$4)			dox (A16) (LRR K, L, R)
				ndy Redo		(34)		rk Surface (S7	
	tic Epipedon (A2)			•	. ,				
	ck Histic (A3)	• \		pped Ma	. ,				t or Peat (S3) (LRR K, L, R)
	Irogen Sulfide (A4	,		my Mucł	-			-	Masses (F12) (LRR K, L, R)
	atified Layers (A5))		my Gley				-	rk Surface (TF12)
	m Muck (A10)			pleted Ma	• •		Oth	ner (explain in	remarks)
	leted Below Dark			dox Dark		. ,			
	ck Dark Surface (A	,		pleted Da		. ,			rophytic vegetation and weltand
Sar	ndy Mucky Minera	ıl (S1)	Rec	dox Depr	essions ((F8)	hyd	Irology must b	be present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Туре:		,					Hydri	c soil presen	nt? Y
Depth (inche	es):				-			•	
	,				-				
Remarks:									
Watseka	loamy fine sar	nd							
HYDROLO	DGY								
Wetland Hy	drology Indicato	ors:							
Primary Indi	cators (minimum	of one is	required; check a	all that ap	oply)			Secondary Ind	dicators (minimum of two require
-	Water (A1)				Fauna (B	13)		-	Soil Cracks (B6)
	iter Table (A2)				uatic Plar				e Patterns (B10)
Saturatio				-	n Sulfide		1)		son Water Table (C2)
	arks (B1)						Living Roots		Burrows (C8)
	nt Deposits (B2)			(C3)	11112030		Living 10003		on Visible on Aerial Imagery (C9)
	osits (B3)			- ' '	e of Redu	iced Iron	(C4)		or Stressed Plants (D1)
	it or Crust (B4)			-			Tilled Soils		ohic Position (D2)
-	osits (B5)			(C6)	IOII Redu		lileu Solis		
	on Visible on Aeria	Imagon	(P7)	` '	ak Surfaa	a (C7)		FAC-Net	utral Test (D5)
			. ,	-	ck Surfac				
	Vegetated Conca		е (во)		or Well Da		`		
	tained Leaves (B9)			xplain in	Remarks)		
Field Obser									
Surface wat		Yes	No	X	Depth (i			_	
Water table	-	Yes	No	Х	Depth (i	-		_	dicators of wetland
Saturation p		Yes	No	X	Depth (i	nches):		_ h	ydrology present? Y
(includes ca	pillary fringe)								
Describe rec	orded data (strea	m gauge	e, monitoring well	, aerial pl	notos, pre	evious in	spections), if	available:	
	``		.	·	× •		,.		
Remarks:									

Project/Site NICTD West Lake Corridor	City/Cou	unty:	Lake Cour	nty Sampling Date:	9/28/15			
Applicant/Owner:		State:	IN	Sampling Point:	Upland 10			
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Sectio	on, Township	o, Range:				
Landform (hillslope, terrace, etc.):	elief (concav	e, convex, none):						
Slope (%): Lat:	L	.ong:		Datum:				
Soil Map Unit Name Watseka loamy fine sand			NWI C	Classification:	none			
Are climatic/hydrologic conditions of the site typical for the	his time of th	ie year?	(1	f no, explain in remarks)				
Are vegetation, soil, or hydrology	ysi	gnificantly	disturbed?	Are "normal circu	umstances"			
Are vegetation , soil , or hydrology	yna	aturally pro	blematic?		present?			
SUMMARY OF FINDINGS				(If needed, explain any a	answers in remarks.)			
Hydrophytic vegetation present? Y								
Hydric soil present? N		Is the sampled area within a wetland? N						
Indicators of wetland hydrology present? N		If yes, optional wetland site ID:						
VEGETATION Use scientific names of plants	 							
· ·		ominant	Indicator	Dominance Test Works	sheet			
Tree Stratum (Plot size:) % 1 1	6 Cover S	Species	Staus	Number of Dominant Spectrum that are OBL, FACW, or FA				
2				Total Number of Domin Species Across all Stra				
4				Percent of Dominant Spectrum that are OBL, FACW, or FACW,				
	0 = To	otal Cover						
Sapling/Shrub stratum (Plot size:) 1				Prevalence Index Work Total % Cover of: OBL species 0				

5	Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
	Total Cover
Sapling/Shrub stratum (Plot size:)	Prevalence Index Worksheet
1,	Total % Cover of:
2	OBL species 0 x 1 = 0
3	FACW species 0 x 2 = 0
4	FAC species 100 x 3 = 300
5	FACU species 0 x 4 = 0
0 =	Total Cover UPL species 0 x 5 = 0
Herb stratum (Plot size:)	Column totals 100 (A) 300 (B)
1 poa pratensis 100	Y FAC Prevalence Index = B/A = 3.00
2 3 4 5 6 7 8 9 10 100 = Woody vine stratum (Plot size:)	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
20 =	Total Cover Vegetation present? Y

Profile Desc	ription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	or or confirm	the absence	e of indicators.)	
Depth	Matrix		-	dox Feat						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	kture	Remarks	
0 - 5	2.5Y 2.5/1	100	. ,				N/A			
5 - 15	2.5Y 2.5/1	100					N/A		RESEMBLES CRUSHED COAL	
15 - 22+	2.5Y 6/6	90					N/A			
	2.5Y 2.5/1	3					N/A			
	2.5Y 5/6	7					N/A			
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix										
Hydric Soil Indicators: Indicators:										
-	isol (A1)		Sar	dy Gleve	ed Matrix	(\$4)			dox (A16) (LRR K, L, R)	
	ic Epipedon (A2)			idy Redo		(04)		k Surface (S7		
	ck Histic (A3)			oped Mat					t or Peat (S3) (LRR K, L, R)	
	rogen Sulfide (A4	1)		•	xy Minera	l (F1)		•	Masses (F12) (LRR K, L, R)	
	tified Layers (A5)			-	ed Matrix			-	rk Surface (TF12)	
	n Muck (A10)	,		leted Ma		/		er (explain in		
	leted Below Dark	Surface			Surface	(F6)			loniano)	
	k Dark Surface (· · ·		rk Surfac	. ,	*Indi	cators of bydr	ophytic vegetation and weltand	
	dy Mucky Minera	,			essions (e present, unless disturbed or	
	,	()			(/		nology maor s	problematic	
Destrictive	l ever /if ebeen	۰ ما <i>)</i> .								
	Layer (if observe	ea):					: المراجع		12 N	
Type: Depth (inche	vo):				i -		nyarı	c soil presen	t? <u>N</u>	
Depth (Inche	.5).									
Remarks:										
Watseka	loamy fine sar	nd								
HYDROLC										
Wetland Hy	drology Indicato	ors:								
Primary India	cators (minimum)	of one is	required; check a	ll that ap	<u>ply)</u>			Secondary Ind	dicators (minimum of two required)	
Surface	Water (A1)				Fauna (B			Surface \$	Soil Cracks (B6)	
High Wa	ter Table (A2)				uatic Plan				Patterns (B10)	
Saturatio	· · /			Hydroge	n Sulfide	Odor (C1)		son Water Table (C2)	
	arks (B1)				Rhizosp	heres on	Living Roots		Burrows (C8)	
	t Deposits (B2)			(C3)					n Visible on Aerial Imagery (C9)	
	osits (B3)				e of Redu				or Stressed Plants (D1)	
	t or Crust (B4)				ron Redu	ction in T	illed Soils		phic Position (D2)	
	osits (B5)		(D7)	(C6)		(0-)		FAC-Neu	utral Test (D5)	
	on Visible on Aeria		. ,		ck Surfac					
	Vegetated Conca		e (B8)	-	r Well Da					
	tained Leaves (B9))		Other (E	xplain in I	Remarks)				
Field Obser										
Surface wate		Yes	No	X	Depth (i	-				
Water table		Yes	No	X	Depth (i	,		_	licators of wetland	
Saturation pr		Yes	No	Х	Depth (i	ncnes):		- ny	/drology present? N	
(includes cap										
Describe rec	orded data (strea	im gauge	, monitoring well,	aerial ph	notos, pre	evious ins	spections), if	available:		
Remarks:										
NO INDI	UATURS									

Project/Site NICTD West Lake Corridor			City/County:	Lake County	Sampling Date:	9/16/15			
Applicant/Owner:	_		State:	IN	Sampling Point:	Wetland 9			
Investigator(s): Ann	a Hochhalter and	Scott Beckmeyer	Sec	tion, Township, Ra	ange:				
Landform (hillslope,	terrace, etc.):		Local	relief (concave, co	onvex, none):				
Slope (%):	Lat:		Long:		Datum:				
Soil Map Unit Name	Bono silty clay lo	am		NWI Class	sification:	none			
Are climatic/hydrolo	gic conditions of t	he site typical for this	time of the year?	(If no,	explain in remarks)				
Are vegetation	, soil	, or hydrology	significantl	y disturbed?	Are "normal circu	mstances"			
Are vegetation	, soil	, or hydrology	naturally p	roblematic?		present?			
SUMMARY OF	FINDINGS			(If needed, explain any answers in remarks.)					
Hydrophytic veg	getation present?	Y							
Hydric soil prese	ent?	Y	Is the s	Is the sampled area within a wetland?					
Indicators of we	tland hydrology p	resent? Y	lf yes, c	If yes, optional wetland site ID:					
Remarks: (Explain a	alternative proced	ures here or in a sep	arate report.)						
VEGETATION	Use scientific	names of plants.							

	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:) 1)	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)
2				Total Number of Dominant
3				Species Across all Strata: 3 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1 sambucus nigra	50	Y	FACW	Total % Cover of:
2 frangula alnus	25	Y	FACW	OBL species 105 x 1 = 105
3 pyrus communis	5	<u>N</u>		FACW species <u>85</u> x 2 = <u>170</u>
4				FAC species $0 \times 3 = 0$
5				FACU species $0 x 4 = 0$
	80	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size:)			Column totals <u>190</u> (A) <u>275</u> (B)
1 lythrum salicaria	80	Y	OBL	Prevalence Index = B/A = 1.45
2 epilobium coloratum	15	Ν	OBL	
3 persicaria amphibia	10	N	OBL	Hydrophytic Vegetation Indicators:
4 geum laciniatum	10	N	FACW	Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	115	= Total Cover		(explain)
Woody vine stratum (Plot size:1)			*Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation present? Y

Profile Dese	cription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	or or confirm	the absence	of indicators.)	
Depth	Matrix		-	dox Feat					•	
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Тех	ture	Remarks	
0 - 24+	2.5Y 3/1	96	2.5Y4/4	4	RM	М	Clay Loam			
0-241	2.51 5/1	90	2.314/4	4	TXIVI	IVI		1		
*Type: C = 0	Concentration, D =	Denleti	n RM = Reduce	d Matrix	MS = M	asked Sa	and Grains	**Location	PL = Pore Lining, M = Matrix	
	il Indicators:	Depiction		a mainx,					matic Hydric Soils:	
-			Sar		ad Matrix	(\$4)			-	
	Histisol (A1)Sandy Gleyed Matrix (S4)Coast Prairie Redox (A16) (LRR K, L, R)Histic Epipedon (A2)Sandy Redox (S5)Dark Surface (S7) (LRR K, L)									
	tic Epipedon (A2)			-					or Peat (S3) (LRR K, L, R)	
	ck Histic (A3)			pped Ma				-		
	Irogen Sulfide (A4	-		-	ky Minera			-	Masses (F12) (LRR K, L, R)	
	atified Layers (A5)				ed Matrix	(F2)		•	k Surface (TF12)	
	m Muck (A10)	~ ~		leted Ma		(= -)	Oth	er (explain in i	remarks)	
· · ·	leted Below Dark		. ,		Surface	. ,				
	ck Dark Surface (/	-			irk Surfac				ophytic vegetation and weltand	
Sar	ndy Mucky Minera	l (S1)	Rec	lox Depr	essions (F8)	hyd		e present, unless disturbed or	
									problematic	
Restrictive	Layer (if observe	ed):								
Type:							Hydri	c soil present	t? Y	
Depth (inche	es):				-		-			
Demenden	- H				-					
Remarks:										
	y clay loam									
Hydric In	dicator: Yes									
HYDROLO										
Wetland Hy	drology Indicato	rs:								
Primary Indi	cators (minimum o	of one is	required; check a	II that ap	ply)		<u>.</u>	Secondary Ind	licators (minimum of two required)	
Surface	Water (A1)			Aquatic	Fauna (B	13)		Surface S	Soil Cracks (B6)	
High Wa	iter Table (A2)			True Aqu	uatic Plan	its (B14)		Drainage	Patterns (B10)	
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1)	Dry-Seas	on Water Table (C2)	
Water M	arks (B1)			Oxidized	l Rhizosp	heres on	Living Roots	Crayfish I	Burrows (C8)	
Sedimer	nt Deposits (B2)			(C3)				Saturation	n Visible on Aerial Imagery (C9)	
Drift Dep	oosits (B3)			Presenc	e of Redu	iced Iron	(C4)	Stunted o	or Stressed Plants (D1)	
Algal Ma	at or Crust (B4)			Recent I	ron Redu	ction in T	illed Soils	X Geomorp	hic Position (D2)	
Iron Dep	osits (B5)			(C6)				X FAC-Neu	tral Test (D5)	
Inundatio	on Visible on Aeria	I Imagery	r (B7)	Thin Mu	ck Surfac	e (C7)				
Sparsely	Vegetated Conca	ve Surfac	ce (B8)	Gauge o	or Well Da	ita (D9)				
Water-S	tained Leaves (B9))		Other (E	xplain in	Remarks))			
Field Obser	vations:									
Surface wate	er present?	Yes	No	Х	Depth (i	nches):				
Water table		Yes	No	Х	Depth (i	nches):		Ind	icators of wetland	
Saturation p	resent?	Yes	No	Х	Depth (i	nches):		hy	drology present? Y	
(includes ca	pillary fringe)				-					
Describe rec	orded data (strea	m gauge	, monitoring well.	aerial pl	notos, pre	evious in	spections), if	available:		
	(0		· •	.,		- //	-		
Remarks:										
I										

Project/Site NICTD West Lake Corridor	City/County:	Lake County	Sampling Date:	9/16/15			
Applicant/Owner:	State	: IN	Sampling Point:	Upland 9			
Investigator(s): Anna Hochhalter and Scott Beckmeyer	Se	ection, Township, Ra	inge:				
Landform (hillslope, terrace, etc.):	Loc	al relief (concave, co	onvex, none):				
Slope (%): Lat:	Long:		Datum:				
Soil Map Unit NameBono silty clay loam		NWI Class	ification:	none			
Are climatic/hydrologic conditions of the site typical for this	time of the year	? (If no,	explain in remarks)				
Are vegetation, soil, or hydrology	significar	ntly disturbed?	Are "normal circu	mstances"			
Are vegetation , soil , or hydrology	naturally	problematic?		present?			
SUMMARY OF FINDINGS		(If needed, explain any answers in remarks.)					
Hydrophytic vegetation present? N							
Hydric soil present? N	Is the	Is the sampled area within a wetland? N					
Indicators of wetland hydrology present? N	If yes	If yes, optional wetland site ID:					
Remarks: (Explain alternative procedures here or in a sepa	arate report.)						

VEGETATION Use scientific names of pla	nts.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species
1 Acer saccharinum	5	Y	FACW	that are OBL, FACW, or FAC: 2 (A)
2 ulmus pumila	5	Y	UPL	Total Number of Dominant
3		·		Species Across all Strata: 6 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 33.33% (A/B)
	10	= Total Cover		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksheet
1	8	Y		Total % Cover of:
2				OBL species 0 x 1 = 0
3				FACW species 5 x 2 = 10
4				FAC species 40 x 3 = 120
5				FACU species 40 x 4 = 160
	8	= Total Cover		UPL species 5 x 5 = 25
Herb stratum (Plot size:)			Column totals 90 (A) 315 (B)
1 agrostis hyemalis	40	Y	FAC	Prevalence Index = B/A = 3.50
2 Rubus occidentalis	40	Y		
3 cirsium arvense	40	Y	FACU	Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				Dominance test is >50%
6				Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	120	= Total Cover		(explain)
Woody vine stratum (Plot size:)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0	= Total Cover		vegetation
				present? N
Remarks: (Include photo numbers here or on a sepa	rate sheet)			

U	plan	d 9
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Profile Desc	cription: (Descri	be to the	e depth needed	to docun	nent the	indicato	r or confirm the absen	ce of indicators.)
Depth Matrix Redox Features								
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0 - 13	2.5Y 3/2	100					Silty Clay Loam	
13 - 24+	2.5Y 4/1	80	10YR 4/6	15	RM	М	Silty Clay Loam	
			7/10 Y	5	RM	M	Silty Clay Loam	Gley
			7/10 1	5	I XIVI	101		Cley
*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix								
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:								
Hist	isol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Coast Prairie R	edox (A16) (LRR K, L, R)
Hist	Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) (LRR K, L)							
Black Histic (A3) Stripped Matrix (S6) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)								
Hyd	lrogen Sulfide (A4	4)	Loa	my Muck	xy Minera	al (F1)	Iron-Manganes	e Masses (F12) (LRR K, L, R)
Stra	atified Layers (A5))	Loa	my Gleye	ed Matrix	(F2)	Very Shallow D	ark Surface (TF12)
2 cr	n Muck (A10)			pleted Ma	. ,		Other (explain i	n remarks)
	leted Below Dark			lox Dark		. ,		
	ck Dark Surface (A	,		pleted Da		. ,		drophytic vegetation and weltand
San	idy Mucky Minera	l (S1)	Rec	lox Depre	essions (F8)	hydrology must	be present, unless disturbed or
								problematic
Restrictive	Layer (if observe	ed):						
Туре:							Hydric soil prese	nt? <u>N</u>
Depth (inche	es):							
Remarks:								
No signs	of iron in the to	י "12 מכ	of soil					
		op .= 0						
HYDROLO	DGY							
Wetland Hy	drology Indicato	ors:						
Primary Indi	cators (minimum	of one is	required; check a	<u>II that ap</u>	<u>ply)</u>		Secondary I	ndicators (minimum of two required)
Surface	Water (A1)			Aquatic I	Fauna (B	13)	Surface	e Soil Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plan	its (B14)	Draina	ge Patterns (B10)
Saturatio	on (A3)			Hydroge	n Sulfide	Odor (C1) Dry-Se	ason Water Table (C2)
	arks (B1)				Rhizosp	heres on	<u> </u>	h Burrows (C8)
	t Deposits (B2)			(C3)				ion Visible on Aerial Imagery (C9)
	oosits (B3)			-		iced Iron		d or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in T		rphic Position (D2)
· · · · · ·	osits (B5)			(C6)		(0-)	FAC-N	eutral Test (D5)
	on Visible on Aeria				ck Surfac			
	Vegetated Conca		e (B8)	-	r Well Da			
	tained Leaves (B9))		Other (E	xpiain in i	Remarks)		
Field Obser		Vee	No	V	Danth (i	nohoo).		
Surface wate Water table	•	Yes Yes	No No	$\frac{x}{x}$	Depth (i Depth (i			ndicators of wetland
Saturation p		Yes	No	<u> </u>	Depth (i			hydrology present? N
-		163			Deptil (i	nenes).		
-	(includes capillary fringe) Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Describe rec	טיטבט טמומ (טוופמ	in yauye	, mormoning well,	acriai pi	10105, pre		spections, il available.	
Remarks:								
No visible	e signs of hydro	ology						
1	the visible signs of hydrology							