

# Wetland Delineation Technical Report

November 2016

Prepared for:

Federal Transit Administration and Northern Indiana Commuter Transportation District

Prepared by:

**AECOM** 



## **SUMMARY**

## **Purpose**

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, and Cook County, Illinois, in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. A Draft Environmental Impact Statement (DEIS) is being prepared as part of this process, with the FTA as the Federal Lead Agency and NICTD as the Local Project Sponsor responsible for implementing the Project under NEPA.

As part of the advanced planning work for the Project, NICTD's consultant AECOM conducted a wetland investigation of the Study Area to identify existing wetlands and waters of the United States. The total area investigated for wetlands was 628.8 acres.

## **Project Description**

NICTD is studying three Build Alternatives and a No Build Alternative as part of the DEIS. The No Build Alternative is included as a baseline from which to compare the other alternatives. The Build Alternatives are as follows:

- · Commuter Rail Alternative, including four Options,
- Indiana Harbor Belt (IHB) Alternative, including four options, and,
- Hammond Alternative, including three options.

There is also the Maynard Junction Rail Profile Option, which is a design variation that can apply to some of the Build Alternative Options. Under this design variation, at Maynard Junction in Munster, the alignment would cross the existing CSX freight line in an at-grade profile instead of an elevated profile. The proposed alignment would then remain east of the CSX freight line ROW for the Commuter Rail Alternative Options 1, 2, and 3, IHB Alternative Options 1, 2, and 3, and the Hammond Alternative Options 1 and 2. The Maynard Junction Rail Profile Option would not be combined with Commuter Rail Option 4, IHB Alternative Option 4, or Hammond Alternative Option 3.

## Methodology

Investigation of wetland areas was conducted using three approaches due to limited access to all areas in the Study Area. Approach A is a full delineation, conducted where access was possible, using a method in accordance with the Section 404 guidelines of the United States Army Corps of Engineers (USACE) including utilization of the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (USACE 2010). Approach B is an estimation of wetlands assessed where wetlands were accessible from adjacent property only. This method consisted of noting vegetation and hydrology from the adjacent property; soil data and Floristic Quality Indices (FQIs) were not obtained. Approach C is an identification of wetlands where wetlands could not be seen or accessed from adjacent property. This method consisted of using the wetland boundaries as identified by the National





Wetland Inventory, as well as an estimate based on wetland indicators seen in aerial photography.

#### Results

The investigation identified 52 wetlands of varying sizes and quality in the Study Area. The wetlands include ditch wetlands, retention and detention basins, forested, riparian, floodplain forest, sedge meadow, wet meadow, scrub/shrub, prairie marsh, and emergent wetland communities.

Most wetlands are of low quality indicative of disturbance, except for Wetland 19, Wetland 26, and Wetland 28 (Flatfoot Lake/Beaubien Woods Forest Preserve), and Wetland 27 (Burnham Prairie Nature Preserve), which are high quality aquatic resources based on the Mean C of 3.5 or higher, as determined by Native Species based on the Chicago Region FQI Calculator 09292014, as provided by USACE, Chicago District. Wetlands 19, 26, 27, and 28 would also qualify as high quality aquatic resources due to the presence of state-protected species in the preserves within which they are located.

### Conclusion

Wetland impacts due to the Project Alternative Options vary. These impacts are summarized in the **Table S-1**.

Table S-1 Potential Wetland Impacts (acres)

	Wetland Impacts (acres)			
Alternative	Option 1	Option 2	Option 3	Option 4
Commuter Rail Alternative	8.83	9.25	9.25	5.42
IHB Alternative	20.42	20.79	19.31	19.31
Hammond Alternative	8.10	8.18	4.50	N/A

SOURCE: AECOM 2016 N/A: Not Applicable





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## Acronyms

CMAP Chicago Metropolitan Agency for Planning

CWA Clean Water Act

DEIS Draft Environmental Impact Statement

DNR Department of Natural Resources

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

IHB Indiana Harbor Belt
MED Metra Electric District

NEPA National Environmental Policy Act NFSAM National Food Security Act Manual

NICTD Northern Indiana Commuter Transportation District
NIRPC Northwest Indiana Regional Planning Commission

NS Norfolk Southern

NWI National Wetland Inventory

ROW Right-of-Way

SSL South Shore Line

US United States

USACE United States Army Corp of Engineers

USC United States Code

USDA United States Department of Agriculture

USEPA United States Environmental Protection Agency

USFWS United States Fish and Wildlife Service

USNRCS United States Natural Resource Conservation Service





## 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, and Cook County, Illinois, in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. A Draft Environmental Impact Statement (DEIS) is being prepared as part of this process, with the 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 the wetlands located in the Study Area, including location and general quality, and to provide a preliminary indication regarding potential wetland impacts from the Project Alternative Options.

## 1.2 Project Overview

The environmental review process builds upon 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, shown on **Figure 1-1**, would best meet the transportation needs of the Northwest Indiana area. Thus, NICTD advanced a "Commuter Rail" Alternative for more detailed analysis in the DEIS. NEPA also requires consideration of a "No Build" Alternative to provide a basis for comparison to the Commuter Rail Alternative. In addition, a number of design variations are being considered related to alignment, stations, parking, and maintenance and storage facilities (see **Figure 1-2**).

#### 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 (NIRPC) 2040 Comprehensive Regional Plan (CRP) (NIRPC 2011) and Chicago Metropolitan Agency for Planning's (CMAP) GO TO 2040 Comprehensive Regional Plan (CMAP 2014) through the planning horizon year 2040. It also includes capacity improvements to the existing Metra Electric District's (MED) line and Millennium Station, documented in NICTD's 20-Year Strategic Business Plan (NICTD 2014).







Figure 1-1 Regional Setting for West Lake Corridor Project





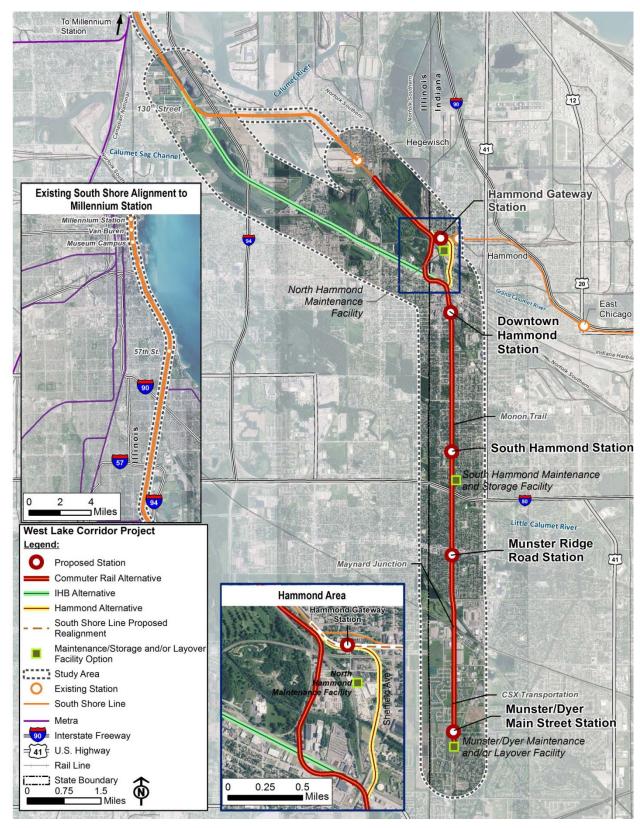


Figure 1-2 West Lake Corridor Project Study Area





#### 1.2.2 Commuter Rail Alternative

The Commuter Rail Alternative would involve commuter rail service using electric-powered trains on an approximate 9-mile southern extension of NICTD's existing South Shore Line (SSL) between Dyer and Hammond, Indiana (see **Figures 1-2** and **1-3**). Heading north from the southern terminus near Main Street at the Munster/Dyer municipal boundary, the Project would include new track on a separate right-of-way (ROW) adjacent to, and east of, the CSX freight line in Munster. North of the proposed elevated crossing over another CSX freight line at the Maynard Junction, the proposed Commuter Rail Alternative alignment would use the publically-owned former Monon Railroad corridor in Munster and Hammond. North of downtown Hammond the track alignment would turn west under Hohman Avenue, and then continue north on new elevated track generally along the Indiana-Illinois state line to connect to the existing SSL southeast of the Hegewisch Station in Chicago. Project trains would operate on the existing MED line for their final 14 miles, terminating at Millennium Station in downtown Chicago. Station locations for the Commuter Rail Alternative would include Munster/Dyer Main Street, Munster Ridge Road, South Hammond, and Downtown Hammond.

Four design options to the Commuter Rail Alternative near the southern Project terminus include:

- Commuter Rail Alternative Option 1: Under this design variation, parking for the Munster/Dyer Main Street Station would be located on the east side of the station, and a vehicle maintenance and storage facility would be located south of 173rd Street in Hammond near the South Hammond Station. See Figure 1-3.
- Commuter Rail Alternative Option 2: Under this design variation, parking for the
  Munster/Dyer Main Street Station would be located on the west side of the existing CSX
  freight line. Main Street would be extended west from Sheffield Avenue using an underpass
  to cross the CSX railroad and Project ROW. The vehicle maintenance and storage facility
  would be located south of 173rd Street in Hammond near the South Hammond Station. See
  Figure 1-3.
- Commuter Rail Alternative Option 3: Under this design variation, the vehicle maintenance
  and storage facility would be located south of the Munster/Dyer Main Street Station, on the
  east side of the existing CSX freight line, at Munster/Dyer Main Street Station, instead of
  south of the South Hammond Station. Parking for the Munster/Dyer Main Street Station
  would be located on the east side of the station. See Figure 1-3.
- Commuter Rail Alternative Option 4: Under this design variation, the rail alignment would be routed above the existing CSX freight line at Maynard Junction, to land on the west side of the CSX freight line, and then continue south to the Munster/Dyer Main Street Station area. The Munster/Dyer Main Street Station and parking would be located west of the existing CSX freight line. A Main Street extension west under the CSX freight line and the Project ROW would be required. The vehicle maintenance and storage facility would be located south of 173rd Street in Hammond near the South Hammond Station. See Figure 1-3.

There are two design variations to the Commuter Rail Alternative related to the proposed alignment (i.e., the Indiana Harbor Belt [IHB] Alternative and the Hammond Alternative) as follows. See **Figures 1-4**, **1-5**, and **1-6**.





## **COMMUTER RAIL ALTERNATIVE**

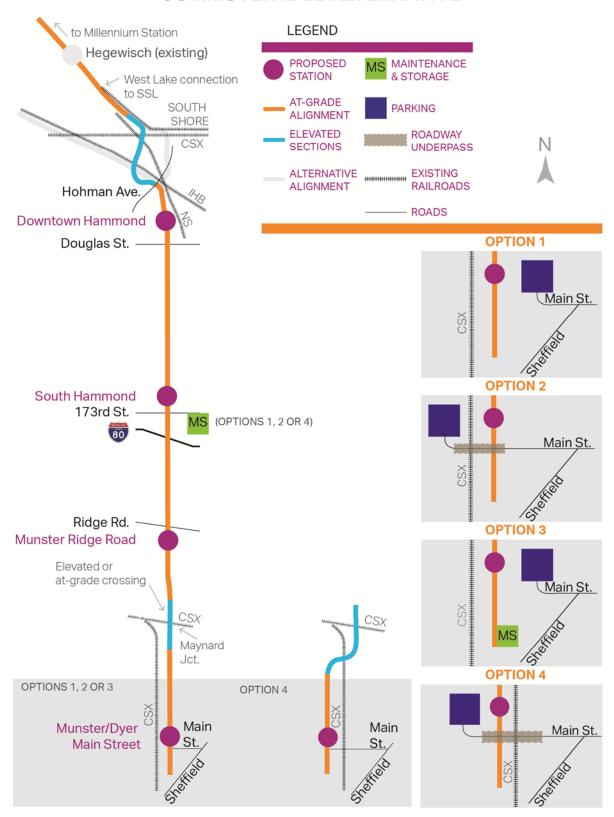


Figure 1-3 Commuter Rail Alternative Options





## 1.2.3 Indiana Harbor Belt (IHB) Alternative

South of Douglas Street, the IHB Alternative duplicates the Commuter Rail Alternative Options described above. From downtown Hammond north of Douglas Street, the alignment of the IHB Alternative would turn west under Hohman Avenue in Hammond and would be constructed in the IHB freight line ROW west through Calumet City, Burnham, and Chicago, Illinois. West of Burnham Avenue, the IHB Alternative would bridge over the IHB and CSX freight lines, landing in the IHB Kensington Branch freight line ROW, and would include relocating and reconstructing the IHB freight line on a new adjacent track within the existing railroad ROW. The Project would then continue northwest to the proposed connection with the existing SSL near I-94 and 130th Street in Chicago. See **Figure 1-4**.

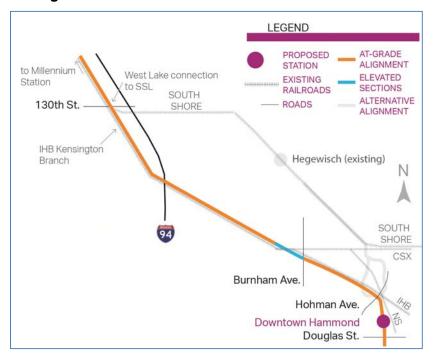


Figure 1-4 Indiana Harbor Belt Alternative

#### 1.2.4 Hammond Alternative

South of Douglas Street, the Hammond Alternative is similar to the Commuter Rail Alternative described above. From downtown Hammond north of Douglas Street, the Hammond Alternative would extend north on embankment and bridges crossing over the IHB and Norfolk Southern freight lines immediately east of the Hohman Avenue overpass. The alignment would then extend northward and cross over Hohman Avenue just south of Michigan Street. The alignment would then continue north and west, crossing over the existing CSX freight line, and connecting with the existing SSL. See **Figure 1-5**.

Under the Hammond Alternative, the Hammond Gateway Station would be constructed in North Hammond and would replace the existing SSL Hammond Station (see **Figure 1-5**). The Hammond Alternative assumes the existing SSL track would be relocated between the existing SSL Hammond Station and the Indiana-Illinois state line to facilitate a passenger connection between the Project and the SSL at the Hammond Gateway Station on the Hammond Alternative. The alignments of both routes would be adjacent to one another at this location, allowing passengers to transfer at the combined station. During non-peak times, West Lake Corridor Project trains would operate as shuttles between Munster/Dyer Main Street Station and





Hammond Gateway Station, making connections with SSL service. **Figure 1-6** illustrates the SSL track relocation.

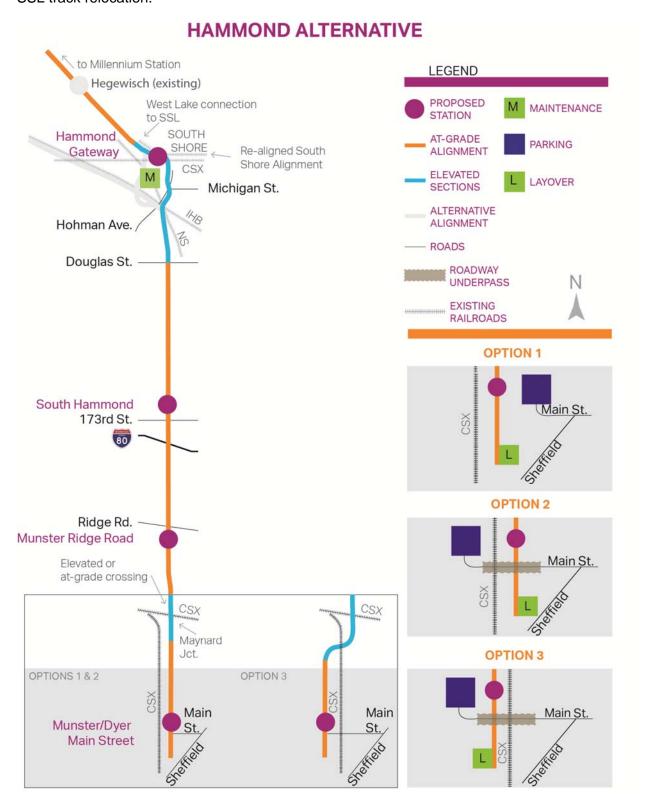


Figure 1-5 Hammond Alternative Options







Figure 1-6 South Shore Line Proposed Realignment

A maintenance facility would be located immediately south of the Hammond Gateway Station. A separate layover facility at the southern end of the Project corridor, near the Munster/Dyer Main Street Station, would also be constructed, as shown on **Figure 1-5**. There are three design variations on how the layover facility, Munster/Dyer Main Street Station, and parking would be configured under the Hammond Alternative, as follows:

- **Hammond Alternative Option 1:** The Munster/Dyer Main Street Station, layover facility, and parking would be on the east side of the existing CSX freight line. See **Figure 1-5**.
- Hammond Alternative Option 2: The Munster/Dyer Main Street Station and layover facility
  would be on the east side of the existing CSX freight line, and the parking would be west of
  the CSX freight line. A Main Street extension west under the CSX freight line and Project
  ROW would be required. See Figure 1-5.
- Hammond Alternative Option 3: This option would require routing the Project above the
  existing CSX freight line at Maynard Junction, landing on the west side of the CSX freight
  line ROW, and continuing south to the Munster/Dyer Main Street area. The Munster/Dyer
  Main Street Station, layover facility, and parking would be located west of the existing CSX
  freight line. A Main Street extension west under the CSX freight line and the Project ROW
  would be required. See Figure 1-5.





## 1.2.5 Maynard Junction Rail Profile Option

One design variation is being considered for each Build Alternative—the Maynard Junction Rail Profile Option. Under this design variation, at Maynard Junction in Munster, the alignment would cross the existing CSX freight line in an at-grade profile instead of an elevated profile. The proposed alignment would remain east of the CSX freight line ROW for the Commuter Rail Alternative Options 1, 2, and 3 (see **Figure 1-3**), the IHB Alternative Options 1, 2, and 3, and the Hammond Alternative Options 1 and 2 (see **Figure 1-5**).





## 2. REGULATORY SETTING

Wetlands are regulated under Sections 401 (33 United States Code [USC] § 1341) and 404 (33 USC § 1344) of the Clean Water Act (CWA). Section 404 of the CWA regulates the discharge of dredge or fill material into wetlands that are considered waters of the United States (US). The United States Army Corps of Engineers (USACE) administers the Section 404 CWA permitting program, including determining which wetlands are jurisdictional under the CWA. The United States Environmental Protection Agency (USEPA) develops and interprets policy, reviews and comments on individual permit applications, and enforces Section 404 provisions.

Wetlands are determined to be waters of the US if there are hydrologic connections to interstate waters, or if they are a significant nexus to waters of the US. Section 404 of the CWA regulates the discharge of dredge or fill material into wetlands. USACE provided documentation on which wetlands in Indiana would be considered jurisdictional under the CWA in a letter dated July 29, 2016. This information has been incorporated into the wetland descriptions in **Table 4-1**. A copy of the letter is included in **Appendix G**.

Section 401 CWA Water Quality Certifications are needed for projects that require a Section 404 permit. Section 401 of the CWA requires any applicant for a Section 404 permit obtain the Water Quality Certification for any activity that may result in a discharge of a pollutant into wetlands that are considered waters of the US. The Section 401 Water Quality Certification is administered by the state; in Illinois it is administered by the Illinois Environmental Protection Agency (IEPA) and in Indiana it is administered by the Indiana Department of Environmental Management (IDEM).

Permits are required under both Sections 401 and 404 of the CWA prior to dredge or fill activities. As part of the permitting process, it must be demonstrated that impacts to wetlands were avoided to the extent possible, minimized where avoidance is not possible, and mitigation provided for unavoidable impacts. Applicable Section 404 permits depend on the state in which the impacts occur, as well as the total amount of impacts. In Illinois, the USACE Regional Permitting program may be applicable. Per Regional Permit 3: Transportation Projects, wetland impacts must not exceed 1.0 acre total, with no single crossing exceeding 0.25 acre of wetland impacts. In Indiana, the 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.

Wetlands that are isolated from waters of the US are regulated under state laws. In Indiana, isolated wetlands are regulated under the State Isolated Wetlands Law (Indiana Code 13-18-22), under the jurisdiction of IDEM. In Illinois, isolated waters are regulated under the Illinois Rivers, Lakes, and Streams Act (615 Illinois Compiled Statutes 5), under the jurisdiction of the Illinois Department of Natural Resources (DNR). In addition, Illinois has the Interagency Wetlands Policy Act of 1989, which regulates any activities that impact wetlands as a result of a project financially funded with Illinois state funds.



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## 3. METHODOLOGY

On September 14 to 17, 28 to 30, and October 27, 2015, AECOM performed wetland investigations and delineations in the Study Area between Dyer and Hammond, Indiana, and near the IHB freight line ROW. The delineations were performed for NICTD as part of the planning process for the proposed Project in Lake County, Indiana, and Cook County, Illinois. The purpose of the investigation was to determine the location and extent of any wetlands and waters of the US in the Study Area.

In Indiana, all wetlands located within 50 feet of the proposed alignment were identified or delineated. In Illinois, all wetlands located within 100 feet of the proposed alignment were identified or delineated (100 foot buffers are required per the Cook County Watershed Management Ordinance). Wetlands were investigated using one of three methods, based on right of entry and physical access issues. For areas with approved and safe right of entry, the investigation was performed in accordance with the Section 404 guidelines of the USACE Chicago District, the 1987 Corps of Engineers Wetlands Delineation Manual (Manual) (USACE 1987), and the Interim Regional Supplement to the Corps of Engineers Wetland Manual: Midwest Region (2010 Supplement) (USACE 2010). Wetland boundaries were flagged where property ownership allowed. For those portions of the wetland that extended outside of the 50-foot or 100-foot buffer, wetland boundaries were estimated and drawn on aerial photography.

Wetlands located between Hammond and Metra's Millennium Station in downtown Chicago, or the IHB freight line ROW and Metra's Millennium Station, were identified using National Wetland Inventory (NWI) maps only. No new infrastructure is proposed in this portion of the Study Area; as such, full on-site wetland delineations were not conducted from Hammond, Indiana, to Metra's Millennium Station where the proposed Project would operate on the existing MED/SSL. Since there would be no impacts in this area, the greater degree of accuracy was deemed unnecessary.

Detailed exhibits that indicate the location and extent of the wetlands, the proposed alignment, and the individual properties are included in **Appendix A**.

## 3.1 Background Research

AECOM reviewed the corresponding topographic, wetland, soil, and floodplain maps for landscape features that could indicate the presence of wetlands or waters of the US. The field investigations were guided by the analysis of the NWI wetland map, the United States Natural Resource Conservation Service (USNRCS) soil surveys of Cook County and Lake County, and the Federal Emergency Management Agency (FEMA) flood insurance rate maps. Special attention was given to areas at lower elevations, those mapped with hydric soils, and areas with NWI-designated wetlands.



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## 3.1.1 National Wetland Inventory Map, United States Fish and Wildlife Service (USFWS)

NWI maps show the approximate configuration, location, and type of wetlands found in a given area (see **Figure 3-1**). The NWI maps are prepared primarily by conventional aerial photo interpretation (stereoscopic analysis) of high altitude aerial photography (1:80,000 black and white). The *User Notes for National Wetlands Inventory Maps* (USFWS 1983) caution: "Maps should be used to locate the presence of wetlands and not to identify 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.

The NWI map depicts wetlands in the Study Area in the vicinity of Wetlands 13, 16, 18, 26, 28, 29, 31, 45, and 48; the wetland investigation confirmed the presence of wetlands in these locations.

## 3.1.2 Soil Survey of Cook County, Illinois, and Lake County, Indiana, USNRCS Web Soil Survey

Soil surveys furnish soil maps, soil descriptions, and soil properties to guide decisions about soil selection, use, and management. See **Figure 3-2** for the soil map. The Web Soil Survey map of the Study Area shows 20 soil units in the area investigated, including urban land and landfill; 6 are hydric soil units and 14 are non-hydric soil units (United States Department of Agriculture [USDA] NRCS 2015). 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 vegetation and hydrology. The hydric soil units in the investigated area included Pella silty clay loam, 0-2 percent slopes (153); Gilford fine sandy loam, 0-2 percent slopes (201); Bono silty clay (BN); Maumee loamy fine sand (Mm); and Rensselaer loam, calcareous subsoil variant (Rs). See **Appendix B** for the USNRCS soil survey report.

## 3.1.3 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Cook County, Illinois, and Lake County, Indiana

The FIRM map indicates that the investigation area is in a mapped 100-year floodplain at four locations, including where it crosses the Calumet River and Little Calumet River. See **Figure 3-3** for the FEMA floodplain map.

## 3.2 Field Methods

## 3.2.1 Full Delineations (Approach A)

NICTD's consultant AECOM conducted wetland delineations in the Study Area between Dyer and Hammond, Indiana, and between Hammond, Indiana, and the IHB Kensington Branch railroad ROW. Because right of entry could not be obtained for all properties, AECOM identified wetlands or estimated wetland boundaries using three approaches. Approach A entailed a full delineation and was used on properties with safe and approved right of entry.





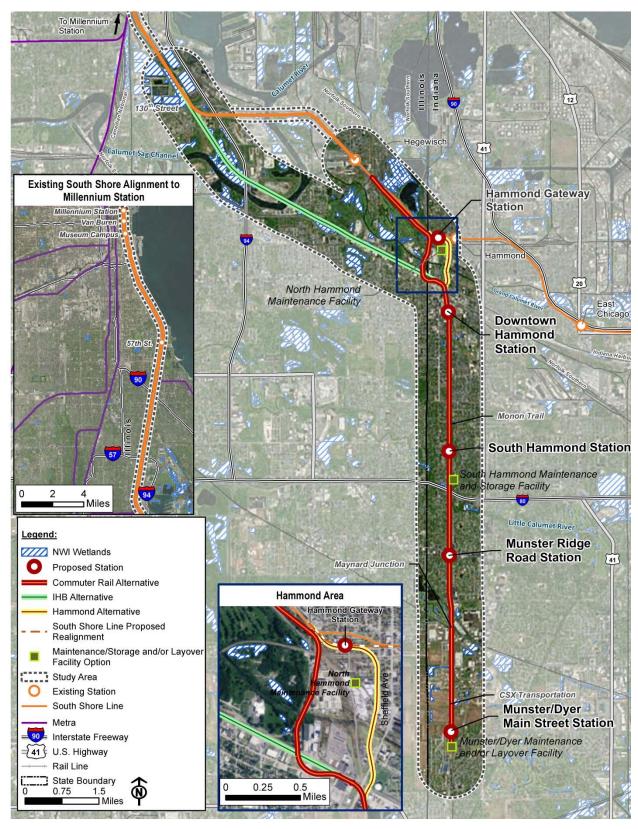


Figure 3-1 Project Wetland Delineation National Wetland Inventory Map





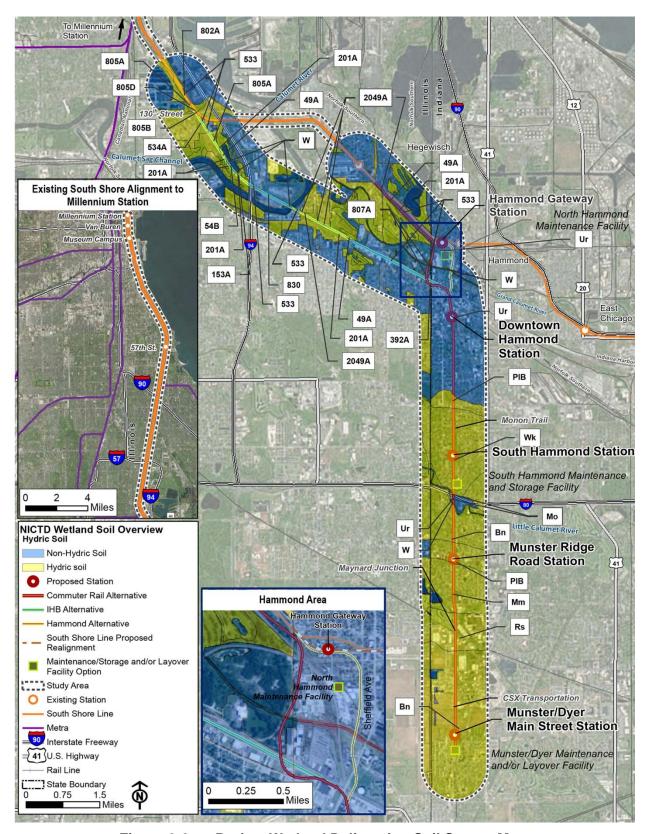


Figure 3-2 Project Wetland Delineation Soil Survey Map





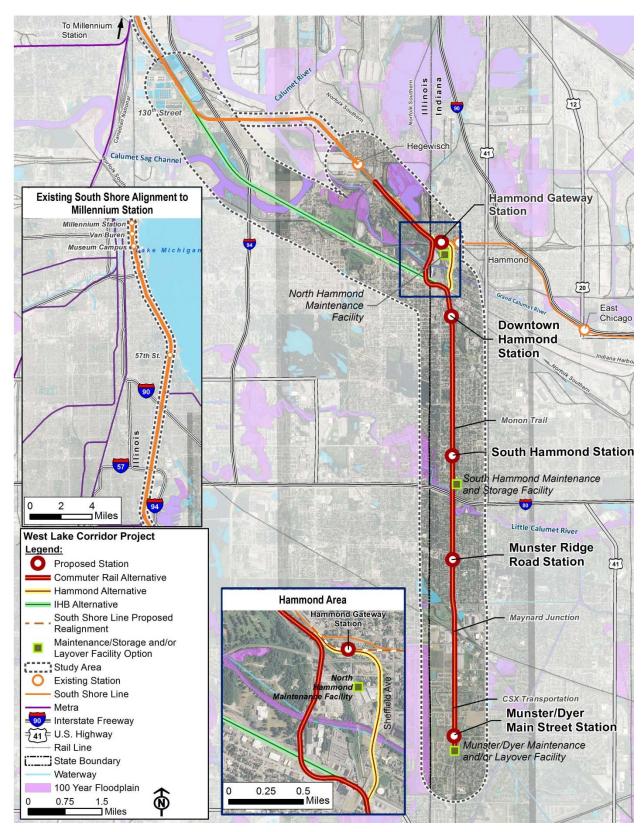


Figure 3-3 Project Wetland Delineation Floodplain Map





Wetlands delineations were done in accordance with the Section 404 guidelines of the USACE, including utilization of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0) (USACE 2010). Using the three parameter methodology, data pertaining to vegetation, hydrology, and soil indicators were obtained. After each wetland determination 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). Wetland boundaries were surveyed in the field using a Trimble GeoExplorerXH unit. If wetlands extended outside the 50-foot (Indiana) or 100-foot (Illinois) boundary, the boundary of the extended portion of the wetland was estimated using aerial photography.

For properties where AECOM had safe and approved right of entry, the team performed Approach A, using the three-parameter methodology of the Manual. Suspect wetlands were investigated for the presence of wetland vegetation, hydrology, and soil indicators using the guidelines of the 2010 Supplement. A data observation point was chosen in a representative portion of the suspect 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 C**. Photographs were taken of each soil sample, of the surrounding vegetation community, and where possible, an overview of each of the wetlands. Photographs of the wetlands and the project site are included in **Appendix D**. Wetland boundary information was transferred to aerial photographs to indicate location and extent of the identified wetlands. Exhibits indicating these wetland boundaries can be found in **Appendix A**. The FQI Reports can be found in **Appendix E**.

## **Wetland Hydrology**

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

## Wetland Vegetation

At each observation point, the plant community was assessed using the 2010 Supplement methodology to determine whether hydrophytic vegetation was dominant. With the soil core at the center, 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. To determine the dominant species in each layer, the percentage of cover was recorded for each species and the totals were calculated using the Dominance Test or 50/20 rule. Species that represented 50 percent or more of the total vegetative cover by layer plus any other species that, by itself, accounted for at least 20 percent of the total were considered dominants.

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 that is based on a species' likelihood to be found in a wetland area, and therefore can be considered a hydrophytic species. The rating for each species can be found in the National Wetland Plant List (Midwest Region) (Lichvar et al. 2014) 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 is considered hydrophytic.





## **Wetland Soil**

Soil samples were augured up to 18 inches or more to characterize wetland and upland soil conditions. Samples were examined by hand in the field to determine structure and texture, and soil colors were classified using a Munsell color chart.

## Floristic Quality Index (FQI)

After each wetland determination was complete, an inventory was made of all the identifiable plant species at each wetland in order to calculate an FQI and Mean C. The FQI metric was developed by Chicago-area botanists 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, would have a high C Value such as 9 or 10, while a very weedy species that is found in highly disturbed areas would have 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. A wetland community with a Mean C value of 3.5 or an FQI of 20 or greater is considered a high quality aquatic resource by the USACE Chicago District.

## 3.2.2 Field Methods – Identified Wetlands (Approach B)

For properties where NICTD could not obtain right of entry, or could not perform the three parameter methodology due to physical or safety access reasons, AECOM 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. Using the Trimble GeoExplorer unit, global positioning system (GPS) points were taken at the beginning and end of the wetland, and at any points between that would be necessary to identify boundary locations. Field notes were taken describing the distance and direction the GPS points were taken from the actual wetland boundary. When the geographic information system data were downloaded, the points were shifted by the direction and distance needed in order 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.

## 3.2.3 Field Methods – Estimated Wetlands (Approach C)

For properties where NICTD could not obtain right of entry and could not sufficiently access adjacent property to conduct a visual assessment, AECOM identified wetlands and estimated wetland boundaries using Approach C described below. Wetlands located between Hammond, Indiana and Metra's Millennium Station in downtown Chicago were identified using Approach C.

For properties that could not be seen from adjacent public properties, such as those adjacent to the IHB alignment in Illinois, or properties that were obscured by distance or vegetation, wetland boundaries were estimated based on the USFWS' NWI maps and aerial photography.





## 3.3 Agricultural Land Assessment

In the southern portion of the Study Area, near Seminary Drive and Sheffield Avenue in Munster, Indiana, the Study 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 Study Area, AECOM delineators followed the USACE procedures for determining wetland areas on agricultural land, which require the use of aerial imagery and employ wetland identification methods developed by USNRCS. The USNRCS mapping conventions follow the methodology of the National Food Security Act Manual (NFSAM) that addresses the special conditions of agricultural wetlands. The mapping conventions call for a comparison of at least five normal-rainfall years of aerial photos against aerial photos of one wet-rainfall year and one 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 three years out of the five normal years in order to be considered a wetland. The USACE Chicago District Regulatory Branch has issued a regulatory bulletin with guidelines for using the USNRCS Conventions.

**Appendix F** contains the aerial photos used to detect field characteristics for the agricultural land investigation.

## 3.4 Wildlife Observations

AECOM made note of all the wildlife observed in the Study Area on the days of the investigation. These observations are discussed in **Section 4.1**.

## 3.5 Wetland Delineation Exhibit

In all instances, wetland data obtained via Trimble GeoExplorer, aerial photography, or NWI maps were transferred to an exhibit that includes an identifying code for each wetland. Wetlands are noted in different colors to indicate which methodology was utilized to determine the wetland boundary (i.e., boundaries based on field delineations or estimation based on aerial photography or NWI maps). The use of different colors allows for the level of accuracy of the boundary determination to be readily apparent. The location and extent of the wetland, the proposed alignment, and the individual properties are included in the wetland boundaries maps (**Figure 4-1**), and detailed exhibits are included in **Appendix A**.





## 4. AFFECTED ENVIRONMENT

## 4.1 Wetland Areas Descriptions

For wetland investigations that took place on September 14, 15, 16, and 17, 2015, the weather was mild and sunny, with temperatures in the low 70s°F to low 80s°F. Rain had fallen in the previous week.

For wetland investigations that took place on September 28, 29, and 30, 2015, the weather was mild and sunny on September 28 and 30, with temperatures in the low 60s°F to high 70s°F. On September 29, the weather was rainy in the morning with the same temperatures. Rain had fallen in the previous two weeks, and 0.10 inch precipitation was recorded for September 29 in Munster, Indiana.

For wetland investigations that took place on October 27, 2015, the weather was cool and rainy, with temperatures in the mid-40s°F to mid-50s°F. Minimal rain had fallen in the previous week, and 0.11 inch precipitation was recorded for this date in Munster, Indiana.

Initial review of soil maps and aerial photography indicated the presence of 12 wetlands located in the Study Area. Site investigation confirmed the presence of these 12 wetlands, as well as additional wetlands, for a total of 52 wetlands in the entire Study Area. In two wetlands (Wetlands 31 and 38), the investigation discovered prior and unknown wetland delineation flags in the properties, which were consistent with the AECOM determination of wetland boundaries.

Wetland boundaries of the 29 wetlands investigated using the full delineation method (Approach A) were flagged in the field and surveyed. Dominant vegetation was determined, soil sampling was conducted, and indicators of wetland hydrology were noted. An FQI was collected during the investigation in each wetland at the data point.

Wetland area boundaries of 14 wetlands were investigated using Approach B. Five wetland boundaries were determined partially using the full delineation method (Approach A) and partially with Approach B. Full boundary delineations using Approach A on these five wetlands were not possible due either to right of entry issues or safety reasons. Nine wetlands were investigated using Approach C. Wetland areas investigated using Approach B and Approach C were not flagged in the field and were surveyed using the methods described in **Chapter 3**. Similarly, soil samples were not taken in areas using Approach B or Approach C. Dominant vegetation was identified from adjacent property for wetlands identified using Approach B.

Wildlife observations included bird species sightings such as a great blue heron at Wetlands 1, 2, 3, and 21, and a hummingbird species at Wetland 6. A rabbit was seen in Wetland 12 and frogs were heard in Wetland 20. A monarch butterfly was seen in Wetland 9 and crayfish holes were seen in Wetlands 15 and Wetland 19.

**Figure 4-1** shows an overview of wetlands locations and **Table 4-1** summarizes pertinent information related to the 52 wetlands found in the Study Area. **Appendix A** contains exhibits showing the wetland delineation boundaries in detail.





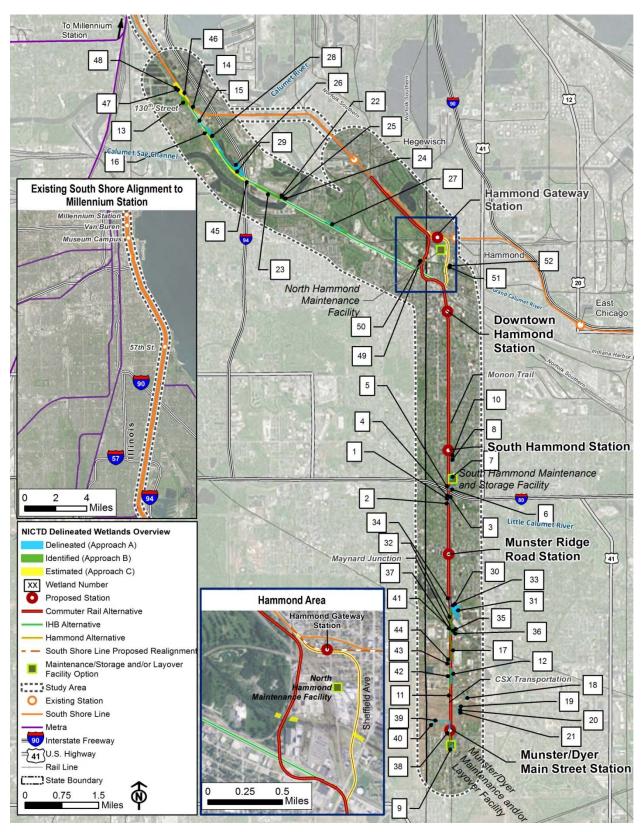


Figure 4-1 Project Wetland Delineation Boundaries Map: Overview





Table 4-1 Summary of Wetlands in the Study Area

Wetland	Wetland Type	Location	Approach	Mapped Soil	Dominant Vegetation	Mean C/ FQI <sup>1</sup>
1	Emergent, riparian	Immediately south of river at Monon Trail bridge	А	Bono silty clay loam	Persicaria lapathifolium, Phalaris arundinacea, Ipomoea hederacea	2.15/ 7.77
2	Wet meadow; wooded wetland	South of river at Monon Trail bridge	А	Bono silty clay loam	Phalaris arundinacea, Parthenocissus quinquefolia, Vitis riparia, Fraxinus pennsylvanica subintegerrima, Acer negundo, Quercus macrocarpa, Ulmus rubra	3.13/ 12.14
3	Emergent, riparian	Immediately north of river at Monon Trail bridge	А	Bono silty clay loam	Persicaria lapathifolia, Helianthus tuberosus, Phalaris arundinacea, Symphyotrichum pilosum, Eupatorium serotinum, Sambucus nigra	1.59/ 6.55
4	Floodplain forest	Eastern side of Monon Trail, north of river, south of interstate	А	N/A	Lysimachia nummularia, Phragmites australis, Acer negundo, Fraxinus pennsylvanica	1.50/ 4.74
5	Sedge meadow	Immediately north of interstate at Monon Trail	A	Watseka silt loam	Phragmites australis, Fraxinus pennsylvanica subintegerrima, Acer negundo, Populus deltoides	2.22/ 9.43
6	Eastern forested wetland	Immediately north of interstate at Monon Trail	А	Watseka silty clay loam	Impatience capensis, Crataegus mollis, Ulmus americana, Fraxinus pennsylvanica subintegerrima	2.29/ 9.46
7	Sedge meadow with forested wetland edge	East of Monon Trail at 174 <sup>th</sup> Street	А	Watseka loamy fine sand	Lythrum salicaria, Salix interior, Populus deltoides, Fraxinus pennsylvanica subintegerrima, Phragmites australis	2.26/ 9.86
8	Sedge meadow edges with forested wetland center	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	А	Watseka loamy fine sand	Lythrum salicaria, Fraxinus pennsylvanica subintegerrima, Populus deltoides	1.95/ 8.95
9	Wet prairie with shrubs	West of Sheffield Avenue and south of Main Street at rail crossing	A/B	Bono silty clay loam	Sambucus nigra, Frangula alnus, Lythrum salicaria	2.82/ 11.64
10	Sedge meadow with forested wetland edge	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	А	Watseka loamy fine sand	Lythrum salicaria, Fraxinus pennsylvanica subintegerrima, Populus deltoides	1.95/ 8.95
11	Ditch wetland	East of rail near edge of subdivision south of Otis Bowen Drive	В	Bono silty clay loam	Phragmites australis	NA
12	Bioretention basin	East of rail, south of Superior Avenue	А	Bono silty clay loam	Phragmites australis	2.15/ 7.77





Wetland	Wetland Type	Location	Approach	Mapped Soil	Dominant Vegetation	Mean C/ FQI <sup>1</sup>
13	Sedge meadow swale and shrub wetland	North of East 130th Street near Calumet Water Reclamation Plant, west of rail	В	Orthents clayey	Phragmites australis, Salix spp, Morus alba, Populus deltoides	NA
14	Sedge meadow and shrub wetland	South of 130 <sup>th</sup> Street, east of rail	В	Orthents clayey	Typha angustifolia, Hawthorn spp.	NA
15	Sedge meadow swale	West of rail near 132 <sup>nd</sup> Street	А	Orthents, Ashkum, aquents	Eleocharis palustris	2.00/ 6.00
16	Sedge meadow and shrub wetland ditch	Adjacent to rail on west side in Cook County Forest Preserve District	В	Orthents clayey	Phragmites australis, Lythrum salicaria, Sambucus nigra, Salix exigua, Equisetum arvense, Helianthus tuberosus, Eleocharis palustris, Ulmus americana	NA
17	Retention basin wetland	East of rail, south of 45 <sup>th</sup> Street near Town of Munster	В	Rensselaer loam, calcareous subsoil variant, Bono silty clay	Phragmites australis, Lythrum salicaria	NA
18	Detention basin	East of rail in subdivision near Columbia Avenue	А	Bono silty clay loam	Phragmites australis, Typha angustifolia	2.67/ 4.62
19	Disturbed wet prairie	East of rail in subdivision near Columbia Avenue	А	Bono silty clay loam	Populus deltoides, Salix interior, Phragmites australis, Eleocharis palustris	3.60/ 11.38
20	Detention basin	East of rail in subdivision near Columbia Avenue	А	Bono silty clay loam	Lythrum salicaria, Eleocharis palustris, Salix interior	2.33/ 7.00
21	Detention basin	East of rail in subdivision near Columbia Avenue	А	Bono silty clay loam	Salix interior, Eleocharis palustris	3.86/ 10.21
22	Ditch sedge meadow	North side of rail near Waste Management landfill	В	Landfill	Phragmites australis, Bidens cernua	NA
23	Ditch sedge meadow and forested wetland	South side of rail near Waste Management landfill	В	Landfill	Phragmites australis	NA
24	Forested riparian wetland	North side of rail near Waste Management landfill, at river edge	В	Landfill	Phragmites australis, Acer negundo	NA
25	Forested riparian ditch wetland	North side of rail near Waste Management landfill	В	Landfill	Phragmites australis, Rhamnus frangula, Acer negundo	NA
26	Large prairie marsh and forested wetland	Adjacent to rail on east side in Cook County Forest Preserve District	A/B	Watseka silty clay loam, Plainfield loamy sand, Gilford fine sandy loam	Populus deltoides, Bidens cernua, Carex stricta, Typha latifolia, Alisma subcordatum	3.93/ 26.08





Wetland	Wetland Type	Location	Approach	Mapped Soil	Dominant Vegetation	Mean C/ FQI <sup>1</sup>
27	Wet prairie and sedge meadow	North of rail near 143 <sup>rd</sup> Street and Hammond Avenue	A/B	Gilford loamy sand, Watseka loamy fine sand	Phalaris arundinacea, Populus tremuloides, Populus deltoides,Solidago rugosa, Vitis riparia	3.56/ 15.08
28	Prairie marsh	Adjacent to rail on east side in Cook County Forest Preserve District	A/B	Orthents (aquic), Watseka loamy fine sand, Gilford fine sandy loam	Phragmites australis, Lythrum salicaria, Salix interior, Populus deltoides	3.83/ 21.00
29	Forested riparian wetland	Adjacent to rail on west side in Cook County Forest Preserve District	С	Pella silty clay loam	Phragmites australis, Populus deltoides	NA
30	Disturbed sedge meadow	East of rail, south of Fisher Street	А	Maumee loamy fine sand	Phragmites australis	1.00/ 1.00
31	Sedge meadow	East of rail, south of Fisher Street	А	Rensselaer loam, calcareous subsoil variant	Populus deltoides, Phragmites australis	1.94/ 7.75
32	Sedge meadow and forested wetland ditch	East of rail, south of Fisher Street	В	Rensselaer loam, calcareous subsoil variant	Populus deltoides, Rhamnus frangula, Salix interior, Phragmites australis	NA
33	Sedge meadow ditch	East of rail, south of Fisher Street	Α	Maumee loamy fine sand	Phragmites australis, Populus deltoides	2.25/ 6.36
34	Sedge meadow	West of rail, south of Fisher Street	А	Maumee loamy fine sand	Phragmites australis, Lythrum salicaria, Cornus stolonifera, Frangula alnus, Geum laciniatum trichocarpum	2.91/ 9.65
35	Sedge meadow	East of rail, north of 45 <sup>th</sup> Street	В	Rensselaer loam, calcareous subsoil variant	Salix interior, Populus deltoids, Cornus stolonifera, Fraxinus pennsylvanica subintegerrima, Typha angustifolia, Vitis riparia	NA
36	Sedge meadow	East of rail, north of 45 <sup>th</sup> Street	А	Rensselaer loam, calcareous subsoil variant	Populus deltoides, Typha angustifolia, Phragmites australis	3.00/ 9.00
37	Sedge meadow	West of rail, north of 45 <sup>th</sup> Street	В	Rensselaer loam, calcareous subsoil variant	Salix interior, Cornus stolonifera, Typha angustifolia, Vitis riparia	NA
38	Ditch forested wetland and sedge meadow ditch	West of rail near Sheffield Avenue crossing	A/B	Bono silty clay	Phragmites australis, Salix interior, Cornus stolonifera, Equisetum arvense, Acer saccharinum, Prunus serotina, Populus deltoides, Rubus occidentalis	2.06/ 8.25
39	Forested wetland ditch	West of rail, north of Seminary Drive	А	Bono silty clay	Phragmites australis, Salix interior, Salix fragilis	1.80/ 4.02





Wetland	Wetland Type	Location	Approach	Mapped Soil	Dominant Vegetation	Mean C/ FQI <sup>1</sup>
40	Wet prairie	West of rail, north of Seminary Drive	А	Bono silty clay	Lythrum salicaria, Salix interior	2.33/ 5.72
41	Forested wetland	West of rail, north of 45 <sup>th</sup> Street	В	Rensselaer loam, calcareous subsoil variant	Phragmites australis, Populus deltoides	NA
42	Ditch sedge meadow	West of rail near Glastonbury Street, south of 45 <sup>th</sup> Street	В	Bono silty clay	Lythrum salicaria, Andropogon gerardii, Cornus stolonifera	NA
43	Detention basin	West of rail near Glastonbury Street, south of 45 <sup>th</sup> Street	А	Bono silty clay	Open water with riprap. No vegetation.	NA
44	Sedge meadow swale	West of rail near Glastonbury Street, south of 45 <sup>th</sup> Street	А	Bono silty clay	Lythrum salicaria, Typha angustifolia	2.20/ 4.92
45	Riparian forested wetland	East of interstate near river and Waste Management	С	Landfills	Not visible	NA
46	Sedge meadow	East of rail, north of 130 <sup>th</sup> Street	С	Orthents, clayey	Not visible	NA
47	Ditch sedge meadow	Between rail, north of 130 <sup>th</sup> Street	С	Orthents, loamy	Not visible	NA
48	Ditch sedge meadow	West of rail, north of 130 <sup>th</sup> Street	С	Orthents, loamy	Not visible	NA
49	Riparian wetland	On northern bank of Calumet River near Chicago Street and State Line Road	С	Urban land	Not visible	NA
50	Riparian wetland	On southern bank of Calumet River near Chicago Street and State Line Road	С	Orthents, loamy- skeletal	Not visible	NA
51	Riparian wetland	On southern bank of Calumet River near Wilcox Street and Hohman Avenue	С	Urban land	Not visible	NA
52	Riparian wetland	On northern bank of Calumet River near Wilcox Street and Hohman Avenue	С	Urban land	Not visible	NA

SOURCE: AECOM 2016.



<sup>&</sup>lt;sup>1</sup> Mean C (Native Species) and FQI (Native Species) based on Chicago Region FQI Calculator 09292014, as provided by USACE Chicago District.



## 4.2 Wetland Areas with Descriptions of Soils and Hydrology

## Wetland 1 (Approach A)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a redox dark surface (F6). The letter and number code represent the wetland characteristics according to the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0) (August 2010). The main indicators of hydrology were sediment deposits (B2) and drainage patterns (B10).

The upland data point also showed evidence of hydric soils, with 3 percent of redox concentrations leading to a preliminary classification of redox dark surface (F6). However, the presence of rock and asphalt indicated highly disturbed soils, which could disprove the sample as a strong indicator of wetland soils. There were no signs of hydrology.

USACE advised in their letter dated July 29, 2016, that Wetland 1 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 2 (Approach A)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a depleted below the dark surface (A11) soil. The main indicators of hydrology were water marks (B1) and a sparsely vegetated concave surface (B8).

The upland data point also showed evidence of hydric soils, with 3 percent of redox concentrations leading to a preliminary classification of redox dark surface (F6). However, the presence of rock and asphalt indicated highly disturbed soils, which could disprove the sample as a strong indicator of wetland soils. There were no signs of hydrology.

USACE advised in their letter dated July 29, 2016, that Wetland 2 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 3 (Approach A)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a redox dark surface (F6). The main indicators of hydrology were sediment deposits (B2) and drainage patterns (B10). The sample was taken approximately 5 feet from the edge of the river bank. An upland data point for soils could not be obtained due to the large amount of gravel and debris in the soil. There were no indicators of hydrology in the upland data point.

USACE advised in their letter dated July 29, 2016, that Wetland 3 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 4 (Approach A)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a redox dark surface (F6). The main indicator of hydrology was a high water table (A2). An upland data point for soils could not be obtained due to the large amount of gravel and debris in the soil. There were no indicators of hydrology in the upland data point.





USACE advised in their letter dated July 29, 2016, that Wetland 4 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 5 (Approach A)

The soils investigation confirmed the mapped non-hydric soil, Watseka silt loam. Although typically a non-hydric soil, the soil was hydric due to the presence of a depleted matrix (F3). The main indicator of hydrology was saturation (A3). The upland data point confirmed the mapped non-hydric soil, Watseka silt loam. There were no indications of hydric soil or of wetland hydrology.

USACE advised in their letter dated July 29, 2016, that Wetland 5 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 6 (Approach A)

The soils investigation confirmed the mapped non-hydric soil, Watseka silty clay loam. Although typically a non-hydric soil, the soil was hydric due to the presence of a depleted below dark surface (A11). The main indicators of hydrology were sparsely vegetated concave surfaces (B8), aquatic fauna (B13), and surface soil cracks (B6). The upland data point confirmed the mapped non-hydric soil, Watseka silty clay loam. There were no indications of hydric soil or of wetland hydrology.

USACE advised in their letter dated July 29, 2016, that Wetland 6 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 7 (Approach A)

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 (S6). The main indicators of hydrology were geomorphic position (D2) and a FAC-neutral test (D5); the FAC-neutral test is used as a secondary indicator of wetland hydrology. 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.

USACE advised in their letter dated July 29, 2016, that Wetland 7 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 8 (Approach A)

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 (S6). The main indicators of hydrology were geomorphic position (D2) and sediment deposits (B2). 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.

USACE advised in their letter dated July 29, 2016, that Wetland 8 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 9 (Approach A and B)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a redox dark surface (F6). The main indicators of hydrology were geomorphic position (D2) and a FAC-neutral test (D5). The upland data point confirmed the



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mapped hydric soil, Bono silty clay loam. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology. Approach B was used on the area of the wetland located on property where right of entry was denied.

USACE advised in their letter dated July 29, 2016, that Wetland 9 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 10 (Approach A)

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 (S6). The main indicators of hydrology were geomorphic position (D2) and sediment deposits (B2). 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.

USACE advised in their letter dated July 29, 2016, that Wetland 10 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 11 (Approach B)

Neither wetland, upland soils, nor hydrology data points were obtained due to the wetland location primarily on property where right of entry was denied. The mapped soil for the area was a hydric Bono silty clay loam.

USACE advised in their letter dated July 29, 2016, that Wetland 11 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

## Wetland 12 (Approach A)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a loamy gleyed matrix (F2). 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 (A1), a high water table (A2), saturation (A3), and drainage patterns (B10).

The upland data point was also mapped as Bono silty clay loam 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.

USACE advised in their letter dated July 29, 2016, that Wetland 12 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law (Indiana Code 13-18-22) because it is a manmade body of surface water created by excavation to retain water.

#### Wetland 13 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because property right of entry was denied. The mapped soils for the area were Orthents clayey.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.





## Wetland 14 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because property right of entry was denied. The mapped soils for the area were Orthents clayey.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

## Wetland 15 (Approach A)

The soils investigation confirmed the mapped hydric soil, which is primarily Urban land - clayey Orthents. The soil was hydric due to the presence of a depleted matrix (F3). The main indicators of wetland hydrology were a high water table (A2), soil saturation (A3), and drainage patterns (B10). The upland data point was determined to be loamy sand and conflicted with the mapped Orthents, Ashkum aquents. There were no indications of hydric soil or of wetland hydrology.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

## Wetland 16 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because property right of entry was denied. The mapped soils for the area were Orthents clayey.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

### Wetland 17 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because property right of entry was denied. The mapped soils for the area were Renssalaer loam, calcareous subsoil variant or Bono silty clay loam.

USACE advised in their letter dated July 29, 2016, that Wetland 17 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because it is a manmade body of surface water created by excavation to retain water.

#### Wetland 18 (Approach A)

Wetland soils were not obtained due to riprap along the embankment and open water. Upland soils were not obtained to not disturb manicured lawn on residential property. The mapped soils for the area were mapped as hydric soil, Bono silty clay loam. The main indicator of wetland hydrology was surface water (A1).

USACE advised in their letter dated July 29, 2016, that Wetland 18 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA





regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because it is a manmade body of surface water created by excavation to retain water.

## Wetland 19 (Approach A)

The soils investigation confirmed the mapped hydric soil, Bono silty clay loam. The soil was hydric due to the presence of a depleted matrix (F3). The sample was restricted to the top 16 inches of soil due to a restrictive gravel layer. The main indicators of wetland hydrology were surface water (A1), a high water table (A2), and an algal mat or crust (B4). An upland soils and hydrology data point was not obtained. The mapped soil for the area was a Bono silty clay loam.

USACE advised in their letter dated July 29, 2016, that Wetland 19 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because it is a manmade body of surface water created by excavation to retain water.

## Wetland 20 (Approach A)

Wetland soils were not obtained due to riprap along the embankment and open water. Upland soils were not obtained to not disturb manicured lawn on residential property. The mapped soils for the area were mapped as hydric soil, Bono silty clay loam. The main indicator of wetland hydrology was surface water (A1).

USACE advised in their letter dated July 29, 2016, that Wetland 20 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because it is a manmade body of surface water created by excavation to retain water.

#### Wetland 21 (Approach A)

Wetland soils were not obtained due to riprap along the embankment and open water. Upland soils were not obtained to not disturb manicured lawn on residential property. The mapped soils for the area were mapped as hydric soil, Bono silty clay loam. The main indicator of wetland hydrology was surface water (A1).

USACE advised in their letter dated July 29, 2016, that Wetland 21 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because it is a manmade body of surface water created by excavation to retain water.

#### Wetland 22 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained due to the location of the wetland on the property of a hazardous waste landfill.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.





#### Wetland 23 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained due to the location of the wetland on the property of a hazardous waste landfill.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 24 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained due to the location of the wetland on the property of a hazardous waste landfill.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to it being adjacent to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 25 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained due to the location of the wetland on the property of a hazardous waste landfill.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to it being adjacent to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 26 (Approach A and B)

The soils investigation confirmed the mapped mix of Watseka silty clay loam, Plainfield loamy sand, and Gilford fine sandy loam. The soil was hydric due to the presence of a thick dark surface (A12). The wetland hydrology indicators were surface water (A1), a high water table (A2), saturation (A3), water marks (B1), sediment deposits (B2), algal mat or crust (B4), inundation visible on an aerial image (B7), and a thin muck surface (C7). An upland soils and hydrology data point was not obtained as the adjacent upland areas extended beyond the Project boundary or were on rail embankments. Approach B was used on the area of the wetland located on property where right of entry was denied.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 27 (Approach A and B)

The soils investigation confirmed the mapped Gilford loamy sand and Watseka loamy fine sand. The soil was hydric due to the presence of a sandy mucky mineral (S1). Hydrology included water marks (B1) and saturated soils (A3). An upland soils and hydrology data point was not obtained as the adjacent upland areas extended beyond the Project boundary or were on rail embankments. Approach B was used on the area of the wetland located on property where right of entry was denied and where high-power transmission towers were present overhead.





USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 28 (Approach A and B)

A soil sample was not taken because of standing water greater than 6 inches. Samples taken at the perimeter would destabilize the slope. The mapped soil was indicated as Orthents (aquic), Watseka loamy fine sand, and Gilford fine sandy loam. The wetland hydrology indicators were surface water (A1), a high water table (A2), saturation (A3), water marks (B1), sediment deposits (B2), inundation visible on an aerial image (B7), water stained leaves (B9), saturation visible on an aerial image (C9), and geomorphic position (D2). An upland soils and hydrology data point was not obtained as the adjacent upland areas extended beyond the Project boundary or were on rail embankments.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 29 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained due to inability to access the property. The mapped soils for the area were Pella silty clay loam.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 30 (Approach A)

A soil sample was not taken because of railroad debris (gravel, construction materials, asphalt). The soils were mapped as Maumee loamy fine sand. The wetland hydrology indicators were surface water (A1), saturation (A3), and surface soil cracks (B6). An upland soils and hydrology data point was not obtained.

USACE advised in their letter dated July 29, 2016, that Wetland 30 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 31 (Approach A)

A soil sample was not taken because of railroad debris (gravel, construction materials, asphalt). The soils were mapped as a Rensselaer loam, calcareous subsoil variant. The wetland hydrology indicators were surface water (A1) and saturation (A3). An upland soils and hydrology data point was not obtained.

USACE advised in their letter dated July 29, 2016, that Wetland 31 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 32 (Approach B)



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Neither wetland nor upland soils and hydrology data points were obtained due to radio frequency fields at this site exceeding Federal Communications Commission rules for human exposure. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

USACE advised in their letter dated July 29, 2016, that Wetland 32 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 33 (Approach A)

The soils investigation confirmed the mapped soil, Maumee loamy fine sand. The soil was hydric due to the presence of a depleted dark surface (F7). The wetland hydrology indicators were saturation (A3) and sparsely vegetated concave surface (B8). An upland soils and hydrology data point was not obtained.

USACE advised in their letter dated July 29, 2016, that Wetland 33 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 34 (Approach A)

The soils investigation confirmed the mapped soil, Maumee loamy fine sand. The soil was hydric due to the presence of a depleted dark surface (F7). The wetland hydrology indicators were saturation (A3) and sparsely vegetated concave surface (B8). An upland soils and hydrology data point was not obtained.

USACE advised in their letter dated July 29, 2016, that Wetland 34 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 35 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

USACE advised in their letter dated July 29, 2016, that Wetland 35 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 36 (Approach A)

A soil sample was not taken because of standing water. The soils were mapped as Rensselaer loam, calcareous subsoil variant. The wetland hydrology indicators were surface water (A1) and saturation (A3). An upland soils and hydrology data point was not obtained.

USACE advised in their letter dated July 29, 2016, that Wetland 36 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 37 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

USACE advised in their letter dated July 29, 2016, that Wetland 37 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).





#### Wetland 38 (Approach A and B)

The soils investigation did not confirm the mapped soils as Bono silty clay. Instead, the soils were found to be loamy sand. Soils were hydric due to being depleted below a dark surface (A11). The wetland hydrology indicators were a high water table (A2), saturation (A3), sediment deposits (B2), drainage patterns (B10), and geomorphic position (D2). The upland data point confirmed the mapped hydric soil, Bono silty clay loam. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology. Approach B was used on the area of the wetland located on property where right of entry was denied.

USACE advised in their letter dated July 29, 2016, that Wetland 38 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 39 (Approach A)

The soils investigation did not confirm the mapped soils as Bono silty clay. Instead the soils were found to be loamy sand. Soils were hydric due to being depleted below a dark surface (A11). The wetland hydrology indicators were a high water table (A2), saturation (A3), sediment deposits (B2), drainage patterns (B10), and geomorphic position (D2). The upland data point confirmed the mapped hydric soil, Bono silty clay loam. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology.

USACE advised in their letter dated July 29, 2016, that Wetland 39 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 40 (Approach A)

The soils investigation did not confirm the mapped soils as Bono silty clay. Instead the soils were found to be sandy clay. Soils were hydric due to being a thick dark surface (A12). The wetland hydrology indicators were iron deposits (B5), recent iron reduction in tilled soils (C6), surface soil cracks (B6), drainage patterns (B10), and a FAC-neutral test (D5). The upland data point confirmed the mapped hydric soil, Bono silty clay loam. Despite the mapped hydric designation, there were no indications of hydric soil or of wetland hydrology.

USACE advised in their letter dated July 29, 2016, that Wetland 40 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 41 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Rensselaer loam, calcareous subsoil variant.

USACE advised in their letter dated July 29, 2016, that Wetland 41 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 42 (Approach B)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Bono silty clay.

The USACE advised in their letter dated July 29, 2016 that Wetland 42 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).





#### Wetland 43 (Approach A)

Neither wetland nor upland soils data points were obtained because the presence of riprap prevented soil sampling. The mapped soils for the area were Bono silty clay. The hydrology indicator in the wetland was surface water (A1). The upland data point did not possess hydrologic indicators.

USACE advised in their letter dated July 29, 2016, that Wetland 43 is not jurisdictional under the CWA because it was created as a stormwater detention facility and is exempt from CWA regulations (see **Appendix G**). In addition, stormwater detention facilities are exempt from Indiana's Isolated Wetlands Law because it is a manmade body of surface water created by excavation to retain water.

#### Wetland 44 (Approach A)

Neither wetland nor upland soils data points were obtained because of the presence of railroad ballast and riprap. The mapped soils for the area were Bono silty clay. The hydrology indicator in the wetland was surface water (A1). The upland data point did not possess hydrologic indicators.

USACE advised in their letter dated July 29, 2016, that Wetland 44 is jurisdictional under the CWA due to its location adjacent to the Little Calumet River (see **Appendix G**).

#### Wetland 45 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Landfills.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 46 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Orthents, clayey.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 47 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Orthents, loamy.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.





#### Wetland 48 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Orthents, loamy.

USACE did not advise on the jurisdictional status of wetlands in Illinois. For purposes of this study it is assumed that this wetland is jurisdictional due to a hydrologic connection to the Little Calumet River. Final determination of jurisdictional status will occur during the CWA permitting process.

#### Wetland 49 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Urban land.

USACE advised in their letter dated July 29, 2016, that Wetland 49 is jurisdictional under the CWA due to its location adjacent to the Grand Calumet River (see **Appendix G**).

#### Wetland 50 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Orthents, loamy-skeletal.

USACE advised in their letter dated July 29, 2016, that Wetland 50 is jurisdictional under the CWA due to its location adjacent to the Grand Calumet River (see **Appendix G**).

#### Wetland 51 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Urban land.

USACE advised in their letter dated July 29, 2016, that Wetland 51 is jurisdictional under the CWA due to its location adjacent to the Grand Calumet River (see **Appendix G**).

#### Wetland 52 (Approach C)

Neither wetland nor upland soils and hydrology data points were obtained because right of entry was denied. The mapped soils for the area were Urban land.

USACE advised in their letter dated July 29, 2016, that Wetland 52 is jurisdictional under the CWA due to its location adjacent to the Grand Calumet River (see **Appendix G**).

# 4.3 Agricultural Land Assessment

In the southern portion of the Study 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. NFSAM delineations for agricultural land requires the use of at least five normal-rainfall years of aerial photos against aerial photos of one wet-rainfall year, which are used as a reference to detect characteristic field signatures that indicate the presence of wetlands. AECOM examined six years of aerial photographs of the subject properties. The years 1998, 2007, 2008, 2009, and 2012 were normal rainfall years in Munster, Indiana. 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, as only one out of five normal rainfall years showed wetland indicators. **Appendix F** contains the aerial photos used to detect field characteristics for the Agricultural Land Assessment.





## 5. ENVIRONMENTAL CONSEQUENCES

Wetland impacts resulting from the alternatives being considered are discussed in this section. Impacts were determined by overlaying the Project footprint of the Build Alternative Options with the identified wetlands. Each Build Alternative Option was evaluated to determine the amount of wetland impacts.

For purposes of this study, it was assumed that all wetland areas located in the Project footprint would be affected by the Project. It is likely that project design can be altered in some instances to minimize impacts. Until the design is further along, however, those minimization opportunities are not known. Therefore, for the purpose of this assessment, all areas where the Project footprint overlaps the wetland are considered a permanent impact. In addition, all wetlands whose areas are affected by 50 percent or greater are considered as being affected in their entirety. Because impacts of that magnitude often result in permanent impacts to the hydrology of the remaining portion of the wetland, this study considers the entire wetland affected for planning purposes. The wetland impacts resulting from each alternative option are discussed below, with tables summarizing each. Detailed exhibits indicating the wetland impacts are included in **Appendix A**.

#### 5.1 No Build Alternative

The No Build Alternative would have no wetland impacts. The No Build Alternative does not include construction, nor increases in existing commuter rail services that would result in wetland impacts.

# 5.2 Commuter Rail Alternative Options

The Commuter Rail Alternative Options would have wetland impacts ranging from 5.42 acres to 9.25 acres. The wetland impacts occur primarily in Indiana. Details are discussed below by option. **Table 5-1** presents a summary of the impacts to wetlands that would result from the Commuter Rail Alternative Options.

Table 5-1 Summary of Wetland Impacts – Commuter Rail Alternative Options

Wetland	Mean C/ FQI <sup>1</sup>	Location	Wetland Impacts (acres)			
			Option 1	Option 2	Option 3	Option 4
1	2.15/ 7.77	Immediately south of River at Monon Trail bridge	0.06	0.06	0.06	0.06
2	3.13/ 12.14	South of River at Monon Trail bridge	0.001	0.001	0.001	0.001
4	1.50/ 4.74	Eastern side of Monon Trail, north of River, south of Interstate	0.04	0.04	0.04	0.04
5	2.22/ 9.43	Immediately north of Interstate at Monon Trail	0.04	0.09	0.09	0.09
6	2.29/ 9.46	Immediately north of Interstate at Monon Trail	0.45	0.45	0.45	0.45
7	2.26/ 9.86	East of Monon Trail at 174 <sup>th</sup> Street	0.66	0.66	0.66	0.66
8	1.95/ 8.95	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	0.32	0.32	0.32	0.32
9	2.82/ 11.64	West of Sheffield Avenue and south of Main Street at CSX freight line	0.97	0.97	0.97	0





Wetler	Mean C/ FQI <sup>1</sup>	Location	Wetland Impacts (acres)			
Wetland			Option 1	Option 2	Option 3	Option 4
10	1.95/ 8.95	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	0.17	0.17	0.17	0.17
11	NA	East of rail near edge of subdivision south of Otis Bowen Drive	0.11	0.11	0.11	0
12	2.15/ 7.77	East of rail, south of Superior Avenue	1.46	1.46	1.46	0
17	NA	East of rail, south of 45 <sup>th</sup> St. near Town of Munster	1.90	1.90	1.90	0
32	NA	East of rail, south of Fisher Street	1.81	1.81	1.81	1.75
33	2.25/ 6.36	East of rail, south of Fisher Street	0.32	0.32	0.32	0.32
34	2.91/ 9.65	West of rail, south of Fisher Street	0.01	0.01	0.01	0.01
35	NA	East of rail, north of 45 <sup>th</sup> Street	0.05	0.05	0.05	0
36	3.00/ 9.00	East of rail, north of 45 <sup>th</sup> Street	0.09	0.09	0.09	0
37	NA	West of rail, north of 45 <sup>th</sup> Street	0.18	0.18	0.18	0
38	2.06/ 8.25	West of rail near Sheffield Avenue crossing	0	0.33	0.33	0.83
39	1.80/ 4.02	West of rail, north of Seminary Drive	0	0.04	0.04	0.04
41	NA	West of rail, north of 45 <sup>th</sup> Street	0	0	0	0.24
42	NA	West of rail near Glastonbury Street, south of 45 <sup>th</sup> Street	0	0	0	0.09
43	NA	West of rail near Glastonbury St., south of 45 <sup>th</sup> St.	0	0	0	0.05
44	2.20/ 4.92	West of rail near Glastonbury Street, south of 45 <sup>th</sup> Street	0	0	0	0.11
49	NA	On northern bank of Calumet River near Chicago Street and State Line Road	0.16	0.16	0.16	0.16
50	NA	On south bank of Calumet River near Chicago Street and State Line Road	0.03	0.03	0.03	0.03
Total Impa	Total Impacts		8.83	9.25	9.25	5.42

SOURCE: AECOM 2016

#### 5.2.1 Commuter Rail Alternative Option 1

Commuter Rail Alternative Option 1 would result in 8.83 acres of wetland impacts; 0.19 acre would occur in Illinois, 8.64 acres in Indiana. All of the wetlands are of low to moderate quality; none of them would qualify as a high quality aquatic resource per USACE Chicago District guidelines.

#### 5.2.2 Commuter Rail Alternative Option 2

Commuter Rail Alternative Option 2 would result in 9.25 acres of wetland impacts; 0.19 acre would occur in Illinois, 9.06 acres in Indiana. All of the wetlands are of low to moderate quality;



<sup>&</sup>lt;sup>1</sup> Mean C (Native Species) and FQAI (Native Species) based on Chicago Region FQI Calculator 09292014, as provided by USACE Chicago District.



none of them would qualify as a high quality aquatic resource under USACE Chicago District guidelines.

#### 5.2.3 Commuter Rail Alternative Option 3

Commuter Rail Alternative Option 3 would result in 9.25 acres of wetland impacts; 0.19 acre would occur in Illinois, 9.06 acres in Indiana. All of the wetlands are of low to moderate quality; none of them would qualify as a high quality aquatic resource under USACE Chicago District guidelines.

#### 5.2.4 Commuter Rail Alternative Option 4

Commuter Rail Alternative Option 4 would result in 5.42 acres of wetland impacts; 0.19 acre would occur in Illinois, 5.23 acres in Indiana. The primary reduction in wetland impacts over Commuter Rail Alternative Options 1 through 3 are the result of Commuter Rail Alternative Option 4 being located on the west side of the existing CSX tracks in the southern portion of the Study Area, and therefore its avoidance of Wetland 12, as well as Commuter Rail Alternative Option 4 not having the maintenance and storage facility on the east side of the tracks. All of the wetlands that would be affected are of low to moderate quality; none of them would qualify as a high quality aquatic resource under USACE Chicago District guidelines.

# 5.3 IHB Alternative Options

The IHB Alternative Options would have wetland impacts ranging from 19.31 acres to 20.79 acres. Three of the wetlands located in Illinois can be classified as high quality aquatic resources under USACE Chicago District guidelines, both because of Mean C values greater than 3.5 or because they contain known state-protected species. Details of the wetland impacts are discussed below by option. **Table 5-2** presents a summary of the impacts that would result from the IHB Alternative Options.

Table 5-2 Summary of Wetland Impacts – IHB Alternative Options

Wetland	Mean C/ FQI <sup>1</sup>	Location	Wetland Impacts (acres)			
			Option 1	Option 2	Option 3	Option 4
1	2.15/ 7.77	Immediately south of River at Monon Trail bridge	0.06	0.06	0.06	0.06
2	3.13/ 12.14	South of River at Monon Trail bridge	0.001	0.001	0.001	0.001
4	1.50/ 4.74	Eastern side of Monon Trail, north of River, south of Interstate	0.04	0.04	0.04	0.04
5	2.22/ 9.43	Immediately north of Interstate at Monon Trail	0.09	0.09	0.09	0.09
6	2.29/ 9.46	Immediately north of interstate at Monon Trail	0.45	0.45	0	0
7	2.26/ 9.86	East of Monon Trail at 174 <sup>th</sup> Street	0.66	0.66	0	0
8	1.95/ 8.95	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	0.32	0.32	0.32	0.32
9	2.82/ 11.64	West of Sheffield Avenue and south of Main Street at CSX freight line	0.97	0.97	0.97	0.97
10	1.95/ 8.95	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	0.17	0.17	0.17	0.17





Wetlerd	Mean C/ FQI <sup>1</sup>	Location	Wetland Impacts (acres)			
Wetland			Option 1	Option 2	Option 3	Option 4
11	NA	East of rail near edge of subdivision south of Otis Bowen Drive	0.11	0.11	0.11	0.11
12	2.15/ 7.77	East of rail, south of Superior Ave.	1.46	1.46	1.46	1.46
13	NA	North of East 130th Street near Calumet Water Reclamation Plant, west of rail	0.002	0.002	0.002	0.002
14	NA	South of 130 <sup>th</sup> Street, east of rail	0.16	0.16	0.16	0.16
15	2.00/ 6.00	West of rail near 132 <sup>nd</sup> Street	0.001	0.001	0.001	0.001
16	NA	Adjacent to rail on west side in Cook County Forest Preserve District	0.81	0.81	0.81	0.81
17	NA	East of rail, south of 45 <sup>th</sup> St. near Town of Munster	1.90	1.90	1.90	1.90
22	NA	North side of rail near Waste Management landfill	0.41	0.41	0.41	0.41
23	NA	South side of rail near Waste Management landfill	3.12	3.12	3.12	3.12
25	NA	North side of rail near Waste Management landfill	0.15	0.15	0.15	0.15
26	3.93/ 26.08	Adjacent to rail on east side in Cook County Forest Preserve District	1.70	1.70	1.70	1.70
27	3.56/ 15.08	North of rail near 143 <sup>rd</sup> Street and Hammond Avenue	1.58	1.58	1.58	1.58
28	3.83/ 21.00	Adjacent to rail on east side in Cook County Forest Preserve District	1.14	1.14	1.14	1.14
29	NA	Adjacent to rail on west side in Cook County Forest Preserve District	1.73	1.73	1.73	1.73
32	NA	East of rail, south of Fisher Street	1.81	1.81	1.81	1.81
33	2.25/ 6.36	East of rail, south of Fisher Street	0.32	0.32	0.32	0.32
34	2.91/ 9.65	West of rail, south of Fisher Street	0.01	0.01	0.01	0.01
35	NA	East of rail, north of 45 <sup>th</sup> Street	0.05	0.05	0.05	0.05
36	3.00/ 9.00	East of rail, north of 45 <sup>th</sup> Street	0.09	0.09	0.09	0.09
37	NA	West of rail, north of 45 <sup>th</sup> Street	0.18	0.18	0.18	0.18
38	2.06/ 8.25	West of rail near Sheffield Avenue crossing	0	0.33	0	0
39	1.80/ 4.02	West of rail, north of Seminary Drive	0	0.04	0	0
45	NA	East of interstate near river and Waste Management	0.64	0.64	0.64	0.64
47	NA	Between rail, north of 130 <sup>th</sup> Street	0.29	0.29	0.29	0.29
Total Impacts			20.42	20.79	19.31	19.31

SOURCE: AECOM 2016



<sup>&</sup>lt;sup>1</sup> Mean C (Native Species) and FQAI (Native Species) based on Chicago Region FQI Calculator 09292014, as provided by USACE Chicago District.



#### 5.3.1 IHB Alternative Option 1

IHB Alternative Option 1 would result in 20.42 acres of wetland impacts; 11.73 acres would occur in Illinois, 8.69 acres in Indiana. Three of the wetlands qualify as high quality aquatic resources due to their Mean Cs being greater than 3.5 and the presence of state-protected species potentially utilizing the wetlands. Impacts to these high quality aquatic resource wetlands total 4.42 acres. The remaining 12.644 acres of wetland impacts would occur to wetlands of low to moderate quality. The high quality aquatic resource wetlands are:

- Wetland 26, which would be affected in its entirety, would result in 1.70 acres of impacts.
  This wetland is located in the Flatfoot Lake/Beaubien Woods Forest Preserve, which is
  owned by the Forest Preserve District of Cook County. This wetland has a Mean C of 3.93
  and the Preserve is known to contain three state-protected species [yellow-crowned night
  heron (Nyctanassa violacea), black-billed cuckoo (Coccyzus erythropthalmus), and willow
  flycatcher (Empidonax trailli)].
- Wetland 27, which would be affected in its entirety, would result in 1.58 acres of impacts. This wetland is located in the Burnham Prairie Nature Preserve, which is owned by the Forest Preserve District of Cook County. This wetland has a Mean C of 3.56 and the Preserve is known to contain six state-protected species [least bittern (*Ixobrychus exilis*), little blue heron (*Egretta caerulea*), yellow-crowned night heron (*Nyctanassa violacea*), common gallinule (*Gallinula galeata*), black-billed cuckoo (*Coccyzus erythropthalmus*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*)].
- Wetland 28, which would be affected in its entirety, would result in 1.14 acres of impacts.
  This wetland is located in the Flatfoot Lake/Beaubien Woods Forest Preserve, which is
  owned by the Forest Preserve District of Cook County. This wetland has a Mean C of 3.83
  and the Preserve is known to contain three state-protected species [yellow-crowned night
  heron (*Nyctanassa violacea*), black-billed cuckoo (*Coccyzus erythropthalmus*), and willow
  flycatcher (*Empidonax trailli*)].

#### 5.3.2 IHB Alternative Option 2

IHB Alternative Option 2 would result in 20.79 acres of wetland impacts; 11.73 acres would occur in Illinois, 9.06 acres in Indiana. Impacts to Wetlands 26, 27, and 28, discussed above in IHB Alternative Option 1, would be the same. Impacts to these three high quality aquatic resource wetlands total 4.42 acres. The remaining 16.37 acres of wetland impacts would occur to wetlands of low to moderate quality.

#### 5.3.3 IHB Alternative Option 3

IHB Alternative Option 3 would result in 19.31 acres of wetland impacts; 11.73 acres would occur in Illinois, 7.58 acres in Indiana. Impacts to Wetlands 26, 27, and 28, discussed above in IHB Alternative Option 1, would be the same. Impacts to these three high quality aquatic resource wetlands total 4.42 acres. The remaining 14.89 acres of wetland impacts would occur to wetlands of low to moderate quality.

#### 5.3.4 IHB Alternative Option 4

IHB Alternative Option 4 would result in 19.31 acres of wetland impacts; 11.73 acres would occur in Illinois, 7.58 acres in Indiana. Impacts to Wetlands 26, 27, and 28, discussed above in IHB Alternative Option 1, would be the same. Impacts to these three high quality aquatic





resource wetlands total 4.42 acres. The remaining 14.89 acres of wetland impacts would occur to wetlands of low to moderate quality.

# 5.4 Hammond Alternative Options

The Hammond Alternative Options would have wetland impacts ranging from 4.50 acres to 8.18 acres. All of the wetland impacts would occur in Indiana. Details are discussed below by option. **Table 5-3** presents a summary of the impacts that would result from the Hammond Alternative Options.

Table 5-3 Summary of Wetland Impacts – Hammond Alternative Options

\M/a4lamal	Mean C/	Lookien	Wetland Impacts (acres)			
Wetland	FQI 1	Location	Option 1	Option 2	Option 3	
1	2.15/ 7.77	Immediately south of River at Monon Trail bridge	0.06	0.06	0.06	
2	3.13/ 12.14	South of River at Monon Trail bridge	0.001	0.001	0.001	
4	1.50/ 4.74	Eastern side of Monon Trail, north of River, south of Interstate	0.04	0.04	0.04	
5	2.22/ 9.43	Immediately north of Interstate at Monon Trail	0.09	0.09	0.09	
8	1.95/ 8.95	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	0.32	0.32	0.32	
9	2.82/ 11.64	West of Sheffield Avenue and south of Main Street at CSX freight line	0.97	0.97	0	
10	1.95/ 8.95	North of 173 <sup>rd</sup> Street and east of Lyman Avenue	0.17	0.17	0	
11	NA	East of rail near edge of subdivision south of Otis Bowen Drive	0.11	0.11	0	
12	2.15/ 7.77	East of rail, south of Superior Ave	1.46	1.46	0	
17	NA	East of rail, south of 45 <sup>th</sup> St. near Town of Munster	1.90	1.90	0	
32	NA	East of rail, south of Fisher Street	1.81	1.81	1.81	
33	2.25/ 6.36	East of rail, south of Fisher Street	0.32	0.32	0.32	
34	2.91/ 9.65	West of rail, south of Fisher Street	0.01	0.01	0.01	
35	NA	East of rail, north of 45 <sup>th</sup> Street	0.05	0.05	0.02	
36	3.00/ 9.00	East of rail, north of 45 <sup>th</sup> Street	0.09	0.09	0	
37	NA	West of rail, north of 45 <sup>th</sup> Street	0.18	0.18	0.01	
38	2.06/ 8.25	West of rail near Sheffield Avenue crossing	0	0.33	0.86	
39	1.80/ 4.02	West of rail, north of Seminary Drive	0	0.04	0.04	
41	NA	West of rail, north of 45 <sup>th</sup> Street	0	0	0.24	
43	NA	West of rail near Glastonbury St., south of 45 <sup>th</sup> St.	0	0	0.05	
44	2.20/ 4.92	West of rail near Glastonbury Street, south of 45 <sup>th</sup> Street	0	0	0.11	
51	NA	On south bank of Calumet River near Wilcox Street and Hohman Avenue	0.11	0.11	0.11	





Wetland	Mean C/ FQI <sup>1</sup>	Location	Wetland Impacts (acres)			
			Option 1	Option 2	Option 3	
52	NA	On north bank of Calumet River near Wilcox Street and Hohman Avenue	0.41	0.12	0.41	
Total Impacts			8.10	8.18	4.50	

SOURCE: AECOM 2016

#### 5.4.1 Hammond Alternative Option 1

Hammond Alternative Option 1 would result in 8.10 acres of wetland impacts, all in Indiana. All of the wetlands are of low to moderate quality; none would qualify as a high quality aquatic resource under USACE Chicago District guidelines.

#### 5.4.2 Hammond Alternative Option 2

Hammond Alternative Option 2 would result in 8.18 acres of wetland impacts, all in Indiana. All of the wetlands are of low to moderate quality; none of them would qualify as a high quality aquatic resource under USACE Chicago District guidelines.

#### 5.4.3 Hammond Alternative Option 3

Hammond Alternative Option 3 would result in 4.50 acres of wetland impacts, all in Indiana. All of the wetlands are of low to moderate quality; none of them would qualify as a high quality aquatic resource under USACE Chicago District guidelines.

The primary reduction in wetland impacts over Hammond Alternative Options 1 and 2 is the result of Hammond Alternative Option 3 being located on the west side of the existing CSX freight line in the southern portion of the Study Area, and therefore its avoidance of Wetlands 12 and 17, as well as Hammond Alternative Option 3 not having the maintenance and storage facility on the east side of the tracks.

# 5.5 Maynard Junction Rail Profile Option

There would be no change to impacts to wetlands as described for the applicable alternative options (i.e., Commuter Rail Alternative Options 1, 2, and 3, IHB Alternative Options 1, 2, and 3, and Hammond Alternative Options 1 and 2) resulting from the Maynard Junction Rail Profile Option.



<sup>&</sup>lt;sup>1</sup> Mean C (Native Species) and FQAI (Native Species) based on Chicago Region FQI Calculator 09292014, as provided by USACE Chicago District.



# 6. MITIGATION

# 6.1 Mitigation Requirements

Mitigation would be provided for wetlands or waters of the US impacts based on applicable regulations. Mitigation ratios would be determined as part of the CWA Sections 401/404 permitting processes, and wetland types and mitigation amounts would be determined at that time. Mitigation would be provided for impacts to wetlands or waters of the US determined to be jurisdictional under the CWA in a USACE-approved bank.

NICTD would comply with CWA requirements, as well as Executive Orders 11990 and 12608 for protection of wetlands, regardless of the need for a CWA permit.

A determination of impacts to waters of the US would be finalized during the Engineering phase. Any impacts to wetlands or waters of the US that occur in Illinois would be mitigated for in Illinois. Any impacts to wetlands or waters of the US that occur in Indiana would be mitigated for in Indiana, in the watershed where the impacts occur (Lake Michigan or Kankakee River watersheds). The amount and type of wetlands or waters of the US mitigation would be determined as part of the CWA permit process, in compliance with USACE/USEPA requirements. For impacts to wetlands determined not to be jurisdictional under the CWA, mitigation would be provided per applicable state requirements.

# 6.2 Additional Mitigation

In addition to mitigation required under CWA permitting, a USFWS letter dated November 4, 2014 (see **Appendix G**) expressed concern regarding any new crossing of the West Branch of the Grand Calumet River in Hammond, Indiana. This letter requested avoidance of impacts to any remediation efforts and recommended spanning the river without piers or abutments placed in the river that could compromise the integrity of the sediment. The Project would not result in any piers or abutments placed in the Grand Calumet River.

A letter received from USEPA dated November 26, 2014 (see **Appendix G**) reiterated USFWS concern with polluted sediments in the Grand Calumet River. In addition, USEPA provided guidelines related to the CWA. These include choosing the least environmental damaging practicable alternative (minimizing impacts), prohibitions on causing or contributing to significant degradation of waters, and minimizing and mitigating unavoidable impacts to water resources. NICTD is committed to honoring these requests.

Per the Indiana DNR (ER-17897) (see **Appendix G**), the Project would utilize existing structures for stream crossings where possible, thereby minimizing impacts to surface waters and wetlands. If the use of an existing structure is not possible, spans without piers would be used at the Little Calumet River; bridges would be used preferentially over culverts; and bottomless culverts would be used instead of pipe culverts in order to promote passage of aquatic organisms. If box or pipe culverts are used, they would be buried a minimum of 6 inches; crossings would span the entire channel width; the natural stream substrate would be maintained in any structures; and stream depths and velocities during low flow conditions would be similar to those in the natural stream. NICTD is committed to complying with these quidelines; impacts to surface waters would therefore be minimized.





ER-17897 provided recommendations for stream crossings that would minimize impacts to fish, wildlife, and botanical resources. Recommendations included erosion and sediment control requirements for exposed soil. Additionally, the Indiana DNR advised that riparian habitat mitigation will be required if riparian impacts occur. Impacts specific to riparian habitat, as defined by the Indiana's Construction in a Floodway regulations, will be determined as part of the CWA Sections 401/404 permitting process.

Impacts to surface waters would be minimized through the methods described above, and through the implementation of best management practices and erosion and sediment control plans. Additional mitigation beyond what is described above is not proposed.





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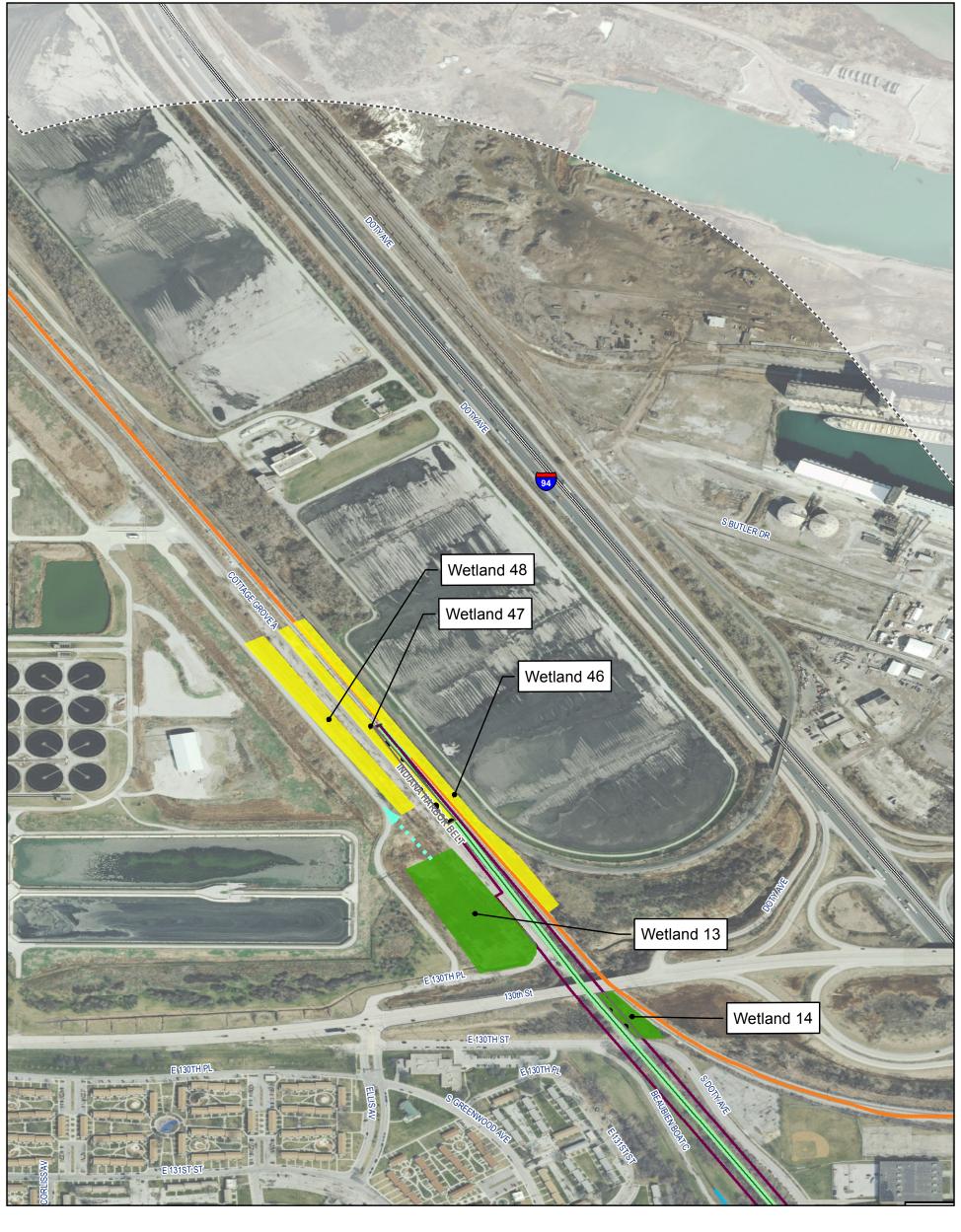
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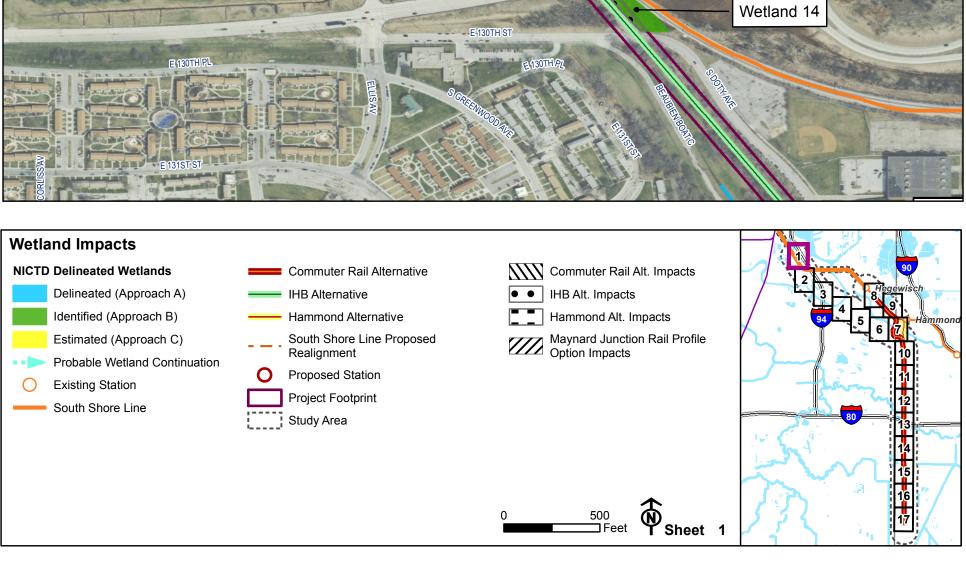


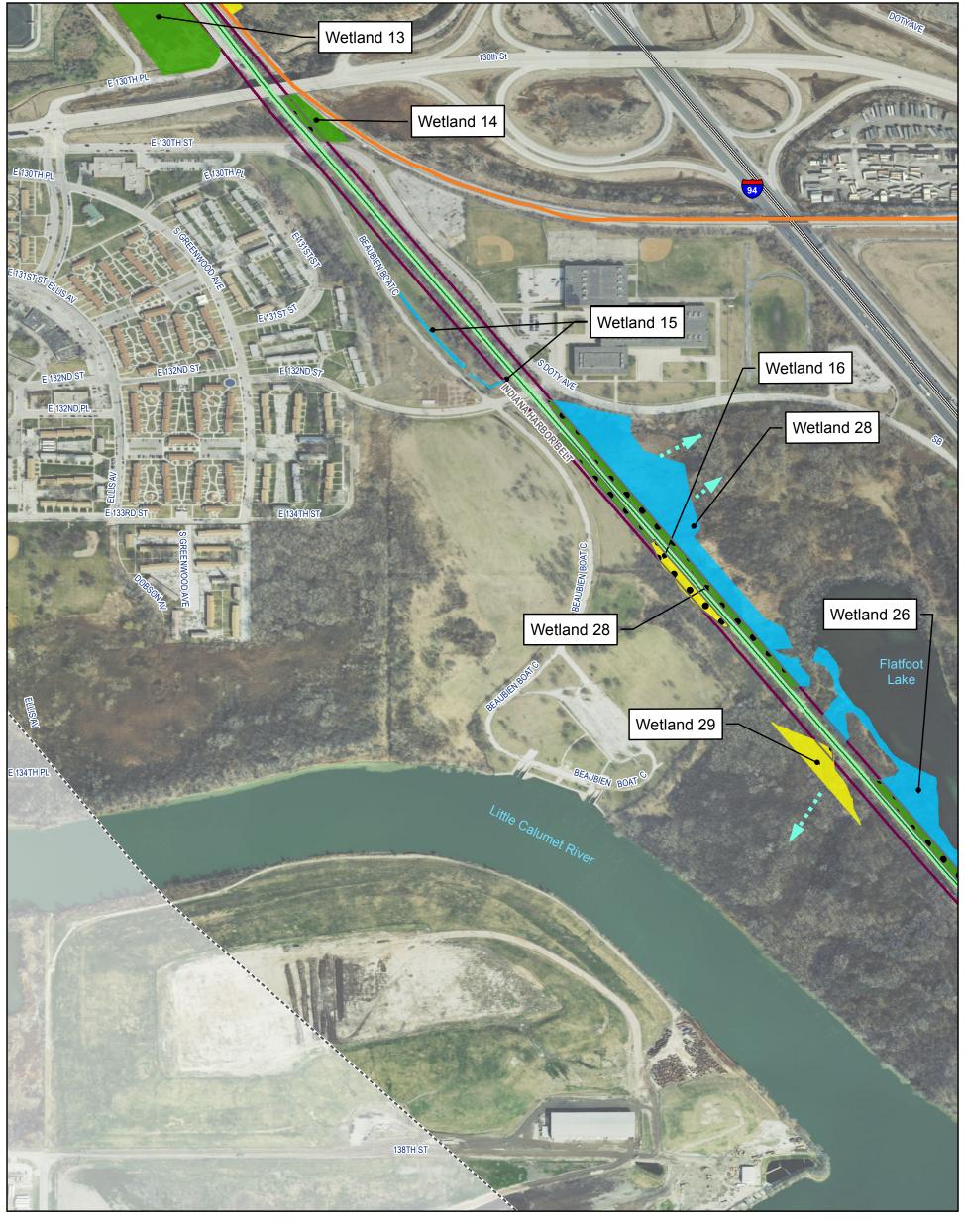


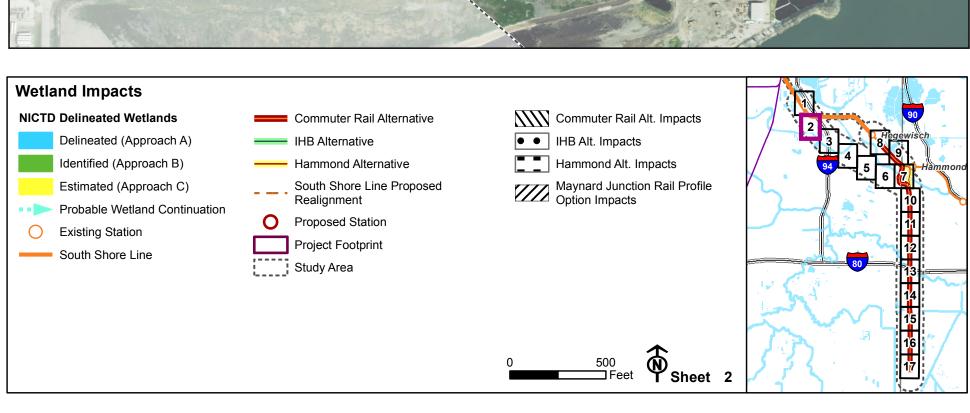
# APPENDIX A NICTD West Lake Corridor Wetland Delineation Boundaries Exhibits

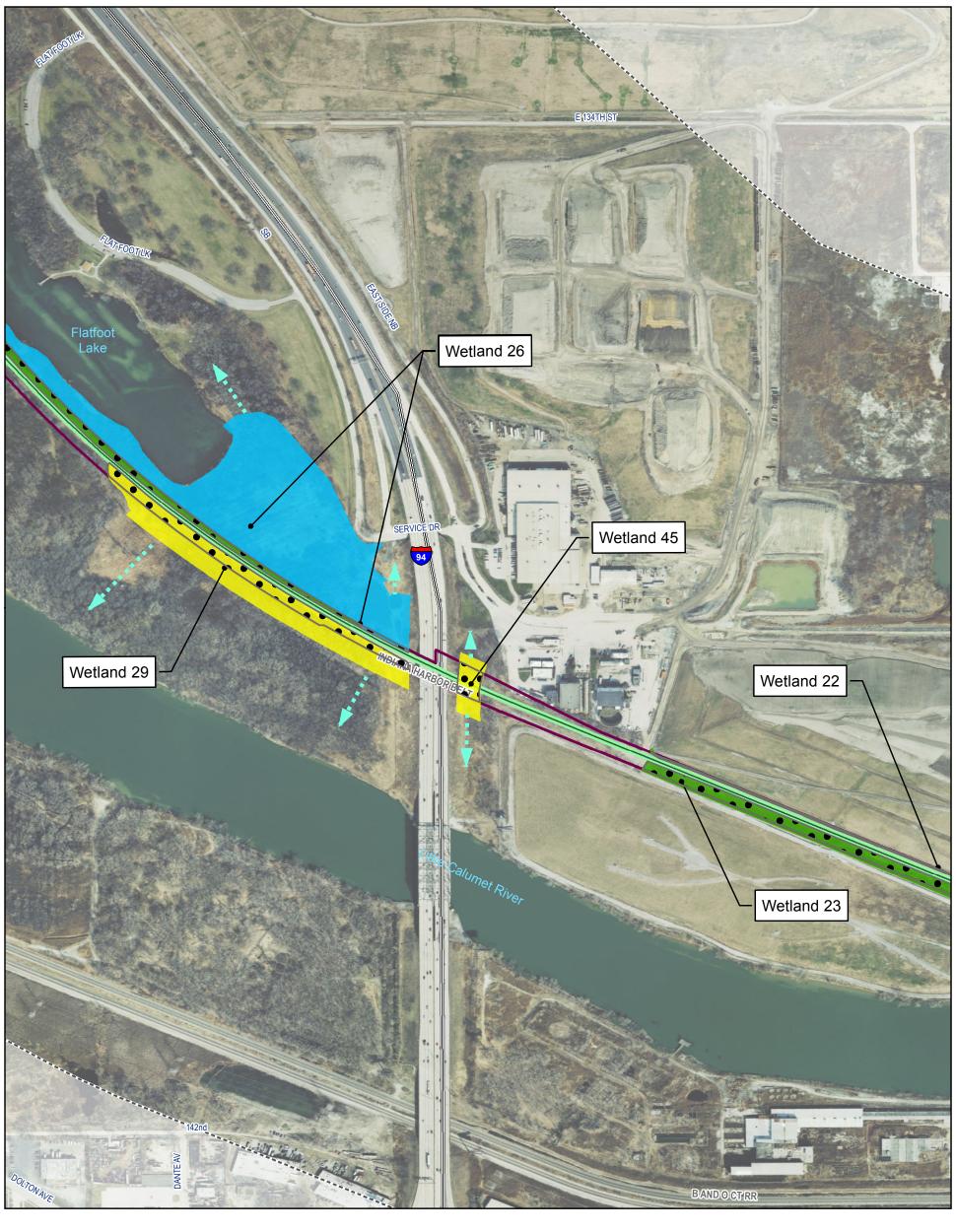


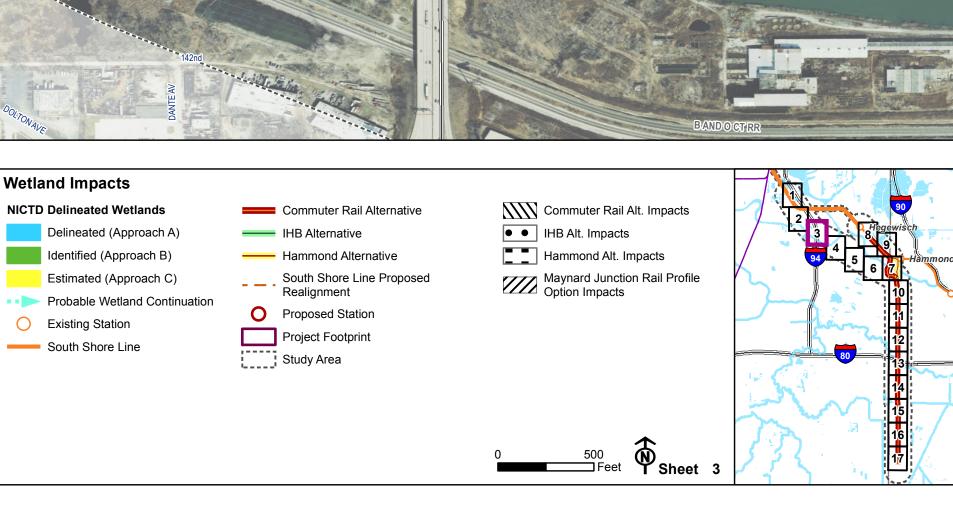


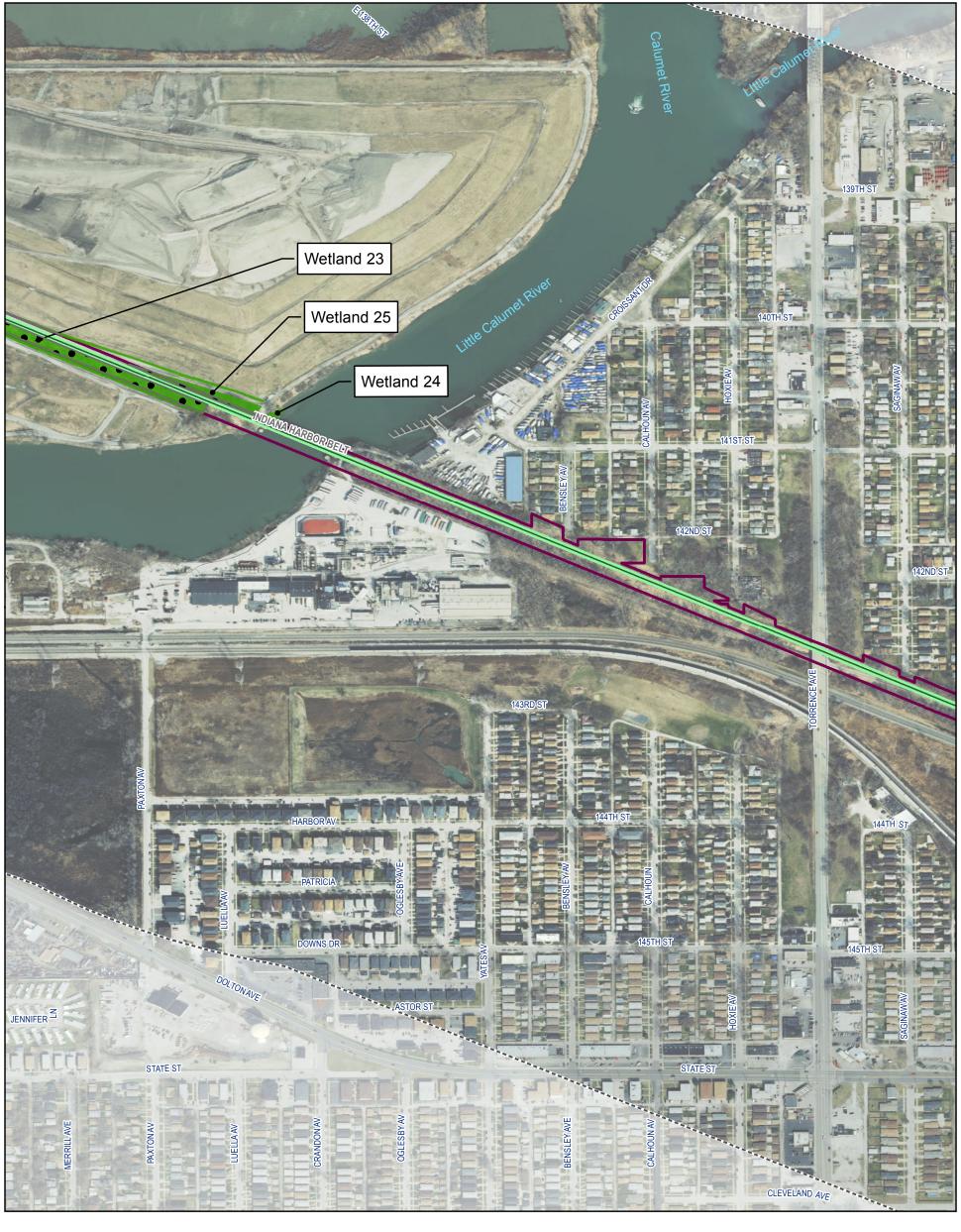




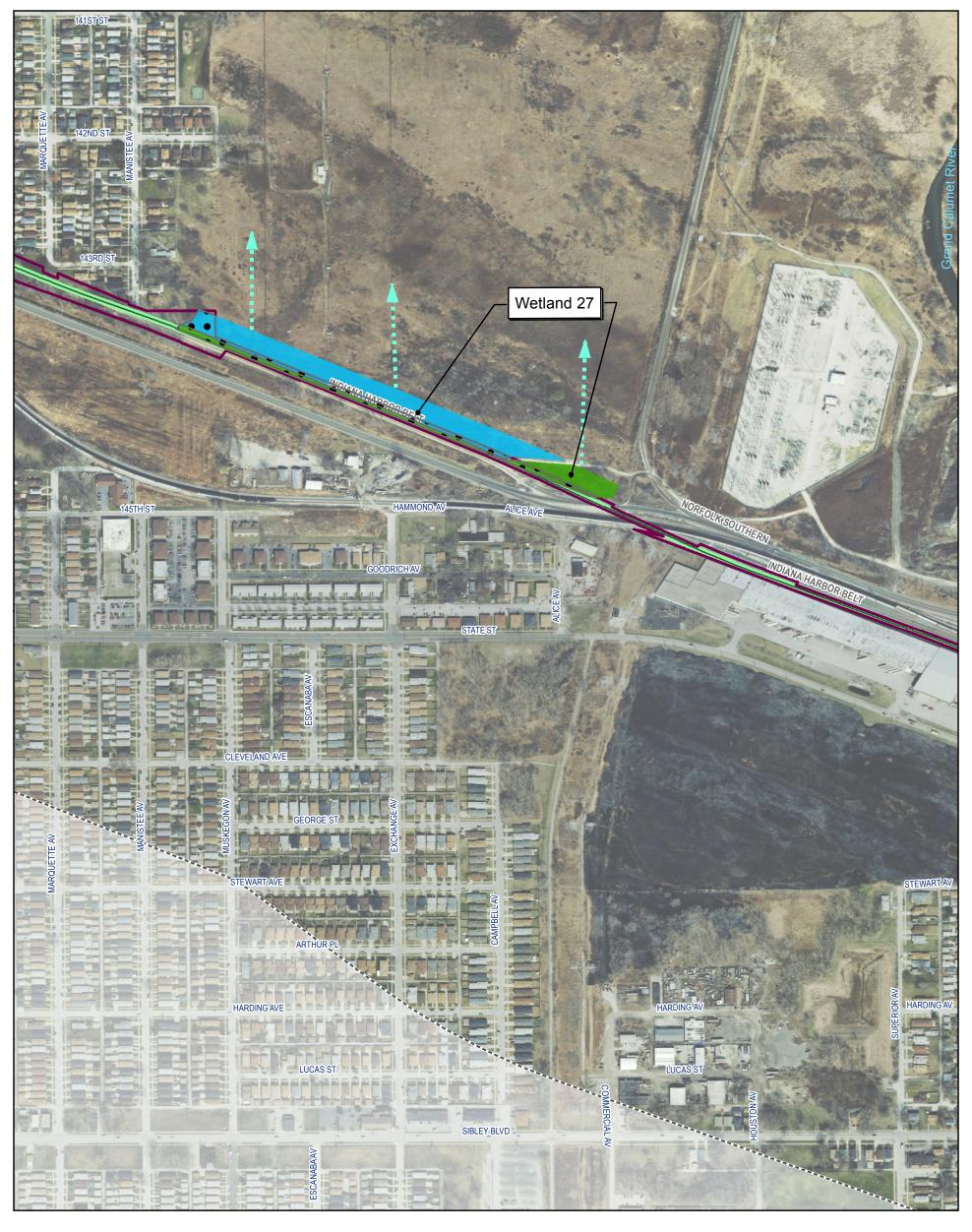


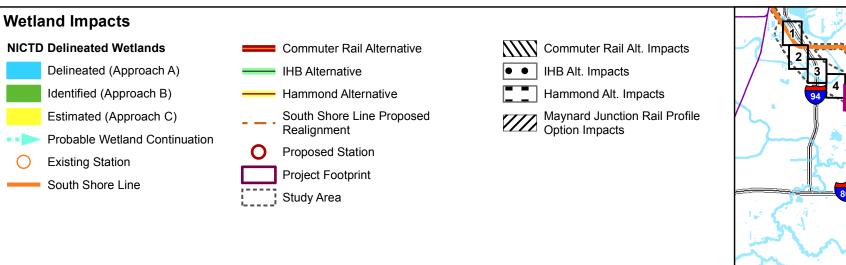




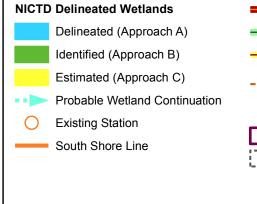


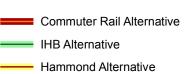












South Shore Line Proposed Realignment

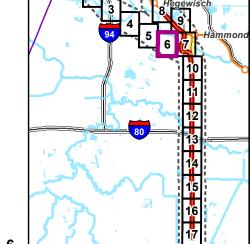
Proposed Station
Project Footprint
Study Area

Commuter Rail Alt. Impacts

IHB Alt. Impacts

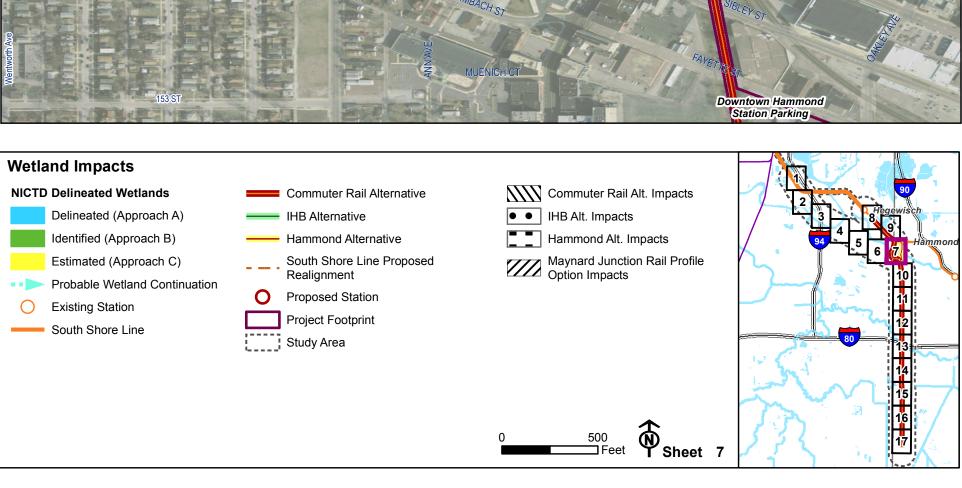
Hammond Alt. Impacts

Maynard Junction Rail Profile
Option Impacts

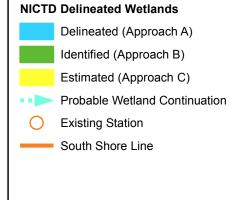














South Shore Line Proposed Realignment

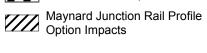
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Project Footprint
Study Area

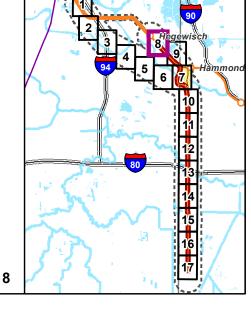
Commuter Rail Alt. Impacts

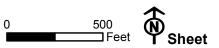
IHB Alt. Impacts

Hammond Alt. Impacts

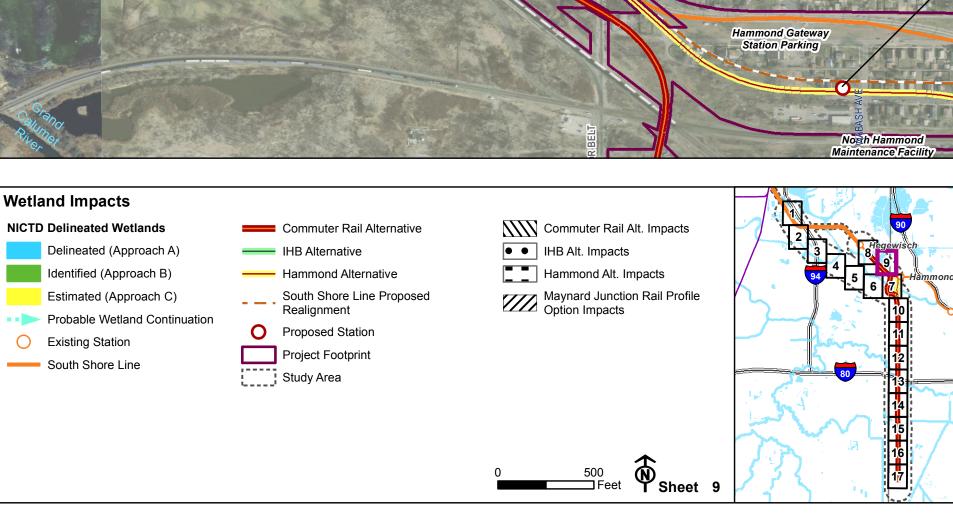
Maynard Junction Rail Profile



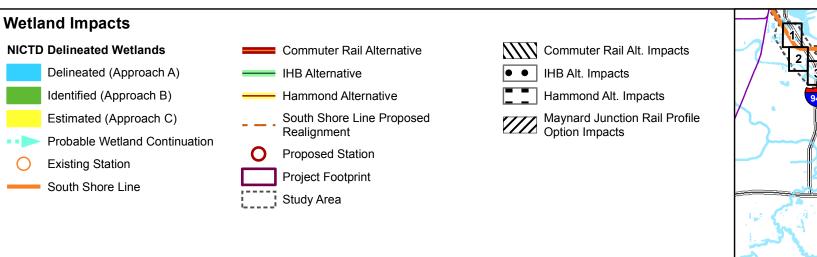


















Commuter Rail Alternative

IHB Alternative

Hammond Alternative

South Shore Line Proposed Realignment

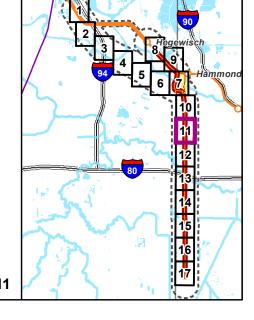
Proposed Station
Project Footprint
Study Area

Commuter Rail Alt. Impacts

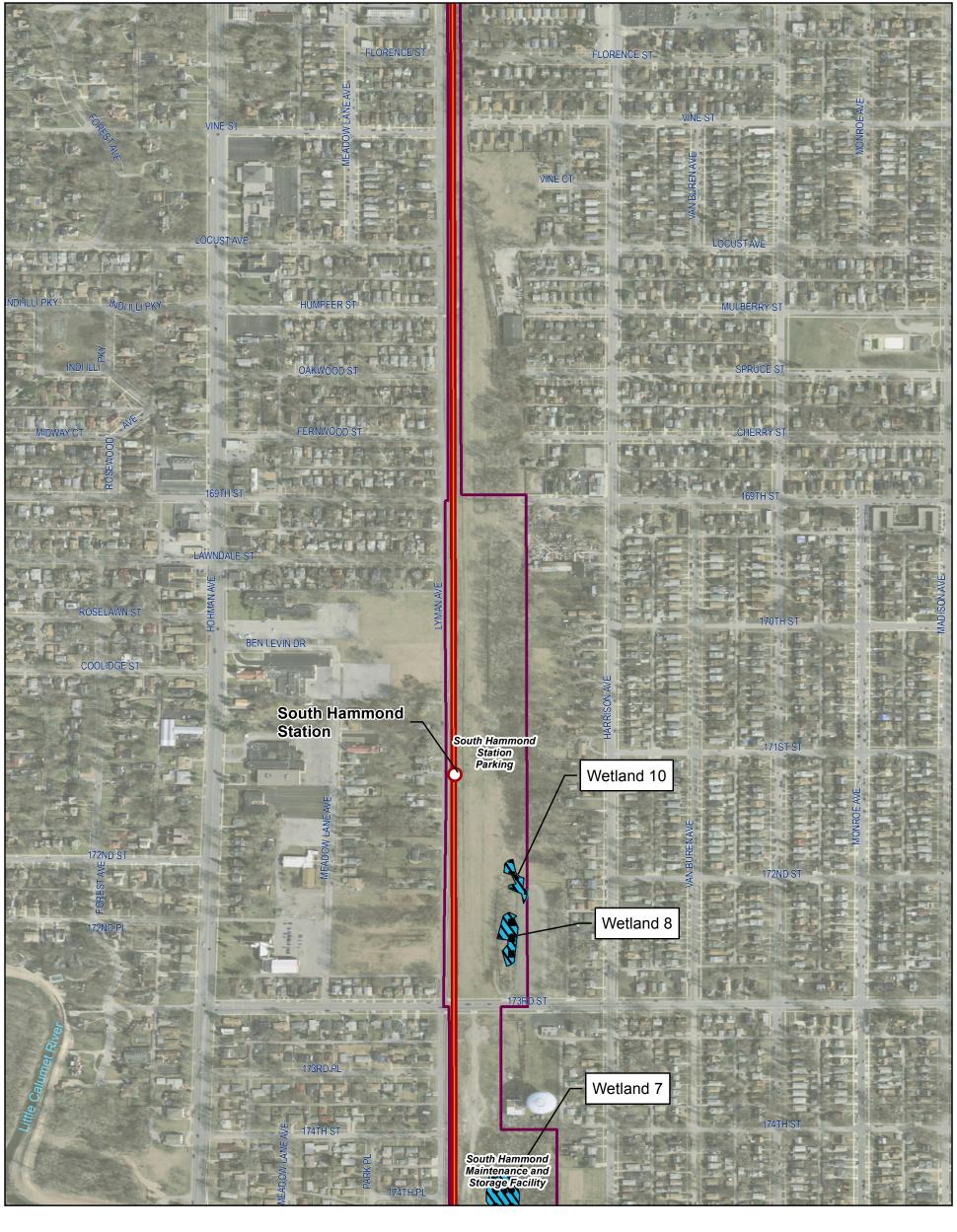
IHB Alt. Impacts

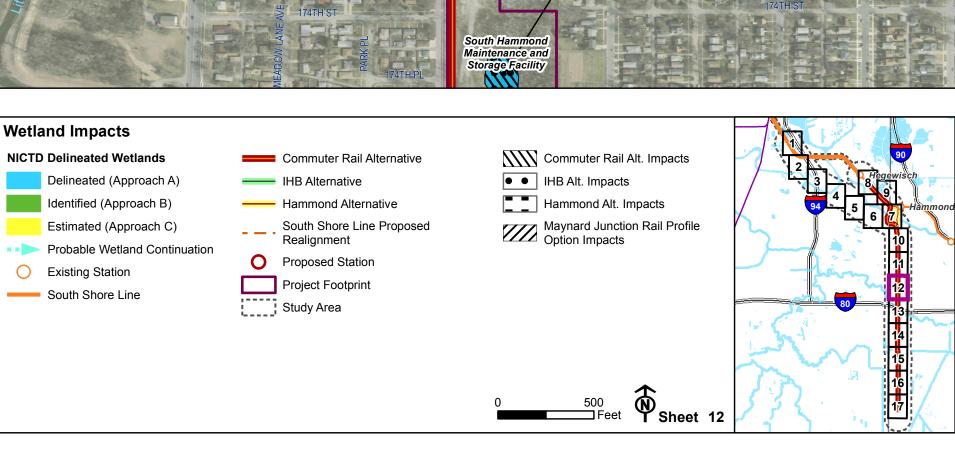
Hammond Alt. Impacts

Maynard Junction Rail Profile
Option Impacts

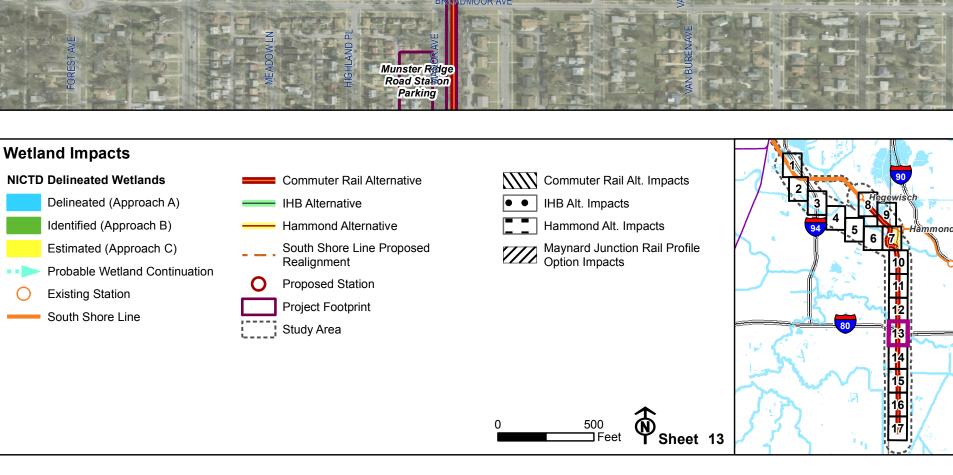




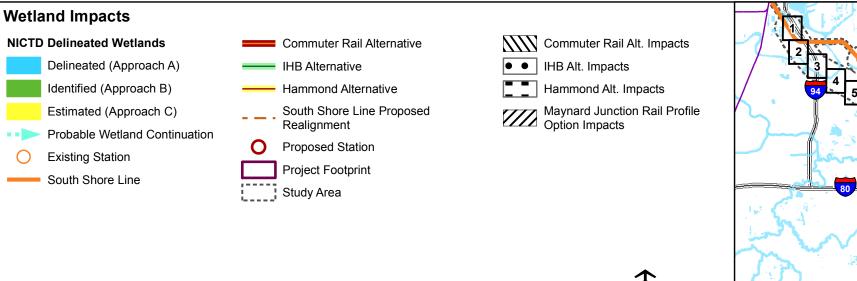


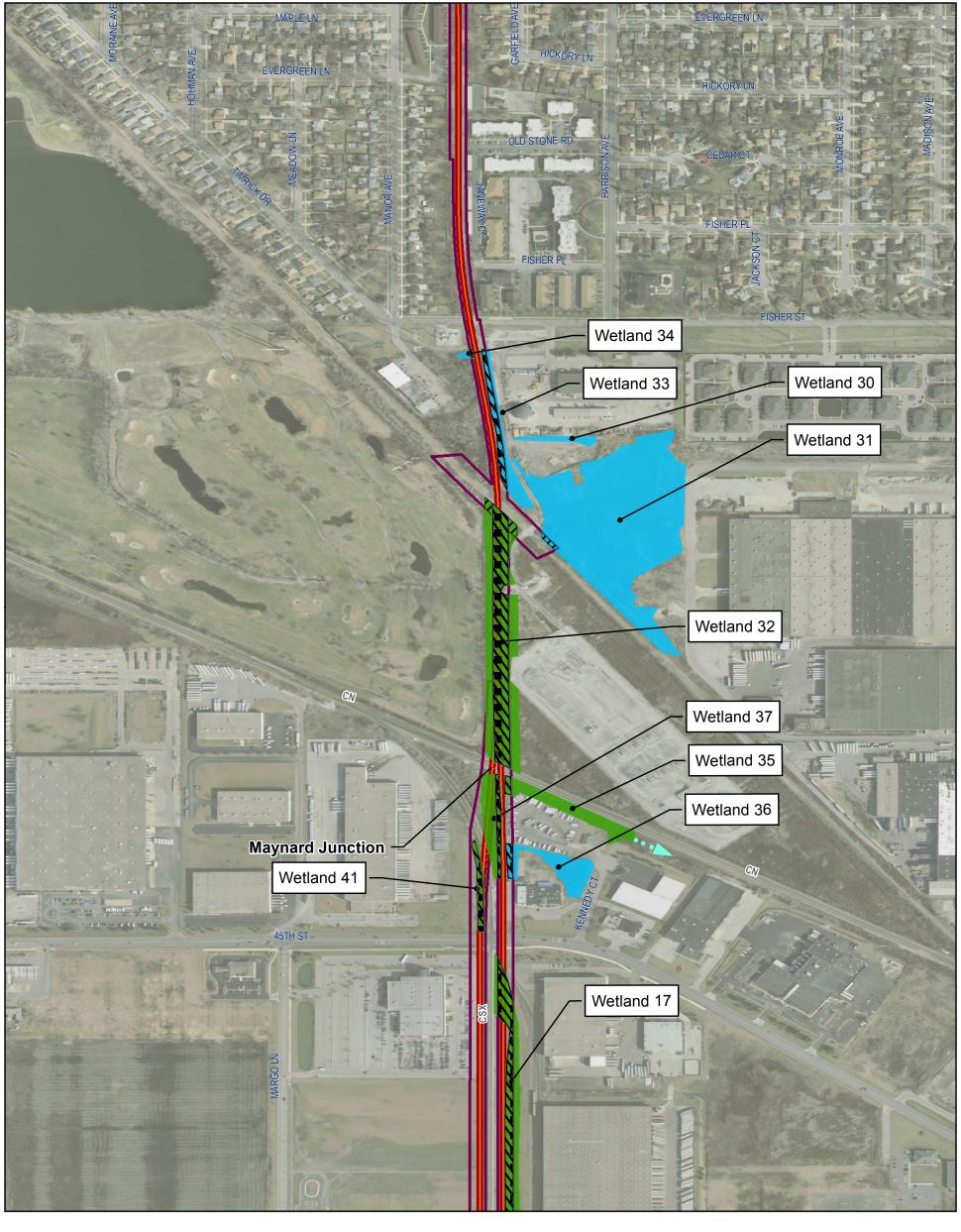


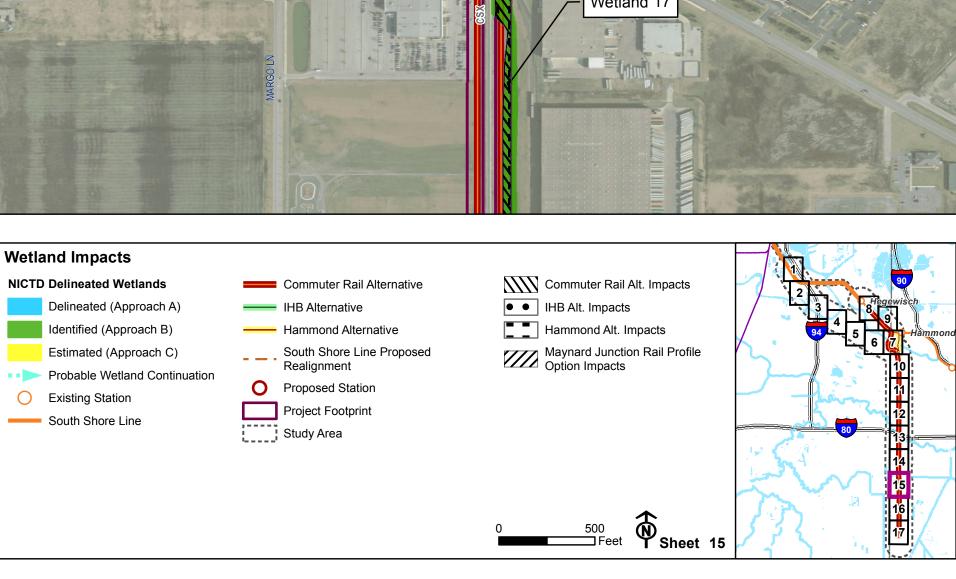


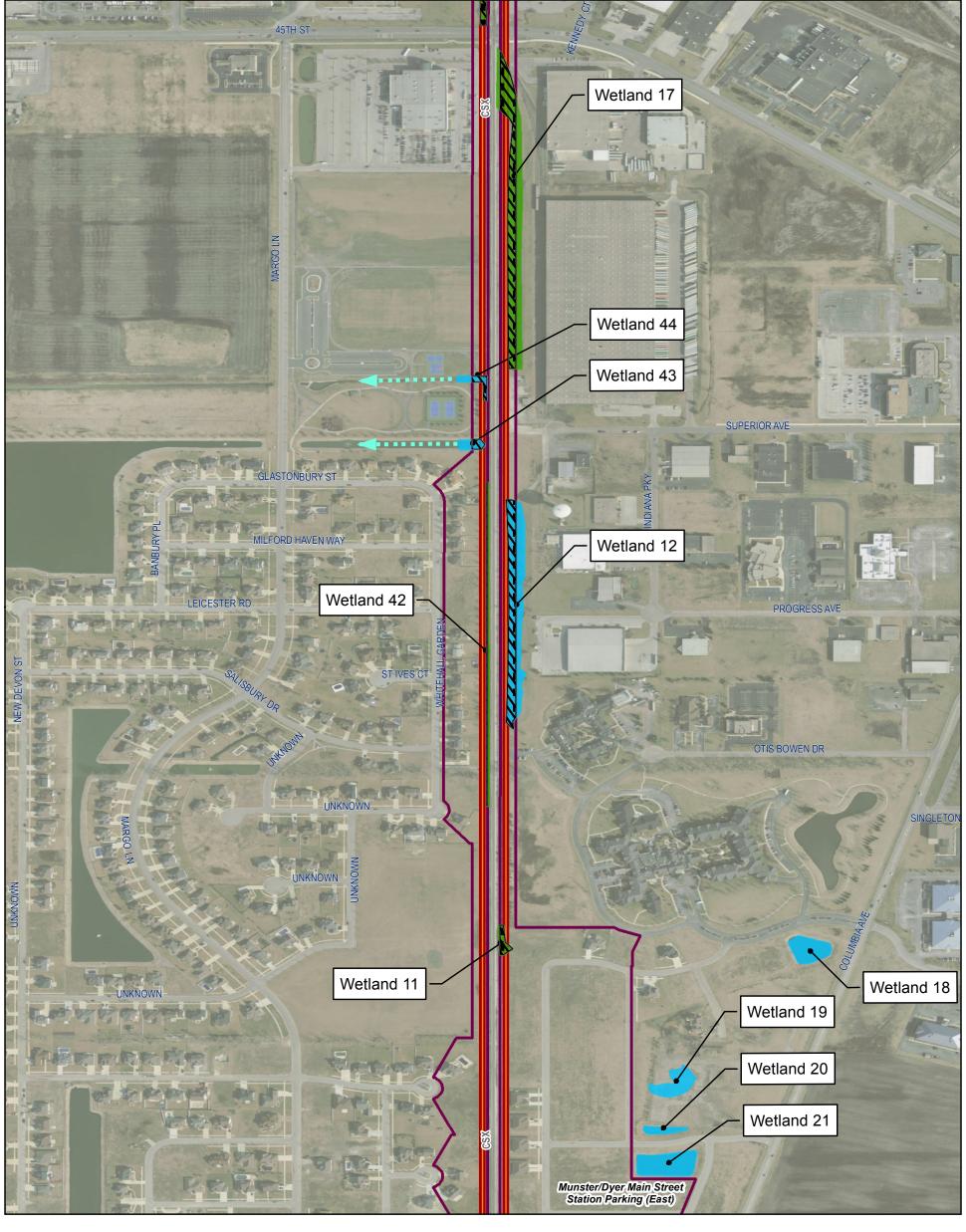


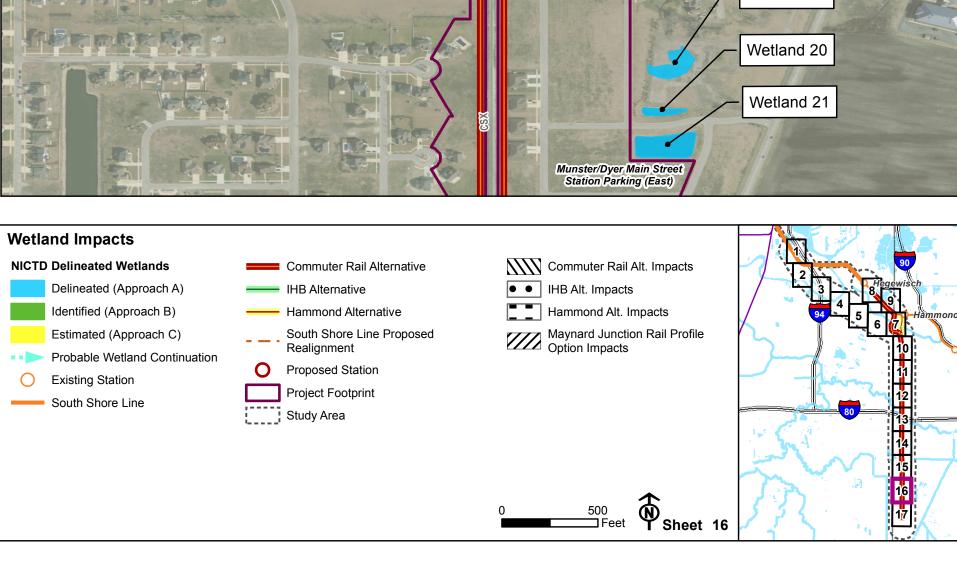


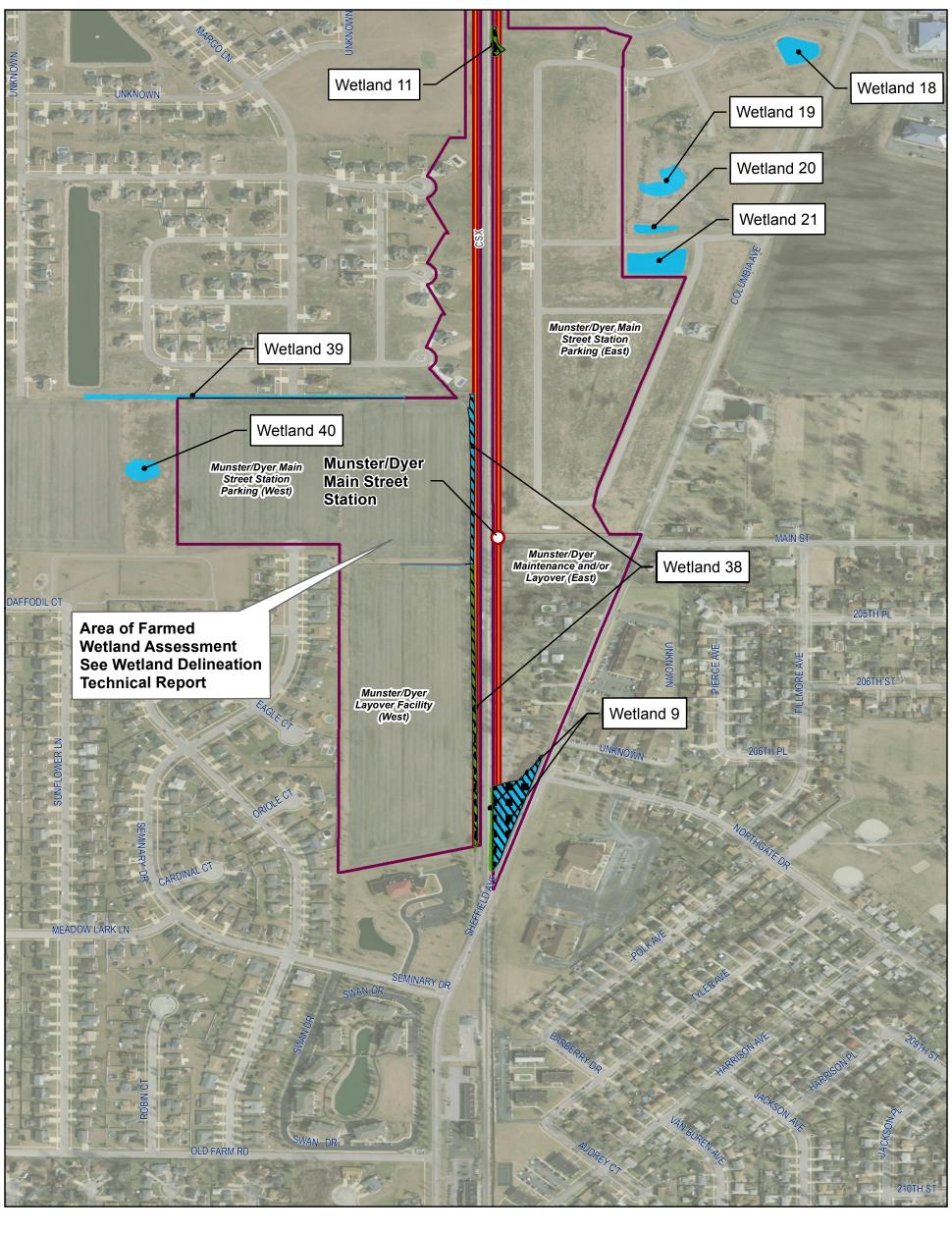


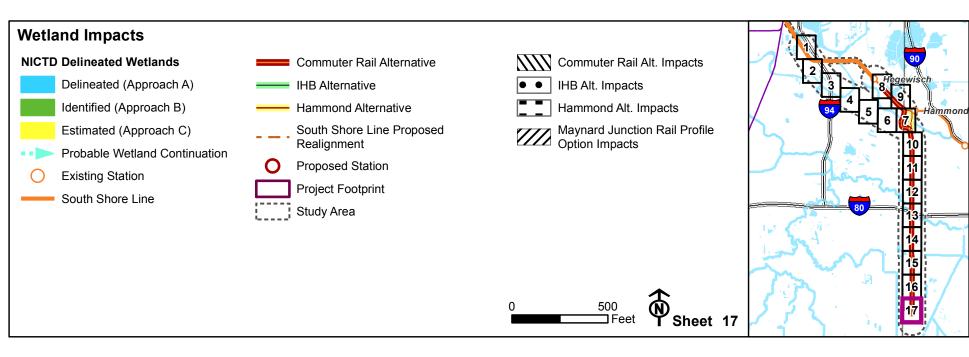








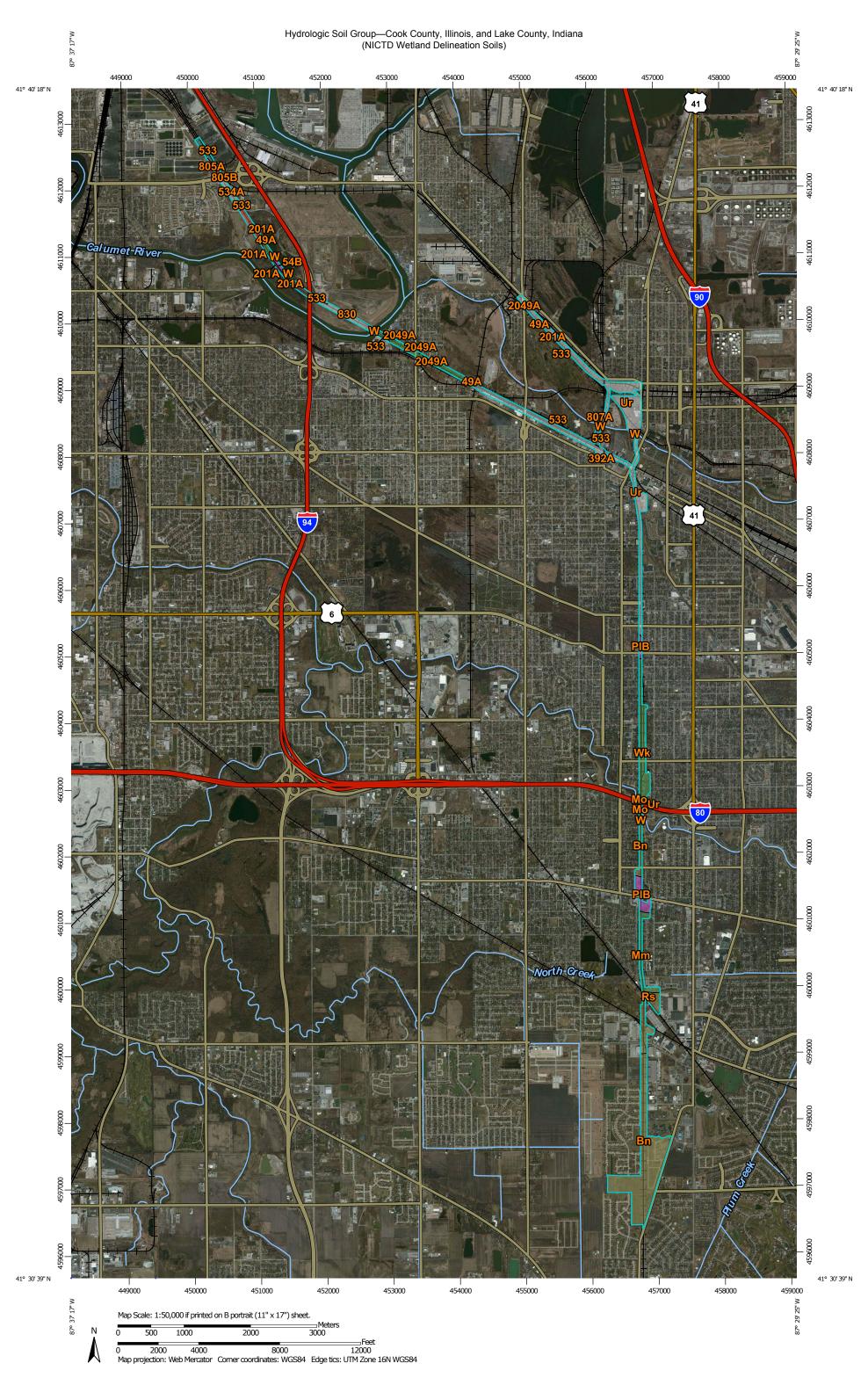






# APPENDIX B USNRCS Web Soil Survey Soil Reports





#### MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at scales Area of Interest (AOI) С ranging from 1:12,000 to 1:15,800. Area of Interest (AOI) C/D Please rely on the bar scale on each map sheet for map Soils D measurements. Soil Rating Polygons Not rated or not available Α Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov **Water Features** A/D Coordinate System: Web Mercator (EPSG:3857) Streams and Canals В Maps from the Web Soil Survey are based on the Web Mercator Transportation B/D projection, which preserves direction and shape but distorts Rails --distance and area. A projection that preserves area, such as the Interstate Highways Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. C/D **US Routes** This product is generated from the USDA-NRCS certified data as of D Major Roads the version date(s) listed below. Not rated or not available Background Soil Survey Area: Cook County, Illinois Aerial Photography Soil Rating Lines Survey Area Data: Version 9, Sep 25, 2015 Α Soil Survey Area: Lake County, Indiana A/D Survey Area Data: Version 18, Sep 10, 2015 Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area C/D boundaries. Soil map units are labeled (as space allows) for map scales 1:50,000 Not rated or not available or larger. Soil Rating Points Date(s) aerial images were photographed: Mar 13, 2012—Mar Α 28. 2012 A/D The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background В imagery displayed on these maps. As a result, some minor shifting B/D of map unit boundaries may be evident.

# **Hydrologic Soil Group**

	Hydrologic Soil Group— S	ummary by Map Unit —	- Cook County, Illinois (IL031	)
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
49A	Watseka loamy fine sand, 0 to 2 percent slopes	A/D	7.0	1.1%
54B	Plainfield loamy sand, 1 to 6 percent slopes	А	4.8	0.8%
153A	Pella silty clay loam, 0 to 2 percent slopes	B/D	10.7	1.7%
201A	Gilford fine sandy loam, 0 to 2 percent slopes	A/D	28.6	4.5%
392A	Urban land-Orthents, loamy, complex, nearly level		0.9	0.1%
533	Urban land		86.3	13.7%
534A	Urban land-Orthents, clayey, complex, nearly level		11.7	1.9%
802A	Orthents, loamy, nearly level	С	6.3	1.0%
805A	Orthents, clayey, nearly level	D	13.4	2.1%
805B	Orthents, clayey, undulating	D	0.3	0.0%
805D	Orthents, clayey, rolling	D	3.3	0.5%
807A	Orthents, loamy-skeletal, nearly level	С	5.9	0.9%
830	Landfills		18.7	3.0%
2049A	Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes	С	2.1	0.3%
W	Water		2.6	0.4%
Subtotals for Soil Sur	vey Area		202.6	32.2%
Totals for Area of Inte	rest		628.8	100.0%

Hydrologic Soil Group— Summary by Map Unit — Lake County, Indiana (IN089)								
Map unit symbol         Map unit name         Rating         Acres in AOI         Percent of AOI								
Bn	Bono silty clay	C/D	179.7	28.6%				
Mm	Maumee loamy fine sand	A/D	20.8	3.3%				
Мо	Milford silt loam, overwash	C/D	0.8	0.1%				

Hydrologic Soil Group— Summary by Map Unit — Lake County, Indiana (IN089)							
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI			
PIB	Plainfield fine sand, 0 to 6 percent slopes	A	20.3	3.2%			
Rs	Rensselaer loam, calcareous subsoil variant	C/D	33.9	5.4%			
Ur	Urban land		119.8	19.1%			
W	Water		0.9	0.1%			
Wk	Watseka loamy fine sand	A/D	50.0	8.0%			
Subtotals for Soil Surve	y Area	426.2	67.8%				
Totals for Area of Intere	st	628.8	100.0%				

#### **Description**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

#### **Rating Options**

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

## **Hydric Soil List - All Components**

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
- 3. Soils that are frequently ponded for long or very long duration during the growing season.
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
- 4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

#### References:

- Federal Register. July 13, 1994. Changes in hydric soils of the United States. Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of
- Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
- Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

# Report—Hydric Soil List - All Components

Ну	dric Soil List - All Com	ponents-II	-031-Cook County, Illin	ois	
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
49A: Watseka loamy fine sand, 0 to 2 percent slopes	Watseka	85-100	Beach ridges,outwash plains,lake plains,stream terraces	No	_
	Urban land	0-5	_	No	_
	Granby	0-5	Swales	Yes	2
	Gilford	0-5	Outwash plains	Yes	2
	Orthents, loamy	0-5	Ground moraines,lake plains	No	_
54B: Plainfield loamy sand, 1 to 6 percent slopes	Plainfield	85-100	Beach ridges on lake plains	No	_
	Urban land	0-9	_	No	_
	Watseka	0-9	Beach ridges,outwash plains,lake plains,stream terraces	No	_
153A: Pella silty clay loam, 0 to 2 percent slopes	Pella-Drained	90-100	Outwash plains,lake plains,till plains	Yes	2
	Harpster-Drained	0-9	Depressions on outwash plains,depressions on till plains	Yes	2
	Urban land	0-2	_	No	_
201A: Gilford fine sandy loam, 0 to 2 percent slopes	Gilford	88-100	Outwash plains	Yes	2
	Orthents, loamy	0-5	Ground moraines,lake plains	No	_
	Fieldon	0-5	Swales	Yes	2
	Urban land	0-5	_	No	_
392A: Urban land-Orthents, loamy, complex, nearly level	Urban land	50-85	_	No	_
	Orthents-Loamy, nearly level	15-49	Ground moraines,lake plains	No	_
	Orthents-Clayey, nearly level	0-9	Ground moraines,lake plains	No	
	Orthents-Loamy- skeletal, nearly level	0-9	Ground moraines,lake plains	No	
533: Urban land	Urban land	85-100	_	No	_
	Orthents-Clayey, nearly level	0-9	Ground moraines,lake plains	No	

Ну	dric Soil List - All Com	ponents-IL	.031-Cook County, Illin	ois	
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
	Orthents-Loamy, nearly level	0-9	Ground moraines,lake plains	No	_
	Orthents-Loamy- skeletal, nearly level	0-5	Ground moraines,lake plains	No	_
534A: Urban land-Orthents, clayey, complex, nearly level	Urban land	50-85	_	No	_
	Orthents-Clayey, nearly level	15-49	Ground moraines,lake plains	No	_
	Ashkum	0-5	End moraines,ground moraines	Yes	2
	Aquents-Clayey	0-5	Lake plains	Yes	2
	Orthents-Loamy- skeletal, nearly level	0-5	Ground moraines,lake plains	No	_
802A: Orthents, loamy, nearly level	Orthents-Loamy, nearly level	85-100	Ground moraines,lake plains	No	_
	Orthents-Clayey, nearly level	0-9	Ground moraines,lake plains	No	_
	Urban land	0-9	_	No	_
	Orthents-Loamy- skeletal, nearly level	0-5	Ground moraines,lake plains	No	_
	Drummer	0-5	Ground moraines,outwash plains	Yes	2
	Pella	0-5	Ground moraines,outwash plains,lake plains	Yes	2
805A: Orthents, clayey, nearly level	Orthents-Clayey, nearly level	85-100	Ground moraines,lake plains	No	_
	Ashkum	0-9	End moraines,ground moraines	Yes	2
	Urban land	0-9	_	No	_
	Aquents-Clayey	0-5	Lake plains	Yes	2
805B: Orthents, clayey, undulating	Orthents-Clayey, undulating	85-100	Ground moraines,lake plains	No	_
	Ashkum	0-9	End moraines,ground moraines	Yes	2
	Urban land	0-9	_	No	_
	Bryce	0-9	Ground moraines,glacial lakes (relict)	Yes	2
	Aquents-Clayey	0-5	Lake plains	Yes	2
805D: Orthents, clayey, rolling	Orthents-Clayey, rolling	88-100	Ground moraines,lake plains	No	_
	Urban land	0-9	_	No	_
	Aquents-Clayey	0-5	Lake plains	Yes	2

Ну	dric Soil List - All Com	ponents-II	_031-Cook County, Illin	ois	
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
807A: Orthents, loamy-skeletal, nearly level			Ground moraines,lake plains	No	_
	Urban land	0-9	_	No	_
830: Landfills	Orthents-Landfill	85-100	_	Unranked	_
	Orthents-Clayey, undulating	0-9	Ground moraines,lake plains	No	_
	Orthents-Loamy, undulating	0-9	Ground moraines,outwash plains,lake plains	No	_
2049A: Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes	Orthents-Loamy	30-65	Lake plains	No	_
	Urban land	15-45	_	No	_
	Watseka	10-30	Beach ridges,outwash plains,lake plains,stream terraces	No	_
	Gilford	0-9	Outwash plains	Yes	2
W: Water	Water	100	Channels,drainagewa ys,lakes,oxbows,pe renial streams,rivers	_	_

Ну	Hydric Soil List - All Components-IN089-Lake County, Indiana								
Map symbol and map unit name	Component/Local Phase			Hydric status	Hydric criteria met (code)				
Bn: Bono silty clay	Bono	100	Depressions on lake plains	Yes	2,3				
Mm: Maumee loamy fine sand	Maumee	100	00 Depressions on outwash plains		2,3				
Mo: Milford silt loam, overwash	Milford	100	Depressions on lake plains	Yes	2,3				
PIB: Plainfield fine sand, 0 to 6 percent slopes	Plainfield 90 Outwash plains		Outwash plains	No	_				
	Maumee	3	Depressions	Yes	2,3				
Rs: Rensselaer loam, calcareous subsoil variant	Rensselaer	100	Depressions on lake plains	Yes	2,3				
Ur: Urban land	Urban land	100	_	Unranked	_				
W: Water	Water	100-100	_	No	_				
Wk: Watseka loamy fine sand	Watseka	90	Outwash plains	No	_				
	Maumee	3	Depressions	Yes	2,3				
	Wauseon	3	Depressions	Yes	2,3				
	Gilford	3	Depressions	Yes	2,3				

## **Data Source Information**

Soil Survey Area: Cook County, Illinois Survey Area Data: Version 9, Sep 25, 2015

Soil Survey Area: Lake County, Indiana Survey Area Data: Version 18, Sep 10, 2015



# APPENDIX C USACE Wetland Determination Data Forms



Project/Site NITCD West Lake Corridor	City/0	County:	Lake Cou	nty Sampling Date:	9/14/15
Applicant/Owner:	_	State:	IN	Sampling Point:	Upland 1
Investigator(s): Anna Hochhalter, Scott Beckmeyer, Ch	eryl Nash	Section	on, Townshi	p, Range:	·
Landform (hillslope, terrace, etc.):	<u> </u>		elief (conca	/e, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameBono silty clay loam			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical for t	his time o	f the year?		If no, explain in remarks)	
Are vegetation , soil , or hydrolog		significantly		Are "normal circur	motonoos"
Are vegetation , soil , or hydrolog	`——	naturally pro		Ale normal circui	present?
SUMMARY OF FINDINGS		, , , ,		(If needed, explain any ar	swers in remarks.)
Hydrophytic vegetation present? Y				· · · · · · · · · · · · · · · · · · ·	·
Hydric soil present?		Is the sa	ampled area	a within a wetland?	N
Indicators of wetland hydrology present? N		If yes, optional wetland site ID:			
	onarata ra				
Remarks: (Explain alternative procedures here or in a se	eparate re	eport.)			
VEGETATION III : III					
VEGETATION Use scientific names of plants				1 <b></b>	
	Absolute 6 Cover	Dominant Species	Indicator Staus	Dominance Test Worksh	
1 (Plot size)	o Covei	Species	Staus	Number of Dominant Specie that are OBL, FACW, or FAC	
				Total Number of Domina	``
3				Species Across all Strat	
4				Percent of Dominant Specie	
5				that are OBL, FACW, or FAC	
	0 =	Total Cover			
Sapling/Shrub stratum (Plot size:)				Prevalence Index Works	sheet
				Total % Cover of:	
				· —	1 = 0
				· —	2 = <u>120</u> 3 = <u>90</u>
				· —	4 = 0
	0 :	Total Cover		· —	5 = 0
Herb stratum (Plot size: )				· —	A) 210 (B)
1 Echinochloa crus-galli	30	Υ	FACW	Prevalence Index = B/A =	2.33
2 agrostis gigantea	30	Υ	FACW		
3 setaria pumila	30	Y	FAC	Hydrophytic Vegetation	Indicators:
4				Rapid test for hydroph	nytic vegetation
5				X Dominance test is >50	
6				X Prevalence index is ≤	3.0*
				Morphogical adaptation	
8   9				supporting data in Re separate sheet)	marks or on a
10					tio vogotation*
	90 :	Total Cover		Problematic hydrophy (explain)	tic vegetation
Woody vine stratum (Plot size: )				l <del></del> ' ' ' '	atland budgalagu muat ba
1				*Indicators of hydric soil and w present, unless disturb	
2				Hydrophytic	
	0 :	Total Cover		vegetation	
				present? Y	<del>_</del>
Remarks: (Include photo numbers here or on a separate	e sheet)				

Profile Desc	cription: (Descri	be to the	depth needed	to docui	ment the	indicato	r or confirm t	he absence	of indicators.)	
Depth	Matrix		Re	dox Feat	tures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remar	ks
0 - 27+	10YR 3/1.5	90	5YR 5/8	3	RM	М	Silty Clay Lo	oam		
	ROCK	7							Rock/Asphault	
									·	
					1					
	<u> </u>				<u> </u>			4.4.4	<u> </u>	
	Concentration, D =	= Depletio	on, RM = Reduce	d Matrix	, MS = M	asked Sa			PL = Pore Lining,	
-	oil Indicators:		Sor	adv Clav	ad Matrix	(04)			ematic Hydric Soil	
	tisol (A1) tic Epipedon (A2)			idy Gley idy Redo	ed Matrix	(54)			dox (A16) ( <b>LRR K, I</b> ) ( <b>LRR K, L)</b>	_, K)
	ck Histic (A3)			-	atrix (S6)				or Peat (S3) ( <b>LRR</b>	K. I. R)
	drogen Sulfide (A	1)			ky Minera	al (F1)		-	Masses (F12) ( <b>LRR</b>	
	atified Layers (A5)	•		-	ed Matrix	. ,		_	k Surface (TF12)	, , ,
	m Muck (A10)		Dep	oleted M	atrix (F3)	, ,	Othe	r (explain in	remarks)	
Dep	oleted Below Dark	Surface	(A11) X Red	dox Dark	Surface	(F6)				
	ck Dark Surface (				ark Surfac				ophytic vegetation a	
Sar	ndy Mucky Minera	l (S1)	Red	dox Depi	ressions (	(F8)	hydro	ology must b	e present, unless d	isturbed or
									problematic	
	Layer (if observe	ed):								
Type:					_		Hydric	soil presen	t? <u>Y</u>	
Depth (inche	es):				_					
Remarks:										
Mapped	Soil: Bono									
			5:							
Emankm	ent for Monon	I rail, Hi	gnly Disturbed							
HYDROLO	ng y									
	drology Indicato	re.								
•	cators (minimum		required: check a	all that ar	anly)		94	acondary Inc	dicators (minimum o	of two required
-	Water (A1)	or one is i	equirea, criceix e		Fauna (B	13)	<u> </u>	-	Soil Cracks (B6)	or two required
	iter Table (A2)				uatic Plan		_		Patterns (B10)	
Saturation	on (A3)			Hydroge	en Sulfide	Odor (C1	)	Dry-Seas	son Water Table (C2	)
	larks (B1)				d Rhizosp	heres on	Living Roots		Burrows (C8)	
	nt Deposits (B2)			(C3)	f Dd-		(04)		n Visible on Aerial In	. , ,
	oosits (B3) at or Crust (B4)			-	ce of Redu Iron Redu		` ′		or Stressed Plants (D whic Position (D2)	71)
	osits (B5)			(C6)	iioii Neuu	Clion III I	liled Solls		itral Test (D5)	
	on Visible on Aeria	l Imagery	(B7)	-	ick Surfac	e (C7)	_			
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge	or Well Da	ita (D9)				
Water-S	tained Leaves (B9)	)		Other (E	Explain in	Remarks)	)			
Field Obser										
Surface wate	•	Yes	No	X	Depth (i					
Water table	•	Yes Yes	No No	X	Depth (i Depth (i				licators of wetland drology present?	i N
Saturation n	TOOUTIL:	163	INU		_ pebui (i	1101103).		ייי ו	a. c.ogy present:	1 N
Saturation p (includes ca	pillary fringe)	•								

Project/Site NICTD West Lake Corridor	City/0	County:	Lake Cou	nty Sampling Date:	9/14/15
Applicant/Owner:	<del>-</del>	State:	IN	Sampling Point:	Wetland 1
Investigator(s): Anna Hochhalter, Scott Beckmeyer, C	heryl Nash	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit Name			NWI (	Classification:	
Are climatic/hydrologic conditions of the site typical for	this time o	of the year?	(I	If no, explain in remarks)	
Are vegetation, soil, or hydrolo	)gy	significantly	disturbed?	Are "normal circum	stances"
Are vegetation , soil , or hydrolo	ogy	naturally pro	oblematic?		oresent? Yes
SUMMARY OF FINDINGS				(If needed, explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	ampled area	a within a wetland?	Υ
Indicators of wetland hydrology present? Y		If yes, op	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate re	eport.)			
	•	· F ,			
VEGETATION Use scientific names of plan	its.				
	Absolute	Dominant	Indicator	Dominance Test Workshe	et
<u>Tree Stratum</u> (Plot size:)	% Cover	Species	Staus	Number of Dominant Species	
1				that are OBL, FACW, or FAC:	3 (A)
2				Total Number of Dominant	
3				Species Across all Strata:	``
				Percent of Dominant Species that are OBL, FACW, or FAC:	
	0 =	= Total Cover		that are ODE, I AOW, OF FAO.	100.00 /0 (٨/٢)
Sapling/Shrub stratum (Plot size: )	<u>_</u>	Total Co.c.		Prevalence Index Worksh	eet
1				Total % Cover of:	
2				OBL species 0 x 1	= 0
3				FACW species 70 x 2	
4				FAC species 30 x 3	
5		Total Cover		FACU species 0 x 4	
Herb stratum (Plot size: )	0 =	= Total Cover		UPL species 0 x 5 Column totals 100 (A)	
1 persicaria lapathifolia	40	V	EAC\N/	Prevalence Index = B/A =	2.30 (B)
2 phalaris arundinacea	30	$\frac{1}{Y}$	FACW FACW	FIEVAICHICE HIGEX - DIA -	2.30
3 ipomoea hederacea	30	<u> </u>	FAC	Hydrophytic Vegetation Ir	ndicators:
4				Rapid test for hydrophy	
5				X Dominance test is >50%	6
6				X Prevalence index is ≤3.	0*
7				Morphogical adaptation	**
8				supporting data in Rem	arks or on a
9 10				separate sheet)	· · · · · · · · · · · · · · · · · · ·
	100 =	= Total Cover		Problematic hydrophytic (explain)	c vegetation"
Woody vine stratum (Plot size: )	100	- 10101 00.2.		l —	land budgelegy must be
1				*Indicators of hydric soil and wet present, unless disturbed	
2				Hydrophytic	
	0 =	= Total Cover		vegetation	
				present? Y	-
Remarks: (Include photo numbers here or on a separa	ite sheet)				

	cription: (Descri	he to the	denth needed t	o docun	nent the	indicato	r or confirm th	e absence of in	ndicators.)
Depth	Matrix	50 10 1110		dox Feat		maioato	1 01 0011111111111		
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	re	Remarks
0 - 15	10YR 3/1.5	97	5YR 5/8	3	RM	М	Silty Clay Lo	am	
15 - 27+	10YR 3/1.5	97	5YR 5/8	3	RM	M	Silty Clay	u	
10 - 27 1	10110 3/ 1.5	31	311(3/0	3	TXIVI	IVI	Only Clay		
*Type: C = C	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	ind Grains.	**Location: PL =	Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators	for Problemati	c Hydric Soils:
Hist	isol (A1)		San	dy Gleye	ed Matrix	(S4)	Coast	Prairie Redox (A	A16) ( <b>LRR K, L, R</b> )
Hist	ic Epipedon (A2)			dy Redo				Surface (S7) ( <b>LR</b>	
	ck Histic (A3)			oped Ma					eat (S3) ( <b>LRR K, L, R</b> )
	rogen Sulfide (A4			-	ky Minera	. ,		-	ses (F12) ( <b>LRR K, L, R</b> )
	tified Layers (A5)				ed Matrix	(F2)		Shallow Dark Sur	,
	n Muck (A10)	Curfoss			atrix (F3) Surface	(E6)	Other	(explain in rema	rks)
	oleted Below Dark ok Dark Surface (A		` ′		rk Surface	` '	*!!:!		
	dy Mucky Minera	-			essions (				tic vegetation and weltand sent, unless disturbed or
<u> </u>	ay waoky wiirera	(01)		юх Ворг	) פווסוסטס	. 0)	nyaror		lematic
Doctrictive I	Laver (if about	d).							
Restrictive i Type:	Layer (if observe	a):					Uvdrio o	soil present?	Υ
Depth (inche	<i>ie).</i>				•		nyuric s	on present?	<u> </u>
					•				
Remarks:									
	y clay loam								
Hydric Ra	ating: Yes								
HYDROLO	)GY								
		re·							
-	drology Indicato		required; check a	ll that an	nlv)		\$0	condary Indicato	re (minimum of two required)
Wetland Hyd Primary Indic	drology Indicato		required; check a			13)	<u>Se</u>	•	· · · · · · · · · · · · · · · · · · ·
Wetland Hyd Primary Indic Surface V	drology Indicato cators (minimum o Water (A1)		required; check a	Aquatic	Fauna (B		_	Surface Soil C	racks (B6)
Wetland Hyd Primary Indic Surface V	drology Indicato cators (minimum o Water (A1) ter Table (A2)		required; check a	Aquatic True Aqu	Fauna (B Juatic Plan			Surface Soil C  Drainage Patte	racks (B6)
Wetland Hyde Primary Indice Surface Verification High Water Saturation	drology Indicato cators (minimum o Water (A1) ter Table (A2)		required; check a	Aquatic True Aqu Hydroge	Fauna (B uatic Plan n Sulfide	ts (B14) Odor (C1		Surface Soil C  Drainage Patte	racks (B6) erns (B10) /ater Table (C2)
Wetland Hyd Primary Indic Surface \( \) High Wa' Saturatio Water M: X Sedimen	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2)		required; check a	Aquatic True Aqu Hydroge	Fauna (B uatic Plan n Sulfide	ts (B14) Odor (C1	)	Surface Soil C C Drainage Patte Dry-Season W Crayfish Burro	racks (B6) erns (B10) /ater Table (C2)
Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Ma X Sedimen Drift Dep	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)		required; check a	Aquatic True Aquatic Hydroge Oxidized (C3)	Fauna (B uatic Plan n Sulfide I Rhizospl	ts (B14) Odor (C1 heres on	) Living Roots	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1)
Wetland Hyd Primary India Surface V High Wa Saturatio Water Mater	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) t or Crust (B4)		required; check a	Aquatic True Aquatic Hydroge Oxidized (C3) Presence Recent I	Fauna (B uatic Plan n Sulfide I Rhizospl	ts (B14) Odor (C1 heres on	) Living Roots	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Wetland Hyd Primary India Surface V High Wa Saturatio Water Mater	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5)	of one is		Aquatic   True Aqu Hydroge Oxidized (C3) Presence Recent I (C6)	Fauna (B uatic Plan n Sulfide I Rhizospl e of Redu	ots (B14) Odor (C1 heres on sized Iron o	) Living Roots	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Wetland Hyd Primary India Surface V High Wa Saturatio Water Max X Sedimen Drift Dep Algal Ma Iron Dep Inundatio	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) sosits (B3) ot or Crust (B4) osits (B5) on Visible on Aeria	of one is	(B7)	Aquatic   True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud	Fauna (Brauna)  Juatic Plan  Sulfide  Rhizospl  of Redu  ron Redu  ck Surface	ots (B14) Odor (C1 heres on liced Iron ction in Ti	) Living Roots	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Primary India Surface V High Wa Saturatio Water M: X Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5)	of one is a	(B7)	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of	Fauna (Brauna)  Fauna (Brauna)	ots (B14) Odor (C1 heres on liced Iron ction in Ti	) Living Roots (C4)	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Primary India Surface V High Wa Saturatio Water M: X Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria vegetated Conca	of one is a	(B7)	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of	Fauna (Brauna)  Fauna (Brauna)	odor (C1) heres on ced Iron oction in Ti e (C7) ta (D9)	) Living Roots (C4)	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Primary India Surface N High Wa Saturatio Water Ma X Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St Field Obser	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9)	of one is a	(B7)	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of	Fauna (Brauna)  Fauna (Brauna)	ts (B14) Odor (C1 heres on iced Iron ction in Ti e (C7) ita (D9) Remarks)	) Living Roots (C4)	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Wetland Hydelians India Surface Verified Observator  Water Mark Sedimen Drift Dep Algal Ma Iron Dep Inundation Sparsely Water-St  Field Observator Surface water	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) on Visible on Aeria at Vegetated Conca tained Leaves (B9) vations: er present?	of one is i	(B7) e (B8)	Aquatic True Aquatic Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge of Other (E	Fauna (B' puatic Plan n Sulfide I Rhizospl e of Redu ron Redu ck Surface r Well Da xplain in I	tts (B14) Odor (C1 heres on ced Iron ction in Ti e (C7) tta (D9) Remarks) nches):	) Living Roots (C4)	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P FAC-Neutral T	racks (B6) erns (B10) later Table (C2) ws (C8) ible on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Primary Indices Surface Note High Water Mater Mater Mater Drift Dep Algal MaIron Dep Inundatices Sparsely Water-St	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) oosits (B3) ot or Crust (B4) oosits (B5) on Visible on Aeria of Vegetated Concata cained Leaves (B9) vations: er present? present?	I Imagery ve Surfac	(B7) e (B8)	Aquatic True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Muc Gauge o Other (E	Fauna (B' uatic Plan n Sulfide I Rhizospl e of Redu ron Redu ck Surfac r Well Da xplain in I	tts (B14) Odor (C1 heres on ced Iron ction in Ti e (C7) tta (D9) Remarks) nches):	) Living Roots (C4)	Surface Soil C  Drainage Patte Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P FAC-Neutral T	erns (B10)  later Table (C2)  ws (C8)  ible on Aerial Imagery (C9)  essed Plants (D1)  osition (D2)  fest (D5)

Project/Site NICTD West Lake Corridor	_ City/0	County:	Lake Cour	nty Sampling Date:	9/14/15
Applicant/Owner:		State:	IL	Sampling Point:	Upland 2
Investigator(s): Anna Hochhalter, Scott Beckmeyer, Cl	neryl Nash	Section	on, Township	o, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	e, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameBono silty clay loam		<u>-</u>	NWI (	Classification:	none
Are climatic/hydrologic conditions of the site typical for	this time of	f the year?	(l	f no, explain in remarks)	
Are vegetation, soil, or hydrolog	gy	significantly	disturbed?	Are "normal circu	mstances"
Are vegetation, soil, or hydrolog	gy	naturally pro	blematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y			-	within a wetland?	N
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a	separate re	eport.)			
VEGETATION Use scientific names of plant	is.				_
	Absolute		Indicator	Dominance Test Works	
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Speci that are OBL, FACW, or FA	
-					``
3				Total Number of Domina Species Across all Stra	· -
4			<del></del>	Percent of Dominant Speci	``
5				that are OBL, FACW, or FA	
	0 =	Total Cover			
Sapling/Shrub stratum (Plot size:)				Prevalence Index Works	sheet
1 2				Total % Cover of:  OBL species  0 x	(1 = 0
					2 = 120
- 4			<del></del>	· —	3 = 90
5			<del></del>	· —	4 = 0
	0 =	Total Cover		· —	5 = 0
Herb stratum (Plot size:)					A) 210 (B)
1 Echinochloa crus-galli	30	<u> </u>	FACW	Prevalence Index = B/A =	2.33
2 agrostis gigantea	30	<u>Y</u>	FACW		
3 setaria pumila	30	<u> </u>	FAC	Hydrophytic Vegetation Rapid test for hydrop	
5				X Dominance test is >5	
- 6			<del></del>	X Prevalence index is ≤	
7				Morphogical adaptati	
8				supporting data in Re	
9				separate sheet)	
10		<del></del>		Problematic hydrophy	ytic vegetation*
Woody vine stratum (Plot size: )	90 =	= Total Cover		(explain)	
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and v present, unless disturt	
2				Hydrophytic	
	0 =	= Total Cover		vegetation present? Y	
Domarka: (Ingluda photo numbero bero er en a congre	to shoot)			<u> </u>	
Remarks: (Include photo numbers here or on a separa	te sneet)				

	ription: (Descri	be to the	depth needed	to docur	nent the	indicato	r or confirm t	the absence	e of indicators.)	
Depth	<u>Matrix</u>		Re	dox Feat	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Rema	ırks
0 - 27+	10YR 3/1.5	90	5YR 5/8	3	RM	М	Silty Clay L	oam		
	ROCK	7							Rock/Asphault	
									•	
	oncentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining	
-	il Indicators:		_						ematic Hydric Soi	
	sol (A1)				ed Matrix	(S4)			dox (A16) ( <b>LRR K</b> ,	L, R)
	c Epipedon (A2)			ndy Redo					7) (LRR K, L)	) K I D)
	k Histic (A3)			pped Ma	` ,	. (= 4)		-	t or Peat (S3) (LRF	
	rogen Sulfide (A4	•		-	ky Minera			-	Masses (F12) (LR	R K, L, R)
	tified Layers (A5) า Muck (A10)				ed Matrix atrix (F3)	(FZ)			rk Surface (TF12)	
	leted Below Dark	Surface			Surface	(E6)	Othe	r (explain in	remarks)	
	k Dark Surface (A		· · · · · · · · · · · · · · · · · · ·		ark Surface		*!	-46		
	dy Mucky Mineral	,			essions (				ophytic vegetation e present, unless	
	ay wasky willera	(01)		лох Ворг	(	. 0)	riyur	ology must b	problematic	distarbed or
Dootriotivo I	_ayer (if observe	d).							<u>'</u>	
кезитские г Гуре:	-ayer (ii observe	u).					Hydric	soil presen	t? Y	
Depth (inche	s):				=		riyano	Jon presen		
					-					
Remarks:	Caile Dana									
wapped 3	Soil: Bono									
Emankme	ent for Monon	Trail Hi	ahly Dieturhed							
LIIIaiikiii	ent for Monon	rran, rn	grily Disturbed							
HYDROLO	GY									
		rs:								
Wetland Hyd	drology Indicato		required: check a	all that an	(vlac		S	econdary Inc	dicators (minimum	of two required
Wetland Hyd			required; check a			13)	<u>s</u>	=	dicators (minimum Soil Cracks (B6)	of two required
Wetland Hyd Primary Indic Surface V	drology Indicato cators (minimum o Water (A1)		required; check a	Aquatic	oply) Fauna (B <sup>.</sup> uatic Plan		<u>s</u>	Surface	dicators (minimum Soil Cracks (B6) Patterns (B10)	of two required
Wetland Hyd Primary Indic Surface V	drology Indicato eators (minimum o Water (A1) der Table (A2)		required; check a	Aquatic True Aq	Fauna (B	ts (B14)	<del>-</del>	Surface Surface Surface	Soil Cracks (B6)	
Vetland Hyd Primary Indic Surface V	drology Indicato eators (minimum o Water (A1) ter Table (A2) n (A3)		required; check a	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plan en Sulfide	ts (B14) Odor (C1	<del>-</del>	Surface Drainage Dry-Seas Crayfish	Soil Cracks (B6) Patterns (B10) son Water Table (C2 Burrows (C8)	2)
Primary Indic Surface V High Wat Saturatio Water Ma Sediment	drology Indicato cators (minimum o Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		required; check a	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plan en Sulfide d Rhizospl	ts (B14) Odor (C1 heres on	) Living Roots	Surface : Drainage Dry-Seas Crayfish Saturatio	Soil Cracks (B6) Patterns (B10) Son Water Table (C2 Burrows (C8) On Visible on Aerial I	2) magery (C9)
Primary Indice Surface V High Wat Saturatio Water Ma Sediment Drift Depo	Arology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		required; check a	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (B uatic Plan en Sulfide d Rhizospl	ts (B14) Odor (C1 heres on	) Living Roots _ (C4)	Surface Drainage Dry-Seas Crayfish Saturation	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (	2) magery (C9)
Primary Indice Surface V High Wat Saturatio Water Ma Sediment Drift Dep	cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		required; check a	Aquatic True Aq Hydroge Oxidized (C3) Presence Recent	Fauna (B uatic Plan en Sulfide d Rhizospl	ts (B14) Odor (C1 heres on	) Living Roots _ (C4)	Surface Drainage Dry-Seas Crayfish Saturation Stunted Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (Ohic Position (D2)	2) magery (C9)
Primary Indice Surface V High Water Mater Material	cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	of one is		Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6)	Fauna (Bruatic Plan en Sulfide d Rhizospl e of Redu Iron Redu	ots (B14) Odor (C1 heres on sced Iron ction in T	) Living Roots _ (C4)	Surface Drainage Dry-Seas Crayfish Saturation Stunted Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (	2) magery (C9)
Wetland Hyde Primary Indice Surface Notes High Water Mater M	cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aerial	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu	Fauna (Bruatic Planen Sulfide di Rhizospile of Redulron Reduck Surface	ots (B14) Odor (C1 heres on liced Iron ction in T	) Living Roots _ (C4)	Surface Drainage Dry-Seas Crayfish Saturation Stunted Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (Ohic Position (D2)	2) magery (C9)
Primary Indice Surface V High Water Mater	cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	of one is Imagery ve Surfac	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (Bruatic Plan en Sulfide d Rhizospl e of Redu Iron Redu	odor (C1) heres on ced Iron ction in T e (C7) ta (D9)	Living Roots _ (C4) _ Illed Soils _	Surface Drainage Dry-Seas Crayfish Saturation Stunted Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (Ohic Position (D2)	2) magery (C9)
Primary Indices Surface Verimary Indices Surface Verimary Indices Surface Veriface V	drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Vegetated Concar ained Leaves (B9)	of one is Imagery ve Surfac	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (Bruatic Planen Sulfide di Rhizospile of Reduiron Reduck Surfactor Well Da	odor (C1) heres on ced Iron ction in T e (C7) ta (D9)	Living Roots _ (C4) _ Illed Soils _	Surface Drainage Dry-Seas Crayfish Saturation Stunted Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (Ohic Position (D2)	2) magery (C9)
Primary Indices Surface Verimary Indices Indices Surface Verimary Indices Surface Verification Surface Verific	drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Vegetated Concar ained Leaves (B9) vations:	of one is Imagery ve Surfac	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (B' uatic Plan en Sulfide d Rhizospl e of Redu lron Redu ck Surfac or Well Da	ts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks)	Living Roots _ (C4) _ Illed Soils _	Surface Drainage Dry-Seas Crayfish Saturation Stunted Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (Ohic Position (D2)	2) magery (C9)
Primary Indices Surface Verimary Indices Surfa	drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Vegetated Concar ained Leaves (B9) vations: er present?	of one is Imagery ve Surfac	(B7) e (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C Other (E	Fauna (Bruatic Planen Sulfide di Rhizospile of Reduiron Reduck Surfactor Well Da	ts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks)	Living Roots _ (C4) _ Illed Soils _	Surface : Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Net	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants (Ohic Position (D2)	2) magery (C9) D1)
Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo Inundatio Sparsely	cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aerial Vegetated Concar ained Leaves (B9) vations: er present?	Imagery ve Surfac	(B7) e (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B'uatic Planen Sulfide d' Rhizosple e of Redulron Reducte Surfactor Well Dacksplain in I	tts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks) inches): inches):	Living Roots _ (C4) _ Illed Soils _	Surface : Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) On Visible on Aerial I Or Stressed Plants ( Ohic Position (D2) Utral Test (D5)	magery (C9) D1)

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/14/15
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 2
Investigator(s): Anna Hochhalter, Scott Beckmeyer, C	Cheryl Nash	n Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit Name Urban Land			NWI (	Classification:	
Are climatic/hydrologic conditions of the site typical for	r this time c	of the year?	(I	lf no, explain in remarks)	
Are vegetation, soil, or hydrolo	ogy	significantly	disturbed?	Are "normal circum	stances"
Are vegetation , soil , or hydrolo	ogy	naturally pro	blematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any ans	wers 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	_	If yes, op	tional wetlar	nd site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a	separate r	eport.)			
	-	•			
VEGETATION Use scientific names of plan	nts.				
	Absolute	Dominant	Indicator	Dominance Test Worksho	et
<u>Tree Stratum</u> (Plot size:)	% Cover	Species	Staus	Number of Dominant Species	
1 quercus macrocarpa	40	<u>Y</u> -	FAC	that are OBL, FACW, or FAC:	``
2 Ulmus rubra 3 crataegus mollis	10	<u>Y</u> N	FAC FAC	Total Number of Dominant Species Across all Strata:	
3 <u>crataegus mollis</u> 4 <u>quercus alba</u>	5		FACU		``
5			1 700	Percent of Dominant Species that are OBL, FACW, or FAC:	
	85	= Total Cover		, , ,	()
Sapling/Shrub stratum (Plot size:)				Prevalence Index Worksh	eet
1 Acer negundo	30	<u> </u>	FAC	Total % Cover of:	
2 Fraxinus pennsylvanica	10	Υ	FACW	OBL species 5 x 1	
3 Ulmus rubra	5	<u>N</u>	FAC	FACW species 35 x 2	
5				FAC species 115 x 3 FACU species 25 x 4	
, s	45	= Total Cover		UPL species 25 x 4	
Herb stratum (Plot size: )		- 10tal 00vc.		Column totals 180 (A)	
1 parthenocissus quinquefolia	20	Υ	FACU	Prevalence Index = B/A =	2.89
2 phalaris arundinacea	10	<u> </u>	FACW	110101001110111111111111111111111111111	
3 geum laciniatum	5	N	FACW	Hydrophytic Vegetation II	ndicators:
4 persicaria hydropiper	5	N	OBL	Rapid test for hydrophy	tic vegetation
5				X Dominance test is >50%	
6				X Prevalence index is ≤3.	.0*
7				Morphogical adaptation	
8   9				supporting data in Rem separate sheet)	arks or on a
10				Problematic hydrophyti	c vegetation*
	40	= Total Cover		(explain)	c vegetation
Woody vine stratum (Plot size: )				*Indicators of hydric soil and wet	rland hydrology must be
1 vitis riparia	10	Y	FACW	present, unless disturbed	
2				Hydrophytic	
	10 :	= Total Cover		vegetation present? Y	
Demonstrate (Include whate prophers have as an account	oto oboot\				_
Remarks: (Include photo numbers here or on a separa	ate sneet)				

SOIL								Sa	ampling Point:	Wetland 2
Profile Des	cription: (Descri	be to the	e depth needed t	to docur	ment the	indicato	or or confirm the	e absence	of indicators.)	
Depth	Matrix			dox Feat					,	
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textur	e	Rema	arks
0 - 5	10YR 4/1	75	10YR 7/8	20	RM	М	Clay Loam			
		1.0	7/10 BG	5			Clay Loam		Gley	
5 071	10YR 4/1	50		40	RM	N 4			Ciey	
5 - 27+	101K 4/1	50	10YR 7/8		KIVI	M	Silty Clay Loa	am		
			7/10 BG	10						
*Type: C = (	Concentration, D =	= Denletic	n RM = Reduce	d Matrix	MS = M:	asked Sa	and Grains	**I ocation	: PL = Pore Lining	M = Matrix
	oil Indicators:	Depiction	on, raw – racauce	a matrix	, 1010 – 1016	askea or			ematic Hydric Soi	
_	tisol (A1)		San	ndv Glev	ed Matrix	(S4)			dox (A16) ( <b>LRR K</b> ,	
	tic Epipedon (A2)			ndy Redo		(0.)			') (LRR K, L)	_, ,
	ck Histic (A3)			-	itrix (S6)			,	t or Peat (S3) ( <b>LRF</b>	₹ K, L, R)
	drogen Sulfide (A4	1)			ky Minera	al (F1)		•	Masses (F12) (LR	
	atified Layers (A5)		Loa	my Gley	ed Matrix	(F2)	Very S	hallow Da	rk Surface (TF12)	
	m Muck (A10)		Dep	oleted Ma	atrix (F3)	` '	Other (explain in remarks)			
X Dep	oleted Below Dark	Surface	(A11) Red	lox Dark	Surface	(F6)				
Thic	ck Dark Surface (	A12)	Dep	oleted Da	ark Surfac	ce (F7)	*Indicate	ors of hydr	ophytic vegetation	and weltand
Sar	ndy Mucky Minera	ıl (S1)	Red	dox Depr	essions (	(F8)			e present, unless	
									problematic	
Restrictive	Layer (if observe	ed):								
Type:							Hvdric s	oil presen	t? Y	
Depth (inche	es):				-		,			
. ,	,									
Remarks:										
	y clay loam									
Hydric R	ating: Yes									
LIVERAL	201/									
HYDROLO										
-	drology Indicato									
-	cators (minimum	of one is	required; check a			40)	Sec		dicators (minimum	of two required)
	Water (A1)				Fauna (B	,			Soil Cracks (B6)	
Saturation	ater Table (A2)				uatic Plan en Sulfide	. ,			e Patterns (B10) son Water Table (C2	2)
X Water M						•	Living Roots		Burrows (C8)	<u> </u>
	nt Deposits (B2)			(C3)	ı Kılızosp	neres on	Living Roots		on Visible on Aerial I	magery (C9)
	posits (B3)			-	e of Redu	iced Iron	(C4)		or Stressed Plants (	
	at or Crust (B4)			•			illed Soils	_	phic Position (D2)	,
	oosits (B5)			(C6)			_		utral Test (D5)	
Inundation	on Visible on Aeria	l Imagery	(B7)	Thin Mu	ck Surfac	e (C7)		_		
	Vegetated Conca		e (B8)	_	or Well Da					
Water-S	tained Leaves (B9	)		Other (E	Explain in I	Remarks	)			
Field Obser	vations:									
Surface wat	•	Yes	No No	X	Depth (i					
Water table	present?	Yes	No	Х	Depth (i	nches):		Inc	dicators of wetlan	<sub>i</sub> d

Depth (inches):

Remarks:

**US Army Corps of Engineers** 

Yes

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Saturation present?

(includes capillary fringe)

hydrology present?

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/14/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 3
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	re, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameBono silty clay loam			NWI	Classification:	None
Are climatic/hydrologic conditions of the site typical for	r this time c	of the year?	(I	f no, explain in remarks)	
Are vegetation, soil, or hydrolo	ogy	significantly	disturbed?	Are "normal circ	umstances"
Are vegetation , soil , or hydrolo	ogy	naturally pro	oblematic?	•	present?
SUMMARY OF FINDINGS				(If needed, explain any	answers in remarks.)
Hydrophytic vegetation present? N				<u></u>	<u></u>
Hydric soil present? N	_	Is the sa	ampled area	within a wetland?	N
Indicators of wetland hydrology present? N	_	If yes, op	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate r	eport.)			
	•	-r ,			
VEGETATION Use scientific names of plan	 nts.				
,	Absolute	Dominant	Indicator	Dominance Test Work	sheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Spe	cies
1				that are OBL, FACW, or F	AC: 1 (A)
2				Total Number of Domir	
3				Species Across all Str	`` ′
4		<del></del> .		Percent of Dominant Spe	
5	0 :	= Total Cover		that are OBL, FACW, or F	AC: 50.00% (A/B)
Sapling/Shrub stratum (Plot size: )		- 10tai 00vo.		Prevalence Index World	ksheet
1				Total % Cover of:	
2				OBL species 0	x 1 = 0
3				FACW species 0	x 2 = 0
4				· <u> </u>	x 3 = 150
5		=		' <u></u>	x 4 = 200
(Diet size)	0 :	= Total Cover		· -	x 5 = 0
Herb stratum (Plot size:)	50	V	- 4 0		(A) <u>350</u> (B)
1 poa pratensis	30	<u>Y</u> ·	FAC	Prevalence Index = B/A	= 3.50
2 vicia sativa 3 sonchus asper	10		FACU FACU	Hydrophytic Vegetatio	n Indicators
4 trifolium repens	5	N	FACU	Rapid test for hydro	
5 Cirsium vulgare	5		FACU	Dominance test is >	
6				Prevalence index is	
7				Morphogical adapta	tions* (provide
8				supporting data in R	
9				separate sheet)	
10	100	T-tal Cover		Problematic hydropl	nytic vegetation*
Woody vine stratum (Plot size: )	100	= Total Cover		(explain)	
1				*Indicators of hydric soil and present, unless distu	
2				Hydrophytic	<u></u>
	0 :	= Total Cover		vegetation present?	1 _
Remarks: (Include photo numbers here or on a separa	ate sheet)				

SOIL								Sampling Poir	nt: Upland 3
		be to th	•			indicato	or or confirm t	he absence of indicato	rs.)
Depth	Matrix	0/		dox Feat		1 0 0 **	Tout		Domorko
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type*	Loc**	Textu		Remarks
0+								Gravel	
*Type: C = Co	oncentration, D =	Depleti	on, RM = Reduce	d Matrix,	, MS = M	asked Sa	and Grains.	**Location: PL = Pore L	ining, M = Matrix
-	l Indicators:							s for Problematic Hydri	
	sol (A1)				ed Matrix	(S4)		t Prairie Redox (A16) ( <b>LF</b>	
	c Epipedon (A2)			ndy Redo				Surface (S7) (LRR K, L)	
	k Histic (A3)			pped Ma				Mucky Peat or Peat (S3)	
	ogen Sulfide (A4	•		-	ky Minera	, ,		Manganese Masses (F12	
	ified Layers (A5) ı Muck (A10)				red Matrix atrix (F3)			Shallow Dark Surface (T · (explain in remarks)	r 12)
	eted Below Dark	Surface			Surface		Other	(explain in females)	
	k Dark Surface (A		· · · · · · · · · · · · · · · · · · ·		ark Surfac		*Indica	ators of hydrophytic vege	tation and weltand
	dy Mucky Minera	-			essions (			logy must be present, ur	
							j	problematic	
Restrictive L	ayer (if observe	d):							
	avel	,					Hydric	soil present? N	
Depth (inches	s): 0				_				
Remarks:									
	take sample.	Too mi	uch gravel in su	ırroundi	ing area	1			
			and grant or mines						
HYDROLO	CV								
	Irology Indicato	rc:							
			roquired; check o	all that ar	anha)		Sa	acandary Indicators (mini	mum of two requires
	Vater (A1)	or orie is	required; check a		<u>ρριγ)</u> Fauna (Β	13)	<u> 56</u>	econdary Indicators (mini Surface Soil Cracks (B	
	er Table (A2)			_ '	uatic Plar	,	_	Drainage Patterns (B1	,
Saturation	, ,			-	en Sulfide		<u> </u>	Dry-Season Water Tal	
Water Ma	ırks (B1)				d Rhizosp	heres on	Living Roots	Crayfish Burrows (C8)	
	Deposits (B2)			(C3)				Saturation Visible on A	
Drift Depo				-	e of Redu		· ·	Stunted or Stressed Pl	
Iron Depo	or Crust (B4)			(C6)	Iron Redu	iction in 1	illed Soils	Geomorphic Position ( FAC-Neutral Test (D5)	
•	n Visible on Aerial	Imagery	/ (B7)		ck Surfac	e (C7)	_	I AC-Neutral Test (D3)	
	Vegetated Conca		· · ·	_	or Well Da	` ,			
Water-Sta	ained Leaves (B9)			Other (E	xplain in	Remarks	)		
Field Observ	ations:			-					
Surface water	•	Yes	No	Х	Depth (i	-			
Water table p		Yes	No	X	Depth (i	,		Indicators of w	
Saturation pre (includes cap		Yes	No	X	Depth (i	ncnes):		hydrology pre	esent? N
		m co::::	n monitorie e	ooriel -	hotos ==	ovicus !s	anastiana) if -	voilable:	
Describe reco	nueu uata (strea	ııı gauge	e, monitoring well,	aeriai pi	notos, pre	evious in	spections), if a	valiable.	
Remarks:									

No wetland hydrology present

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cour	nty Sampling Date:	9/14/15
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 3
Investigator(s): Anna Hochhalter, Scott Beckmeyer, C	heryl Nash	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameUrban land			NWI (	Classification:	
Are climatic/hydrologic conditions of the site typical for	r this time o	of the year?	(I	If no, explain in remarks)	
Are vegetation, soil, or hydrolo	ogy	significantly	disturbed?	Are "normal circums	stances"
Are vegetation , soil , or hydrolo		naturally pro	oblematic?		resent?
SUMMARY OF FINDINGS				(If needed, explain any answ	vers in remarks.)
Hydrophytic vegetation present? Y	.				
Hydric soil present? Y	.	Is the sa	ampled area	a within a wetland?	Υ
Indicators of wetland hydrology present? Y	. [	If yes, op	tional wetlar	nd site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a	separate re	eport.)			
		,			
VEGETATION Use scientific names of plan	 nts.				
	Absolute	Dominant	Indicator	Dominance Test Workshe	et
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species	
1				that are OBL, FACW, or FAC:	4 (A)
2				Total Number of Dominant	
3				Species Across all Strata:	6 (B)
				Percent of Dominant Species	66 679/ (A/D)
5		= Total Cover		that are OBL, FACW, or FAC:	66.67% (A/B)
Sapling/Shrub stratum (Plot size: )		- Total Covci		Prevalence Index Worksho	eet
1 sambucus nigra	5	Υ	FACW	Total % Cover of:	, ot
2				OBL species 0 x 1	= 0
3				FACW species 55 x 2	= 110
4				FAC species 12 x 3	
5				FACU species 10 x 4	
(Dist size)	5_=	= Total Cover		UPL species 0 x 5	
Herb stratum (Plot size:)	40	.,	5 4 OM	Column totals 77 (A)	186 (B)
1 phalaris arundinacea	40	<u>Y</u> .	FACW	Prevalence Index = B/A =	2.42
2 persicaria lapathifolia 3 symphyotrichum pilosum	10	<u>Y</u> Y	FACW FACU	Hydrophytic Vegetation In	dicatore:
4 helianthus tuberosus	10	<u> </u>	FACO	Rapid test for hydrophyt	
5 eupatorium serotinum	10	<u> </u>	FAC	X Dominance test is >50%	•
6 ipomoea hederacea	2	N	FAC	X Prevalence index is ≤3.0	
7				Morphogical adaptations	s* (provide
8				supporting data in Rema	"
9				separate sheet)	
10		T-t-l Cover		Problematic hydrophytic	: vegetation*
Woody vine stratum (Plot size: )	82 =	= Total Cover		(explain)	
1				*Indicators of hydric soil and wetla present, unless disturbed	
2				Hydrophytic	
	0 =	= Total Cover		vegetation present? Y	
Describer (Include whate numbers here or on a concer-				prosent:	
Remarks: (Include photo numbers here or on a separa	ite sneer)				

	cription: (Descri	be to th	e depth ne	eded t	o docur	nent the	indicato	r or confirm t	he absence	of indicators.)
Depth	Matrix				dox Feat					•
(Inches)	Color (moist)	%	Color (m		%	Type*	Loc**	Text	ıre	Remarks
0 - 24+	2.5YR 3/2	90	7.5YR	4/6	10	RM	М	Silty Clay Lo	oam	
	Concentration, D =	Depleti	on, RM = R	educe	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix
-	oil Indicators:			_						ematic Hydric Soils:
	tisol (A1)					ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)		_		dy Redo					(LRR K, L)
	ck Histic (A3)	`			pped Ma		J /E1)		-	or Peat (S3) ( <b>LRR K, L, R</b> ) Masses (F12) ( <b>LRR K, L, R</b> )
	drogen Sulfide (A4 atified Layers (A5)		_		-	ky Minera ed Matrix			_	k Surface (TF12)
	m Muck (A10)		_			eu Mainx atrix (F3)	(FZ)		r (explain in	•
	oleted Below Dark	Surface	· (A11)			Surface	(F6)		i (expiaiii iii	iemarks)
	ck Dark Surface (A					rk Surfac	. ,	*Indica	atore of hydr	ophytic vegetation and weltand
	ndy Mucky Minera	-	_			essions (				e present, unless disturbed or
	,	. (0.)			.ox 2 op.	(	. •,	riyare	nogy made b	problematic
Dootriotivo.	Layer (if observe	۵۱.								·
Type:	Layer (II observe	eu):						Hydric	soil presen	t? Y
Depth (inche	<i>56).</i>					-		riyanc	son presen	
						•				
Remarks:										
Bono siit	y clay loams									
ما منعاميا ا										
Hydric In	idicator: Yes									
Hydric In	idicator: Yes									
HYDROLO	DGY	rs:								
HYDROLO Wetland Hy	OGY drology Indicato		required: o	heck a	ıll that ap	(vlac		Se	econdary Inc	dicators (minimum of two require
HYDROLO Wetland Hy Primary Indi	OGY drology Indicato cators (minimum d		required; c	heck a			13)	<u>Se</u>	-	dicators (minimum of two required
HYDROLO Wetland Hy Primary Indi Surface	OGY drology Indicato		required; c	heck a	Aquatic	oply) Fauna (B uatic Plan			Surface	dicators (minimum of two required Soil Cracks (B6) Patterns (B10)
HYDROLO Wetland Hy Primary Indi Surface	OGY drology Indicato cators (minimum o Water (A1) ater Table (A2)		required; c	heck a	Aquatic True Aqu	Fauna (B	ts (B14)	_	Surface S X Drainage	Soil Cracks (B6)
HYDROLO Wetland Hy Primary Indi Surface High Wa	OGY drology Indicato cators (minimum o Water (A1) ater Table (A2)		required; c	heck a	Aquatic True Aqu Hydroge	Fauna (B uatic Plan n Sulfide	ts (B14) Odor (C1	_	Surface S X Drainage Dry-Seas Crayfish	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8)
HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatic Water M X Sedimer	DGY rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		required; c	heck a	Aquatic True Aqu Hydroge Oxidized (C3)	Fauna (B uatic Plan n Sulfide I Rhizosp	ts (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)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M X Sedimer Drift Dep	cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) posits (B3)		required; c	heck a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plan n Sulfide I Rhizosp	ts (B14) Odor (C1 heres on	) Living Roots  (C4)	Surface S  X Drainage  Dry-Seas  Crayfish  Saturatio  Stunted 6	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma	ody drology Indicato cators (minimum of Water (A1) atter Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		required; c	heck a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I	Fauna (B uatic Plan n Sulfide I Rhizosp	ts (B14) Odor (C1 heres on	) Living Roots  (C4)	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep	cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5)	of one is		heck a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6)	Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu	ots (B14) Odor (C1 heres on sced Iron ction in T	) Living Roots  (C4)	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep	ocators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on Aeria	of one is	/ (B7)	heck a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu ck Surfac	ots (B14) Odor (C1 heres on liced Iron ction in T	) Living Roots  (C4)	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)
HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely	or vegetated Concar	of one is I Imagery ve Surfa	/ (B7)	heck a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o	Fauna (B uatic Plan en Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da	odor (C1) heres on ced Iron ction in T e (C7) ta (D9)	Living Roots	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S	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 Vegetated Concar tained Leaves (B9)	of one is I Imagery ve Surfa	/ (B7)	heck a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu ck Surfac	odor (C1) heres on ced Iron ction in T e (C7) ta (D9)	Living Roots	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)
HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser	ocators (minimum of Water (A1) ater Table (A2) on (A3) alarks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) costions:	I Imagen	/ (B7)		Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da	ts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks)	Living Roots	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatia Sparsely Water-S Field Obser Surface wate	cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria of Vegetated Conca tained Leaves (B9) cvations: er present?	I Imagen ve Surfa	/ (B7)	No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da explain in l	ts (B14) Odor (C1 heres on iced Iron ction in T e (C7) ita (D9) Remarks)	Living Roots	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) For Stressed Plants (D1) Shic Position (D2) Stral Test (D5)
HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely	cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) cvations: er present? present?	I Imagen	/ (B7)		Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu ck Surfac or Well Da	tts (B14) Odor (C1 heres on ced Iron ction in T e (C7) tta (D9) Remarks) nches): nches):	Living Roots	Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)

5 ft from river bank

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/14/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 4
Investigator(s): Anna Hochhalter and Scott Beckmey	er	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local r	elief (concav	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameBono silty clay loam			NWI (	Classification:	none
Are climatic/hydrologic conditions of the site typical fo	r this time c	of the year?	(I	If no, explain in remarks)	<del></del>
Are vegetation, soil, or hydrol	ogy	significantly	disturbed?	Are "normal circ	umstances"
Are vegetation, soil, or hydrol	ogy	naturally pro	oblematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	answers in remarks.)
Hydrophytic vegetation present? N	-				
Hydric soil present? N	_ [		-	a within a wetland?	N
Indicators of wetland hydrology present? N		If yes, op	otional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate r	eport.)			
VEGETATION Use scientific names of plan	nts.				
	Absolute	Dominant	Indicator	Dominance Test Work	sheet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Spec	
1 2				that are OBL, FACW, or F	``
3				Total Number of Domir Species Across all Str	
4				Percent of Dominant Spec	``
5				that are OBL, FACW, or F.	
	0	= Total Cover			
Sapling/Shrub stratun (Plot size:)				Prevalence Index Worl	ksheet
1				Total % Cover of:	
2				· —	x 1 = 0
3				· —	x 2 = 0 x 3 = 150
5				· —	x 4 = 200
<del>"</del>	0	= Total Cover	,		x = 5 = 5
Herb stratum (Plot size: )	,			· —	(A) 350 (B)
1 poa pratensis	50	Υ	FAC	Prevalence Index = B/A	· · · — · · · ·
2 vicia sativa	30	Υ	FACU		
3 sonchus asper	10	N	FACU	Hydrophytic Vegetatio	n Indicators:
4 trifolium repens	5	N	FACU	Rapid test for hydro	
5 Cirsium vulgare	5	N	FACU	Dominance test is >	
6				Prevalence index is	
8				Morphogical adapta	**
9				supporting data in R separate sheet)	emarks or on a
10				Problematic hydropl	nvtic vegetation*
	100	= Total Cover		(explain)	.,
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and present, unless distu	
2				Hydrophytic	
	0	= Total Cover		vegetation present?	1
Remarks: (Include photo numbers here or on a separa	ate sheet)			•	

SOIL									Sampling Point:	Upland 4
Profile Desc	cription: (Descri	ibe to the	depth need	ded 1	to docur	nent the	indicato	or or confirm the abs	sence of indicators.)	
Depth	Matrix		•		dox Feat					
(Inches)	Color (moist)	%	Color (moi	st)	%	Type*	Loc**	Texture	Rem	arks
0+									Gravel	
					1					
							L	101		
	Concentration, D =	= Depletio	n, RM = Red	duce	d Matrix,	, MS = M	asked Sa		cation: PL = Pore Lining	
-	il Indicators:			Sar	dy Clay	od Matrix	(04)		Problematic Hydric So	
	isol (A1)			_		ed Matrix	(54)		e Redox (A16) ( <b>LRR K</b> e (S7) ( <b>LRR K, L)</b>	., L, K)
	ic Epipedon (A2) ck Histic (A3)			-	ndy Redo pped Ma				Peat or Peat (S3) ( <b>LR</b>	PKIP)
	rogen Sulfide (A4	1)		_		ky Minera	ol (E1)		nese Masses (F12) ( <b>LF</b>	
	itified Layers (A5)	-		-	-	ed Matrix			w Dark Surface (TF12)	
	n Muck (A10)	)		-		eu Main atrix (F3)			ain in remarks)	
	eleted Below Dark	Surface (	(Δ11)	-		Surface		Other (expire	alli ili remarks)	
	ck Dark Surface (			-		ark Surfa	, ,	*Indiantors of	f budranbutia vanatatia	n and waltand
	dy Mucky Minera			-		essions (			f hydrophytic vegetation nust be present, unless	
<u> </u>	dy Wideky Willierd	11 (01)		-	ох Бері	C3310113 (	(10)	nydrology n	problematic	disturbed of
Destrictive	l aver /if abaamı	٠ - ١٠ -					1		,	
	<b>Layer (if observe</b> ravel	eu).						Hydric soil pr	resent? N	
Depth (inche						_		riyuric son pi	esent: N	
Remarks:						-				
	o take sample.		on graver							
HYDROLC										
-	drology Indicato									
	cators (minimum	of one is r	equired; che	eck a					ary Indicators (minimum	n of two required
	Water (A1)				_	Fauna (B			face Soil Cracks (B6)	
	ter Table (A2)				_	uatic Plar			ninage Patterns (B10)	20)
Saturation	arks (B1)						Odor (C1	· ·	r-Season Water Table (0 ayfish Burrows (C8)	,2)
	arks (B1) it Deposits (B2)				(C3)	ı Kılızosp	neres on		turation Visible on Aerial	Imagery (C0)
	osits (B3)				=	e of Redu	iced Iron		inted or Stressed Plants	0 , , ,
	t or Crust (B4)				-			· ·	omorphic Position (D2)	(21)
	osits (B5)				(C6)				C-Neutral Test (D5)	
	on Visible on Aeria	al Imagery	(B7)		Thin Mu	ck Surfac	e (C7)		` ,	
Sparsely	Vegetated Conca	ve Surface	e (B8)		Gauge o	or Well Da	ata (D9)			
Water-St	tained Leaves (B9)	)			Other (E	xplain in	Remarks	)		
Field Obser	vations:				_					
Surface water	•	Yes		Ю	X	Depth (i				
Water table		Yes		lo	X	Depth (i			Indicators of wetla	
Saturation p		Yes		10	X	Depth (i	nches):		hydrology presen	t? <u>N</u>
(includes car										
Describe rec	orded data (strea	am gauge,	monitoring	well,	aerial pl	hotos, pr	evious in:	spections), if available	e:	
Remarks:										
	nd hydrology p	resent								
	,	-								

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/14/15
Applicant/Owner:	<del>-</del>	State:	IN	Sampling Point:	Wetland 4
Investigator(s): Anna Hochhalter, Scott Beckmeyer, C	Cheryl Nash	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	/e, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameBono silty clay loam			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical fo	r this time o	of the year?	(	If no, explain in remarks)	
Are vegetation , soil , or hydrole	ogy	significantly	disturbed?	Are "normal circun	nstances"
Are vegetation, soil, or hydrole		naturally pro	oblematic?	,	present?
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present?		Is the sa	ampled area	a within a wetland?	Υ
Indicators of wetland hydrology present?		If yes, op	otional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate re	enort.)			
Tromano. (Explain anomano processes series)	оора. а.т.	<b>JP</b> 011.,			
VEGETATION Use scientific names of plar	nts				
Coo colonialo namos el pla.	Absolute	Dominant	Indicator	Dominance Test Worksh	leet
<u>Tree Stratum</u> (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie	
1 fraxinus pennsylvanica	5	Y	FACW	that are OBL, FACW, or FAC	
2				Total Number of Dominar	nt
3				Species Across all Strata	a: (B)
4				Percent of Dominant Specie	
5		<del></del> .		that are OBL, FACW, or FAC	): 100.00% (A/B)
O " = (Ob = b = to=to= (Dist size)	5	= Total Cover		Dl Inday Manks	1 .4
Sapling/Shrub stratun (Plot size:)  1 acer negundo	60	Υ	FAC	Prevalence Index Works Total % Cover of:	heet
2 salix fragilis	10		FAC	OBL species 0 x	1 = 0
3 ulmus rubra	5		FAC	FACW species 70 x	
4 acer saccharinum	5		FACW	FAC species 80 x	
5 morus alba	5		FAC	FACU species 12 x	4 = 48
	85	= Total Cover	,	UPL species 0 x	5 = 0
Herb stratum (Plot size:)				Column totals 162 (A	A) 428 (B)
1 lysimachia nummularia	25	<u> </u>	FACW	Prevalence Index = B/A =	2.64
2 phragmites australis	25	Υ	FACW		<u></u>
3 solidago gigantea	10	<u>N</u>	FACW	Hydrophytic Vegetation	
4 solidago altissima	5		FACU	Rapid test for hydroph	
5 parthenocissus quinquefolia 6 symphyotrichum pilosum	5 2	N -	FACU FACU	X Dominance test is >50 X Prevalence index is ≤3	
6 symphyotrichum pilosum 7			FACU	<del></del>	
8				Morphogical adaptation supporting data in Rer	**
9				separate sheet)	Hairis of off a
10				Problematic hydrophy	tic vegetation*
	72	= Total Cover	,	(explain)	<b>.</b>
Woody vine stratum (Plot size:)  1				*Indicators of hydric soil and we present, unless disturbe	
2				Hydrophytic	<u> </u>
	0 =	= Total Cover	,	vegetation present? Y	
Remarks: (Include photo numbers here or on a separa	ate sheet)				
	,				

Depth	inpuloni (Deseni	pe to th	e depth needed	to docur	ment the	indicato	r or confirm	the absence	of indicators.)	
Dopui	<u>Matrix</u>		R	edox Feat	tures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Rema	arks
0 + 27+	2.5YR 3/1	95	2.5YR 3/3	5	RM	М	Silty Clay L	.aom		
			†							
T 0 0		5	<u> </u>	1.5.4.4.1	140 14			441 (*	DI D 1::	
	oncentration, D =	Depleti	on, RM = Reduc	ed Matrix	, MS = M	asked Sa			: PL = Pore Lining	
-	il Indicators: isol (A1)		S.	andy Gley	ad Matrix	(84)			ematic Hydric So dox (A16) (LRR K	
	ic Epipedon (A2)			andy Redo		(34)			') (LRR K, L)	, L, K)
	k Histic (A3)			ripped Ma	. ,				t or Peat (S3) ( <b>LR</b> I	R K. L. R)
	rogen Sulfide (A4	.)		amy Muc	` ,	ıl (F1)		-	Masses (F12) (LR	
Stra	tified Layers (A5)		Lo	amy Gley	ed Matrix	(F2)	Very	Shallow Da	rk Surface (TF12)	
2 cn	n Muck (A10)			epleted Ma	, ,		Othe	er (explain in	remarks)	
	leted Below Dark		· · · —	edox Dark		. ,				
	k Dark Surface (A	•		epleted Da					ophytic vegetation	
San	dy Mucky Minera	I (S1)	R	edox Depr	ressions (	F8)	hydr	ology must b	e present, unless	disturbed or
									problematic	
	_ayer (if observe	ed):								
ype:					_		Hydric	soil presen	t? <u>Y</u>	
Depth (inche	s):				_					
Remarks:										
Vetland Hy	drology Indicato									
Vetland Hyd Primary Indic	drology Indicato		required; check	•			S	=	dicators (minimum	of two required
Vetland Hyd Primary Indic Surface \	drology Indicato cators (minimum o Water (A1)		required; check	Aquatic	Fauna (B		<u>§</u>	Surface S	Soil Cracks (B6)	of two required
Vetland Hyd Primary Indic Surface \ X High Wa	drology Indicato cators (minimum o Water (A1) ter Table (A2)		required; check	Aquatic True Aq	Fauna (B uatic Plan	ts (B14)	•	Surface S Drainage	Soil Cracks (B6) Patterns (B10)	
Vetland Hyd Primary Indic Surface \	drology Indicato cators (minimum o Water (A1) ter Table (A2) n (A3)		required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plan en Sulfide	ts (B14) Odor (C1	)	Surface S Drainage Dry-Seas	Soil Cracks (B6)	
Primary Indic Surface \ X High Wat Saturatio Water Ma	drology Indicato cators (minimum o Water (A1) ter Table (A2) n (A3)		required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plan en Sulfide	ts (B14) Odor (C1	•	Surface S Drainage Dry-Seas Crayfish	Soil Cracks (B6) Patterns (B10) son Water Table (C	2)
Primary Indice Surface Note   X High War Saturation Water Mater Mater Mater   Sedimen Drift Dep	drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		required; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plan en Sulfide	ts (B14) Odor (C1 heres on	) Living Roots	Surface S Drainage Dry-Seas Crayfish Saturatio	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants	2) Imagery (C9)
Primary Indice Surface Note   X High War Saturatio Water Mater Mater Mater   Sedimen Drift Dep Algal Mater Mater Mater   Algal Mater Mater Mater   Algal Mater Mater Mater   Algal Mater Mater   Algal Mater Mater   Algal Mater	cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend	Fauna (B uatic Plan en Sulfide d Rhizosp	ts (B14) Odor (C1 heres on	) Living Roots (C4)	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2)	2) Imagery (C9)
Surface \ Surface \ X High War Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo	cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	of one is	- - -	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	Fauna (B uatic Plan en Sulfide d Rhizosp ce of Redu Iron Redu	ots (B14) Odor (C1 heres on aced Iron ction in T	) Living Roots (C4)	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants	2) Imagery (C9)
Primary Indic Surface N X High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatio	cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu	Fauna (B uatic Plan en Sulfide d Rhizosp ce of Redu Iron Redu	ots (B14) Odor (C1 heres on liced Iron ction in T	) Living Roots (C4)	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2)	2) Imagery (C9)
Vetland Hyderimary Indicators Surface Note   X High Water Mater Ma	cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	of one is I Imagery ve Surface	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (Canter)	Fauna (B uatic Plan en Sulfide d Rhizosp ce of Redu Iron Redu	odor (C1) heres on ced Iron ction in T e (C7) ta (D9)	) Living Roots (C4) illed Soils	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2)	2) Imagery (C9)
Primary Indic Surface N X High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatic Sparsely	drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9)	of one is I Imagery ve Surface	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (Canter)	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu ack Surfac or Well Da	odor (C1) heres on ced Iron ction in T e (C7) ta (D9)	) Living Roots (C4) illed Soils	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2)	2) Imagery (C9)
Vetland Hyden Primary Indice Surface Note   X High Water Maren Drift Dependent Maren Dep	drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9) vations:	of one is I Imagery ve Surface	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (Canter)	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu ack Surfac or Well Da	ts (B14) Odor (C1 heres on ced Iron ction in T e (C7) ta (D9) Remarks	) Living Roots (C4) illed Soils	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2)	2) Imagery (C9)
Surface Nater Algal Mater Sparsely Water-Strield Observators  Wetland Hydrox Surface Nater Mater Table p	drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) to Deposits (B2) osits (B3) to r Crust (B4) osits (B5) on Visible on Aeria Vegetated Concarined Leaves (B9) vations: er present?	I Imagery ve Surface Yes Yes	(B7)ce (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C	Fauna (B uatic Plan en Sulfide d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in I	ts (B14) Odor (C1 heres on ced Iron ction in T e (C7) tta (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2) Itral Test (D5)	2) Imagery (C9) (D1)
Surface Nater May Sedimen Drift Dep Inundation Sparsely Water-Strield Observised Sediment Surface water table particular Sediment Surface water Sediment Sediment Sparsely Water-Strield Observised Sediment Sediment Sediment Sediment Sediment Sediment Surface water Sediment Sediment Surface water Sediment Sediment Sediment Surface water Sediment Sediment Surface Sediment Surface Sediment Surface Sediment Surface Sediment Surface Sediment Surface Surfac	drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) to Deposits (B2) osits (B3) to r Crust (B4) osits (B5) on Visible on Aeria Vegetated Concarined Leaves (B9) vations: er present?	I Imagery ve Surfac	/ (B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C	Fauna (B uatic Plan en Sulfide d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in I	ts (B14) Odor (C1 heres on ced Iron ction in T e (C7) tta (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C Burrows (C8) In Visible on Aerial or Stressed Plants Ohic Position (D2) Itral Test (D5)	2) Imagery (C9) (D1)

Groundwater fed wetland

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/17/15
Applicant/Owner:	<del>-</del>	State:	IN	Sampling Point:	Upland 5
Investigator(s): Anna Hochhalter and Scott Beckmey	er	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameWatseka silt loam			NWI (	Classification:	None
Are climatic/hydrologic conditions of the site typical fo	or this time c	of the year?	(I	If no, explain in remarks)	
Are vegetation , soil , or hydrol	logy	significantly	disturbed?	Are "normal circun	nstances"
Are vegetation , soil , or hydrol	logy	naturally pro	oblematic?	,	present?
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N	<u> </u>	Is the sa	ampled area	a within a wetland?	N
Indicators of wetland hydrology present?	<u> </u>	If yes, op	otional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate r	enort.)			
	10000	<b>JP</b> 3. 1.,			
VEGETATION Use scientific names of plan	nts.				
71011111111	Absolute	Dominant	Indicator	Dominance Test Worksh	 leet
<u>Tree Stratum</u> (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie	
1 alianthus altissima	20	Y		that are OBL, FACW, or FAC	
2 caltalpa speciosa	20	Υ		Total Number of Dominar	nt
3				Species Across all Strata	a: (B)
4				Percent of Dominant Specie	
5		T (-1 Cayon		that are OBL, FACW, or FAC	C: 37.50% (A/B)
Carling/Chrub atratum (Plot size:	. 40	= Total Cover		Prevalence Index Works	haat
Sapling/Shrub stratun (Plot size:)  1 rhamnus frangula	) 10	Υ		Total % Cover of:	neei
2 acer negundo	5	<u> </u>	FAC		1 = 0
3 ulmus species	5	<u> </u>			2 = 176
4				· —	3 = 15
5				FACU species 20 x	4 = 80
	20	= Total Cover		· —	5 = 0
Herb stratum (Plot size:)	į.			Column totals 113 (A	· — · · ·
1 poa palustris	80	<u>Y</u>	FACW	Prevalence Index = B/A =	2.40
2 solidago altissima	20	<u>Y</u>	FACU		
3				Hydrophytic Vegetation	
4				Rapid test for hydroph Dominance test is >50	-
6				X Prevalence index is ≤3	
7				<del></del>	
8				Morphogical adaptatio supporting data in Rer	**
9				separate sheet)	numo or on a
10				Problematic hydrophy	tic vegetation*
	100	= Total Cover		(explain)	-
Woody vine stratum (Plot size:)	,			*Indicators of hydric soil and we	etland hydrology must be
1 vitis riparia	8	<u> </u>	FACW	present, unless disturbe	ed or problematic
2	8	= Total Cover		Hydrophytic vegetation	
	U ·	- TUlai Covci		present? Y	_
Remarks: (Include photo numbers here or on a separ	rate sheet)				

Profile Desc		_							mpling Point: Upland 5
	ription: (Descri	be to the				indicato	r or confirm t	ne absence	of indicators.)
Depth	Matrix	0/		edox Feat		1++	T		Damada
(Inches)	Color (moist)	%	Color (moist)	<u> </u>	Type*	Loc**	Textu	-	Remarks
1 - 10	10YR 4/1	100					Loamy Sand		No observed redo features
10 - 25+	2.5Y 2.5/1	100					Loamy Sand	l	No observed redo features
*T 0 - 0	Name and the state of the state	Danistis	n DM – Dadus	a al Nantuiro	MC - M		and Oneine	**!	DI - Daga Lining M - Matrix
	concentration, D =	Depletio	n, RIVI = Reduc	ed Matrix	, IVIS = IVI	asked Sa			PL = Pore Lining, M = Matrix matic Hydric Soils:
•	isol (A1)		9.	indy Gley	ad Matriy	(\$4)			ox (A16) (LRR K, L, R)
	ic Epipedon (A2)			indy Gley		(34)			(LRR K, L)
	ck Histic (A3)			ripped Ma	. ,				or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4	<b>.</b> )		amy Muc	. ,	al (F1)			Masses (F12) ( <b>LRR K, L, R</b> )
	tified Layers (A5)	-		amy Gley	-			_	k Surface (TF12)
	n Muck (A10)		De	pleted Ma	atrix (F3)	, ,		(explain in i	
Dep	leted Below Dark	Surface	(A11) Re	dox Dark	Surface	(F6)			
	ck Dark Surface (A	,		pleted Da			*Indica	tors of hydro	ophytic vegetation and weltand
San	dy Mucky Minera	l (S1)	Re	edox Depr	essions (	F8)	hydro	logy must be	e present, unless disturbed or
									problematic
Restrictive L	Layer (if observe	ed):							
Туре:					_		Hydric	soil present	? N
Depth (inche	es):				- -				
Remarks:									
Watseka	loamy fine sar	ıd							
	indicators								
,									
	\ <b>^</b> \/								
HYDROLO	JGY								
	drology Indicato	rs:							
<b>Wetland Hyd</b> Primary Indic	drology Indicato		equired; check	all that ap	oply)		<u>Se</u>	condary Ind	icators (minimum of two required
Wetland Hyd Primary Indic Surface \	drology Indicato cators (minimum o Water (A1)		equired; check	Aquatic	Fauna (B	,	Se	Surface S	oil Cracks (B6)
Wetland Hyd Primary Indic Surface \ High Wat	drology Indicato cators (minimum o Water (A1) ter Table (A2)		equired; check	Aquatic True Aq	Fauna (B uatic Plan	its (B14)	_	Surface S Drainage	oil Cracks (B6) Patterns (B10)
Wetland Hyd Primary Indic Surface \ High Wat Saturatio	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3)		equired; check	Aquatic True Aq Hydroge	Fauna (B uatic Plan en Sulfide	its (B14) Odor (C1	)	Surface S Drainage Dry-Seas	oil Cracks (B6) Patterns (B10) on Water Table (C2)
Wetland Hyd Primary Indic Surface \ High Wat Saturatio Water Ma	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1)		equired; check	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plan en Sulfide	its (B14) Odor (C1	_	Surface S Drainage Dry-Seas Crayfish B	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)
Wetland Hyd Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen	drology Indicato cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)		equired; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plan en Sulfide d Rhizosp	its (B14) Odor (C1 heres on	) Living Roots	Surface S Drainage Dry-Seas Crayfish E Saturation	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
Wetland Hyd Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1)		equired; check	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (B uatic Plan en Sulfide	ots (B14) Odor (C1) heres on	) Living Roots (C4)	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)
Wetland Hyd Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5)	of one is I		Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu	ots (B14) Odor (C1 heres on uced Iron ction in T	) Living Roots (C4)	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1)
Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio	drology Indicators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) cosits (B3) to r Crust (B4) cosits (B5) on Visible on Aeria	of one is r	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu ck Surfac	ots (B14) Odor (C1) heres on uced Iron ction in T	) Living Roots (C4)	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) o Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Depc Inundatic Sparsely	drology Indicators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) posits (B3) to Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca	of one is r I Imagery ve Surface	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (C)	Fauna (Buatic Planen Sulfide di Rhizosphe of Redulron Reduck Surfacor Well Da	ots (B14) Odor (C1) heres on uced Iron ction in T e (C7) uta (D9)	) Living Roots  (C4)  illed Soils	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) o Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Primary Indic Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo Inundatic Sparsely Water-St	drology Indicator cators (minimum of 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	of one is r I Imagery ve Surface	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (C)	Fauna (B uatic Plan en Sulfide d Rhizosp ee of Redu Iron Redu ck Surfac	ots (B14) Odor (C1) heres on uced Iron ction in T e (C7) uta (D9)	) Living Roots  (C4)  illed Soils	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) o Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Primary Indic Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St Field Observ	drology Indicators (minimum of 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) vations:	of one is r I Imagery ve Surface	(B7) e (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C	Fauna (Buatic Planen Sulfided Rhizospee of Redulation Reduck Surfacor Well Dasspenie Regulation In I	ots (B14) Odor (C1) heres on uced Iron ction in T e (C7) hta (D9) Remarks	) Living Roots  (C4)  illed Soils	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) o Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Primary Indice Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo Inundatio Sparsely Water-St Field Observ Surface water	drology Indicators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) oosits (B3) to Crust (B4) oosits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations:	I Imagery ve Surface	(B7) (B8) No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge of Other (E	Fauna (Buatic Planen Sulfided Rhizospee of Redulation Reducts Surfactor Well Dates Depth (i	odor (C1) heres on liced Iron ction in T le (C7) hta (D9) Remarks)	) Living Roots  (C4)  illed Soils	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp FAC-Neu	soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2) tral Test (D5)
Wetland Hyd Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St Field Observ Surface water	drology Indicators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) oosits (B3) to Crust (B4) oosits (B5) on Visible on Aeria vegetated Concatained Leaves (B9) vations: er present?	I Imagery ve Surface	(B7) ————————————————————————————————————	Aquatic True Aq Hydroge Oxidizer (C3) Present (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Planen Sulfide di Rhizospe e of Redulron Reduck Surfacer Well Da Explain in Depth (in Depth (in Depth (in Surfacer Personal	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) hta (D9) Remarks) nches): nches):	) Living Roots  (C4)  illed Soils	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp FAC-Neu	ioil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2) tral Test (D5)
Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Depc Inundatic Sparsely	drology Indicators (minimum of water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) osits (B3) to r Crust (B4) osits (B5) on Visible on Aeria vegetated Concatained Leaves (B9) vations:  er present?  resent?	I Imagery ve Surface	(B7) (B8) No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge of Other (E	Fauna (Buatic Planen Sulfided Rhizospee of Redulation Reducts Surfactor Well Dates Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) hta (D9) Remarks) nches): nches):	) Living Roots  (C4)  illed Soils	Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o Geomorp FAC-Neu	soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2) tral Test (D5)

No observed hydrology

Project/Site NICTD West Lake Corridor	City/	City/County: Lak		nty Sampling Date: 9/15/15			
Applicant/Owner:	<del>-</del>	State: IN		Sampling Point: Wetland 5			
Investigator(s): Anna Hochhalter and Scott Beckmey	/er	Section, Township, Range:					
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none):					
Slope (%):		Long: Datum:					
Soil Map Unit NameWatseka silt loam		NWI Classification:					
Are climatic/hydrologic conditions of the site typical for	or this time o	of the year?	(1	f no, explain in remarks)			
Are vegetation , soil , or hydrol	logy	significantly	disturbed?	Are "normal circumstances"			
Are vegetation , soil , or hydrol		naturally pro	oblematic?	present?			
SUMMARY OF FINDINGS	<u></u>			(If needed, explain any answers in remarks.)			
Hydrophytic vegetation present? Y							
Hydric soil present? Y	_ [	Is the sa	ampled area	a within a wetland?			
Indicators of wetland hydrology present? Y	<u> </u>	If yes, or	otional wetlar	nd site ID:			
Remarks: (Explain alternative procedures here or in a	- L a senarate r	enort )					
I Contains (Explain and End of	10000.	<b>Jpo</b> ,					
VEGETATION Use scientific names of plan	nts.						
	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)			
3				Total Number of Dominant Species Across all Strata: 4 (B)			
4				Percent of Dominant Species			
5				that are OBL, FACW, or FAC: 100.00% (A/B			
	0	= Total Cover					
Sapling/Shrub stratur (Plot size:)	10	V	-40	Prevalence Index Worksheet			
1 populus deltoides 2 acer negundo	<u>10</u> 5	· <del>Y</del>	FAC FAC	Total % Cover of:  OBL species 10 x 1 = 10			
3 fraxinus pennsylvanica	5	<u> </u>	FACW	FACW species 100 x 2 = 200			
4 salix eriocephala	2		FACW	FAC species 15 x 3 = 45			
5				FACU species 0 x 4 = 0			
	22	= Total Cover		UPL species 0 x 5 = 0			
Herb stratum (Plot size:)	)			Column totals 125 (A) 255 (B)			
1 phragmites australis	75	Υ	FACW	Prevalence Index = B/A = 2.04			
2 bidens cernua	10	N	OBL				
3 juncus torreyi	5	N	FACW	Hydrophytic Vegetation Indicators:			
4 juncus dudleyi	5	N	FACW	Rapid test for hydrophytic vegetation			
5 elymus virginicus	5	N	FACW	X Dominance test is >50%			
6				X Prevalence index is ≤3.0*			
8				Morphogical adaptations* (provide			
9				supporting data in Remarks or on a separate sheet)			
10		<del></del> ·		Problematic hydrophytic vegetation*			
	100	= Total Cover	<del></del>	(explain)			
Woody vine stratum (Plot size:	)			*Indicators of hydric soil and wetland hydrology must			
1 vitis riparia	3		FACW	present, unless disturbed or problematic  Hydrophytic			
	3	= Total Cover	,	vegetation present?			
Remarks: (Include photo numbers here or on a separ	rate sheet)						
Nemarks. (molude prioto numboro noto or on a sopa.	ale silect,						

	ription: (Descri	be to th	e depth need	ed to docu	ıment the	indicato	or or confirm th	ne absence o	of indicators.)
Depth	Matrix			Redox Fe		maioaio		10 42001100 (	o. maioatoro.,
(Inches)	Color (moist)	%	Color (mois		Type*	Loc**	Textu	re	Remarks
0 - 10	2.5YR 5/2	90	2.5YR 5/6	<del></del>	RM	М	Silt Loam		
0 .0	6/10 Y	7					Silt Loam		Gley
10 - 20	10YR 4/1	95	7YR 5/8	5	RM	М	Sandy Clay I	Loom	Cicy
	10114/1	95	711376	3	KIVI	IVI	Salidy Clay I	LUaiii	Deale
20+									Rock
*Type: C = C	oncentration, D =	Depleti	on, RM = Red	iced Matri	x, MS = M	asked Sa	and Grains.	**Location: I	PL = Pore Lining, M = Matrix
	il Indicators:	•						for Problem	natic Hydric Soils:
Hist	isol (A1)		:	Sandy Gle	yed Matrix	(S4)	Coast	Prairie Redo	ox (A16) ( <b>LRR K, L, R</b> )
Hist	ic Epipedon (A2)			Sandy Red		, ,	—— Dark S	Surface (S7)	(LRR K, L)
	k Histic (A3)			Stripped M			5 cm I	Mucky Peat o	or Peat (S3) (LRR K, L, R)
— Hyd	rogen Sulfide (A4	.)		_oamy Mu	cky Minera	al (F1)	Iron-M	Manganese M	lasses (F12) (LRR K, L, R)
Stra	tified Layers (A5)			oamy Gle	yed Matrix	k (F2)	Very S	Shallow Dark	Surface (TF12)
2 cn	n Muck (A10)		X	Depleted N	latrix (F3)		— Other	(explain in re	emarks)
Dep	leted Below Dark	Surface	(A11)	Redox Dar	k Surface	(F6)			
Thic	k Dark Surface (A	<b>A12</b> )		Depleted D	ark Surfa	ce (F7)	*Indica	tors of hydro	phytic vegetation and weltand
San	dy Mucky Minera	l (S1)		Redox Dep	ressions (	(F8)			present, unless disturbed or
								р	problematic
Restrictive I	_ayer (if observe	ed):							
	ock								
							Hydric s	soil present?	? Y
Depth (inche	s): 20				_		Hydric s	soil present?	? <u>Y</u>
	s): 20				<u> </u>		Hydric s	soil present?	? <u>Y</u>
Remarks:	<u> </u>	'No byo	Irio rotina)		<u> </u>		Hydric s	soil present?	? <u>Y</u>
Remarks:	s): 20 Soil: Watseka (	No hyc	Iric rating)		<u>-</u> -		Hydric s	soil present?	? <u>Y</u>
Remarks:	<u> </u>	No hyd	Iric rating)		<u>-</u>		Hydric s	soil present?	? <u>Y</u>
Remarks:	<u> </u>	No hyc	Iric rating)				Hydric s	soil present?	? <u>Y</u>
Remarks: Mapped	Soil: Watseka (	No hyc	Iric rating)				Hydric s	soil present?	? <u>Y</u>
Remarks: Mapped S	Soil: Watseka (		Iric rating)				Hydric s	soil present?	? <u>Y</u>
Remarks: Mapped S  HYDROLO Wetland Hyd	Soil: Watseka (  OGY  drology Indicato	rs:		ck all that a	apply)				
Remarks: Mapped S  HYDROLO  Wetland Hyde	Soil: Watseka (  OGY  drology Indicato cators (minimum o	rs:				13)		condary Indic	cators (minimum of two required
Remarks: Mapped S  HYDROLO  Wetland Hyd  Primary Indic  Surface N	Soil: Watseka (  OGY  drology Indicato cators (minimum of Water (A1)	rs:		Aquati	c Fauna (B			condary India Surface Sc	
Remarks: Mapped S  HYDROLO  Wetland Hyd  Primary Indic  Surface N	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2)	rs:		Aquati True A	c Fauna (B quatic Plar	nts (B14)	Se	condary India Surface So	cators (minimum of two required bil Cracks (B6) Patterns (B10)
Remarks: Mapped S  HYDROLO Wetland Hyd Primary India Surface N  High Wat	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3)	rs:		Aquati True A Hydrog	c Fauna (B quatic Plar gen Sulfide	nts (B14) Odor (C1	<u>Se</u>	condary Indic Surface Sc Drainage F Dry-Seaso	cators (minimum of two required
HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturatio Water Ma	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3)	rs:		Aquati True A Hydrog	c Fauna (B quatic Plar gen Sulfide	nts (B14) Odor (C1	Se	condary Indio Surface So Drainage F Dry-Seaso Crayfish B	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8)
HYDROLO Wetland Hyd Primary India Surface V High Wat X Saturatio Water Ma Sedimen	Soil: Watseka ( DGY  drology Indicato eators (minimum of Nater (A1) ter Table (A2) in (A3) arks (B1)	rs:		Aquati True A Hydrog Oxidize (C3)	c Fauna (B quatic Plar gen Sulfide	nts (B14) Odor (C1 heres on	Se ) Living Roots	Surface So Drainage F Dry-Seaso Crayfish B Saturation	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2)
HYDROLO Wetland Hyd Primary India Surface V High Wat X Saturatio Water Ma Sedimen Drift Dep	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	rs:		Aquati True A Hydrog Oxidize (C3) Preser	c Fauna (B quatic Plar gen Sulfide ed Rhizosp	nts (B14) Odor (C1 heres on uced Iron	Se ) Living Roots	condary Indic Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) currows (C8) Visible on Aerial Imagery (C9)
HYDROLO Wetland Hyd Primary India Surface \( \) High Wat X Saturatio Water Ma Sedimen Drift Dep Algal Ma	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3)	rs:		Aquati True A Hydrog Oxidize (C3) Preser	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu	nts (B14) Odor (C1 heres on uced Iron	Se ) Living Roots	condary India Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C9)
HYDROLO Wetland Hyd Primary India Surface N High Wat X Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo	Soil: Watseka ( DGY  drology Indicato cators (minimum of Mater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	rs: of one is	required; ched	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu t Iron Redu uck Surfac	ots (B14) Odor (C1 wheres on uced Iron uction in T	Se ) Living Roots	condary India Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C9) Stressed Plants (D1) nic Position (D2)
HYDROLO Wetland Hyd Primary Indio Surface N High Wat X Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep- Inundatio	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	rs: of one is	required; chec	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu t Iron Redu	ots (B14) Odor (C1 wheres on uced Iron uction in T	Se ) Living Roots	condary India Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C9) Stressed Plants (D1) nic Position (D2)
Remarks: Mapped S  HYDROLO  Wetland Hyd  Primary Indio Surface V  High Wat  X Saturatio Water Ma  Sedimen Drift Dep Algal Ma Iron Depr Inundatio Sparsely	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria	rs: of one is	required; chec	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M Gauge	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu t Iron Redu uck Surfac	ots (B14) Odor (C1 wheres on uced Iron uction in T ee (C7) ata (D9)	Se  Living Roots  (C4)  illed Soils	condary India Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C9) Stressed Plants (D1) nic Position (D2)
Remarks: Mapped S  HYDROLO Wetland Hyd Primary Indio Surface N High War X Saturatio Water May Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St	Soil: Watseka ( DGY  drology Indicato eators (minimum of Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concar ained Leaves (B9)	rs: of one is	required; chec	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M Gauge	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu I Iron Redu uck Surfac or Well Da	ots (B14) Odor (C1 wheres on uced Iron uction in T ee (C7) ata (D9)	Se  Living Roots  (C4)  illed Soils	condary India Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C9) Stressed Plants (D1) nic Position (D2)
Remarks: Mapped S  HYDROLO Wetland Hyd Primary Indic Surface N High War X Saturatio Water May Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St  Field Obsert Surface water	Soil: Watseka ( DGY  drology Indicato eators (minimum of Nater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concar ained Leaves (B9) vations: er present?	rs: of one is I Imagery ve Surface	required; chec	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M Gauge Other	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu t Iron Redu uck Surfac or Well Da Explain in	ots (B14) Odor (C1 wheres on uced Iron uction in T ee (C7) ata (D9) Remarks	Se  Living Roots  (C4)  illed Soils	Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph FAC-Neutr	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) eurrows (C8) Visible on Aerial Imagery (C9) et Stressed Plants (D1) hic Position (D2) ral Test (D5)
Remarks: Mapped S  HYDROLO Wetland Hyde Surface V High Wat X Saturatio Water May Sedimen Drift Dep Algal Ma Iron Depi Inundatio Sparsely Water-St  Field Observ Surface water Water table p	Soil: Watseka ( DGY  drology Indicato cators (minimum of Water (A1) ter Table (A2) in (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? oresent?	rs: of one is I Imagery ve Surface Yes Yes	required; chec	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M Gauge Other  X X	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu tron Redu uck Surfac or Well Da Explain in	ots (B14) Odor (C1 wheres on uced Iron uction in T ee (C7) ata (D9) Remarks inches):	Se  Living Roots  (C4)  illed Soils	Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph FAC-Neutr	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C9) Stressed Plants (D1) hic Position (D2) ral Test (D5)
Remarks: Mapped S  HYDROLO Wetland Hyd Primary Indic Surface N High War X Saturatio Water May Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St  Field Obsert Surface water	GGY drology Indicato cators (minimum of Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeria Vegetated Conca ained Leaves (B9) vations: er present? oresent?	rs: of one is I Imagery ve Surface	required; chec - - - - (B7) ce (B8)	Aquati True A Hydrog Oxidize (C3) Preser Recen (C6) Thin M Gauge Other  X X	c Fauna (B quatic Plar gen Sulfide ed Rhizosp ace of Redu t Iron Redu uck Surfac or Well Da Explain in	ots (B14) Odor (C1 wheres on uced Iron uction in T ee (C7) ata (D9) Remarks inches):	Se  Living Roots  (C4)  illed Soils	Surface So Drainage F Dry-Seaso Crayfish B Saturation Stunted or Geomorph FAC-Neutr	cators (minimum of two required bil Cracks (B6) Patterns (B10) on Water Table (C2) eurrows (C8) Visible on Aerial Imagery (C9) et Stressed Plants (D1) hic Position (D2) ral Test (D5)

Investigator(s): Anna Hochhalter and Scott Beckmeyer  Landform (hillslope, terrace, etc.):  Lat:  Long:  Datum:  Soli Map Unit Name/Waseka sitty clay loam  Are climatic/hydrologic conditions of the site typical for this time of the year?  Are vegetation  Soli Map Unit Name/Waseka sitty clay loam  Are climatic/hydrologic conditions of the site typical for this time of the year?  (If no, explain in remarks)  Are "normal circumstances"  present?  SUMMARY OF FINDINGS  Hydrophytic vegetation present?  Hydrophytic vegetation present?  Hydrophytic vegetation present?  Indicators of wetland hydrology 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.  VEGETATION Use scientification immarks.  N  Indicator Sunhard Reveal and North Reveal	Project/Site NICTD West Lake Corridor	City/0	City/County: Lake Co		nty Sampling Date:	9/17/15			
Landform (hillslope, terrace, etc.):  Lat:  Long:  Datum:  Soli Map Unit NameWaseka silty clay loam  NWI Classification:  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  Inaturally problematic?  SUMMARY OF FINDINGS  Hydrophytic vegetation present?  Hydric soil present?  Indicators of wetland hydrology present?  N  If yes, optional wetland site ID:  WEGETATION Use scientific names of plants.  VEGETATION Use scientific names of plants.  VI name saturally problematic?  Are "normal circumstances"  Are "normal circumstances	Applicant/Owner:	<b>-</b>	State: IN		Sampling Point:	Upland 6			
Soil Map Unit NameWaseka silty clay loam	Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section, Township, Range:						
Soil Map Unit NameWaseka silty clay loam	Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none):						
Are climatic/hydrologic conditions of the site typical for this time of the year?	Slope (%): Lat:		Long:		Datum:				
Are vegetation, soil, or hydrology	Soil Map Unit NameWaseka silty clay loam			NWI	Classification:	none			
Are vegetation, soil, or hydrology	Are climatic/hydrologic conditions of the site typical for t	this time of	f the year?	(I	If no, explain in remarks)				
Are vegetation soil or hydrology naturally problematic? (If needed, explain any answers in remarks.)  Hydrophytic vegetation present? Y Hydric soil present? N Is the sampled area within a wetland? N If yes, optional wetland site ID:  Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.  Tree Stratum (Plot size: )	Are vegetation, soil, or hydrolog	gy	significantly	disturbed?	Are "normal circu	mstances"			
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Indicators of wetland hydrology present?    N	Are vegetation , soil , or hydrolog	gy							
Hydric soil present?   N	SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)			
Indicators of wetland hydrology present? N If yes, optional wetland site ID:    Remarks: (Explain alternative procedures here or in a separate report.)    VEGETATION Use scientific names of plants.	Hydrophytic vegetation present?								
Number of Dominant Species that are OBL, FACW, or FAC: 3 (A/B)	Hydric soil present? N		Is the sa	impled area	a within a wetland?	N			
VEGETATION Use scientific names of plants.           Tree Stratum         (Plot size:	Indicators of wetland hydrology present? N		If yes, opf	tional wetlar	nd site ID:	<u> </u>			
VEGETATION Use scientific names of plants.           Tree Stratum         (Plot size:	Remarks: (Explain alternative procedures here or in a s	separate re	eport.)						
Absolute   Dominant   Indicator   Species   Staus		•	Γ,						
Absolute   Dominant   Indicator   Species   Staus   Staus   Number of Dominant   Species   that are OBL, FACW, or FAC:   3   (A)									
Absolute   Dominant   Indicator   Species   Staus     1   alianthus altissima   20   Y   FACU     2   catalpa speciosa   20   Y   FACU     3     4     5       5     5     1   Indicator   Species   Staus     1   alianthus altissima   20   Y   FACU     2   catalpa speciosa   20   Y   FACU     4     5	VEGETATION Use scientific names of plants	is.							
Tree Stratum         (Plot size:	· ·		Dominant	Indicator	Dominance Test Works	heet			
2 catalpa speciosa       20       Y       FACU       Total Number of Dominant Species Across all Strata:       8       (B)         4       Percent of Dominant Species that are OBL, FACW, or FAC:       37.50% (A/B)         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	\	% Cover	Species	Staus	Number of Dominant Speci	ies			
Species Across all Strata:   8   (B)					that are OBL, FACW, or FA	،C: 3 (A)			
4         Percent of Dominant Species that are OBL, FACW, or FAC: 37.50% (A/B)           Sapling/Shrub stratum         (Plot size:		20	<u> </u>	FACU					
that are OBL, FACW, or FAC: 37.50% (A/B)           Sapling/Shrub stratum (Plot size: 1)						``			
40 = Total Cover           Sapling/Shrub stratum         (Plot size:									
Sapling/Shrub stratur         (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		40 =	Total Cover		lilatare ODE, i AOVV, or i A	.C. <u>37.30 ///</u> (A/D)			
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	Sapling/Shrub stratur (Plot size: )	-10	10101 00.0.		Prevalence Index Works	sheet			
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		10	Υ						
4 FAC species 5 x 3 = 15		5	Y	FAC	OBL species 0 x	(1 = 0			
	3 ulmus species	5	Υ		· —				
I = ACII = pariae A0  vA = 160	4				· —				
	5		<del></del>		· —				
<u>20</u> = Total Cover UPL species <u>0</u> x 5 = <u>0</u> Herb stratum (Plot size: ) Column totals 133 (A) 351 (B)	Lach stratum (Diot size:	20 =	- Lotal Cover						
	<u> </u>	20	V	E 4 C \		· — · ·			
1 poa palustris 80 Y FACW Prevalence Index = B/A = 2.64 2 solidago altissima 20 Y FACU			<u> </u>		Prevalence index - D/A -	<u> </u>			
3 Hydrophytic Vegetation Indicators:				1700	Hydrophytic Vegetation	Indicators:			
4 Rapid test for hydrophytic vegetation	4								
5 Dominance test is >50%	5								
6 X Prevalence index is ≤3.0*	6				X Prevalence index is ≤	£3.0*			
7 Morphogical adaptations* (provide	_ · ·				Morphogical adaptati	ons* (provide			
8 supporting data in Remarks or on a						emarks or on a			
9 separate sheet)					l <del></del> '				
10 Problematic hydrophytic vegetation*  100 = Total Cover (explain)		100 :	Total Cover			ytic vegetation*			
Woody vine stratum (Plot size:	Woody vine stratum (Plot size:	100	· Total Gove.		<del></del>				
1 vitis riparia		8	Υ	FACW	-				
2 Hydrophytic					· ·				
8 = Total Cover vegetation		8 =	- Total Cover		_				
present? Y					present? Y	_			
Remarks: (Include photo numbers here or on a separate sheet)	Remarks: (Include photo numbers here or on a separate	e sheet)							

Drofila Doca									impling Point:	Upland 6
	ription: (Descri	be to th				indicato	r or confirm th	ne absence	of indicators.)	
Depth (Inches)	Matrix	%	Color (moist)	edox Feat %		Loc**	Textu	ro	Rema	arko
	Color (moist) 10YR 4/1		Color (moist)	70	Type*	LUC			No observed red	
1 - 10		100					Loamy Sand			
10 - 25+	2.5Y 2.5/1	100					Loamy Sand		No observed red	do features
Type: C = C	oncentration, D =	Depleti	on, RM = Reduc	ed Matrix	, MS = Ma	asked Sa	nd Grains.	**Location	: PL = Pore Lining	M = Matrix
	il Indicators:	•	·		-				ematic Hydric Soi	
Histi	isol (A1)		S	andy Gley	ed Matrix	(S4)	Coast	Prairie Red	dox (A16) ( <b>LRR K</b> ,	L, R)
Histi	ic Epipedon (A2)		S	andy Redo	ox (S5)				) (LRR K, L)	
	ck Histic (A3)			ripped Ma	, ,			-	or Peat (S3) ( <b>LRF</b>	
	rogen Sulfide (A4	•		amy Muc	-	. ,		-	Masses (F12) ( <b>LR</b>	R K, L, R)
	tified Layers (A5)	1		amy Gley		(F2)			k Surface (TF12)	
	n Muck (A10)	Curfoso		epleted Ma	` ,	(EC)	Other	(explain in	remarks)	
	leted Below Dark k Dark Surface (/			edox Dark epleted Da			ما المام المام		l C C - C -	
	dy Mucky Minera	•		edox Depi			*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or			
	dy Maoky Miliora	. (01)	<u>—</u> '`	очох ворі	(	. 0)	riyaro		problematic	disturbed of
Dootriotivo I	Layer (if observe	۵۱.							<u> </u>	
restrictive i Type:	Layer (II Observe	u).					Hydric	soil presen	t? N	
Depth (inche	s):				_		Tiyano s	on presen		
					_					
Remarks:	loomy fine con	d								
	loamy fine san indicators	iu								
NO Hydric	Hidicators									
HYDROLO	GY									
	drology Indicato	rs:								
-	cators (minimum		required; check	all that ar	(ylgc		Se	condary Inc	dicators (minimum	of two required
-	Water (A1)				Fauna (B	13)		=	Soil Cracks (B6)	
High Wat	ter Table (A2)				uatic Plan			Drainage	Patterns (B10)	
riigii vvai			<u> </u>	Hydroge	en Sulfide	Odor (C1	)		son Water Table (C	2)
Saturatio	arke (R1)				d Rhizosp	heres on	Living Roots		Burrows (C8)	(00)
Saturatio Water Ma	, ,							Saturation	n Visible on Aerial I	magery (C9)
Saturatio Water Ma Sedimen	t Deposits (B2)		_	_(C3)	o of Dodu	ood Iron	(C4)			D1)
Saturatio Water Ma Sedimen Drift Dep	t Deposits (B2) osits (B3)		_	Presence	ce of Redu		· · · —	Stunted of	or Stressed Plants (	D1)
Saturatio Water Ma Sedimen Drift Dep Algal Ma	t Deposits (B2)		<u>-</u>	Presence	ce of Redu Iron Redu		· · · —	Stunted of Geomorp		D1)
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo	t Deposits (B2) osits (B3) t or Crust (B4)	l Imagery		Present Recent (C6)		ction in T	· · · —	Stunted of Geomorp	or Stressed Plants ( whic Position (D2)	D1)
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)		· · ·	Present Recent (C6) Thin Mu	Iron Redu	ction in T e (C7)	· · · —	Stunted of Geomorp	or Stressed Plants ( whic Position (D2)	D1)
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria	ve Surfac	· · ·	Presence Recent (C6) Thin Mu Gauge	Iron Redu ick Surfac	ction in T e (C7) ta (D9)	illed Soils	Stunted of Geomorp	or Stressed Plants ( whic Position (D2)	D1)
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9) vations:	ve Surfac	ce (B8)	Presence Recent (C6) Thin Mu Gauge	Iron Redu ick Surfac or Well Da Explain in l	ction in T e (C7) ta (D9) Remarks)	illed Soils	Stunted of Geomorp	or Stressed Plants ( whic Position (D2)	D1)
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St Field Observ Surface water	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9) vations: er present?	ve Surfac	ce (B8)No	Presence Recent (C6) Thin Mu Gauge of Other (E	Iron Redu ick Surfac or Well Da Explain in I	ction in T e (C7) tta (D9) Remarks) nches):	illed Soils	Stunted of Geomorp	or Stressed Plants ( whic Position (D2) otral Test (D5)	
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St Field Observ Surface water	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9) vations: er present? oresent?	ve Surface Yes Yes	No No	Presence Recent (C6) Thin Mu Gauge of Other (E	Iron Redu ick Surfac or Well Da Explain in I Depth (i Depth (i	ction in T e (C7) tta (D9) Remarks) nches): nches):	illed Soils	Stunted of Geomorp FAC-Neu	or Stressed Plants ( whic Position (D2) otral Test (D5)	d
Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9) vations: er present? oresent?	ve Surfac	ce (B8)No	Presence Recent (C6) Thin Mu Gauge of Other (E	Iron Redu ick Surfac or Well Da Explain in I	ction in T e (C7) tta (D9) Remarks) nches): nches):	illed Soils	Stunted of Geomorp FAC-Neu	or Stressed Plants ( whic Position (D2) otral Test (D5)	d

No observed hydrology

Landform (hillslope, terrace, etc.):  Slope (%):  Lat:  Long:  NWI of the state of	nty Sampling Date: 9/15/15						
Local relief (concat   Concat   Conca	Sampling Point: Wetland 6						
Slope (%):	Section, Township, Range:						
Soil Map Unit Name Watseka silty clay loam	Local relief (concave, convex, none):						
Soil Map Unit NameWatseka silty clay loam	Datum:						
Are vegetation	NWI Classification:						
Are vegetation soil or hydrology naturally problematic?  SUMMARY OF FINDINGS  Hydrophytic vegetation present? Y Y Hydric soil present? Y Y If yes, optional wetland hydrology present? Y Y If yes, optional wetland hydrology present? Y Dominant Indicator Security Species Status Species Status Species Status Species Status Species Status Species Status Species Spe	f no, explain in remarks)						
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Indicators of wetland hydrology present? If yes, optional wetland reactive procedures here or in a separate report.)    VEGETATION Use scientific names of plants.    VEGETATION Use scientific names of plants.	Are "normal circumstances"						
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Indicators of wetland hydrology present? Indicators of wetland hydrology present? If yes, optional wetland reactive procedures here or in a separate report.)    VEGETATION Use scientific names of plants.    VEGETATION Use scientific names of plants.   VEGETATION	present?						
Hydric soil present?   Y	(If needed, explain any answers in remarks.)						
Indicators of wetland hydrology present? Y If yes, optional wetlant Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.  Tree Stratum (Plot size:) % Cover Species Staus 1 crataegus mollis 30 Y FAC 2 fraxinus pennsylvanica 30 Y FAC 4 5							
VEGETATION Use scientific names of plants.    Tree Stratum	a within a wetland?						
VEGETATION Use scientific names of plants.           Indicator Tree Stratum         (Plot size:	nd site ID:						
VEGETATION Use scientific names of plants.           Tree Stratum         (Plot size:							
Absolute   Dominant   Indicator   Species   Staus							
Tree Stratum         (Plot size:         )         % Cover species         Staus           1         crataegus mollis         30         Y         FAC           2         fraxinus pennsylvanica         5         N         FAC           4         -         -         -           5         -         N         FAC           4         -         -         -           5         -         Total Cover         -           Sapling/Shrub stratun         (Plot size:         )         1         fraxinus pennsylvanica         15         Y         FACW           2         ulmus americana         5         Y         FACW           3         crataegus mollis         5         Y         FACW           4         -         -         -         -         -           4         - <t< td=""><td></td></t<>							
1	Dominance Test Worksheet						
2 fraxinus pennsylvanica         30         Y         FACW           3 populus deltoides         5         N         FAC           4         5         N         FAC           5         N         FAC           5         N         FAC           Sapling/Shrub stratun (Plot size:	Number of Dominant Species						
3   populus deltoides   5   N   FAC	that are OBL, FACW, or FAC: 6 (A)						
Sapling/Shrub stratum (Plot size:   )	Total Number of Dominant Species Across all Strata: 6 (B)						
Sapling/Shrub stratum         (Plot size:         )           1 fraxinus pennsylvanica         15         Y         FACW           2 ulmus americana         5         Y         FACW           3 crataegus mollis         5         Y         FAC           4         5         25         =Total Cover           Herb stratum         (Plot size:         )         )         FACW           2 symphyotrichum lanceolatum         10         N         FAC           3 scutellaria lateriflora         10         N         OBL           4 bidens cernua         10         N         OBL           5 phragmites australis         5         N         FACW           6         7         8         9           10         85         =Total Cover           Woody vine stratum         (Plot size:         )	Percent of Dominant Species						
Sapling/Shrub stratum         (Plot size:         )           1 fraxinus pennsylvanica         15         Y         FACW           2 ulmus americana         5         Y         FACW           3 crataegus mollis         5         Y         FAC           4         5         25         =Total Cover           Herb stratum         (Plot size:         )         )         FACW           2 symphyotrichum lanceolatum         10         N         FAC           3 scutellaria lateriflora         10         N         OBL           4 bidens cernua         10         N         OBL           5 phragmites australis         5         N         FACW           6         7         8         9           10         85         =Total Cover           Woody vine stratum         (Plot size:         )	that are OBL, FACW, or FAC: 100.00% (A/B)						
Sapling/Shrub stratum         (Plot size:         )           1 fraxinus pennsylvanica         15         Y         FACW           2 ulmus americana         5         Y         FACW           3 crataegus mollis         5         Y         FAC           4         5         25         =Total Cover           Herb stratum         (Plot size:         )         )         FACW           2 symphyotrichum lanceolatum         10         N         FAC           3 scutellaria lateriflora         10         N         OBL           4 bidens cernua         10         N         OBL           5 phragmites australis         5         N         FACW           6         7         8         9           10         85         =Total Cover           Woody vine stratum         (Plot size:         )							
1         fraxinus pennsylvanica         15         Y         FACW           2         ulmus americana         5         Y         FACW           3         crataegus mollis         5         Y         FAC           4	Prevalence Index Worksheet						
3         crataegus mollis         5         Y         FAC           4         5         = Total Cover           Herb stratum         (Plot size:	Total % Cover of:						
25	OBL species 20 x 1 = 20						
Herb stratum	FACW species 105 x 2 = 210						
Herb stratum	FAC species 50 x 3 = 150						
Herb stratum	FACU species 0 x 4 = 0						
1         impatiens capensis         50         Y         FACW           2         symphyotrichum lanceolatum         10         N         FAC           3         scutellaria lateriflora         10         N         OBL           4         bidens cernua         10         N         OBL           5         phragmites australis         5         N         FACW           6         7         8         9           10         85         = Total Cover           Woody vine stratum         (Plot size:         )	UPL species $0 \times 5 = 0$						
2         symphyotrichum lanceolatum         10         N         FAC           3         scutellaria lateriflora         10         N         OBL           4         bidens cernua         10         N         OBL           5         phragmites australis         5         N         FACW           6         7         8         9         9           10         85         = Total Cover           Woody vine stratum         (Plot size:         )	Column totals 175 (A) 380 (B)						
3         scutellaria lateriflora         10         N         OBL           4         bidens cernua         10         N         OBL           5         phragmites australis         5         N         FACW           6         7         Image: Control of the	Prevalence Index = B/A = 2.17						
4         bidens cernua         10         N         OBL           5         phragmites australis         5         N         FACW           6	Hydrophytic Vegetation Indicators:						
5         phragmites australis         5         N         FACW           6         7	Rapid test for hydrophytic vegetation						
6	X Dominance test is >50%						
7 8 9 10 85 = Total Cover Woody vine stratum (Plot size:)	X Prevalence index is ≤3.0*						
9	Morphogical adaptations* (provide						
10	supporting data in Remarks or on a						
Woody vine stratum (Plot size:) = Total Cover	separate sheet)						
Woody vine stratum (Plot size:)	Problematic hydrophytic vegetation*						
	(explain)						
<del></del>	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic						
2	Hydrophytic vegetation						
0 = Total Cover	vegetation present? Y						
Demontra (Include phote numbers here or an a congrete cheet)							
Remarks: (Include photo numbers here or on a separate sheet)							

SOIL								S	ampling Point: Wetland 6
Profile Desc	cription: (Descri	be to the	e depth needed t	to docur	nent the	indicato	r or confirm	the absence	e of indicators.)
Depth	Matrix			dox Feat					,
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
0 - 9	5Y 2.5/1	100					Silty Clay I	Loam	
9 - 23+	5Y 4/2	97	10YR 6/8	3	RM	М	Silt Loam		
	-								
				-					
*Type: C = C	Concentration, D =	Depleti	on, RM = Reduce	d Matrix,	, MS = Ma	asked Sa	nd Grains.	**Location	: PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicato	ors for Probl	ematic Hydric Soils:
	isol (A1)				ed Matrix	(S4)			dox (A16) ( <b>LRR K, L, R</b> )
	ic Epipedon (A2)			ndy Redo				•	7) (LRR K, L)
	ck Histic (A3)			pped Ma	, ,			-	t or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4			-	ky Minera	. ,		_	Masses (F12) ( <b>LRR K, L, R</b> )
	tified Layers (A5)				ed Matrix	( (F2)		-	rk Surface (TF12)
	n Muck (A10) eleted Below Dark	Surface			atrix (F3) Surface	(E6)	Oth	er (explain in	remarks)
	ck Dark Surface (A				ark Surface	. ,	*ladi	aatara af bud	rouby tie vegetation and weltend
	dy Mucky Mineral	,			essions (				rophytic vegetation and weltand be present, unless disturbed or
	ay wasky willera	(01)		лох Ворг	(	. 0)	ilyu	rology must k	problematic
Doctrictive	Layer (if observe	d).				1			·
Type:	Layer (II observe	u).					Hydrid	c soil preser	at2 V
Depth (inche	is).		<del></del>		-		Hydri	c son preser	
Remarks:	0 - 1 - 1 - 1 - 1 - 1	N.I I	let a martter est						
Mapped	Soil: Watseka (	No nyo	ric rating)						
HYDROLO	)GY								
	drology Indicato	re•							
	cators (minimum o		required: check s	all that an	nly)			Secondary In	dicators (minimum of two required)
· ·	Water (A1)	or one is	-	-	י <u>איאי)</u> Fauna (B	13)	<u> </u>	-	Soil Cracks (B6)
	ter Table (A2)			. '	uatic Plan	,			e Patterns (B10)
Saturation					en Sulfide	, ,	)		son Water Table (C2)
	arks (B1)			Oxidized	d Rhizospl	heres on	Living Roots	Crayfish	Burrows (C8)
	t Deposits (B2)			(C3)					on Visible on Aerial Imagery (C9)
	osits (B3)			-	e of Redu				or Stressed Plants (D1)
	t or Crust (B4)				Iron Redu	ction in Ti	illed Soils		phic Position (D2)
	osits (B5) on Visible on Aerial	Imagen	(R7)	(C6)	ck Surfac	o (C7)		FAC-Ne	utral Test (D5)
	Vegetated Conca				or Well Da				
	tained Leaves (B9)			_	xplain in I		ı		
Field Obser	vations:			<u> </u>		<u> </u>			
Surface water		Yes	No	X	Depth (ii	nches):			
Water table	present?	Yes	No	X	Depth (ii	nches):		_	dicators of wetland
Saturation p		Yes	No	X	Depth (ii	nches):		h h	ydrology present? Y
(includes cap									
Describe rec	orded data (strea	m gauge	, monitoring well,	aerial pl	hotos, pre	evious ins	spections), if	available:	

Project/Site NICTD West Lake Corridor	_ City/0	County:	Lake Cour	nty Sampling Date:	9/17/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 7
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section	on, Township	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	re, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameWatseka loamy fine sand			NWI C	Classification:	none
Are climatic/hydrologic conditions of the site typical for t	this time o	f the year?	(l	f no, explain in remarks)	
Are vegetation, soil, or hydrolog	Jy	significantly	disturbed?	Are "normal circui	mstances"
Are vegetation , soil , or hydrolog	Jy	naturally pro	blematic?	-	present?
SUMMARY OF FINDINGS				(If needed, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	impled area	within a wetland?	N
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a se	eparate re	eport.)		<del></del>	
	•	,			
<b>VEGETATION</b> Use scientific names of plants	S.				
· · · · · · · · · · · · · · · · · · ·	Absolute	Dominant	Indicator	Dominance Test Worksl	heet
	% Cover	Species	Staus	Number of Dominant Specie	es
1 populus deltoides	10	<u> </u>	FAC	that are OBL, FACW, or FA	C: <u>3</u> (A)
2				Total Number of Domina	-
3				Species Across all Strat	``
				Percent of Dominant Specie	
	10 =	Total Cover		that are OBL, FACW, or FA	J: 100.00% (A/D)
Sapling/Shrub stratur (Plot size: )		* Total Gover		Prevalence Index Works	
1 salix interior	50	Υ	FACW	Total % Cover of:	nioc:
2					1 = 0
3				FACW species 60 x	2 = 120
4				·	3 = 30
5				· <u>—</u>	4 = 0
- (Diet size)	50 =	= Total Cover			5 = 0
Herb stratum (Plot size:)	40		5 4 O VA/		A) <u>150</u> (B)
1 phragmites australis	10	<u> </u>	FACW	Prevalence Index = B/A =	2.14
				Hydrophytic Vegetation	Indicators
			<del></del>	Rapid test for hydroph	
5				X Dominance test is >50	=
6				X Prevalence index is ≤	
7				Morphogical adaptation	ons* (provide
8				supporting data in Re	**
9				separate sheet)	
10		<del></del>		Problematic hydrophy	tic vegetation*
Weady vine stratum (Plot size:	10 =	= Total Cover		(explain)	
Woody vine stratum (Plot size:)  1				*Indicators of hydric soil and w present, unless disturb	
2				Hydrophytic	
	0 =	= Total Cover		vegetation present? Y	
Demander (la de da marta acombana hana a a a a a a a a a a				<u> </u>	
Remarks: (Include photo numbers here or on a separate	e sneet)				

SOIL								s	ampling Point:	Upland 7
Profile Desc	cription: (Descri	be to the	e depth needed	to docu	ment the	indicato	or or confirm	the absenc	e of indicators.)	
Depth	Matrix			dox Fea					1	
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	Rema	arks
1 - 10	10YR 4/1	100					Loamy Sar	nd	No observed re	do features
10 - 25+	2.5Y 2.5/1	100					Loamy Sar		No observed re	do features
				1			,			
				1						
				1		<u> </u>				
	Concentration, D =	= Depleti	on, RM = Reduce	ed Matrix	, MS = M	asked Sa			n: PL = Pore Lining	
	il Indicators:								ematic Hydric So	
	tisol (A1)				ed Matrix	(S4)			dox (A16) (LRR K,	, L, R)
	tic Epipedon (A2)			ndy Redo					7) ( <b>LRR K, L)</b>	
	ck Histic (A3)				atrix (S6)			-	it or Peat (S3) ( <b>LR</b> I	
	Irogen Sulfide (A4	•		-	ky Minera	. ,		_	Masses (F12) (LR	R K, L, R)
	atified Layers (A5)	)	Loa	amy Gley	ed Matrix	(F2)			rk Surface (TF12)	
	m Muck (A10)			•	atrix (F3)		Othe	er (explain in	remarks)	
	oleted Below Dark		· · ·		Surface	. ,				
	ck Dark Surface (A	,			ark Surfac		*Indic	ators of hyd	rophytic vegetation	and weltand
San	ndy Mucky Minera	l (S1)	Re	dox Depi	ressions (	(F8)	hydr	ology must l	present, unless problematic	disturbed or
Restrictive	Layer (if observe	ed):								
Type:							Hydric	soil preser	nt? N	
Depth (inche	es):				_					
Remarks:	•									
	loamy fine sar	nd								
	c indicators	iu								
i vo riyari	o indicators									
HYDROLO	OGY									
Wetland Hy	drology Indicato	rs:								
•	cators (minimum		required: check	all that a	(vlac		S	Secondary In	dicators (minimum	of two required
-	Water (A1)	0. 0		-	Fauna (B	13)	<u> </u>	-	Soil Cracks (B6)	or two roquirou
	iter Table (A2)				uatic Plar	,	-		e Patterns (B10)	
Saturation					en Sulfide		<u>-</u>		son Water Table (C	2)
	arks (B1)						Living Roots		Burrows (C8)	,
Sedimer	nt Deposits (B2)			(C3)	·		•	Saturation	on Visible on Aerial	Imagery (C9)
Drift Dep	oosits (B3)			Presend	ce of Redu	iced Iron	(C4)		or Stressed Plants	
Algal Ma	nt or Crust (B4)			Recent	Iron Redu	ction in T	illed Soils	Geomor	phic Position (D2)	
Iron Dep	osits (B5)			(C6)			-	FAC-Ne	utral Test (D5)	
Inundatio	on Visible on Aeria	l Imagery	(B7)	Thin Mu	ıck Surfac	e (C7)	-			
Sparsely	Vegetated Conca	ve Surfac	ce (B8)	Gauge	or Well Da	ata (D9)				
Water-S	tained Leaves (B9)	)	<u> </u>	Other (E	Explain in	Remarks	)			
Field Obser										
Surface water		Yes	No	X	Depth (i					
Water table	•	Yes	No	X	Depth (i				dicators of wetlar	
Saturation p		Yes	No	X	Depth (i	nches):		h	ydrology present	? <u>N</u>
(includes ca										
Describe rec	corded data (strea	ım gauge	e, monitoring well	, aerial p	hotos, pro	evious in	spections), if a	available:		
Remarks:										
r Ciliairto.										

No observed hydrology

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	inty Sampling Date: 9/17/15
Applicant/Owner:		State:	IN	Sampling Point: Wetland 7
Investigator(s): Anna Hochhalter and Scott Beckmey	/er	Sect	ion, Townshi	ip, Range:
Landform (hillslope, terrace, etc.):		Localı	relief (conca	ve, convex, none):
Slope (%):		Long:		Datum:
Soil Map Unit NameWatseka loamy fine sand			NWI	Classification:
Are climatic/hydrologic conditions of the site typical for	or this time o	of the year?	(	If no, explain in remarks)
Are vegetation , soil , or hydro	logy	significantly	disturbed?	Are "normal circumstances"
Are vegetation , soil , or hydro		naturally pr	oblematic?	present?
SUMMARY OF FINDINGS				(If needed, explain any answers in remarks.)
Hydrophytic vegetation present? Y				
Hydric soil present? Y		Is the s	ampled are	a within a wetland?
Indicators of wetland hydrology present? Y		If yes, o	otional wetla	nd site ID:
Remarks: (Explain alternative procedures here or in a	a senarate r	enort )		
Tremarks. (Explain alternative procedures here of in-	a ocparate r	ороги,		
VEGETATION Use scientific names of pla	nte			
- Ose scientific flames of pla	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	Υ	FAC	Total Number of Dominant
3 acer saccharinum	5	N	FACW	Species Across all Strata: 6 (B)
4 morus alba	2	<u>N</u>	FAC	Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
Opening of Ohmuh patratura. (Diet sings	<u>67</u>	= Total Cove	ſ	December of Index Made had
Sapling/Shrub stratun (Plot size:	) 40	Y	FACW	Prevalence Index Worksheet Total % Cover of:
2 fraxinus pennsylvanica	15	<u> </u>	FACW	OBL species 45 x 1 = 45
3			171011	FACW species 150 x 2 = 300
4				FAC species 22 x 3 = 66
5				FACU species 0 x 4 = 0
	55	= Total Cove	r	UPL species 0 x 5 = 0
Herb stratum (Plot size:	)			Column totals 217 (A) 411 (B)
1 phragmites australis	50	Υ	FACW	Prevalence Index = B/A = 1.89
2 lythrum salicaria	25	<u> </u>	OBL	
3 typha angustifolia	15	N	OBL	Hydrophytic Vegetation Indicators:
4 alisma triviale 5	5	N	OBL	Rapid test for hydrophytic vegetation X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				<del></del>
8				Morphogical adaptations* (provide supporting data in Remarks or on a
9				separate sheet)
10				Problematic hydrophytic vegetation*
	95	= Total Cove	r	(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 Cove	r	vegetation present? Y
Remarks: (Include photo numbers here or on a sepa	rate sheet)			1

SOIL								Sampling Point:	Wetland 7
Profile Desc	cription: (Descri	be to the	e depth needed	to docui	ment the	indicato	r or confirm the	e absence of indicators.	)
Depth	<u>Matrix</u>		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textur	e Re	emarks
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	М	Loamy Sand		
4 - 22+	10YR 3/1	100					Loamy Sand		
7 22	10111 0/1	100					Loanly Gana		
	Concentration, D =	= Depletion	on, RM = Reduc	ed Matrix	, MS = M	asked Sa		**Location: PL = Pore Lini	
Hydric So	il Indicators:							for Problematic Hydric	
	tisol (A1)			ndy Gley		(S4)		Prairie Redox (A16) ( <b>LRR</b>	K, L, R)
	tic Epipedon (A2)			ndy Redo	` '			urface (S7) (LRR K, L)	
	ck Histic (A3)			ipped Ma	, ,			lucky Peat or Peat (S3) ( <b>L</b>	
	lrogen Sulfide (A4	-		amy Muc	-	. ,		anganese Masses (F12) (	
	atified Layers (A5)	)		amy Gley				hallow Dark Surface (TF1	2)
	n Muck (A10)			pleted Ma	, ,		Other (	(explain in remarks)	
	oleted Below Dark			dox Dark		. ,			
	ck Dark Surface (A	,		pleted Da		٠, ,		ors of hydrophytic vegetat	
San	ndy Mucky Minera	l (S1)	Re	dox Depr	essions (	(F8)	hydrolo	ogy must be present, unle	ss disturbed or
								problematic	
Restrictive	Layer (if observe	ed):							
Type:							Hydric s	oil present? Y	
Depth (inche	es):				- -				
Remarks:									
Watseka	loamy fine sar	nd							
	n depletions be		ned laver (>3'	' deen)					
110110 1101	dopionono se		pou layor ( o	чоор)					
HYDROLO	OGY								
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum	of one is	required; check	all that ap	oply)		Sec	condary Indicators (minimu	um of two required)
Surface '	Water (A1)		•	Aquatic	Fauna (B	13)		Surface Soil Cracks (B6)	
High Wa	iter Table (A2)			_	uatic Plar			Drainage Patterns (B10)	
Saturation	on (A3)			Hydroge	en Sulfide	Odor (C1	)	Dry-Season Water Table	(C2)
	arks (B1)			Oxidized	d Rhizosp	heres on	Living Roots	Crayfish Burrows (C8)	
	nt Deposits (B2)			(C3)				Saturation Visible on Aer	
	oosits (B3)			Presenc	e of Redu	uced Iron		Stunted or Stressed Plan	
	it or Crust (B4)				Iron Redu	iction in T		Geomorphic Position (D2	2)
	osits (B5)		(DZ)	(C6)		(O=)	<u> </u>	FAC-Neutral Test (D5)	
	on Visible on Aeria  Vegetated Conca		· · · · · · · · · · · · · · · · · · ·		ck Surfac				
	tained Leaves (B9			_	or Well Da Evolain in	Remarks)			
	•	,	_		-vhiaiii iii	r Ciliai NS	•	1	
Field Obser Surface wate		Yes	No	Х	Depth (i	inches).			
Water table		Yes	No	$\frac{\lambda}{X}$	Depth (i	•		Indicators of wet	land
Saturation p		Yes	No	$\frac{\lambda}{X}$	Depth (i			hydrology prese	
-	pillary fringe)	. 55			> ~ ('			, 213g, p. 866	<u> </u>
	corded data (strea	ım dalıde	monitoring wel	l aerial n	hotos pre	evious in	spections) if ava	ailable	
2000100100	2.300 0010 (31166	gauge	,ormorning wei	i, aciiai p	, pr	C 71000 111	opodionoj, ii ave		

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	inty Sampling Date:	9/28/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 8
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Sect	ion, Townsh	ip, Range:	
Landform (hillslope, terrace, etc.):		Local	relief (conca	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameWatseka loamy fine sand			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical for	this time o	of the year?		If no, explain in remarks)	
Are vegetation , soil , or hydrolo	ogy	significantly	y disturbed?	Are "normal circui	mstances"
Are vegetation , soil , or hydrolo	ogy	naturally pr	oblematic?	,	present?
SUMMARY OF FINDINGS				(If needed, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the s	ampled are	a within a wetland?	N
Indicators of wetland hydrology present?		If yes, o	ptional wetla	nd site ID:	
Remarks: (Explain alternative procedures here or in a	senarate re	enort )			
Tremarks. (Explain alternative procedures here of in a	ocparate i	ороги.)			
VEGETATION Use scientific names of plan	ite				
- Ose scientific flames of plan	Absolute	Dominant	Indicator	Dominance Test Worksl	heet
<u>Tree Stratum</u> (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie	
1		·		that are OBL, FACW, or FA	
2				Total Number of Domina	ınt
3				Species Across all Strat	ta:(B)
4				Percent of Dominant Specie	
5				that are OBL, FACW, or FA	C: 100.00% (A/B)
One line (Ohards startum (Districts	0	= Total Cove	r	Durantana a la dan Maria	-b(
Sapling/Shrub stratum (Plot size:)				Prevalence Index Works Total % Cover of:	sneet
2				OBL species 0 x	1 = 0
3					2 = 0
4				FAC species 100 x	
5				FACU species 0 x	4 = 0
	0	= Total Cove	r	UPL species 0 x	5 = 0
Herb stratum (Plot size:)				Column totals 100 (A	A) <u>300</u> (B)
1 poa pratensis	100	Y	FAC	Prevalence Index = B/A =	3.00
2					
3				Hydrophytic Vegetation	
4				Rapid test for hydroph X Dominance test is >5	-
6	<del></del>			X Prevalence index is ≤	
7				Morphogical adaptation	
8				supporting data in Re	**
9				separate sheet)	
10				Problematic hydrophy	tic vegetation*
	100	= Total Cove	r	(explain)	
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and w present, unless disturb	
2				Hydrophytic	
	0	= Total Cove	r	vegetation present? Y	
	. t l e			ргозепт:	<del>_</del>
Remarks: (Include photo numbers here or on a separa	ate sheet)				

	ription: (Descr	ihe to the	denth needs	d to docu	ment the	indicato	r or confirm th	a aheanca	of indicators \	
Depth	Matrix	ibe to the	_	Redox Feat		mulcato	or commitment	e absence	or maicators.)	
(Inches)	Color (moist)	%	Color (moist)		Type*	Loc**	Textu	re	Rema	arks
0 - 5	2.5Y 2.5/1	100	00.0. (	1	1,750		N/A			
		1							DESEMBLES O	DUCHED COM
5 - 15	2.5Y 2.5/1	100			1		N/A		RESEMBLES C	RUSHED COA
15 - 22+	2.5Y 6/6	90					N/A			
	2.5Y 2.5/1	3					N/A			
	2.5Y 5/6	7					N/A			
*Tyne: C = C	Concentration, D :	= Denletic	n RM = Redu	red Matrix	MS = M	asked Sa	and Grains	**Location:	PL = Pore Lining	M = Matrix
	il Indicators:	Dopicii	on, raw – racau	oca iviatiix	, 1010 – 101	askea oc			matic Hydric So	
-	isol (A1)		S	andy Gley	ed Matrix	(S4)			lox (A16) (LRR K,	
	ic Epipedon (A2)			andy Redo		(01)			) (LRR K, L)	_,,
	ck Histic (A3)			tripped Ma	. ,			•	or Peat (S3) ( <b>LRF</b>	R K. L. R)
	rogen Sulfide (A	4)		oamy Muc	, ,	al (F1)		-	Masses (F12) ( <b>LR</b>	
	tified Layers (A5	•		oamy Gley	-			-	k Surface (TF12)	, , ,
	n Muck (A10)	,		epleted M				(explain in	, ,	
	leted Below Dark	Surface		edox Dark	` ,			` '	,	
	k Dark Surface (			epleted Da			*Indicat	ors of hydro	ophytic vegetation	and weltand
San	dy Mucky Minera	ıl (S1)		edox Depi					e present, unless	
							•		problematic	
Restrictive I	Layer (if observe	eq).								
Туре:	Layer (ii oboci v	ouj.					Hydric s	oil present	:? N	
Depth (inche	es):				_		,	on procen	·· <del>_ ··</del>	
					_					
Remarks:										
vvatseka	loamy fine sar	na								
HYDROLO	)GV									
	drology Indicate	re.								
=			roquirod: chool	all that ar	anlu)		Soci	oondon, Ind	icatora (minimum	of two required
Drimon, India	•	or one is	required, crieci			12\	<u>560</u>	=	licators (minimum Soil Cracks (B6)	or two required
	water (AT)				Fauna (B Juatic Plan				Patterns (B10)	
Surface \	ter Table (Δ2)			Truc Aq	jualic i iai			Dramage		2)
Surface \ High Wa	ter Table (A2)		_	Hydroge	en Sulfide		_	Dry-Seas	on vvater Lable (C	
Surface \ High Wa Saturatio	on (A3)		_	_ · ·	en Sulfide d Rhizoso	Odor (C1	·		on Water Table (C: Burrows (C8)	_)
Surface \ High Wa Saturatio Water Ma	on (A3) arks (B1)		_	_ · ·		Odor (C1	) Living Roots	Crayfish I	Burrows (C8)	
Surface Migh War Saturation Water Might Sedimen	on (A3)		_ _ _	Oxidized (C3)		Odor (C1 heres on	Living Roots	Crayfish I		magery (C9)
Surface V High Wa Saturatio Water Mi Sedimen Drift Dep	on (A3) arks (B1) tt Deposits (B2)		- - -	Oxidized (C3) Presend	d Rhizosp	Odor (C1 heres on uced Iron	Living Roots (C4)	Crayfish I Saturation Stunted of	Burrows (C8) n Visible on Aerial	magery (C9)
Surface \( \) High Wa  Saturatio  Water Mater Mater Mater Mater  Sedimen  Drift Dep  Algal Ma  Iron Dep	on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5)		_ _ _ _	Oxidized (C3) Presend	d Rhizosp ce of Redu	Odor (C1 heres on uced Iron	Living Roots (C4)	Crayfish I Saturation Stunted of Geomorp	Burrows (C8) n Visible on Aerial or Stressed Plants (	magery (C9)
Surface N High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio	on (A3) arks (B1) t Deposits (B2) tosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria		· · ·	Oxidized (C3) Presend Recent (C6) Thin Mu	d Rhizosp ce of Redu Iron Redu ick Surfac	Odor (C1 heres on uced Iron ction in T	Living Roots (C4)	Crayfish I Saturation Stunted of Geomorp	Burrows (C8)  n Visible on Aerial  or Stressed Plants (  hic Position (D2)	magery (C9)
Surface N High Wa Saturatio Water M: Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely	on (A3) arks (B1) t Deposits (B2) sosits (B3) t or Crust (B4) sosits (B5) on Visible on Aeria Vegetated Conca	ive Surfac	· · ·	Oxidized (C3) Presend Recent (C6) Thin Mu	d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da	Odor (C1 heres on uced Iron ction in T e (C7) ata (D9)	(C4)illed Soils	Crayfish I Saturation Stunted of Geomorp	Burrows (C8)  n Visible on Aerial  or Stressed Plants (  hic Position (D2)	magery (C9)
Surface No High War Saturation Water Mark Mark Mark Mark Mark Mark Mark Mar	on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca	ive Surfac	· · ·	Oxidized (C3) Presend Recent (C6) Thin Mu	d Rhizosp ce of Redu Iron Redu ick Surfac	Odor (C1 heres on uced Iron ction in T e (C7) ata (D9)	(C4)illed Soils	Crayfish I Saturation Stunted of Geomorp	Burrows (C8)  n Visible on Aerial  or Stressed Plants (  hic Position (D2)	magery (C9)
Surface No High War Saturation Water Mark Mark Mark Mark Mark Mark Mark Mar	on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations:	ive Surfac	ee (B8)	Oxidized (C3) Presend Recent (C6) Thin Mu Gauge of Other (E	d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in	Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks	(C4)illed Soils	Crayfish I Saturation Stunted of Geomorp	Burrows (C8)  n Visible on Aerial  or Stressed Plants (  hic Position (D2)	magery (C9)
Surface N High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obser Surface wate	on (A3) arks (B1) at Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present?	ve Surfac	No	Oxidized (C3) Presend Recent (C6) Thin Mu Gauge of Other (E	d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in	Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks)	(C4)illed Soils	Crayfish I Saturation Stunted of Geomorp FAC-Neu	Burrows (C8) In Visible on Aerial In Visible on Aerial In Stressed Plants (hic Position (D2) Itral Test (D5)	magery (C9) D1)
Surface Notes that the state of	on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? oresent?	yes Yes Yes	No No	Oxidized (C3) Presend Recent (C6) Thin Mu Gauge of Other (E	d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in Depth (i	Odor (C1 heres on iced Iron ction in T e (C7) ata (D9) Remarks; nches):	(C4)illed Soils	Crayfish I Saturation Stunted of Geomorp FAC-Neu	Burrows (C8) In Visible on Aerial In Visible on Aerial In Stressed Plants (hic Position (D2) tral Test (D5)	magery (C9) D1)
High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	on (A3) arks (B1) at Deposits (B2) sosits (B3) t or Crust (B4) sosits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? resent?	ve Surfac	No	Oxidized (C3) Presend Recent (C6) Thin Mu Gauge of Other (E	d Rhizosp ce of Redu Iron Redu ick Surfac or Well Da Explain in	Odor (C1 heres on iced Iron ction in T e (C7) ata (D9) Remarks; nches):	(C4)illed Soils	Crayfish I Saturation Stunted of Geomorp FAC-Neu	Burrows (C8) In Visible on Aerial In Visible on Aerial In Stressed Plants (hic Position (D2) Itral Test (D5)	magery (C9) D1)

NO INDICATORS

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/17/15
Applicant/Owner:	<del>_</del>	State:	IN	Sampling Point:	Wetland 8
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	/e, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameWatseka loamy fine sand			NWI (	Classification:	
Are climatic/hydrologic conditions of the site typical fo	r this time c	of the year?	(I	If no, explain in remarks)	
Are vegetation, soil, or hydrolo	ogy	significantly	disturbed?	Are "normal circum	stances"
Are vegetation , soil , or hydrole	ogy	naturally pro	oblematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any ans	wers 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	_	If yes, op	tional wetlar	nd site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a	separate r	eport.)			
	•	-r ,			
VEGETATION Use scientific names of plar	nts.				
T	Absolute	Dominant	Indicator	Dominance Test Worksho	eet
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species	3
1 fraxinus pennsylvanica	30	<u> </u>	FACW	that are OBL, FACW, or FAC	: (A)
2 populus deltoides	20	<u>Y</u>	FAC	Total Number of Dominan	
3 salix interior	10	N	FACW	Species Across all Strata	``
5				Percent of Dominant Species that are OBL, FACW, or FAC	
<u> </u>	60	= Total Cover		llidi die ODL, FACVV, OF FAC	. 100.00% (A/D)
Sapling/Shrub stratum (Plot size: )		- 10tai 00vc.		Prevalence Index Worksh	
1 fraxinus pennsylvanica	10	Υ	FACW	Total % Cover of:	
2				OBL species 75 x 1	= 75
3				FACW species 62 x 2	2 = 124
4				FAC species 30 x 3	
5		<del></del>		FACU species 0 x 4	
(Diet size)	10	= Total Cover		UPL species 0 x 5	
Herb stratum (Plot size:)	70		001	Column totals 167 (A)	
1 lythrum salicaria 2 symphyotrichum lanceolatum	70 10		OBL FAC	Prevalence Index = B/A =	1.73
3 bidens cernua	5		OBL	Hydrophytic Vegetation I	ndicators:
4 cyperus esculentus	5		FACW	Rapid test for hydrophy	
5 persicaria lapathifolia	5		FACW	X Dominance test is >50°	•
6				X Prevalence index is ≤3.	
7				Morphogical adaptation	ns* (provide
8				supporting data in Rem	"
9				separate sheet)	
10		T-tal Cover		Problematic hydrophyti	c vegetation*
Woody vine stratum (Plot size: )	95	= Total Cover		(explain)	
1 vitis riparia	2		FACW	*Indicators of hydric soil and well present, unless disturbed	
2			IAOV	Hydrophytic	101 problematic
	2	= Total Cover		vegetation	
				present? Y	_
Remarks: (Include photo numbers here or on a separa	ate sheet)				

SOIL								Sa	mpling Point:	Wetland 8
Profile Desc	cription: (Descri	ibe to th	e depth needed f	to docur	nent the	indicato	or or confirm the	absence	of indicators.)	
Depth	<u>Matrix</u>		Red	dox Feat	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Rema	arks
0 - 6	10YR 2/1	100	Γ	<u> </u>	['	<u></u>	Loamy Sand			
6 - 7	2.5Y 4/3	100					Loamy Sand			
7 - 15	2.5Y 6/6	10					Sand			
15 - 19+	5Y 2.5/1	85	7.5YR 6/8	10	RM	М	Loamy Sand			
	-		7.5YR 3/4	5	RM	M	Loamy Sand			
		<del>                                     </del>	7.011(3.)	<del>                                     </del>	1	<del></del>	Louin, Cana			
			<del> </del>	<del> </del>	<del>                                     </del>	<del> </del>				
	<del> </del>	1	+	<u> </u>	<del>                                     </del>	1				
0 0					3.60 14					
		= Depleti	ion, RM = Reduce	d Matrix,	, MS = M	asked Sa			: PL = Pore Lining	
-	oil Indicators:		Sar	adv Glave	ad Matrix	(84)			ematic Hydric So dox (A16) (LRR K,	
	tisol (A1) tic Epipedon (A2)			ndy Gleye ndy Redo	ed Matrix	. (34)			) (LRR K, L)	, L, K <i>)</i>
	ck Histic (A3)			ipped Ma	. ,			•	or Peat (S3) ( <b>LRI</b>	R K. L. R)
	drogen Sulfide (A4	4)			ky Minera	al (F1)		-	Masses (F12) ( <b>LR</b>	
	atified Layers (A5)	•		-	ed Matrix	. ,		_	k Surface (TF12)	•
	m Muck (A10)	,			atrix (F3)			explain in	, ,	
	oleted Below Dark	c Surface	e (A11) Rec	dox Dark	Surface	(F6)		·	•	
Thic	ck Dark Surface (A	A12)	Der	oleted Da	ark Surfac	ce (F7)	*Indicator	s of hydr	ophytic vegetation	n and weltand
San	ndy Mucky Minera	al (S1)	Red	dox Depr	ressions (	(F8)		•	e present, unless	
<del></del>									problematic	
Restrictive	Layer (if observe	ed):								
Type:	,	,			ı		Hydric soi	il presenf	t? Y	
Depth (inche	es):				- 1		-	•		
Remarks:					<u>-</u>	<u> </u>				
	loamy fine sar	nd								
VValocita	loanly into our	IG								
HYDROLO	OGY				-					
Wetland Hy	drology Indicato	ors:								
Primary Indic	cat <u>ors (minimum </u>	o <u>f one is</u>	required; check a	al <u>l that ar</u>	<u>(yl</u> qc		Seco	ndar <u>y Ind</u>	dicators (minimum	of two required)
-	Water (A1)				Fauna (B	13)		-	Soil Cracks (B6)	
High Wa	ater Table (A2)			True Aq	uatic Plan	nts (B14)		-	Patterns (B10)	
Saturation	on (A3)		_	Hydroge	en Sulfide	Odor (C1		Dry-Seas	son Water Table (C	:2)
	larks (B1)				Rhizosp' ל	heres on		-	Burrows (C8)	
	nt Deposits (B2)			(C3)					n Visible on Aerial	
	posits (B3)			_	e of Redu				or Stressed Plants (	(D1)
	at or Crust (B4) posits (B5)			Recent I (C6)	Iron Redu	iction in i			phic Position (D2)	
	oosits (B5) on Visible on Aeria	ıl Imagerı	./ (B7)	_ ` ′	ick Surfac	e (C7)		FAC-INCU	ıtral Test (D5)	
	/ Vegetated Conca			_	or Well Da					
	tained Leaves (B9)			_	Explain in I	, ,	)			
Field Obser	` '	<u></u>		<u> </u>	<u> </u>					
Surface water		Yes	No	X	Depth (ii	inches):		!		
Water table		Yes	No	X	Depth (i			Ind	licators of wetlar	nd
Saturation p	resent?	Yes	No	X	Depth (ii	nches):		hy	drology present	? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

US Army Corps of Engineers

(includes capillary fringe)

Project/Site NICTD West Lake Corridor	City/0	County:	Lake Cour	nty Sampling Date:	9/16/15
Applicant/Owner:	<b>-</b>	State:	IN	Sampling Point:	Upland 9
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameBono silty clay loam			NWI (	Classification:	none
Are climatic/hydrologic conditions of the site typical for	this time o	f the year?	(I	If no, explain in remarks)	
Are vegetation, soil , or hydrolog	ЭУ	significantly	disturbed?	Are "normal circ	cumstances"
Are vegetation , soil , or hydrolog	ЭУ	naturally pro	blematic?	-	present?
SUMMARY OF FINDINGS				(If needed, explain any	answers in remarks.)
Hydrophytic vegetation present? N					<del></del>
Hydric soil present? N		Is the sa	impled area	a within a wetland?	<u>N</u>
Indicators of wetland hydrology present? N		If yes, op	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a s	separate re	eport.)			
	•	,			
VEGETATION Use scientific names of plant	.s.				
	Absolute	Dominant	Indicator	Dominance Test Work	sheet
<u>Tree Stratum</u> (Plot size:)	% Cover	Species	Staus	Number of Dominant Spe	cies
1 Acer saccharinum	5	<u>Y</u>	FACW	that are OBL, FACW, or F	AC: 2 (A)
2 ulmus pumila	5	<u>Y</u>	UPL	Total Number of Domir	
3				Species Across all Str	``
5				Percent of Dominant Spe that are OBL, FACW, or F	
	10 =	= Total Cover		lliat are ODE, i AOVV, or i	AC. 33.3370 (A/D)
Sapling/Shrub stratur (Plot size: )		10101 00.0.		Prevalence Index Wor	ksheet
1	8	Υ		Total % Cover of:	
2				OBL species 0	x 1 = 0
3				· —	x 2 = 10
4				·	x 3 = 120
5		T-t-l Cover		· <u> </u>	x 4 = 160
Herb stratum (Plot size: )	8 =	= Total Cover		UPL species 5 Column totals 90	x 5 = 25 (A) 315 (B)
	40	V	EAC	Prevalence Index = B/A	· · · · — · · · ·
1 agrostis hyemalis 2 Rubus occidentalis	40	<u>Y</u> -	FAC	Prevalence index - DiA	
3 cirsium arvense	40	<u> </u>	FACU	Hydrophytic Vegetatio	n Indicators:
4				Rapid test for hydro	
5				Dominance test is >	· ·
6				Prevalence index is	≤3.0*
7				Morphogical adapta	**
8				supporting data in F	Remarks or on a
9				separate sheet)	! (:tation*
	120 =	= Total Cover		Problematic hydropl (explain)	hytic vegetation
Woody vine stratum (Plot size: )	120	10101 00.0.		l <del></del> ' ' ' '	
1				*Indicators of hydric soil and present, unless distu	
2				Hydrophytic	
	0 =	= Total Cover		vegetation	vī.
				present?	<u> </u>
Remarks: (Include photo numbers here or on a separat	e sheet)				

	ription: (Descri	be to the				indicato	r or confirm t	ne absence	of indicators.)
Depth	Matrix		·	dox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu		Remarks
0 - 13	2.5Y 3/2	100					Silty Clay Lo		
13 - 24+	2.5Y 4/1	80	10YR 4/6	15	RM	M	Silty Clay Lo		
			7/10 Y	5	RM	M	Silty Clay Lo	am	Gley
									<u> </u>
	oncentration, D =	= Depleti	on, RM = Reduce	ed Matrix	MS = M	asked Sa			: PL = Pore Lining, M = Matrix
-	I Indicators:		So	ndy Clay	ad Matrix	(84)			ematic Hydric Soils:
	sol (A1) c Epipedon (A2)			ndy Gley ndy Redo		(54)			dox (A16) ( <b>LRR K, L, R</b> ) () ( <b>LRR K, L)</b>
	k Histic (A3)			ipped Ma	. ,			•	or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4	1)		amy Muc	. ,	al (F1)		=	Masses (F12) ( <b>LRR K, L, R</b> )
	tified Layers (A5)	-		amy Gley	,	` '		_	k Surface (TF12)
	Muck (A10)			pleted Ma		,	•	(explain in	,
Depl	eted Below Dark	Surface	(A11) Re	dox Dark	Surface	(F6)			
	k Dark Surface (/	-		pleted Da			*Indica	tors of hydr	ophytic vegetation and weltand
Sand	dy Mucky Minera	l (S1)	Re	dox Depr	essions (	F8)	hydro	logy must b	e present, unless disturbed or
						1			problematic
	ayer (if observe	ed):					Uvdrio	acil nracan	42 N
Type: Depth (inches	5).				-		Hyaric :	soil presen	t? <u>N</u>
					•				
Remarks:	- <b>6</b> (m. m. ) m. 10 m.	40" -	<b>6</b> 11						
No signs	of iron in the to	op 12 c	oi soii						
HYDROLO	GY								
Vetland Hyd	Irology Indicato	rs:							
Primary Indic	ators (minimum	of one is	required; check	all that ap	ply)		Se	condary Inc	dicators (minimum of two required
Surface V	Vater (A1)			Aquatic	Fauna (B	13)	_	Surface :	Soil Cracks (B6)
11:	er Table (A2)				uatic Plan	. ,	<u> </u>		Patterns (B10)
	, ,				en Sulfide		·		son Water Table (C2)
Saturation	arks (B1)				Rhizosp	heres on	Living Roots		Burrows (C8)
Saturation Water Ma	` '			11:31					
Saturation Water Ma Sediment	Deposits (B2)			(C3) Presenc	e of Redu	iced Iron	(C4)		n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
Saturation Water Ma Sediment Drift Depo	Deposits (B2)		_	Presenc	e of Redu		` ′	Stunted	or Stressed Plants (D1)
Saturation Water Ma Sediment Drift Depo	Deposits (B2) posits (B3) or Crust (B4)		_	Presenc			` ′	Stunted of Geomorp	
Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aeria			Presence Recent (C6) Thin Mu	ron Redu ck Surfac	ction in T e (C7)	` ′	Stunted of Geomorp	or Stressed Plants (D1) whic Position (D2)
Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely	Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aeria Vegetated Conca	ve Surfac		Presence Recent (C6) Thin Mu Gauge of	ron Redu ck Surfac or Well Da	ction in T e (C7) ita (D9)	illed Soils	Stunted of Geomorp	or Stressed Plants (D1) phic Position (D2)
Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta	Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aeria Vegetated Conca	ve Surfac		Presence Recent (C6) Thin Mu Gauge of	ron Redu ck Surfac	ction in T e (C7) ita (D9)	illed Soils	Stunted of Geomorp	or Stressed Plants (D1) phic Position (D2)
Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta	Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9) vations:	ve Surfac	ce (B8)	Presence Recent (C6) Thin Mu Gauge of Other (E	ron Reduck Surfac or Well Da explain in	ction in T e (C7) ita (D9) Remarks)	illed Soils	Stunted of Geomorp	or Stressed Plants (D1) phic Position (D2)
Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta	Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9) rations: r present?	ve Surfac ) Yes	ne (B8)	Presence Recent (C6) Thin Mu Gauge of Other (E	ck Surfac or Well Da explain in Depth (i	ction in T e (C7) ita (D9) Remarks) nches):	illed Soils	Stunted of Geomory FAC-Neu	or Stressed Plants (D1) whic Position (D2) utral Test (D5)
Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely	Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aeria Vegetated Conca ained Leaves (B9) rations: r present?	ve Surfac	ce (B8)	Presence Recent (C6) Thin Mu Gauge of Other (E	ron Reduck Surfac or Well Da explain in	ction in T e (C7) ta (D9) Remarks) nches):	illed Soils	Stunted of Geomory FAC-Neu	or Stressed Plants (D1) phic Position (D2)

No visible signs of hydrology

Applicant/Owner:  Investigator(s): Anna Hochhalter and Scott Beckmeyer  Landform (hillslope, terrace, etc.):  Local relief (concave, convex, none):  Slope (%):  Lat:  Long:  Datum:  Soil Map Unit NameBono silty clay loam  Are vegetation  , soil  , or hydrology  Are vegetation  , soil  , or hydrology  Bydrophytic vegetation present?  Hydrophytic vegetation present?  Hydrophytic vegetation present?  Hydrosoil present?  Hydric soil present?  Indicators of wetland hydrology present ere or in a separate report.)  State:  IN  Sampling Point:  Wetland 9  Section, Township, Range:  Local relief (concave, convex, none):  Datum:  NWI Classification:  none  (If no, explain in remarks)  Are "normal circumstances"  present?  (If needed, explain any answers in remarks.)  Is the sampled area within a wetland?  Y  Indicators of wetland hydrology present? or in a separate report.)  VEGETATION Use scientific names of plants.  Absolute  Dominant Indicator  Dominance Test Worksheet
Landform (hillslope, terrace, etc.):  Slope (%):  Lat:  Long:  Datum:  Soil Map Unit NameBono silty clay loam  Are climatic/hydrologic conditions of the site typical for this time of the year?  Are vegetation  Are vegetation  Soil  Are "normal circumstances"  present?  SUMMARY OF FINDINGS  Hydrophytic vegetation present?  Hydric soil present?  Indicators of wetland hydrology present?  Remarks: (Explain alternative procedures here or in a separate report.)  Long:  Datum:  NWI Classification:  none  Are "normal circumstances"  present?  present?  (If needed, explain any answers in remarks.)  Is the sampled area within a wetland?  Y  If yes, optional wetland site ID:  VEGETATION Use scientific names of plants.
Slope (%):  Soil Map Unit NameBono silty clay loam  Are climatic/hydrologic conditions of the site typical for this time of the year?  Are vegetation  Soil  Are vegetation  Soil  Are vegetation  Soil  Are vegetation  Soil  Are vegetation  Are vegetation  Soil  Are vegetation  Fresent?  SUMMARY OF FINDINGS  (If needed, explain any answers in remarks.)  Hydrophytic vegetation present?  Y  Hydric soil present?  Y  Is the sampled area within a wetland?  Y  If yes, optional wetland site ID:  Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.
Soil Map Unit NameBono silty clay loam  Are climatic/hydrologic conditions of the site typical for this time of the year?  Are vegetation  Are
Are climatic/hydrologic 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 circumstances"  Are vegetation, soil, or hydrology naturally problematic? present?  SUMMARY OF FINDINGS (If needed, explain any answers in remarks.)  Hydrophytic vegetation present?
Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances"
Are vegetation, soil, or hydrology
Are vegetation, soil, or hydrology naturally problematic?
SUMMARY OF FINDINGS  (If needed, explain any answers in remarks.)  Hydrophytic vegetation present?  Hydric soil present?  Indicators of wetland hydrology present?  If yes, optional wetland site ID:  Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.
Hydric soil present? Indicators of wetland hydrology present?  Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.
Indicators of wetland hydrology present? Y If yes, optional wetland site ID:  Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.
Remarks: (Explain alternative procedures here or in a separate report.)  VEGETATION Use scientific names of plants.
VEGETATION Use scientific names of plants.
VEGETATION Use scientific names of plants.
Tree Stratum (Plot size:) % Cover Species Staus Number of Dominant Species
1 that are OBL, FACW, or FAC: 3(A)
2 Total Number of Dominant
Species Across all Strata: 3 (B)
4 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 sambucus nigra 50 Y FACW Total % Cover of:
2 frangula alnus 25 Y FACW OBL species 105 x 1 = 105
3 <i>pyrus communis</i> 5 N FACW species 85 x 2 = 170
4 FAC species 0 x 3 = 0
5 FACU species 0 x 4 = 0
<u>80</u> = Total Cover UPL species <u>0</u> x 5 = <u>0</u> Herb stratum (Plot size: ) Column totals 190 (A) 275 (B)
1 lythrum salicaria 80 Y OBL Prevalence Index = B/A = 1.45 2 epilobium coloratum 15 N 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:
*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 separate sheet)

SOIL								Sampling Point: We	etland 9
Profile Desc	cription: (Descr	ibe to th	e depth needed	to docui	ment the	indicato	or or confirm the	absence of indicators.)	
Depth	<u>Matrix</u>		Re	dox Feat	tures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0 - 24+	2.5Y 3/1	96	2.5Y4/4	4	RM	М	Clay Loam		
*Type: C = C	Concentration, D :	= Depleti	on, RM = Reduce	ed Matrix	, MS = M	asked Sa	and Grains. *	*Location: PL = Pore Lining, M =	Matrix
Hydric So	il Indicators:						Indicators f	or Problematic Hydric Soils:	
Hist	isol (A1)		Sai	ndy Gley	ed Matrix	(S4)	Coast F	rairie Redox (A16) ( <b>LRR K, L, R</b> )	)
Hist	ic Epipedon (A2)		Sai	ndy Redo	ox (S5)		Dark Su	ırface (S7) (LRR K, L)	
Blac	ck Histic (A3)		Stri	ipped Ma	trix (S6)			ucky Peat or Peat (S3) ( <b>LRR K, L</b>	
	lrogen Sulfide (A	•		-	ky Minera			nganese Masses (F12) ( <b>LRR K</b> ,	L, <b>R</b> )
	tified Layers (A5	)			ed Matrix			allow Dark Surface (TF12)	
	n Muck (A10)				atrix (F3)		Other (	explain in remarks)	
	leted Below Dark		· · · · —		Surface	. ,			
	ck Dark Surface (	•			ark Surfac	. ,		rs of hydrophytic vegetation and	
San	idy Mucky Minera	al (S1)	Re	dox Depr	ressions (	(F8)	hydrolo	gy must be present, unless distur	bed or
								problematic	
	Layer (if observ	ed):							
Туре:	-				_		Hydric so	il present? Y	
Depth (inche	es):				_				
Remarks:									
Bono silty	y clay loam								
Hydric In	dicator: Yes								
HYDROLC									
-	drology Indicate								
	•	of one is	required; check a				Seco	ondary Indicators (minimum of two	o required)
	Water (A1)				Fauna (B			Surface Soil Cracks (B6)	
	ter Table (A2)			_	uatic Plar			Drainage Patterns (B10)	
Saturation					en Sulfide		·	Dry-Season Water Table (C2)	
	arks (B1) it Deposits (B2)			(C3)	a Knizosp	neres on	Living Roots	Crayfish Burrows (C8) Saturation Visible on Aerial Image	ny (C0)
	oosits (B3)			_	e of Redu	iced Iron	(C4)	Stunted or Stressed Plants (D1)	1y (C9)
	it or Crust (B4)			_				Geomorphic Position (D2)	
	osits (B5)			(C6)				FAC-Neutral Test (D5)	
	on Visible on Aeria	al Imagery	(B7)	Thin Mu	ick Surfac	e (C7)		<u>-</u>	
Sparsely	Vegetated Conca	ave Surfa	ce (B8)	Gauge	or Well Da	ata (D9)			
Water-St	tained Leaves (B9	)		Other (E	Explain in	Remarks	)		
Field Obser									
Surface water	•	Yes	No	X	Depth (i				
Water table		Yes	No	X	Depth (i	-		Indicators of wetland	
Saturation p		Yes	No	Х	Depth (i	nches):		hydrology present?	Y
	pillary fringe)								
Describe rec	corded data (strea	am gauge	e, monitoring well	, aerial p	notos, pre	evious in	spections), if ava	lable:	

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	inty Sampling Date:	9/28/15
Applicant/Owner:		State:	IN	Sampling Point:	Upland 10
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Sect	ion, Townshi	ip, Range:	
Landform (hillslope, terrace, etc.):		Local	relief (conca	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameWatseka loamy fine sand			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical for	r this time o	of the year?	(	If no, explain in remarks)	
Are vegetation , soil , or hydrolo	ogy	significantly	disturbed?	Are "normal circu	mstances"
Are vegetation , soil , or hydrolo	ogy	naturally pr	oblematic?	7.110 1101111011 011 001	present?
SUMMARY OF FINDINGS				(If needed, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the s	ampled are	a within a wetland?	N
Indicators of wetland hydrology present?		If yes, o	ptional wetla	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate r	eport.)			
(Explain alternative processing in the	oopa.ato .	op 0,			
VEGETATION Use scientific names of plan	ıte				
See selemente names of plan	Absolute	Dominant	Indicator	Dominance Test Works	heet
<u>Tree Stratum</u> (Plot size: )	% Cover	Species	Staus	Number of Dominant Speci	
1		•		that are OBL, FACW, or FA	
2				Total Number of Domina	ant
3				Species Across all Strat	ta: <u>1</u> (B)
4				Percent of Dominant Speci	
5				that are OBL, FACW, or FA	C: 100.00% (A/B)
Conling/Chruh stratus / Dlot size:	0	= Total Cove	r	Prevalence Index Works	nh nat
Sapling/Shrub stratum (Plot size:)				Total % Cover of:	Sneet
2				OBL species 0 x	1 = 0
3					2 = 0
4				FAC species 100 x	3 = 300
5				FACU species 0 x	4 = 0
	0	= Total Cove	r	· —	5 = 0
Herb stratum (Plot size:)					A) <u>300</u> (B)
1 poa pratensis	100	Y	FAC	Prevalence Index = B/A =	3.00
2					
3				Hydrophytic Vegetation	
5				Rapid test for hydropl X Dominance test is >5	
6				X Prevalence index is ≤	
7				Morphogical adaptation	ons* (provide
8				supporting data in Re	"
9				separate sheet)	
10				Problematic hydrophy	ytic vegetation*
,	100	= Total Cove	r	(explain)	
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and w present, unless disturb	
2				Hydrophytic	
	0	= Total Cove	r	vegetation present? Y	
				hieseiiti 1	_
Remarks: (Include photo numbers here or on a separa	ate sheet)				

SOIL								Sa	ampling Point: Upland 10
Profile Desc	cription: (Descri	be to the	e depth needed	to docum	nent the	indicato	or or confirm	the absence	e of indicators.)
Depth	Matrix		Re	dox Featu	ıres				·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	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		
	Concentration, D =	= Depleti	on, RM = Reduce	ed Matrix,	MS = M	asked Sa			: PL = Pore Lining, M = Matrix
•	oil Indicators:		Cov	adv Clava	d Matrix	(04)			ematic Hydric Soils:
	tisol (A1) tic Epipedon (A2)			ndy Gleye ndy Redox		(54)		k Surface (S7	dox (A16) (LRR K, L, R)
	ck Histic (A3)			ipped Mat				,	t or Peat (S3) ( <b>LRR K, L, R</b> )
	drogen Sulfide (A4	1)		amy Muck	, ,	al (F1)		=	Masses (F12) ( <b>LRR K, L, R</b> )
	atified Layers (A5)	-		amy Gleye	-	. ,		_	rk Surface (TF12)
	m Muck (A10)			pleted Ma		,		er (explain in	, ,
	oleted Below Dark	Surface		dox Dark	, ,	(F6)		` '	,
Thic	ck Dark Surface (A	<b>412</b> )	Der	pleted Da	rk Surfac	ce (F7)	*Indi	cators of hydi	rophytic vegetation and weltand
San	ndy Mucky Minera	l (S1)	Red	dox Depre	essions (	(F8)			pe present, unless disturbed or
									problematic
Type: Depth (inche	es):  loamy fine san						Hydrid	c soil presen	nt? <u>N</u>
HYDROLO	nev								
	drology Indicato	re.							
	cators (minimum		required: check :	all that an	nlv)			Socondary In	dicators (minimum of two required)
-	Water (A1)	or orie is	required, check a	Aquatic F		13)	<u> </u>	-	Soil Cracks (B6)
	iter Table (A2)			True Aqu					e Patterns (B10)
Saturation			-	_		Odor (C1	1)		son Water Table (C2)
	larks (B1)			Oxidized	Rhizosp	heres on	Living Roots		Burrows (C8)
	nt Deposits (B2)			(C3)					on Visible on Aerial Imagery (C9)
	posits (B3)			_		iced Iron			or Stressed Plants (D1)
	at or Crust (B4) posits (B5)			(C6)	ron Redu	ction in I	illed Soils		ohic Position (D2) utral Test (D5)
	on Visible on Aeria	l Imagery	(B7)	Thin Muc	k Surfac	e (C7)			dital Test (D5)
	/ Vegetated Conca			Gauge or					
	tained Leaves (B9)			_		Remarks)	)		
Field Obser	vations:			_					
Surface water	er present?	Yes	No	X	Depth (i	nches):			
Water table		Yes	No		Depth (i			_	dicators of wetland
Saturation p		Yes	No	X	Depth (i	nches):		h	ydrology present? N
(includes ca	pillary fringe)								
Describe rec	corded data (strea	m gauge	, monitoring well	, aerial ph	otos, pr	evious in	spections), if	available:	

NO INDICATORS

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	9/17/15		
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 10		
Investigator(s): Anna Hochhalter and Scott Beckmey	er	Section, Township, Range:					
Landform (hillslope, terrace, etc.):		Local re	elief (concav	/e, convex, none):			
Slope (%):		Long:		Datum:			
Soil Map Unit NameWatseka loamy fine sand		NWI Classification: none					
Are climatic/hydrologic conditions of the site typical fo	r this time c	of the year?	(1	If no, explain in remarks)			
Are vegetation, soil, or hydrole	ogy	significantly	disturbed?	Are "normal circur	nstances"		
Are vegetation, soil, or hydrole	ogy	naturally pro	oblematic?		present?		
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)		
Hydrophytic vegetation present? Y							
Hydric soil present?	<u> </u>	Is the sa	ampled area	a within a wetland?	Υ		
Indicators of wetland hydrology present? Y	_	If yes, op	tional wetlar	nd site ID:			
Remarks: (Explain alternative procedures here or in a	separate r	eport.)					
,	<b>У-р-</b>	<b></b> ,					
VEGETATION Use scientific names of plar	nts.						
	Absolute	Dominant	Indicator	Dominance Test Worksh	neet		
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Specie	es		
1 fraxinus pennsylvanica	30	<u> </u>	FACW	that are OBL, FACW, or FAC			
2 populus deltoides	20	Υ	FAC	Total Number of Domina			
3 salix interior	10	<u>N</u>	FACW	Species Across all Strata	``		
4				Percent of Dominant Specie			
5	60	= Total Cover		that are OBL, FACW, or FAC	J: 100.00% (A/B)		
Sapling/Shrub stratum (Plot size: )	. 00	= TOTAL COVE		Prevalence Index Works	haat		
1 fraxinus pennsylvanica	10	Υ	FACW	Total % Cover of:	Heer		
2		<u> </u>		OBL species 75 x	1 = 75		
3				FACW species 62 x			
4				FAC species 30 x	3 = 90		
5				· —	4 = 0		
	10	= Total Cover		· —	5 = <u>0</u>		
Herb stratum (Plot size:)				Column totals 167 (A			
1 lythrum salicaria	70	<u> </u>	OBL	Prevalence Index = B/A =	1.73		
2 symphyotrichum lanceolatum	10		FAC	Liver putie Vegetation	I diantana.		
3 bidens cernua 4 cyperus esculentus	5	N	OBL FACW	Hydrophytic Vegetation Rapid test for hydroph			
5 persicaria lapathifolia	5		FACW	X Dominance test is >50			
6				X Prevalence index is ≤3			
7				Morphogical adaptation	ons* (provide		
8				supporting data in Rei	**		
9				separate sheet)			
10				Problematic hydrophy	tic vegetation*		
(District	95	= Total Cover		(explain)			
Woody vine stratum (Plot size:)	2		E 4 C \ A /	*Indicators of hydric soil and we			
1 vitis riparia 2	2		FACW	present, unless disturbe Hydrophytic	ed or problematic		
	2	= Total Cover		vegetation			
	-	- 10101 00.2.		present? Y	_		
Remarks: (Include photo numbers here or on a separa	ate sheet)				<del>_</del>		

SOIL								Sar	npling Point:	Wetland 10
Profile Des	cription: (Descr	ibe to the	e depth needed	to docur	ment the	indicato	or or confirm t	he absence	of indicators.)	
Depth	<u>Matrix</u>			dox Feat						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	ıre	Rem	arks
0 - 6	10YR 2/1	100					Loamy Sand	b		
6 - 7	2.5Y 4/3	100					Loamy Sand	d		
7 - 15	2.5Y 6/6	10					Sand			
15 - 19+	5Y 2.5/1	85	7.5YR 6/8	10	RM	М	Loamy Sand	d		
			7.5YR 3/4	5	RM	М	Loamy Sand	d		
						1				
				<u> </u>		L	L			
	Concentration, D :	= Depletion	on, RM = Reduce	d Matrix	, MS = M	asked Sa			PL = Pore Lining	
-	il Indicators:					(0.4)			matic Hydric So	
	tisol (A1)				ed Matrix	(S4)			ox (A16) ( <b>LRR K</b>	, L, R)
	tic Epipedon (A2)			ndy Redo	. ,			Surface (S7)	-	D K I D)
	ck Histic (A3)	4.			trix (S6)	1 (54)		•	or Peat (S3) ( <b>LR</b>	
	lrogen Sulfide (A	,		-	ky Minera	. ,		-	lasses (F12) (LR	
	atified Layers (A5)	)			ed Matrix				Surface (TF12)	
	m Muck (A10)	0 (			atrix (F3)		Other	r (explain in re	emarks)	
	oleted Below Dark		· · · —		Surface	. ,				
	ck Dark Surface ( ody Mucky Minera	,			ark Surfac ressions (	` '		ology must be	phytic vegetatior present, unless problematic	
Restrictive	Layer (if observe	ed):								
Туре:							Hydric	soil present	? Y	
Depth (inche	es):				_					
Remarks:					_					
Watseka	loamy fine sar	nd								
HYDROLO	nev .									
	drology Indicate	re:								
-			roacinode aboales	ll that an	- m l ()		0.4			
-	cators (minimum	or one is	required; check a			12\	<u>S6</u>	=	cators (minimum	or two required
	Water (A1) Iter Table (A2)			. '	Fauna (B uatic Plar	,	_		oil Cracks (B6) Patterns (B10)	
Saturation	` '			- '	en Sulfide	. ,	_		on Water Table (C	:2)
	arks (B1)					,	Living Roots		urrows (C8)	-,
	nt Deposits (B2)			(C3)	<b>200</b> p				Visible on Aerial	Imagery (C9)
	oosits (B3)		-	- '	e of Redu	uced Iron	(C4)		Stressed Plants	
	at or Crust (B4)			-			` ′		nic Position (D2)	. ,
Iron Den	neite (R5)			(C6)			_		ral Test (D5)	

#### Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface water present? Yes No Depth (inches): Water table present? Depth (inches): Indicators of wetland Yes No Depth (inches): hydrology present? Saturation present? Yes No (includes capillary fringe)

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Project/Site:	NICTD West Lake Corridor	City/County: Lake Cou	nty Sampling Date: 17-Sep-15
Applicant/Owner:			State: IN Sampling Point: Wetland 11
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township, Rar	ge:
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:
Slope %:	Lat:	Lo	ong: Datum:
Soil Unit Name:	Bono silty clay		NWI Classification: none
Are climatic / hydro	ologic conditions on the site typical for this tim	e of year? Ye	s No
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Attach site map showing	ng sampling point location	s, transects, important features, etc.
Hydrophytic Vege Hydric Soils Preso Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes x No
Remarks: Wetland investiga	ıtion used Approach B, which entails identifyir	ng the dominant species and does	not include collecting soil samples or calculating floristic quality.
VEGETATION -	- Use scientific names of plants.		
Tree Stratum  1 2 3	(Plot size: 30ft )	Absolute Dominant Indicator % Cover Species? Status	Dominance Test Worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC  Total Number of Dominant  Total Number of Dominant
4 5			Species Across All Strata:(B)
Sapling/Shrub Str	Total Cover: ratum (Plot size: 15ft )		Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
2 3 4 5	Total Cover:		Prevalence Index Worksheet:           Total % Cover of         Multiply by:           OBL species         x 1 = 0           FACW species         x 2 = 0           FAC species         x 3 = 0
Herb Stratum  1. phragmit 2 3 4 5	(Plot size: <u>5ft</u> ) tes australis	FACW+	FACU species
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50% Prevalence Index is ≤3.0*  Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.
1 2	Total Cover:		Hydrophytic Vegetation Yes No Present?
Remarks: (Includ	le photo numbers here or on a separate shee	t.)	

US Army Corps of Engineers

Midwest Region - Interim Version

Project/Site NICTD West Lake Corridor	City/Co	unty:		Sampling Date: 9/17/15			
Applicant/Owner:	State:			Sampling Point: Upland 12			
Investigator(s): Anna Hochhalter and Scott Beckme	yer	Section	on, Townshi	ip, Range:			
Landform (hillslope, terrace, etc.):		Local re	elief (conca	ve, convex, none):			
Slope (%):		.ong:		Datum:			
Soil Map Unit Namebono silty clay		NWI Classification: none					
Are climatic/hydrologic conditions of the site typical f	or this time of th	ne year?	(	If no, explain in remarks)			
Are vegetation , soil , or hydro	ology si	gnificantly	disturbed?	Are "normal circumstances"			
Are vegetation , soil , or hydro	ology na	naturally problematic? Are "normal circumstances" present?					
SUMMARY OF FINDINGS				(If needed, explain any answers in remarks.)			
Hydrophytic vegetation present? Y							
Hydric soil present? N	_	Is the sa	ampled are	a within a wetland?			
Indicators of wetland hydrology present? N	_	If yes, op	tional wetla	nd site ID:			
Remarks: (Explain alternative procedures here or in	a senarate reno	ort )					
<b>VEGETATION</b> Use scientific names of pla				1 =			
Tree Stratum (Plot size: )		ominant Species	Indicator Staus	Dominance Test Worksheet			
1			Otaus	Number of Dominant Species that are OBL, FACW, or FAC: (A)			
3				Total Number of Dominant Species Across all Strata: 1 (B)			
4				Percent of Dominant Species			
5				that are OBL, FACW, or FAC: 100.00% (A/B)			
	0 = T	otal Cover					
Sapling/Shrub stratun (Plot size:	)			Prevalence Index Worksheet			
1				Total % Cover of:			
2 3				OBL species $0 \times 1 = 0$ FACW species $0 \times 2 = 0$			
4				FAC species 100 x 3 = 300			
5				FACU species 0 x 4 = 0			
	0 = T	otal Cover		UPL species 0 x 5 = 0			
Herb stratum (Plot size:	)			Column totals 100 (A) 300 (B)			
1 poa pratensis	100	Υ	FAC	Prevalence Index = B/A = 3.00			
2							
3				Hydrophytic Vegetation Indicators:			
4				Rapid test for hydrophytic vegetation			
5				X Dominance test is >50%			
7				X Prevalence index is ≤3.0*			
8		<del></del> -		Morphogical adaptations* (provide supporting data in Remarks or on a			
9				separate sheet)			
10				Problematic hydrophytic vegetation*			
	100 = T	otal Cover		(explain)			
Woody vine stratum (Plot size:	)			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
2		<del></del> .		Hydrophytic			
	0 = T	otal Cover		vegetation present?			
Remarks: (Include photo numbers here or on a sepa	rate cheet)			<u> </u>			
ntomarks. (molude prioto numbers nere or on a sepa	iale slieel)						

pland 12
plan

Profile Desc	ription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm	the absence	of indicators.)
Depth	<u>Matrix</u>		Red	dox Featu	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	ture	Remarks
1 - 4	2.5Y 3/1	97	2.5Y6/8	3	RM	М	Silty Clay I	₋oam	
4 - 9	2.5Y 5/2	70	2.5Y 6/8	5	RM	М	Silty Clay L	₋oam	
	2.5Y 3/1	25					Silty Clay L	_oam	
9 - 12	2.5Y 3/1	95	2.5Y 6/8	1	RM	М	Silty Clay I	oam	
	2.5Y 5/2	4					Silty Clay L		
12 - 22	2.5Y 3/1	95	2.5Y 6/8	5	RM	М	Silty Clay L		
12 - 22	2.51 5/1	90	2.51 0/0	3	TXIVI	IVI	Only Clay I	Loain	
			L						
		= Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix
-	il Indicators:		0		-I NA - 4-2-	(0.4)			ematic Hydric Soils:
	isol (A1)			dy Gleye		(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo	. ,			k Surface (S7	· ·
	ck Histic (A3)			oped Mat	` ,	. (= 4)		-	or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4	-		my Muck	-	. ,		-	Masses (F12) (LRR K, L, R)
	tified Layers (A5)			my Gleye		(F2)			k Surface (TF12)
	n Muck (A10)			leted Ma	, ,		Oth	er (explain in	remarks)
	leted Below Dark			lox Dark		. ,			
	ck Dark Surface (	•		leted Da		. ,			ophytic vegetation and weltand
San	dy Mucky Minera	I (S1)	Rec	lox Depre	essions (	F8)	hydi	rology must b	e present, unless disturbed or problematic
									problematic
	Layer (if observe	ed):							
Type:	-1-				•		Hydric	soil presen	t? <u>N</u>
Depth (inche	es):								
Remarks:									
Soil: Bon	o silty clay loar	n							
			opment While	soils co	ntain re	dox con	centrations	soil is not	indicative of a true hydric
soil.								,	
HYDROLO	OGY								
Wetland Hy	drology Indicato	rs:							
Primary India	cators (minimum	of one is	required; check a	ll that ap	ply)		<u>S</u>	Secondary Inc	licators (minimum of two required)
Surface '	Water (A1)			Aquatic I	Fauna (B	13)		Surface S	Soil Cracks (B6)
High Wa	ter Table (A2)			True Aqu	uatic Plan	its (B14)	•	Drainage	Patterns (B10)
Saturation	on (A3)			Hydroge	n Sulfide	Odor (C1	)	Dry-Seas	son Water Table (C2)
Water M	arks (B1)			Oxidized	Rhizosp	heres on	Living Roots		Burrows (C8)
Sedimen	t Deposits (B2)			(C3)				Saturatio	n Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Presence	e of Redu	iced Iron (	(C4)	Stunted of	or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	ction in Ti	lled Soils		hic Position (D2)
	osits (B5)			(C6)				FAC-Neu	itral Test (D5)
	on Visible on Aeria			i	ck Surfac				
	Vegetated Conca		e (B8)	_	r Well Da				
	tained Leaves (B9)	)		Other (E	xplain in i	Remarks)			
Field Obser				.,	D : " "				
Surface water	•	Yes	No		Depth (i				licators of water !
Water table		Yes	No No		Depth (i				licators of wetland
Saturation p		Yes	No	Х	Depth (i	ncnes):		l ny	/drology present? N
(includes cap									
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial ph	notos, pre	evious ins	spections), if	available:	
Remarks:									
Upland o	f wetland								
opiana 0									

Project/Site NICTD West Lake Corridor	City/0	County:	Lake Cour	nty Sampling Date:	9/17/15
Applicant/Owner:	<b>-</b>	State:	IN	Sampling Point:	Wetland 12
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section	on, Township	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit NameBono silty clay			NWI C	Classification:	None
Are climatic/hydrologic conditions of the site typical for t	his time o	of the year?	(l	If no, explain in remarks)	
Are vegetation, soil, or hydrolog	ју	significantly	disturbed?	Are "normal circui	mstances"
Are vegetation , soil , or hydrolog	Jy	naturally pro	blematic?	-	present?
SUMMARY OF FINDINGS				(If needed, explain any ar	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	impled area	a within a wetland?	Υ
Indicators of wetland hydrology present? Y		If yes, op	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a se	eparate re	eport.)			
		,			
<b>VEGETATION</b> Use scientific names of plants	 S.				
,	Absolute	Dominant	Indicator	Dominance Test Worksl	heet
	% Cover	Species	Staus	Number of Dominant Specie	es
1				that are OBL, FACW, or FA	C: 1 (A)
2				Total Number of Domina	
3				Species Across all Strat	``
		<del></del>		Percent of Dominant Specie that are OBL, FACW, or FA	
	0 =	= Total Cover		Mai are ODL, FACTY, OF LA	C. 100.00% (A/D)
Sapling/Shrub stratur (Plot size: )		* Total Gove.		Prevalence Index Works	sheet
1				Total % Cover of:	
2				OBL species 15 x	1 = 15
3				FACW species 95 x	2 = 190
4				· —	3 = 0
5		<del></del>		· —	4 = 0
- (Diet eize	0 =	= Total Cover		· —	.5 = 0
Herb stratum (Plot size:)	22	V	= 1 O M		A) <u>205</u> (B)
1 phragmites australis	90	<u>Y</u> N	FACW	Prevalence Index = B/A =	1.86
2 lythrum salicaria 3 juncus dudleyi	5		OBL FACW	Hydrophytic Vegetation	Indicators
4 cyperus erythrorhizos	5		OBL	Rapid test for hydroph	
5				X Dominance test is >50	-
6				X Prevalence index is ≤	
7				Morphogical adaptation	ons* (provide
8				supporting data in Re	**
9				separate sheet)	
10	440	T-t-l Cover		Problematic hydrophy	/tic vegetation*
Woody vine stratum (Plot size: )	110 =	= Total Cover		(explain)	
1				*Indicators of hydric soil and w present, unless disturb	
2				Hydrophytic	
	0 =	= Total Cover		vegetation present? Y	
Demonstrative / Include whote numbers here or on a congrete	- shoot)				<u> </u>
Remarks: (Include photo numbers here or on a separate	3 Sileet)				

SOIL Sampling Point	nt: \	Wetland 12
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Depth	<u>Matrix</u>			dox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	kture	Remarks
8 - 0	2.5Y 2.5/1	30	2.5Y 6/4	10	RM	М	Silty Clay	Loam	
	6/10Y	60					Silty Clay	Loam	Gleyed
8+	5								Gravel
ОТ									Glavei
	Name and the state of the state	Damlati	DM - Dadua	- al NA - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	MC - M	la al carl Ca		**! 4	ion Di - Done Lining M - Matrix
	Concentration, D =	Depleti	on, Rivi = Reduce	ed Matrix	, IVIS = IVI	asked Sa			tion: PL = Pore Lining, M = Matrix
-	il Indicators:		0 -		1 . N. A - 4 - 2 - 2	(0.4)			oblematic Hydric Soils:
	isol (A1)			ndy Gley		(S4)			Redox (A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo					(S7) (LRR K, L)
	ck Histic (A3)			ipped Ma	, ,				Peat or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A	-		amy Muc	-	. ,		_	ese Masses (F12) (LRR K, L, R)
	atified Layers (A5)	)		amy Gley				-	Dark Surface (TF12)
	n Muck (A10)			pleted Ma	, ,		Oth	er (explair	n in remarks)
	leted Below Dark			dox Dark		. ,			
	ck Dark Surface (	,		pleted Da			*Indi	cators of h	ydrophytic vegetation and weltan
San	idy Mucky Minera	I (S1)	Re	dox Depr	essions (	(F8)	hyd	rology mu	st be present, unless disturbed or
									problematic
strictive	Layer (if observe	ed):							
	ravel	,					Hvdri	c soil pres	sent? Y
pe: G	lavei						HIVUH	t son bres	3CIIL!
					_		Hydri	c son pres	
epth (inche emarks: Hydric Se					- -		Tiyun	c son pres	Seitt:
epth (inche emarks: Hydric So Mapped YDROLC etland Hy	oils apparent ir Soil: Bono silty	clay lo	am.	all that ar	- -				
epth (inche emarks: Hydric So Mapped YDROLC etland Hy imary India	es): 8  poils apparent in Soil: Bono silty  DGY  drology Indicato cators (minimum	clay lo	am.	-		.13)		Secondary	r Indicators (minimum of two requ
epth (inche emarks: Hydric So Mapped YDROLC etland Hy emary India Surface	es): 8  poils apparent in Soil: Bono silty  DGY  drology Indicator cators (minimum Water (A1)	clay lo	am.	Aquatic	Fauna (B			Secondary Surfa	r Indicators (minimum of two requ ce Soil Cracks (B6)
pth (inches marks: Hydric So Mapped YDROLC etland Hy mary India Surface High Wa	es): 8  poils apparent in Soil: Bono silty  pogy  drology Indicate cators (minimum Water (A1) ter Table (A2)	clay lo	am.	Aquatic True Aq	Fauna (B uatic Plar	nts (B14)		Secondary Surfa X Drain	r Indicators (minimum of two requ ce Soil Cracks (B6) age Patterns (B10)
epth (inches emarks: Hydric So Mapped YDROLC etland Hy imary Indio Surface High Wa Saturatio	oils apparent in Soil: Bono silty  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3)	clay lo	am.	Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1	1)	Secondary Surfa X Drain Dry-S	v Indicators (minimum of two requ ce Soil Cracks (B6) age Patterns (B10) Season Water Table (C2)
pth (inches marks: Hydric So Mapped  /DROLC etland Hy mary India Surface High Wa Saturatic Water M	oils apparent ir Soil: Bono silty OGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)	clay lo	am.	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1		Secondary Surfa X Drain Dry-S Crayf	v Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8)
PDROLC  PORTION  PORT	poils apparent in Soil: Bono silty  OGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)	clay lo	am.	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C1 oheres on	1) Living Roots	Secondary Surfa X Drain Dry-S Crayf	r Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) fish Burrows (C8) ation Visible on Aerial Imagery (C9
PDROLC  PHOROLC  PHOROLC  PHOROLC  PHOROLC  PHOROLC  High Wa  Saturation  Water M  Sedimer  Drift Dep	poils apparent in Soil: Bono silty  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) on the Deposits (B2) posits (B3)	clay lo	am.	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C2 oheres on uced Iron	1) Living Roots (C4)	Secondary Surfa X Drain Dry-S Crayf Satur Stunt	v Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) ish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1)
Property (inches emarks:  Hydric Some Mapped  Property Mapped  Property Mapped  Surface  High Water Mapped  Sedimer  Drift Dep  Algal Ma	poils apparent in Soil: Bono silty  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) posits (B3) art or Crust (B4)	clay lo	am.	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C2 oheres on uced Iron	1) Living Roots	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)
Property (inches emarks:  Hydric Some Mapped  Property Mapped  Proped  Property Mapped  Proped  Property Mapped  Property Map	poils apparent in Soil: Bono silty  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) on the Deposits (B2) posits (B3)	ors:	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C' oheres on uced Iron uction in T	1) Living Roots (C4)	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	v Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1)
PROLCE Hand Hy imary India Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation	poils apparent in Soil: Bono silty  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) osits (B5)	ors: of one is	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu	onts (B14) Odor (C2 otheres on uced Iron uction in T	1) Living Roots (C4)	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)
Property (inches emarks: Hydric Some Mapped  Property Map	poils apparent in Soil: Bono silty  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) osits (B5) on Visible on Aeria	ors: of one is	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu	nts (B14) Odor (C <sup>2</sup> wheres on uced Iron uction in T te (C7) ata (D9)	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Beason Water Table (C2) Bish Burrows (C8) Bation Visible on Aerial Imagery (C9) Bed or Stressed Plants (D1) Borphic Position (D2)
Property (inches emarks: Hydric Some Mapped  Property Individual Sourface High Water Magal Mallon Dep Inundation Sparsely Water-Signal Mallon Sparsely Water-Signal Mallon Sparsely Water-Signal Mallon Dep Inundation Sparsely Water-Signal Mallon Dep Inundation Sparsely Water-Signal Mallon M	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9)	ors: of one is	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu ack Surfac or Well Da	nts (B14) Odor (C <sup>2</sup> wheres on uced Iron uction in T te (C7) ata (D9)	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requires Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)
POR OLC  POR	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9)	ors: of one is	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu ack Surfac or Well Da	nts (B14) Odor (C' oheres on uced Iron uction in T ce (C7) ata (D9) Remarks	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requires Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)
Property (inches emarks: Hydric School Mapped  Property Individual Surface High Water Magal Malron Dep Inundatic Sparsely Water-School Mapped Water-School Mapped Iron Dep Inundatic Sparsely Water-School Mapped Water-School Mapped Iron Dep Inundatic Sparsely Water-School Mapped Water-School Mapped Iron Dep Inundatic Sparsely Water-School Mapped Water-School Mapped Water-School Mapped Iron Dep Inundatic Sparsely Water-School Mapped Water-School	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria vegetated Concatained Leaves (B9)  vations: er present?	rs: of one is	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (	Fauna (Buatic Plaren Sulfided Rhizospee of Reduler Reduction Reduction Well Das Explain in	nts (B14) Odor (C' oheres on uced Iron uction in T ee (C7) ata (D9) Remarks inches):	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requires Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ration Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)
Property (inches emarks: Hydric Schapped  Property Individual Surface High Water Mand Sedimer Drift Dep Algal Malron Dep Inundatic Sparsely Water-Schapped Iron Dep Inundatic Sparsely Water-Schapped Iron Dep Inundatic Sparsely Water-Schapped Irface water table	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria vegetated Concatained Leaves (B9)  vations: er present? present?	rs: of one is	required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (	Fauna (Buatic Plaren Sulfided Rhizospee of Reduler Reduction Reduction Well Dates Depth (in Depth (in Depth (in Paulic Reduction Reducti	nts (B14) Odor (C' oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches):	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	v Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5)
PyDROLO etland Hy imary India Surface High Wa Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-Si eld Obser atter table atturation p	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria vegetated Concatained Leaves (B9)  vations: er present? present?	I Imagery ve Surface Yes Yes	required; check  (B7) ce (B8)  X No X No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (	Fauna (Buatic Plaren Sulfided Rhizospee of Redulation Reducted Surface Surface Pepth (in Depth (in Depth (in Depth (in Surface))	nts (B14) Odor (C' oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches):	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Satur Stunt Geon	r Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5)
Property (inches emarks: Hydric Somarks: High Water Model Somer Model Iron Deponder Inundation Sparsely Water-Somarks: Hydric Somarks: Hydric	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9)  vations: er present? present? present? present? present?	I Imagery ve Surface Yes Yes	required; check  (B7) ce (B8)  X No X No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C	Fauna (Buatic Plaren Sulfide de Rhizospere of Reducted Surface or Well Das Explain in Depth (in	nts (B14) Odor (C' wheres on uced Iron uction in T ee (C7) ata (D9) Remarks inches): inches):	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Saturt Geon FAC-	r Indicators (minimum of two requice Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5)
pth (inche marks: Hydric Soldapped  TDROLCetland Hymary India Surface High Waller Mark Sedimer Drift Dep Algal Mallron Dep Inundation Sparsely Water-Sield Obser rface water table turation peculates cal	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B3) arks (B3) ot or Crust (B4) osits (B5) on Visible on Aerial Vegetated Concatained Leaves (B9)  vations: er present? present?	I Imagery ve Surface Yes Yes	required; check  (B7) ce (B8)  X No X No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C	Fauna (Buatic Plaren Sulfide de Rhizospere of Reducted Surface or Well Das Explain in Depth (in	nts (B14) Odor (C' wheres on uced Iron uction in T ee (C7) ata (D9) Remarks inches): inches):	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Saturt Geon FAC-	r Indicators (minimum of two requires Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5)
pth (inche marks: Hydric So Mapped  //DROLC  tland Hy mary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-Si Id Obser fface water table turation pe	poils apparent in Soil: Bono silty  DGY  drology Indicate Cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9)  vations: er present? present? present? present? present?	I Imagery ve Surface Yes Yes	required; check  (B7) ce (B8)  X No X No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C	Fauna (Buatic Plaren Sulfide de Rhizospere of Reducted Surface or Well Das Explain in Depth (in	nts (B14) Odor (C' wheres on uced Iron uction in T ee (C7) ata (D9) Remarks inches): inches):	1) Living Roots (C4) Tilled Soils	Secondary Surfa X Drain Dry-S Crayf Saturt Geon FAC-	r Indicators (minimum of two requires Soil Cracks (B6) age Patterns (B10) Season Water Table (C2) Sish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5)

Project/Site:	NICTD West Lake Corridor	City/County: Cook Co	Sampling Date: 28-Sep-15
Applicant/Owner:			State: IL Sampling Point: Wetland 13
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township, Ra	ange:
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:
Slope %:	Lat:		Long: Datum:
Soil Unit Name:	orthents clayey		NWI Classification: PFO1/EMCd
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year?	res No
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Attach site map showi	ng sampling point locatio	ns, transects, important features, etc.
Hydrophytic Vege Hydric Soils Preso Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area within a Wetland?  Yes No
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ng the dominant species and doe	es not include collecting soil samples or calculating floristic quality.
VEGETATION -	- Use scientific names of plants.		
3. morus al. 4 5  Sapling/Shrub Str 1 2 3 4 5  Herb Stratum	deltoides ba Total Cover:	Absolute Dominant Indicate Status #N/A FAC+ FAC	Number of Dominant Species
4.			Prevalence Index = B/A =
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is ≦3.0*  Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.
1 2	Total Cover:		Hydrophytic Vegetation Present?  Hydrophytic Yes No
Remarks: (Includ	le photo numbers here or on a separate shee	vt.)	

US Army Corps of Engineers

Project/Site:	NICTD West Lake Corridor	City/County: Cook Co	Sampling Date: 28-Sep-15						
Applicant/Owner:			State: IL Sampling Point: Wetland 14						
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township, Ra	ange:						
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:						
Slope %:	Lat:		Long: Datum:						
Soil Unit Name:	Orthents clayey		NWI Classification: None						
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year?	/es No						
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No						
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vege Hydric Soils Preso Wetland Hydrolog	ent? Yes	No No No	Is the Sampling Area Yes No						
Remarks:		ng the dominant species and doe	is not include collecting soil samples or calculating floristic quality.						
VEGETATION -	· Use scientific names of plants.								
Tree Stratum  1. Crataegu 2 3	(Plot size: <u>30ft</u> ) us spp	Absolute Dominant Species? Status #N/A	Number of Dominant Species						
4 5			Species Across All Strata:(B)						
Sapling/Shrub Str	Total Cover: <u>atum</u> (Plot size: 15ft )		Percent of Dominant Species  That Are OBL, FACW, or FAC:(A/B)						
2 3 4 5	Total Cover:		Prevalence Index Worksheet:						
Herb Stratum	(Plot size: <u>5ft</u> ) gustifolia	OBL	FACU species						
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50%						
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.						
2	Total Cover:		Hydrophytic Vegetation Yes No Present?						
Remarks: (Includ	le photo numbers here or on a separate shee	rt.)							

US Army Corps of Engineers

Project/Site NICTD West Lake Corridor	City/	County:	Cook Cou	nty Sampling Date:	9/28/15
Applicant/Owner:	_	State:	IL	Sampling Point:	Upland 15
Investigator(s): Anna Hochhalter		Section	on, Township	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	/e, convex, none):	
Slope (%):		Long:		Datum:	
Soil Map Unit NameOrthents, Ashkum aquents			NWI (	Classification:	none
Are climatic/hydrologic conditions of the site typical for th	nis time o	of the year?	(I	If no, explain in remarks)	
Are vegetation, soil , or hydrology	y	significantly	disturbed?	Are "normal circu	ımstances"
Are vegetation , soil , or hydrology	у	naturally pro	blematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? N		Is the sa	ımpled area	a within a wetland?	N
Indicators of wetland hydrology present? N		If yes, opf	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a se	parate re	eport.)			
<b>VEGETATION</b> Use scientific names of plants	j				
	bsolute		Indicator	Dominance Test Works	heet
·	6 Cover	Species	Staus	Number of Dominant Speci	
1 ulmus rubra	5	<u> </u>	FAC	that are OBL, FACW, or FA	
2				Total Number of Domina Species Across all Stra	
				Percent of Dominant Speci	``
5				that are OBL, FACW, or FA	
	5 =	= Total Cover			,
Sapling/Shrub stratun (Plot size: )				Prevalence Index Work	sheet
1				Total % Cover of:	
				· —	(1 = 0
3				· —	(2 = 0
				· —	(3 = <u>255</u> (4 = 40
	0 =	= Total Cover		· —	(5 = 0
Herb stratum (Plot size: )		10001 0010		· —	(A) 295 (B)
1 poa pratensis	80	Υ	FAC	Prevalence Index = B/A =	
2 taraxacum officinale	10		FACU	1101010101010101010101010101010101010101	
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydrop	hytic vegetation
5				X Dominance test is >5	
6				Prevalence index is ≤	£3.0*
				Morphogical adaptati	
8   9				supporting data in Re separate sheet)	emarks or on a
10 —				Problematic hydrophy	vtic vegetation*
	90 =	= Total Cover	<del></del>	(explain)	ylic vegetation
Woody vine stratum (Plot size:)				*Indicators of hydric soil and v	vetland hydrology must be
1				present, unless disturb	
2				Hydrophytic	
	0 =	= Total Cover		vegetation present? Y	
Describes (Include whote numbers here or on a congrete	- choot)			, procent:	<del>_</del>
Remarks: (Include photo numbers here or on a separate	sneet)				

SOIL								Sampling Point:	Upland 15
Profile Desc	cription: (Descri	be to the	e depth needed t	to docui	ment the	indicato	or or confirm the	absence of indicators.)	
Depth	<u>Matrix</u>		Rer	dox Feat	tures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	e Remark	s
0 - 8	2.5Y 3/2	100					LOAMY SAND	)	
8 - 21+	2.5Y 5/2	69	10YR 6/8	1	RM	М	LOAMY SAND	)	
	2.5Y 4/1	30		ĺ	1		LOAMY SAND	)	
				i i	1	†			
	<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	+	+			
	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	+	+	<u> </u>		
	<del>                                     </del>	<del> </del>	<del> </del>	<del>                                     </del>	+	+	1		
	<del> </del>	<del> </del>	<u> </u>	<del>                                     </del>	<del> </del>	<del> </del>	<u> </u>		
- 0 6			'				<u> </u>		
	Concentration, D =	- Depletion	on, RM = Reduce	d Matrix	, MS = M	asked Sa		*Location: PL = Pore Lining, M	
_	oil Indicators:		Sar	- dv. Clav	.ad Matrix	- (04)		for Problematic Hydric Soils: Prairie Redox (A16) (LRR K, L,	
	tisol (A1) tic Epipedon (A2)			ndy Gleyo ndy Redo	ed Matrix	(54)		rraine Redox (A16) (LRR K, L, urface (S7) (LRR K, L)	K)
	ck Histic (A3)			-	atrix (S6)			ucky Peat or Peat (S3) (LRR K	(IR)
	drogen Sulfide (A4	1)			cky Minera			anganese Masses (F12) (LRR I	-
	atified Layers (A5)			-	yed Matrix			nallow Dark Surface (TF12)	, =,,
	m Muck (A10)				latrix (F3)			explain in remarks)	
	oleted Below Dark	Surface			s Surface			, , , , , , , , , , , , , , , , , , ,	
	ck Dark Surface (A		· · ·		ark Surfac	. ,	*Indicato	ors of hydrophytic vegetation ar	nd weltand
	ndy Mucky Mineral	,			ressions (	, ,		gy must be present, unless dis	
	•	-				•		problematic	
Restrictive	Layer (if observe	ed):				Т			
Type:		,-					Hydric so	oil present? N	
Depth (inche	es):				-		•		
Remarks:									
	ad Orthante o	lavov							
Ulbalilai	nd - Orthents cl	ayey							
HYDROLO	OGY	-							
	drology Indicato	rs:							
	cators (minimum o		required: check a	all that ar	nnly)		Seco	ondary Indicators (minimum of	two required)
-	Water (A1)	<u> </u>			: Fauna (B	313)	<del>5555</del>	Surface Soil Cracks (B6)	two roganos,
	ater Table (A2)			_ '	quatic Plan	,		Drainage Patterns (B10)	
Saturation					en Sulfide		1)	Dry-Season Water Table (C2)	
	larks (B1)					,	Living Roots	Crayfish Burrows (C8)	
	nt Deposits (B2)			(C3)				Saturation Visible on Aerial Ima	agery (C9)
Drift Dep	posits (B3)		_	Presenc	ce of Redu	uced Iron	(C4)	Stunted or Stressed Plants (D1	1)
	at or Crust (B4)				Iron Redu	uction in T	illed Soils	Geomorphic Position (D2)	
	oosits (B5)	_		(C6)				FAC-Neutral Test (D5)	
	on Visible on Aerial	0 ,	· · · ·	_	uck Surfac	` ,			
	y Vegetated Conca		:e (B8)	_ ~	or Well Da	, ,			
	tained Leaves (B9)	<u>,                                      </u>		Other (E	Explain in l	Remarks	)		
Field Obser		V	Na	V	Donath (	° \.			
Surface water	•	Yes	No No	$\frac{X}{X}$	Depth (i	·		Indicators of wetland	
Water table   Saturation pi		Yes Yes	No No	$\frac{\lambda}{X}$	Depth (in Depth	· · · · ·		hydrology present?	N
Saturation pr	resent:	100			– הפאנוו לו	illulicoj.		llydrology present.	IN

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

US Army Corps of Engineers

(includes capillary fringe)

Project/Site NICTD West Lake Corridor	City/	City/County: Cook Cou		inty Sampling Date:	9/28/15
Applicant/Owner:		State:	IL	Sampling Point:	Wetland 15
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Secti	ion, Townsh	ip, Range:	
Landform (hillslope, terrace, etc.):		Local r	elief (conca	ve, convex, none):	
Slope (%): Lat:		Long:		Datum:	
Soil Map Unit Name Urban land - orthents clayey			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical for	r this time o	of the year?	(	If no, explain in remarks)	
Are vegetation , soil , or hydrole	ogy	significantly	disturbed?	Are "normal circun	nstances"
Are vegetation , soil , or hydrole	ogy	naturally pr	oblematic?	,	present?
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the s	ampled are	a within a wetland?	Υ
Indicators of wetland hydrology present? Y	'	If yes, or	otional wetla	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate r	eport.)			
(2.p.a a.toa.ro p. oooaa. oo a.	обранато н	op 0)			
VEGETATION Use scientific names of plar	nte				
Coc scientific flames of plan	Absolute	Dominant	Indicator	Dominance Test Worksh	eet
Tree Stratum (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie	
1		·		that are OBL, FACW, or FAC	
2				Total Number of Dominar	nt
3				Species Across all Strata	a: (B)
4				Percent of Dominant Specie	
5				that are OBL, FACW, or FAC	C: 100.00% (A/B)
Conling/Chrub stratus (Diet size:	0	= Total Cove	ſ	Prevalence Index Works	haat
Sapling/Shrub stratum (Plot size:)  1				Total % Cover of:	neet
2				OBL species 85 x	1 = 85
3				FACW species 10 x	
4					3 = 0
5				FACU species 0 x	4 = 0
	0	= Total Cover	ſ	· —	5 = 0
Herb stratum (Plot size:)				Column totals 95 (A	105 (B)
1 eleocharis palustris	75	Y	OBL	Prevalence Index = B/A =	1.11
2 persicaria lapathifolia	10	N	FACW		
3 lythrum salicaria 4 echinochloa crusgalli	10 5	N	OBL	Hydrophytic Vegetation	
4 echinochloa crusgalli 5		N		Rapid test for hydroph X Dominance test is >50	
6				X Prevalence index is ≤3	
7				Morphogical adaptation	
8				supporting data in Rer	**
9				separate sheet)	
10				Problematic hydrophy	tic vegetation*
	100	= Total Cove	ſ	(explain)	
Woody vine stratum (Plot size:)  1				*Indicators of hydric soil and we present, unless disturbe	
2				Hydrophytic	
	0	= Total Cove	ſ	vegetation	
				present? Y	_
Remarks: (Include photo numbers here or on a separa	ate sheet)				

SOIL Sampling Point: Wetland 15

Depth	<u>Matrix</u>			dox Feat			_				
(Inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type*	Loc**	Text		Remarks		
0 - 6	2.5Y 3/2	80	2.5Y 5/4	20	RM	M	SILTY CLA	Y LOAM			
6 - 8	2.5Y 5/2	90	10YR 6/8	5	RM	M	SANDY CL	AY LOAM	+5% LAYER Z8		
8 - 12	10YR 3/1	97	10YR 6/8	3	RM	М	SANDY CL	AY LOAM			
12 - 18	2.5Y 4/2	90	2.5Y 6/8	2	RM	М	LOAMY SA	ND			
18 - 25+	10YR 6/8	10	2.5Y 4/2	10	RM	М	LOAMY SA	ND	SATURATED		
*Tvno: C = C	Concentration D =	- Doplotic	n DM = Doduce	d Motrix	MC = M	ookod Ca	and Crains	**Location	: PL = Pore Lining, M = Matrix		
	Concentration, D = il Indicators:	Depletion	on, Rivi = Reduce	u Matrix,	IVIS = IVIS	asked Sa			ematic Hydric Soils:		
_	tisol (A1)		Sar	dy Gleve	ed Matrix	(\$4)			dox (A16) (LRR K, L, R)		
	tic Epipedon (A2)			idy Cicyc idy Redo		(04)			() (LRR K, L)		
	ck Histic (A3)			pped Ma	. ,			•	or Peat (S3) ( <b>LRR K, L, R</b> )		
	lrogen Sulfide (A4	<b>l</b> )		•	ky Minera	al (F1)			Masses (F12) (LRR K, L, R)		
	atified Layers (A5)	•		-	ed Matrix	. ,			k Surface (TF12)		
	m Muck (A10)			leted Ma		, ,		er (explain in			
Dep	oleted Below Dark	Surface	(A11) Red	lox Dark	Surface	(F6)					
Thic	ck Dark Surface (/	<b>412</b> )	Dep	leted Da	rk Surfac	ce (F7)	*Indic	ators of hydr	ophytic vegetation and weltand		
San	ndy Mucky Minera	I (S1)	Red	lox Depr	essions (	F8)	hydr	ology must b	e present, unless disturbed or		
									problematic		
Restrictive I	Layer (if observe	ed):									
Type:							Hydric	soil presen	t? Y		
Depth (inche	es):				='						
Remarks:						l					
NRCS S	OII S: ORTHEN										
NRCS SOILS: ORTHENTS(23%), ASHKUM (3%), AQUENTS(2%)											
HYDRIC		•	%), ASHKUM (	3%), A0	QUENT	S(2%)					
HYDRIC	RATING: YES	•	%), ASHKUM (	3%), A(	QUENT	S(2%)					
HYDRIC		•	%), ASHKUM (	3%), A(	QUENT	S(2%)					
HYDRIC	RATING: YES	•	%), ASHKUM (	3%), A(	QUENT	S(2%)					
HYDROLO	RATING: YES		%), ASHKUM (	3%), A(	QUENT	S(2%)					
HYDROLO	RATING: YES  OGY  drology Indicato	ors:				S(2%)		econdary Inc	dicators (minimum of two required)		
HYDROLO Wetland Hye Primary India	RATING: YES	ors:		ıll that ap			<u>S</u>	-	dicators (minimum of two required) Soil Cracks (B6)		
HYDROLO Wetland Hy Primary India	RATING: YES  OGY  drology Indicato cators (minimum of	ors:		ıll that ap	ply)	13)	<u>S</u>	Surface S			
HYDROLO Wetland Hy Primary India	PATING: YES  OGY  drology Indicator cators (minimum of Water (A1) tter Table (A2)	ors:		ıll that ap Aquatic True Aqı	<u>ply)</u> Fauna (B uatic Plan	13)	<u>-</u>	Surface S X Drainage	Soil Cracks (B6)		
HYDROLO Wetland Hyd Primary India Surface X High Wa X Saturatio	PATING: YES  OGY  drology Indicator cators (minimum of Water (A1) tter Table (A2)	ors:		all that ap Aquatic True Aqu Hydroge Oxidized	<u>ply)</u> Fauna (B uatic Plan n Sulfide	13) its (B14) Odor (C1	<u>-</u>	Surface S X Drainage Dry-Seas Crayfish	Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8)		
HYDROLO Wetland Hyde Primary India Surface of the control of the c	PATING: YES  OGY  drology Indicator cators (minimum of the cators) Water (A1) ther Table (A2) on (A3) arks (B1) arks (B1) the Deposits (B2)	ors:		Aquatic Aquatic True Aquatic Hydroge Oxidized (C3)	<u>ply)</u> Fauna (B uatic Plan n Sulfide I Rhizosp	13) its (B14) Odor (C1 heres on	) Living Roots	Surface S  X Drainage  Dry-Seas  Crayfish  Saturatio	Goil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)		
HYDROLO Wetland Hydrology Primary India Surface V X High Wa X Saturatio Water M Sedimen Drift Dep	PATING: YES  OGY  drology Indicator cators (minimum of the cators) Water (A1) ther Table (A2) on (A3) arks (B1) on Deposits (B2) posits (B3)	ors:		Aquatic   Aquatic   True Aqu Hydroge Oxidized (C3) Presence	<u>ply)</u> Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	13) Its (B14) Odor (C1 heres on	) Living Roots (C4)	Surface S  X Drainage  Dry-Seas  Crayfish  Saturatio  Stunted of	Goil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)		
HYDROLO Wetland Hydrology Primary India Surface V X High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma	Cators (minimum of Water (A1) on (A3) arks (B1) on Deposits (B2) on to Crust (B4)	ors:		Aquatic In True Aquatic In True Aquatic In Hydroge Oxidized (C3)  Presence Recent I	<u>ply)</u> Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu	13) Its (B14) Odor (C1 heres on	) Living Roots	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)		
HYDROLO Wetland Hydrology Primary India Surface of the Surface of	PRATING: YES  OGY  drology Indicator cators (minimum of the Mater (A1) ther Table (A2) on (A3) arks (B1) arks (B1) on to Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	ors: of one is	required; check a	Aquatic In True Aquatic In True Aquatic In Hydroge Oxidized (C3) Presence Recent In (C6)	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu	13)  Its (B14)  Odor (C1)  Heres on  Iced Iron  ction in T	) Living Roots (C4)	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G Geomorp	Goil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)		
HYDROLO Wetland Hyd Primary India Surface X High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	Cators (minimum of water (A1) on (A3) arks (B1) on Deposits (B2) on to Crust (B4) on Visible on Aeria	ors: of one is	required; check a	All that ap Aquatic I True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mud	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu	13) Its (B14) Odor (C1) heres on Iced Iron ction in T	) Living Roots (C4)	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)		
HYDROLO Wetland Hydrox Primary India Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely	PATING: YES  OGY  drology Indicator cators (minimum of the cators (m	ors: of one is I Imagery ve Surface	required; check a	Aduatic In True Aquatic In True Aquatic In Carlo (Ca) Presence Recent In (Ca) Thin Much Gauge of	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) Its (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 G 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)		
HYDROLO Wetland Hyde Primary India Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St	Cators (minimum of Water (A1) of the Table (A2) on (A3) arks (B1) of Deposits (B2) of the Crust (B4) of the Crust (B4) of Vegetated Concatained Leaves (B9)	ors: of one is I Imagery ve Surface	required; check a	Aduatic In True Aquatic In True Aquatic In Carlo (Ca) Presence Recent In (Ca) Thin Much Gauge of	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) Its (B14) Odor (C1 heres on Iced Iron ction in T	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)		
HYDROLO Wetland Hyde Primary India Surface of High Wa X Saturatio Water M Sediment Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St Field Obser	PATING: YES  OGY  drology Indicator cators (minimum of the Mater (A1) on (A3) arks (B1) on (A3) arks (B1) on Deposits (B2) osits (B3) of or Crust (B4) osits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) vations:	ors: of one is I Imagery ve Surface)	required; check a	Aquatic   Aquatic   True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o Other (E	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac ir Well Da xplain in l	13) ots (B14) Odor (C1) heres on cted Iron ction in T e (C7) tta (D9) Remarks	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)		
HYDROLO Wetland Hyde Primary India Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St	PATING: YES  OGY  drology Indicator cators (minimum of the Mater (A1) on (A3) arks (B1) on (A3) arks (B1) on Deposits (B2) osits (B3) of or Crust (B4) osits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) vations: er present?	ors: of one is I Imagery ve Surface	required; check a	Aduatic In True Aquatic In True Aquatic In Carlo (Ca) Presence Recent In (Ca) Thin Much Gauge of	ply) Fauna (B uatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	13) ots (B14) Odor (C1) heres on ction in T e (C7) tta (D9) Remarks)	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted G 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)		
HYDROLO Wetland Hyde Primary India Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St Field Obser Surface water	PATING: YES  OGY  drology Indicator cators (minimum of the Mater (A1) ther Table (A2) on (A3) arks (B1) arks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) vations: er present? present?	ors: of one is I Imagery ve Surface) Yes	required; check a	Aquatic   Aquatic   True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o Other (E	ply) Fauna (Buatic Plan n Sulfide I Rhizospe of Redu ron Redu ck Surfac r Well Da xplain in I	13) ots (B14) Odor (C1) heres on ction in T e (C7) ota (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted of Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1) Shic Position (D2) Itral Test (D5)		
HYDROLO Wetland Hyde Primary India Surface of the Surface of the Surface of the Sediment of th	PATING: YES  OGY  drology Indicator cators (minimum of the Mater (A1) ther Table (A2) on (A3) arks (B1) arks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) vations: er present? present?	I Imagery ve Surface) Yes Yes	required; check a	Aquatic   Aquatic   True Aqu Hydroge Oxidized (C3) Presence Recent I (C6) Thin Mu Gauge o	ply) Fauna (Buatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in l	13) ots (B14) Odor (C1) heres on ction in T e (C7) ota (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted of Geomorp FAC-Neu	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1) Shic Position (D2) Itral Test (D5)		
HYDROLC  Wetland Hyde  Primary India  Surface V  High Wa  X Saturatio  Water M  Sedimen  Drift Dep  Algal Ma  Iron Dep  Inundatio  Sparsely  Water-St  Field Obser  Surface wate  Water table    Saturation poi  (includes cap	RATING: YES  OGY  drology Indicator cators (minimum of the Mater (A1) ther Table (A2) on (A3) arks (B1) on the Deposits (B2) cosits (B3) of or Crust (B4) cosits (B5) on Visible on Aeria of Vegetated Concatained Leaves (B9) vations: er present? present?	I Imagery ve Surface Yes Yes Yes	required; check a	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E	ply) Fauna (B Jatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	13) olds (B14) Odor (C1) heres on ction in T e (C7) olds (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted of Geomorp FAC-Neu  Inc.	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1) Shic Position (D2) Itral Test (D5)		
HYDROLC  Wetland Hyde  Primary India  Surface V  High Wa  X Saturatio  Water M  Sedimen  Drift Dep  Algal Ma  Iron Dep  Inundatio  Sparsely  Water-St  Field Obser  Surface wate  Water table    Saturation poi  (includes cap	CATING: YES  DGY  drology Indicators (minimum of the cators (minimum	I Imagery ve Surface Yes Yes Yes	required; check a	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E	ply) Fauna (B Jatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	13) olds (B14) Odor (C1) heres on ction in T e (C7) olds (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted of Geomorp FAC-Neu  Inc.	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1) Shic Position (D2) Itral Test (D5)		
HYDROLO  Wetland Hyde  Primary India  Surface of the Surface of th	CATING: YES  DGY  drology Indicators (minimum of the cators (minimum	I Imagery ve Surface Yes Yes Yes	required; check a	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E	ply) Fauna (B Jatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	13) olds (B14) Odor (C1) heres on ction in T e (C7) olds (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted of Geomorp FAC-Neu  Inc.	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1) Shic Position (D2) Itral Test (D5)		
HYDROLC  Wetland Hyde  Primary India  Surface V  High Wa  X Saturatio  Water M  Sedimen  Drift Dep  Algal Ma  Iron Dep  Inundatio  Sparsely  Water-St  Field Obser  Surface wate  Water table    Saturation poi  (includes cap	CATING: YES  DGY  drology Indicators (minimum of the cators (minimum	I Imagery ve Surface Yes Yes Yes	required; check a	Aquatic   True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E	ply) Fauna (B Jatic Plan n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in I Depth (i Depth (i	13) olds (B14) Odor (C1) heres on ction in T e (C7) olds (D9) Remarks) nches): nches):	) Living Roots (C4) illed Soils	Surface S  X Drainage Dry-Seas Crayfish Saturatio Stunted of Geomorp FAC-Neu  Inc.	Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1) Shic Position (D2) Itral Test (D5)		

Project/Site:	NICTD West Lake C	orridor		City/County:	Cook County	Sampling Date	28-Sep-15		
Applicant/Owner:						State: <u>IL</u> Sampling Point	: Wetland 16		
Investigator(s):	Anna Hochhalter an	d Scott Beckmeyer		Section, Tow	nship, Range:	:			
Landform (hillside,	terrace, etc.):					Local relief (concave, convex, none	::		
Slope %:		Lat:			Long:	:	Datum:		
Soil Unit Name:	Orthents clayey					NWI Classification	: PSS1C		
Are climatic / hydro	ologic conditions on the	e site typical for this tim	e of year?		Yes	No			
Are Vegetation	Soil	or hydrology	Significant	ly disturbed?	Д	Are "Normal Circumstances" present?	Yes No		
Are Vegetation	Soil	or hydrology	Naturally p	roblematic?	(i	if needed, explain any answers in Remarks.	)		
SUMMARY OF	FINDINGS - Attac	ch site map showi	ng samp	ling point	locations, t	transects, important features, etc.			
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent?	Yes Yes Yes	No No No			Is the Sampling Area within a Wetland? Ye	sx No		
Remarks: Wetland investigation used Approach B, which entails identifying the dominant species and does not include collecting soil samples or calculating floristic quality.									
VEGETATION -	· Use scientific na	ames of plants.							
Tree Stratum  1 2 3 4	(Plot size: 30ft	)		Dominant Species?	Indicator Status   	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC  Total Number of Dominant Species Across All Strata:	(A)		
5 Sapling/Shrub Str 1. sambucu		Total Cover:	5		 #N/A	Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)		
Salix exig     3.    Ulmus ar     4.        5.     Herb Stratum	gua mericana (Plot size: 5ft es australis		5 5 5 15		OBL FACW-   FACW+ OBL	Prevalence Index Worksheet:           Total % Cover of         Multiply by:           OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =           FACU species         x 4 =           UPL species         x 5 =           Column Totals         0	0 0 0 0 0 0 0 0 (B)		
4. Equisetu	ns tuberosus m arvense is palustris		10 10 10		FAC FAC OBL	Prevalence Index = B/A =			
6 7 8 9 10		TullOurs			  	Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is ≦3.0*  Morphological Adaptations* (Prov data in remarks or on a separate s	heet)		
Woody Vine Strat	um (Plot size:	Total Cover:	100			Problematic Hydrophytic Vegetatic *Indicators of hydric soil and wetland hydro	· · · /		
1 2		Total Cover:				Hydrophytic Vegetation Ye Present?	s No		
Remarks: (Includ	le photo numbers here	or on a separate shee	t.)						

Project/Site:	NICTD West Lake Corridor	City/County: La	ke County	Sampling Date: 28-Sep-15					
Applicant/Owner:				State: IN Sampling Point: Wetland 17					
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Townsl	hip, Range:						
Landform (hillside,	terrace, etc.):			Local relief (concave, convex, none:					
Slope %:	Lat:		Long:	Datum:					
Soil Unit Name:	Rensselaer loam, calcareous subsoil vari	iant, Bono silty clay		NWI Classification: None					
Are climatic / hydro	ologic conditions on the site typical for this tim	ne of year?	Yes	No					
Are Vegetation	Soil or hydrology	Significantly disturbed?	А	re "Normal Circumstances" present? Yes No					
Are Vegetation	Soil or hydrology	Naturally problematic?	(i	f needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent? Yes	No No		Is the Sampling Area Yes x No					
Remarks: Wetland investiga	ation used Approach B, which entails identifyin	ng the dominant species ar	nd does not	include collecting soil samples or calculating floristic quality.					
VEGETATION -	- Use scientific names of plants.								
<u>Tree Stratum</u> 1 2	(Plot size: 30ft )		ndicator Status 	Dominance Test Worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC(A)					
3. <u></u> 4. <u></u> 5. <u></u>			 	Total Number of Dominant Species Across All Strata:  (B)					
Sapling/Shrub Str	Total Cover: <u>ratum</u> (Plot size: <u>15ft</u> )			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)					
2 3 4 5	Total Cover:			Prevalence Index Worksheet:           Total % Cover of         Multiply by:           OBL species         x 1 = 0           FACW species         x 2 = 0           FAC species         x 3 = 0					
Herb Stratum  1. phragmit 2. lythrum s 3 4 5	(Plot size: <u>5ft</u> )  es australis salicaria		FACW+ OBL	FACU species					
6 7 8 9 10	Total Cover:			Hydrophytic Vegetation Indicators:					
Woody Vine Strat			_	*Indicators of hydric soil and wetland hydrology must be present.					
1 2	Total Cover:			Hydrophytic  Vegetation Yes No  Present?					
Remarks: (Includ	le photo numbers here or on a separate shee	vt.)							

US Army Corps of Engineers

Project/Site NICTD West Lake Corridor	City/	City/County: Lake Cou		inty Sampling Date:	9/28/15	
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 18	
Investigator(s): Anna Hochhalter and Scott Beckmeye	r	Sect	ion, Townshi	ip, Range:		
Landform (hillslope, terrace, etc.):		Local	relief (conca	ve, convex, none):		
Slope (%):		Long:		Datum:		
Soil Map Unit NameBono silty clay		NWI Classification: None				
Are climatic/hydrologic conditions of the site typical for	this time of	of the year? (If no, explain in remarks)				
Are vegetation , soil X , or hydrolo	gy	significantly	y disturbed?	Are "normal circun	nstances"	
Are vegetation , soil X , or hydrolo	gy	naturally p	roblematic?	7.10 1.01.110.1 0.1 0.1.1	present?	
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)	
Hydrophytic vegetation present? Y						
Hydric soil present? Y		Is the s	sampled are	a within a wetland?	Υ	
Indicators of wetland hydrology present? Y		If yes, o	ptional wetla	nd site ID:		
Remarks: (Explain alternative procedures here or in a	senarate r	enort )				
Tromaine. (Explain alternative procedures here of in a	copulato i	00011.)				
No Soil sample taker	n becaus	se of rip-rap	on edges	with open water		
VEGETATION Use scientific names of plan	te					
·	Absolute	Dominant	Indicator	Dominance Test Worksh	eet	
	% Cover	Species	Staus	Number of Dominant Specie		
1		·		that are OBL, FACW, or FAC		
2				Total Number of Dominar	nt	
3				Species Across all Strata	a: (B)	
4				Percent of Dominant Specie		
5				that are OBL, FACW, or FAC	: 100.00% (A/B)	
Capling/Chruh stratus (Diet size:	0	= Total Cove	r	Prevalence Index Works	haat	
Sapling/Shrub stratun (Plot size:)  1 phragmites australis	5	Υ	FACW	Total % Cover of:	neet	
2 typha angustifolia	5	<u>'</u>	OBL	OBL species 5 x	1 = 5	
3					2 = 10	
4					3 = 0	
5				FACU species 0 x	4 = 0	
	10	= Total Cove	r	· —	5 = 0	
Herb stratum (Plot size:)				Column totals 10 (A	15 (B)	
1				Prevalence Index = B/A =	1.50	
2						
3				Hydrophytic Vegetation Rapid test for hydroph		
5				X Dominance test is >50		
6				X Prevalence index is ≤3		
7				Morphogical adaptatio	ns* (provide	
8				supporting data in Rer	**	
9				separate sheet)		
10				Problematic hydrophyt	tic vegetation*	
	0	= Total Cove	r	(explain)		
Woody vine stratum (Plot size:)				*Indicators of hydric soil and we		
1 2				present, unless disturbe	ed or problematic	
	0	= Total Cove	<u></u>	vegetation		
	·		•	present? Y	<u>_</u>	
Remarks: (Include photo numbers here or on a separa	te sheet)					

SOIL								Sa	mpling Point:	Wetland 18
Profile Desc	cription: (Descri	be to the	e depth needed	to docur	nent the	indicato	or or confirm the	absence	of indicators.)	
Depth	Matrix		Re	dox Feat	ures					
(Inches)	Color (moist)	%	Color (moist)	% I	Type*	Loc**	Texture	3	Rem	arks
	Concentration, D =	Depletion	on, RM = Reduce	d Matrix,	MS = M	asked Sa			PL = Pore Lining	
-	il Indicators:								ematic Hydric So	
	tisol (A1)				ed Matrix	(S4)			lox (A16) (LRR K	, <b>L</b> , R)
	ic Epipedon (A2)			ndy Redo	` '			•	) (LRR K, L)	D.K. I. D.
	ck Histic (A3) Irogen Sulfide (A4	1.		pped Ma	trix (S6) ky Minera	SI (E1)			or Peat (S3) ( <b>LR</b> Masses (F12) ( <b>LR</b>	
	atified Layers (A5)	-			ed Matrix			_	k Surface (TF12)	.K K, L, K)
	n Muck (A10)				atrix (F3)	(12)	X Other (			
	leted Below Dark	Surface			Surface	(F6)			,	
	ck Dark Surface (A			oleted Da	ark Surfac	ce (F7)	*Indicato	ors of hydro	ophytic vegetatior	n and weltand
San	idy Mucky Minera	l (S1)	Red	dox Depr	essions (	(F8)			e present, unless	
									problematic	
Restrictive	Layer (if observe	ed):								
Type:					_		Hydric so	oil present	t? <u>Y</u>	
Depth (inche	es):				-					
Remarks:						•				
Bono silt	•									
High Red	dox Concentrati	ion								
HYDROLO	OGY									
	drology Indicato	rs:								
_	cators (minimum o		required; check a	all that ap	ply)		Sec	ondary Ind	licators (minimum	of two required
X Surface	Water (A1)		•	Aquatic	 Fauna (B	13)	<u></u>	-	Soil Cracks (B6)	
High Wa	ter Table (A2)				uatic Plar			Drainage	Patterns (B10)	
Saturation	` '				n Sulfide	,	·	_	on Water Table (C	2)
	arks (B1)				d Rhizosp	heres on	Living Roots		Burrows (C8)	Imagany (CO)
	nt Deposits (B2) posits (B3)			(C3)	e of Redu	iced Iron	(C4)		n Visible on Aerial or Stressed Plants	
	it or Crust (B4)			-			illed Soils	_	hic Position (D2)	,51)
	osits (B5)			(C6)				_	tral Test (D5)	
	on Visible on Aeria				ck Surfac	` '		_		
	Vegetated Conca		ce (B8)	_	or Well Da					
	tained Leaves (B9)	)		Other (E	xplain in	Remarks	)			
Field Obser Surface water		Yes	No		Denth /i	nchee).				
Water table		Yes	No		Depth (i Depth (i	-		Ind	licators of wetlar	nd
Saturation p		Yes	No		Depth (i	,			drology present	
	pillary fringe)				· ` `					
Describe rec	orded data (strea	m gauge	e, monitoring well,	aerial pl	hotos, pro	evious in	spections), if ava	ilable:		
Remarks:										
Remarks:										

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	inty Sampling Date:	9/28/15	
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 19	
Investigator(s): Anna Hochhalter and Scott Beckmey	/er	Sect	tion, Townshi	ip, Range:		
Landform (hillslope, terrace, etc.):		Local	relief (concav	ve, convex, none):		
Slope (%):		Long:		Datum:		
Soil Map Unit NameBono silty clay		NWI Classification: None				
Are climatic/hydrologic conditions of the site typical for	or this time of	of the year?	(	If no, explain in remarks)		
Are vegetation , soil , or hydro	logy	significantly	y disturbed?	Are "normal circum	stances"	
Are vegetation , soil , or hydro			roblematic?		present?	
SUMMARY OF FINDINGS				(If needed, explain any ans	swers in remarks.)	
Hydrophytic vegetation present? Y						
Hydric soil present? Y	_	Is the s	sampled are	a within a wetland?	Υ	
Indicators of wetland hydrology present? Y	_	If yes, o	ptional wetla	nd site ID:		
Remarks: (Explain alternative procedures here or in	a senarate r	enort )				
Tomario: (Explain altomative presented here of the	a coparato i	oport.)				
<b>VEGETATION</b> Use scientific names of pla	nts.					
	Absolute	Dominant	Indicator	Dominance Test Worksho	eet	
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Species		
1				that are OBL, FACW, or FAC	`	
2				Total Number of Dominan Species Across all Strata		
3				·	``	
5				Percent of Dominant Species that are OBL, FACW, or FAC		
	0	= Total Cove	er	, , , , , , , , , , , , , , , , , , , ,	(12)	
Sapling/Shrub stratur (Plot size:	)			Prevalence Index Worksh	neet	
1 populus deltoides	10	Y	FAC	Total % Cover of:		
2 salix interior	10	Υ	FACW	OBL species 72 x 1	= 72	
3				FACW species 82 x 2		
4				FAC species 10 x 3		
<sup>5</sup>	20	= Total Cove		FACU species 0 x 4 UPL species 0 x 5		
Herb stratum (Plot size:	1 20	- Total Cove	:1	Column totals 164 (A)		
1 phragmites australis	, 70	V	FACW	Prevalence Index = B/A =	1.62	
2 eleocharis palustris	50	<u> </u>	OBL	Trevalence index - b/A -	1.02	
3 bidens cernua	20	N	OBL	Hydrophytic Vegetation I	ndicators:	
4 juncus torreyi	2	N	FACW	Rapid test for hydrophy		
5 lythrum salicaria	2	N	OBL	X Dominance test is >50°	%	
6				X Prevalence index is ≤3	.0*	
7				Morphogical adaptation	ns* (provide	
8				supporting data in Rem	narks or on a	
9				separate sheet)		
10	144	= Total Cove		Problematic hydrophyti (explain)	ic vegetation*	
Woody vine stratum (Plot size:	)	- Total Cove	ii			
1	,			*Indicators of hydric soil and we present, unless disturbed		
2				Hydrophytic		
	0	= Total Cove	er	vegetation		
				present? Y	=	
Remarks: (Include photo numbers here or on a sepa	rate sheet)					

SOIL							S	ampling Point:	Wetland 19	
Profile Des	cription: (Descri	be to the	depth needed	to docur	ment the	indicato	or or confirm the absenc	e of indicators.)		
Depth	<u>Matrix</u>		Re	dox Feat	lures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Ren	narks	
0 - 16	2.5Y 2.5/1	10	2.5Y 5/6	10	RM	М	Silty Clay Loam			
	5Y 4/2	80						Gleyed Appea	rance	
16+								gravel		
					1					
*Type: C = 0	Concentration, D =	· Depletion	on, RM = Reduce	ed Matrix	, MS = M	asked Sa		n: PL = Pore Linin		
Hydric Sc	oil Indicators:						Indicators for Probl	ematic Hydric Se	oils:	
His	stisol (A1)		Sa	ndy Gley	ed Matrix	(S4)		dox (A16) (LRR k	<b>(</b> , L, R)	
His	stic Epipedon (A2)		Sa	ndy Redo	эх (S5)		Dark Surface (S	7) ( <b>LRR K, L)</b>		
Bla	ick Histic (A3)		Str	ipped Ma	atrix (S6)		5 cm Mucky Pea	at or Peat (S3) ( <b>LF</b>	₹R K, L, R)	
Hyd	drogen Sulfide (A4	.)	Lo	amy Muc	ky Minera	al (F1)	Iron-Manganese	Masses (F12) (L	RR K, L, R)	
Stra	atified Layers (A5)		Lo	amy Gley	ed Matrix	x (F2)	Very Shallow Da	ark Surface (TF12	)	
2 ci	m Muck (A10)		X De	pleted Ma	atrix (F3)		Other (explain in	remarks)		
Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)							•			

Stratified Layers (A5)	Lo	amy Gleyed Matrix (F2)	Matrix (F2) Very Shallow Dark Surface (TF12)			
2 cm Muck (A10)		pleted Matrix (F3)	Other (explain in remarks)			
Depleted Below Dark Surface (A	11) — Re	dox Dark Surface (F6)				
Thick Dark Surface (A12)	De	pleted Dark Surface (F7) *	Indicators of hydrophytic vegetation and weltand			
Sandy Mucky Mineral (S1)	Re	dox Depressions (F8)	hydrology must be present, unless disturbed or			
<del></del>			problematic			
Restrictive Layer (if observed):						
Type: gravel		H	ydric soil present? Y			
Depth (inches): 16			· <u>——</u>			
Remarks:						
Bono silty clay						
High Redox Concentration						
riigii Nedox Concentiation						
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one is rec	uired; check	all that apply)	Secondary Indicators (minimum of two required)			
X Surface Water (A1)	•	Aquatic Fauna (B13)	Surface Soil Cracks (B6)			
X High Water Table (A2)		True Aquatic Plants (B14)	Drainage Patterns (B10)			
Saturation (A3)		Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)			
Water Marks (B1)		Oxidized Rhizospheres on Living Ro	ots Crayfish Burrows (C8)			
Sediment Deposits (B2)		(C3)	Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)			
X 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 (B	7)	Thin Muck Surface (C7)	<del></del>			
Sparsely Vegetated Concave Surface (	B8)	Gauge or Well Data (D9)				
Water-Stained Leaves (B9)		Other (Explain in Remarks)				
Field Observations:						
Surface water present? Yes	X No	Depth (inches):				
Water table present? Yes	X No	Depth (inches):	Indicators of wetland			
Saturation present? Yes	X No	Depth (inches):	hydrology present? Y			
(includes capillary fringe)						
Describe recorded data (stream gauge, m	nonitoring wel	I, aerial photos, previous inspections	s), if available:			
Demodes						
Remarks:						

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	inty Sampling Date:	9/28/15	
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 20	
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Sect	ion, Townsh	ip, Range:		
Landform (hillslope, terrace, etc.):		Local	relief (conca	ve, convex, none):		
Slope (%): Lat:		Long:		Datum:		
Soil Map Unit NameBono silty clay			NWI	Classification:	None	
Are climatic/hydrologic conditions of the site typical for	r this time o	of the year?		If no, explain in remarks)		
Are vegetation , soil X , or hydrole	ogy X	significantly	/ disturbed?	Are "normal circum	estances"	
Are vegetation , soil , or hydrole	ogy	naturally pr	oblematic?		present?	
SUMMARY OF FINDINGS				(If needed, explain any ans	swers in remarks.)	
Hydrophytic vegetation present? Y						
Hydric soil present? Y	1	Is the sampled area within a wetland?				
Indicators of wetland hydrology present?	1	If yes, optional wetland site ID:				
Remarks: (Explain alternative procedures here or in a	senarate r	enort )				
Tremane. (Explain alternative procedures here of in a	ocparate r	ороги,				
Detention basin. Wetland soils were no	ot obtaine	d due to rip	o-rap along	g the embankment and o	pen water.	
VEGETATION Use scientific names of plar	nte					
- Ose scientific frames of plan	Absolute	Dominant	Indicator	Dominance Test Worksh	eet	
Tree Stratum (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie		
1		•		that are OBL, FACW, or FAC		
2				Total Number of Dominar	nt .	
3				Species Across all Strata	a: (B)	
4				Percent of Dominant Specie		
5				that are OBL, FACW, or FAC	: 100.00% (A/B)	
Openier of Objects of State of	0	= Total Cove	r	Duranta and the day Wasterland	h 4	
Sapling/Shrub stratum (Plot size:)  1 salix interior	20	Y	FACW	Prevalence Index Worksl Total % Cover of:	neet	
2			TACVV	OBL species 25 x	1 = 25	
3				FACW species 20 x 2		
4					3 = 0	
5				FACU species 0 x 4	4 = 0	
	20	= Total Cove	r	UPL species 0 x 5	5 = 0	
Herb stratum (Plot size:)				Column totals 45 (A	) <u>65</u> (B)	
1 eleocharis palustris	20	Y	OBL	Prevalence Index = B/A =	1.44	
2 lythrum salicaria	5	<u>Y</u>	OBL			
3				Hydrophytic Vegetation I		
5				Rapid test for hydroph  X Dominance test is >50	-	
6				X Prevalence index is ≤3		
7				Morphogical adaptatio		
8				supporting data in Ren	"	
9				separate sheet)		
10				Problematic hydrophyt	ic vegetation*	
	25	= Total Cove	r	(explain)		
Woody vine stratum (Plot size:)				*Indicators of hydric soil and we		
1				present, unless disturbe  Hydrophytic	d or problematic	
	0	= Total Cove		vegetation		
	U	- Total Cove	ı	present? Y		
Remarks: (Include photo numbers here or on a separa	ate sheet)				_	
	,					

SOIL									S	ampling Point:	Wetland 20
Profile Desc	cription: (Descri	be to the	e depth n	eeded	to docur	ment the	indicato	or or confirm	the absence	e of indicators.)	
Depth	Matrix				dox Feat						
(Inches)	Color (moist)	%	Color (ı		%	Type*	Loc**	Tex	cture	Rem	arks
,	(		(	/		1				-	-
					<u> </u>					<u> </u>	
	Concentration, D =	Depleti	on, RM =	Reduce	d Matrix,	, MS = Ma	asked Sa			n: PL = Pore Lining	
	il Indicators:									lematic Hydric So	
	tisol (A1)		_			ed Matrix	(S4)			edox (A16) (LRR K	(, L, R)
	tic Epipedon (A2)		_		ndy Redo					7) ( <b>LRR K, L)</b>	
	ck Histic (A3)		_		pped Ma	. ,			=	at or Peat (S3) ( <b>LR</b>	
	Irogen Sulfide (A4	,	_		•	ky Minera	. ,		-	Masses (F12) ( <b>LF</b>	
Stratified Layers (A5)  Loamy Gleyed Matrix (F2)  Very Shallow Dark Surface (TF							)				
	n Muck (A10)		_			atrix (F3)		Oth	er (explain ir	remarks)	
	oleted Below Dark		(A11) _			Surface					
	ck Dark Surface (A	,	_			ark Surfac			•	Irophytic vegetatio	
San	ndy Mucky Minera	I (S1)	-	Red	dox Depr	essions (	F8)	hyd	rology must	be present, unless problematic	disturbed or
Restrictive	Layer (if observe	ed):									
Type:	, ,	,						Hydri	c soil prese	nt? Y	
Depth (inche	es):					-		•	•		
Remarks:	· -										
Detentio	n basın										
	ncv										
HYDROLO											
_	drology Indicato										
-	cators (minimum o	of one is	required;	check a				<u> </u>	=	<u>idicators (minimun</u>	n of two required
X Surface	, ,					Fauna (B	,			Soil Cracks (B6)	
High Water Table (A2)  Saturation (A3)  True Aquatic Plants Hydrogen Sulfide Oc								e Patterns (B10)			
Saturation	` '									son Water Table (C	52)
	arks (B1)					d Rhizosp	heres on	Living Roots		Burrows (C8)	l (00)
	nt Deposits (B2)				(C3)	f D d		(04)		on Visible on Aerial	
	oosits (B3)				-	e of Redu				or Stressed Plants	(וטו)
	nt or Crust (B4) nosits (B5)				(C6)	iron Redu	Ction in 1	illed Soils		phic Position (D2) eutral Test (D5)	
	on Visible on Aerial	l Imagery	(B7)		_	ck Surfac	o (C7)		FAC-NE	uliai Test (D5)	
	Vegetated Concar				-	or Well Da	. ,				
	tained Leaves (B9)		30 (20)		_ ~	Explain in I	` '	)			
Field Obser	` '			_	- 011101 (2	-хрічіі і і	rtomarko,	/	<u> </u>		
Surface water		Yes	Х	No		Depth (i	nchee).				
Water table	•	Yes		No		Depth (i			In	dicators of wetla	nd
Saturation p	•	Yes	X	No		Depth (i	-		_	ydrology presen	
(includes ca				•		-  -	<b>55</b> /.		•   •	, 1 5, p. 130	<del></del>
	corded data (strea	m nauna	monitori	ווביעי חת	aerial n	hotos pr	avioue in	snections) if	availahle.		
DOGGING ICC	o. aca dala (sii ca	gauge	,otori	. 19 WEII	, acriai pi	, pre	. v.ous III	opoolionoj, II	avanabic.		
Remarks:											

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	inty Sampling Date: 9/28/15		
Applicant/Owner:	<del>-</del>	State:	IN	Sampling Point: Wetland 21		
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Section, Township, Range:				
Landform (hillslope, terrace, etc.):		Local r	elief (concav	ve, convex, none):		
Slope (%):		Long:		Datum:		
Soil Map Unit NameBono silty clay		NWI Classification: None				
Are climatic/hydrologic conditions of the site typical fo	or this time c	of the year?	(1	lf no, explain in remarks)		
Are vegetation , soil X , or hydrole	logy X	significantly	disturbed?	Are "normal circumstances"		
Are vegetation , soil , or hydrole	logy	naturally problematic? present?				
SUMMARY OF FINDINGS				(If needed, explain any answers in remarks.)		
Hydrophytic vegetation present? Y						
Hydric soil present? Y	-	Is the sampled area within a wetland?				
Indicators of wetland hydrology present? Y	<u> </u>	If yes, optional wetland site ID:				
Remarks: (Explain alternative procedures here or in a	separate r	enort.)				
Tremano. (Explain alternative procedures note 5 a	Госранию.	сроп.,				
Detention basin. No soil s	sample tal	ken becaus	se of rip-ra	p and standing water.		
VEGETATION Use scientific names of plar	nto					
VEGETATION USE SCIENTIFIC HARRIES OF PIAT		Daminont	Indicator	Dominance Test Worksheet		
<u>Tree Stratum</u> (Plot size: )	Absolute % Cover	Dominant Species	Indicator Staus	Number of Dominant Species		
1	,, ,,	000000		that 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				that are OBL, FACW, or FAC: 100.00% (A/B)		
	0 :	= Total Cover				
Sapling/Shrub stratum (Plot size:)		v	= 1 O M	Prevalence Index Worksheet		
1 salix interior	20	<u> </u>	FACW	Total % Cover of:		
2				OBL species 52 x 1 = 52 FACW species 20 x 2 = 40		
4				FAC species 0 x 3 = 0		
5				FACU species 0 x 4 = 0		
	20	= Total Cover		UPL species 0 x 5 = 0		
Herb stratum (Plot size:)	,			Column totals 72 (A) 92 (B)		
1 eleocharis palustris	40	Υ	OBL	Prevalence Index = B/A = 1.28		
2 lythrum salicaria	10	N	OBL			
3 Cyperus erythrorhizos	2	N	OBL	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 separate sheet)		
10				Problematic hydrophytic vegetation*		
	52	= 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)	_	_	<del></del>		

SOIL									Sa	ampling Point:	Wetland 21
Profile Desc	cription: (Descri	be to the	e depth no	eded	to docur	nent the	indicato	or or confirm	the absence	of indicators.)	
Depth	Matrix				dox Feat					,	
(Inches)	Color (moist)	%	Color (r	noist)	%	Type*	Loc**	Text	ure	Rem	arks
*Type: C = C	Concentration, D =	Depletion	on. RM = [	Reduce	d Matrix.	MS = M	asked Sa	and Grains.	**Location	: PL = Pore Lining	ı. M = Matrix
	il Indicators:	200.00	,							ematic Hydric So	
-	isol (A1)			Sar	ndy Gleye	ed Matrix	(S4)			dox (A16) (LRR K	
	ic Epipedon (A2)		_		ndy Redo		` '			') (LRR K, L)	, ,
	ck Histic (A3)		_		pped Ma	. ,		5 cm	Mucky Pea	t or Peat (S3) (LR	R K, L, R)
Hyd	rogen Sulfide (A4	.)	_	Loa	amy Mucł	ky Minera	al (F1)			Masses (F12) (LF	
Stra	tified Layers (A5)		_	Loa	my Gley	ed Matrix	(F2)	Very	Shallow Da	rk Surface (TF12)	
2 cm	n Muck (A10)		_	Dep	oleted Ma	atrix (F3)		Othe	er (explain in	remarks)	
Dep	leted Below Dark	Surface	(A11)	Red	dox Dark	Surface	(F6)				
	ck Dark Surface (A	,	_	Dep	oleted Da	ırk Surfac	ce (F7)	*Indic	ators of hydr	ophytic vegetation	n and weltand
San	dy Mucky Mineral	l (S1)		Red	dox Depr	essions (	(F8)	hydr	ology must b	e present, unless	disturbed or
										problematic	
Restrictive	Layer (if observe	ed):									
Type:								Hydric	soil presen	t? Y	
Depth (inche	es):					•					
Remarks:						•					
Detention	n hasin										
Determo	i basiii										
HYDROLO	OGY										
Wetland Hy	drology Indicato	rs:									
-	cators (minimum o		required:	check a	all that an	(vla		s	econdary Inc	dicators (minimum	of two required
X Surface	•					<del>=:,,</del> Fauna (B	13)	<u> </u>	-	Soil Cracks (B6)	ron two rodanoa
	ter Table (A2)				_ '	uatic Plan	,	-		Patterns (B10)	
Saturation						n Sulfide		<b>-</b>		son Water Table (C	(2)
Water M	arks (B1)				Oxidized	l Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)	
Sedimen	t Deposits (B2)				(C3)			_	Saturation	on 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		ohic Position (D2)	
•	osits (B5)	Imagan	(D7)		(C6)	-l- Of	- (07)	<del>-</del>	FAC-Neu	utral Test (D5)	
	on Visible on Aerial  Vegetated Conca		` '		-	ck Surfac	` '				
	tained Leaves (B9)		е (во)		_	r Well Da xplain in		1			
	<u> </u>			_	-	хріант ні	r Ciliano,	,			
Field Obser Surface water		Yes	X	No		Depth (i	nches).				
Water table	•	Yes		No		Depth (i			Inc	dicators of wetlar	nd
Saturation p		Yes	X	No		Depth (i	•			ydrology present	
(includes car							/-			. 0,,	
	orded data (strea	m gauge	e. monitorii	na well	aerial ni	notos, pre	evious in:	spections), if a	available		
	222 23.00 (0.00	. 32030	,	3	, pi	2.2.2, PI		- r			
Remarks:											

Project/Site:	NICTD West Lake Corridor	City/County: Cook (	County Sampling Date: 29-Sep-15
Applicant/Owner:			State: IL Sampling Point: Wetland 22
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township,	Range:
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:
Slope %:	Lat:		Long: Datum:
Soil Unit Name:	Landfill		NWI Classification: None
Are climatic / hydro	ologic conditions on the site typical for this tim	ne of year?	Yes No
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Attach site map showi	ing sampling point locati	ons, transects, important features, etc.
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes x No
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ing the dominant species and do	pes not include collecting soil samples or calculating floristic quality.
VEGETATION	- Use scientific names of plants.		
Total Otrostone	(Plateine 200)	Absolute Dominant Indica	
Tree Stratum  1	(Plot size: 30ft )	% Cover Species? State	·
2			
3. <u></u> 4. <del></del>			
5	_		
	Total Cover:		Percent of Dominant Species
Sapling/Shrub St	ratum (Plot size: 15ft )		That Are OBL, FACW, or FAC:(A/B)
2			Prevalence Index Worksheet:
3			Total % Cover of Multiply by:
4. <u></u> 5. <del></del>			
	Total Cover:		FAC species x 3 = 0
Herb Stratum	(Plot size: 5ft )		FACU species x 4 = 0
	tes australis	FAC	W+         UPL species         x 5 =         0
2. <u>bidens c</u>	ernua	OB	
3. <u></u> 4. <del></del>			
5			
6			Hydrophytic Vegetation Indicators:
7. <u></u> 8. <del></del>			
9			<del></del>
10			data in remarks or on a separate sheet)
	Total Cover:		Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stra	tum (Plot size: 15ft )		*Indicators of hydric soil and wetland hydrology must be present.
1. <u></u>			
2	Total Cover:		Vegetation Yes No
Barra I. "	Is about a comban.	-()	Present?
Remarks: (Includ	de photo numbers here or on a separate shee	et.)	

Project/Site:	NICTD West Lake Corridor	City/County: Cook Co	unty Sampling Date:	29-Sep-15
Applicant/Owner:			State: <u>IL</u> Sampling Point:	Wetland 23
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township, Ra	inge:	
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:	
Slope %:	Lat:	L	.ong:	Datum:
Soil Unit Name:	Landfill		NWI Classification:	
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year? Y	res No	
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present?	Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)	
SUMMARY OF	FINDINGS - Attach site map showi	ing sampling point location	ns, transects, important features, etc.	
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes within a Wetland?	xNo
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ing the dominant species and does	s not include collecting soil samples or calculating	floristic quality.
VEGETATION	- Use scientific names of plants.			
Tree Stratum	(Plot size: 30ft )	Absolute Dominant Indicato % Cover Species? Status		
1 2			That Are OBL, FACW, or FAC	(A)
3			Total Number of Dominant	(5)
4. <u></u> 5			Species Across All Strata:	(B)
	Total Cover:		Percent of Dominant Species	
Sapling/Shrub St	ratum (Plot size: 15ft )		That Are OBL, FACW, or FAC:	(A/B)
2			Prevalence Index Worksheet:	
3. <u></u> 4			Total % Cover of Multiply by:  OBL species x 1 =	
5			FACW species x 2 =	0
	Total Cover:		FAC species x 3 =	0
Herb Stratum	(Plot size: 5ft )		FACU species x 4 =	0
1. <i>phragmi</i> 2	tes australis	FACW+	UPL species x 5 = Column Totals (A)	0 (B)
3			<u> </u>	( /
4. <u></u> 5			Prevalence Index = B/A =	
6	_		Hydrophytic Vegetation Indicators:	
7. <u></u>			Dominance Test is >50%	
8. <u></u> 9. <del></del>		<del></del>	Prevalence Index is ≦3.0*  Morphological Adaptations* (Provides)	de supportina
10			data in remarks or on a separate sh	
	Total Cover:		Problematic Hydrophytic Vegetation	n (Explain)
Woody Vine Stra	tum (Plot size: 15ft )		*Indicators of hydric soil and wetland hydro	ogy must be present.
1. <u></u> 2	-		Hydrophytic	
	Total Cover:			No
Remarks: (Include	de photo numbers here or on a separate shee	et.)		

Project/Site:	NICTD West Lake Corridor	City/County: Cook C	Sampling Date: 29-Sep-15
Applicant/Owner:			State: <u>IL</u> Sampling Point: <u>Wetland 24</u>
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township, R	ange:
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:
Slope %:	Lat:		Long: Datum:
Soil Unit Name:	Landfill		NWI Classification: None
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year?	Yes No
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Attach site map showi	ng sampling point location	ons, transects, important features, etc.
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area within a Wetland?  Yes
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ng the dominant species and doe	es not include collecting soil samples or calculating floristic quality.
VEGETATION	- Use scientific names of plants.		
Tree Stratum	(Plot size: 30ft )	Absolute Dominant Indicat % Cover Species? Statu	
1. Acer Ne		FACV	·
2. <u></u> 3. <del></del>			Total Number of Dominant
4			Species Across All Strata: (B)
5			<u> </u>
	Total Cover:		Percent of Dominant Species
Sapling/Shrub St 1	ratum (Plot size: 15ft )		That Are OBL, FACW, or FAC:(A/B)
2			Prevalence Index Worksheet:
3. <u></u> 4		<del></del>	OBL species
5			FACW species x 2 = 0
	Total Cover:		FAC species x 3 = 0
Herb Stratum	(Plot size: 5ft )		FACU species x 4 = 0
	tes australis	FACW	
2. <u></u> 3. <del></del>			Column Totals 0 (A) 0 (B)
3. <u></u> 4			Prevalence Index = B/A =
5			
6. <u></u>			Hydrophytic Vegetation Indicators:
7. <u></u> 8. <del></del>	<u> </u>		Dominance Test is >50% 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 Stra	tum (Plot size: 15ft )		*Indicators of hydric soil and wetland hydrology must be present.
1. <u></u>			
2			Hydrophytic
	Total Cover:		Vegetation Yes No
Remarks: (Include	de photo numbers here or on a separate shee	et.)	

Project/Site:	NICTD West Lake Corridor	City/County: Cook Co	Sampling Date: 29-	Sep-15
Applicant/Owner:			State: IL Sampling Point: We	tland 25
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township, R	ange:	
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:	
Slope %:	Lat:		Long: D	atum:
Soil Unit Name:	Landfill		NWI Classification: Nor	ne
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year?	Yes No	
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present?	Yes No
	Soil or hydrology		(if needed, explain any answers in Remarks.)	
SUMMARY OF	FINDINGS - Attach site map showi		ns, transects, important features, etc.	
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes	x No
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ing the dominant species and doe	es not include collecting soil samples or calculating flor	istic quality.
VEGETATION	- Use scientific names of plants.			
Tree Stratum  1. Acer Ne	(Plot size: <u>30ft</u> ) gundo	Absolute Dominant Indicat % Cover Species? Status FACW	Number of Dominant Species	(A)
2 3			Total Number of Dominant	(D)
4 5			Species Across All Strata:	(B)
Sapling/Shrub Str	Total Cover: ratum (Plot size: 15ft )		Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
	s frangula ,	FAC+		
3. <u></u> 4				0
5			FACW species x 2 =	0
Llaula Chrahiina	Total Cover:			0
	(Plot size: <u>5ft</u> ) tes australis	FACW		0 (D)
2. <u></u> 3. <u></u>			Column Totals 0 (A)	<b>0</b> (B)
4. <u></u> 5. <del></del>	_		Prevalence Index = B/A =	
6. <del></del>			Hydrophytic Vegetation Indicators:	
7. <u></u> 8. <del></del>			Dominance Test is >50% Prevalence Index is ≦3.0*	
9. <u></u> 10			Morphological Adaptations* (Provide sudata in remarks or on a separate sheet)	
10			Problematic Hydrophytic Vegetation (E:	
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology	. ,
1. <u></u> 2. <del></del>			Hydrophytic	
2	Total Cover:		Hydrophytic Vegetation Yes Present?	No
Remarks: (Include	de photo numbers here or on a separate shee	et.)		

Project/Site:	NICTD West Lake Corridor	City/County: Lake C	Sampling Date: 29-Sep-15
Applicant/Owner:			State: IN Sampling Poin and 25
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Township,	Range:
Landform (hillside,	terrace, etc.):		Local relief (concave, convex, none:
Slope %:	Lat:		Long: Datum:
Soil Unit Name:	Landfill		NWI Classification:
Are climatic / hydro	ologic conditions on the site typical for this tim	ne of year?	Yes No
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Attach site map showi	ing sampling point locati	ions, transects, important features, etc.
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes x No
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ing the dominant species and d	oes not include collecting soil samples or calculating floristic quality.
VEGETATION	- Use scientific names of plants.		
Tree Stratum  1. Acer Ne	(Plot size: <u>30ft</u> ) gundo	Absolute Dominant Indication   % Cover Species? State   FAC	tus Number of Dominant Species
2 3			Total Number of Dominant
4 5			(=)
0 11 101 1 01	Total Cover:		Percent of Dominant Species
	ratum (Plot size: 15ft ) s frangula	FAC	
2. <u></u> 3. <u></u>			Total % Cover of Multiply by:
4. <u></u> 5. <del></del>			X1
	Total Cover:		FAC species x 3 = 0
Herb Stratum  1. phragmin	(Plot size: <u>5ft</u> ) tes australis	FAC	FACU species x 4 =0 W+ UPL species x 5 =0
2. <u></u> 3			Column Totals 0 (A) 0 (B)
4			
5. <u></u> 6			Hydrophytic Vegetation Indicators:
7. <u></u> 8			
9			Morphological Adaptations* (Provide supporting
10			data in remarks or on a separate sheet)
Woody Vine Strat	Total Cover: tum (Plot size: 15ft )		Problematic Hydrophytic Vegetation (Explain) *Indicators of hydric soil and wetland hydrology must be present.
1	(Flot 320		
2. <u></u>	Total Cover:		Hydrophytic  Vegetation Present?  Hydrophytic  Yes No
Remarks: (Include	de photo numbers here or on a separate shee	et.)	1

Project/Site NICTD West Lake Corridor	City/	County:	Cook Cour	nty Sampling Date:	09/29/15	
Applicant/Owner:	_	State:	IL	Sampling Point:	Wetland 26	
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section	on, Townshi	hip, Range:		
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):		
Slope (%): Lat: 41.646		Long:	-87.581	Datum:		
Soil Map Unit NameWatseka silty clay loam, Plainfiled I	oamy sar		sandyNWI (	Classification: PFO1C	, PEMA, PEMC	
Are climatic/hydrologic conditions of the site typical for t	this time c	of the year?	(I	f no, explain in remarks)		
Are vegetation , soil , or hydrolog	<b>З</b> У	significantly	disturbed?	Are "normal circun	nstances"	
Are vegetation , soil , or hydrolog	ју	naturally pro	oblematic?	,	present?	
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)	
Hydrophytic vegetation present? Y						
Hydric soil present? Y		Is the sa	ampled area	a within a wetland?	Υ	
Indicators of wetland hydrology present? Y		If yes, op	tional wetlar	nd site ID:		
Remarks: (Explain alternative procedures here or in a s	eparate r	eport.)				
(2.p.a a p. 2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	000.0	op 5,				
VEGETATION Use scientific names of plants	<u> </u>					
	Absolute	Dominant	Indicator	Dominance Test Worksh	 neet	
	% Cover	Species	Staus	Number of Dominant Specie		
1 populus deltoides	5	Υ	FAC	that are OBL, FACW, or FAC		
2				Total Number of Domina	nt	
3				Species Across all Strata	a: (B)	
4				Percent of Dominant Specie		
5		T (-1 Cover		that are OBL, FACW, or FAC	C: 100.00% (A/B)	
Sapling/Shrub stratum (Plot size: )	5	= Total Cover		Prevalence Index Works	haat	
Sapinig/Siliub straturi (Flot size				Total % Cover of:	neer	
				OBL species 60 x	1 = 60	
3					2 = 0	
4				· —	3 = 15	
5				FACU species 0 x	4 = 0	
	0	= Total Cover		· —	5 = 0	
Herb stratum (Plot size:)				Column totals 65 (A	A) <u>75</u> (B)	
1 bidens cernua	20	Y	OBL	Prevalence Index = B/A =	1.15	
2 carex stricta	10	<u>Y</u> .	OBL			
3 typha latifolia	10	<u>Y</u> .	OBL	Hydrophytic Vegetation		
4 alisma subcordatum 5 sagittaria rigida	10 5	<u>Y</u> N	OBL OBL	Rapid test for hydroph X Dominance test is >50		
6 typha angustifolia	5		OBL	X Prevalence index is ≤3		
7			002	<del></del>		
8				Morphogical adaptation supporting data in Rer		
9				separate sheet)		
10				Problematic hydrophy	tic vegetation*	
<sup>-</sup>	60	= Total Cover		(explain)		
Woody vine stratum (Plot size:)				*Indicators of hydric soil and we		
				present, unless disturbe	ed or problematic	
		- Total Cayor		Hydrophytic vegetation		
	0	= Total Cover		present? Y		
Remarks: (Include photo numbers here or on a separate	e sheet)				<del>-</del>	
Tromano. (morado prioto manifesta nel o c. en el 11-11-11-11-11-11-11-11-11-11-11-11-11-	5 011001,					

SOIL	Sampling Point:	Wetland 26
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Depth	Matrix			Red	dox Feat	ures				
(Inches)	Color (moist)	%	Color (		%	Type*	Loc**	Tex	ture	Remarks
0 - 6	10YR 2/1	100		· · · · · · · · · · · · · · · · · · ·				Silty Clay I	Loam	Mucky
6 - 17	10YR 2/1	100						Silty Clay		
17 - 23	2.5Y 4/1	100						Sandy Loa		
			40)/5	2.0/0		DM	N 4			+
23 - 28+	2.5Y 5/4	98	10YF	K 6/6	2	RM	M	Sandy Loa	am	_
vpe: C = 0	Concentration, D =	- Depleti	on. RM =	Reduce	d Matrix.	MS = M	asked Sa	nd Grains.	**Locatio	on: PL = Pore Lining, M = Matrix
	il Indicators:		,							olematic Hydric Soils:
-	isol (A1)			San	ndv Gleve	ed Matrix	(S4)			edox (A16) ( <b>LRR K, L, R</b> )
	ic Epipedon (A2)		=		ndy Redo		(- )			S7) (LRR K, L)
	ck Histic (A3)		=		pped Ma	. ,				eat or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A4	<b>l</b> )	=			ky Minera	al (F1)			e Masses (F12) (LRR K, L, R)
	atified Layers (A5)	-	-		-	ed Matrix			-	eark Surface (TF12)
	n Muck (A10)		=			atrix (F3)			er (explain i	
	leted Below Dark	Surface	(A11)			Surface			` '	•
	ck Dark Surface (/		` ′ -			ark Surfac	. ,	*Indi	cators of hy	drophytic vegetation and weltand
	idy Mucky Minera	,	-			essions (	. ,		•	be present, unless disturbed or
		, ,	-		•	·	,	,	0,	problematic
epth (inche	es):					-		Hydrid	c soil prese	ent? <u>Y</u>
epth (inche emarks: Rain at ti	me of sample.				I, Gliford	- d fine sa	andy loa		c soil prese	ent? <u>Y</u>
epth (inche emarks: Rain at ti Watseka	me of sample. silty clay loam	, Plainfi			I, Gliford	d fine sa	andy loa		c soil prese	ent? <u>Y</u>
Watseka YDROLO	me of sample. silty clay loam	, Plainfi			I, Gliford	d fine sa	andy loa		c soil prese	ent? <u>Y</u>
epth (inche emarks: Rain at ti Watseka YDROLO etland Hy	me of sample. silty clay loam	, Plainfi ors:	eld loam	ny sand			andy loa	nm,		ndicators (minimum of two requir
epth (inche emarks: Rain at ti Watseka YDROLO etland Hy imary India Surface	me of sample. silty clay loam  OGY  drology Indicato cators (minimum of water (A1)	, Plainfi ors:	eld loam	ny sand	ıll that ap	oply) Fauna (B	13)	nm,	Secondary I	ndicators (minimum of two requir e Soil Cracks (B6)
epth (inche emarks: Rain at ti Watseka YDROLC etland Hy imary India Surface High Wa	me of sample. silty clay loam  OGY  drology Indicato cators (minimum of water (A1) ter Table (A2)	, Plainfi ors:	eld loam	ny sand	ill that ap Aquatic True Aq	pply) Fauna (B uatic Plan	13) nts (B14)	am,	Secondary I Surface Drainae	ndicators (minimum of two requir e Soil Cracks (B6) ge Patterns (B10)
epth (inche emarks: Rain at ti Watseka YDROLC etland Hy imary Indic Surface High Wa	me of sample. silty clay loam  OGY  drology Indicato cators (minimum of the management of the manageme	, Plainfi ors:	eld loam	ny sand	all that ap Aquatic True Aqu Hydroge	o <u>ply)</u> Fauna (B uatic Plan en Sulfide	13) nts (B14) Odor (C1	am, <u>s</u>	Secondary I Surface Drainae Dry-Se	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2)
epth (inchesemarks: Rain at ti Watseka  YDROLC  etland Hy imary Indic Surface High Wat Saturatic Water M	me of sample. silty clay loam  OGY  drology Indicato cators (minimum of the management of the manageme	, Plainfi ors:	eld loam	ny sand	All that ap Aquatic True Aqu Hydroge Oxidized	o <u>ply)</u> Fauna (B uatic Plan en Sulfide	13) nts (B14) Odor (C1	am,	Secondary I Surface Drainae Dry-Se Crayfis	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8)
PDROLC  The standard of the st	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the management of the managem	, Plainfi ors:	eld loam	ny sand	Aquatic True Aqu Hydroge Oxidized (C3)	pply) Fauna (B uatic Plan en Sulfide d Rhizosp	13) hts (B14) Odor (C1 heres on	nm, <u>S</u> ) Living Roots	Secondary I Surface Drainace Dry-Se Crayfis Saturat	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9)
PDROLC  etland Hy imary India Surface High Water M Sedimer Drift Dep	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the cators (minimum of the cators (Manimum of the cators (Manimu	, Plainfi ors:	eld loam	ny sand	Aquatic True Aqu Hydroge Oxidized (C3) Presenc	pply) Fauna (B uatic Plan en Sulfide d Rhizosp	13) hts (B14) Odor (C1 heres on	nm, S Living Roots (C4)	Secondary I Surface Drainae Dry-Se Crayfis Saturat	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)
PDROLO PORTOLO	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the month	, Plainfi ors:	eld loam	ny sand	Aquatic True Aquatic Hydroge Oxidized (C3) Presenc Recent I	pply) Fauna (B uatic Plan en Sulfide d Rhizosp	13) hts (B14) Odor (C1 heres on	nm, <u>S</u> ) Living Roots	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
PROLO	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the tension of the tens	rs:	eld loam	check a	Aquatic True Aquatic True Aquatic Hydroge Oxidized (C3) Presenc Recent I (C6)	eply) Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu	13) hts (B14) Odor (C1 heres on uced Iron ction in T	nm, S Living Roots (C4)	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) h Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)
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epth (inche emarks: Rain at ti Watseka  YDROLC  etland Hy rimary India C Surface C High Wat C Saturatio C Water M C Sedimer Drift Dep C Algal Ma Iron Dep Inundatio Sparsely Water-S	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the management of the managem	Plainfi	required;	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge of	eply) Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu ron Redu ck Surfac	13) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9)	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
epth (inche emarks: Rain at ti Watseka  YDROLO  Yetland Hy rimary India C Surface High Wat C Saturatio C Water M C Sedimer Drift Dep C Algal Ma Iron Dep Inundatic Sparsely Water-St ield Obser	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the cators (minimu	rs: of one is	required;	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge of	pply) Fauna (Buatic Plans Sulfide Rhizospe of Reduck Surfactor Well Dataple in Incomplete Incomplet	13) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9) Remarks)	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires 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)
epth (inche emarks: Rain at ti Watseka  YDROLC  YDROLC  YDROLC  YDROLC  YDROLC  YELAND Hy  Imary India  Surface  High Wat  Saturatic  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundatic  Sparsely  Water-Si  Ield Obser  urface water	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the cators (minimu	rs: of one is I Imagery ve Surface)	required;  (B7)  ce (B8)	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge of	pply) Fauna (Buatic Plans Sulfide Rhizospe of Reduck Surfacer Well Dack Suplain in	13) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9) Remarks)	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
epth (inche emarks: Rain at ti Watseka  YDROLC Vetland Hy rimary India C Surface High Wat C Saturatic Water M C Sedimer Drift Dep C Algal Ma Iron Dep Inundatic Sparsely Water-Si ield Obser urface water vater table	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the cators (minimu	rs: of one is	required;	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge of	pply) Fauna (Buatic Plans Sulfide Reduce Reduce Surface Typell Date Depth (in Depth (in Depth (in Pauna (in Depth (in Pauna (i	13) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks) nches):	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
epth (inche emarks: Rain at ti Watseka  YDROLO /etland Hy rimary India // Surface // High Wat // Sedimer Drift Dep // Algal Ma Iron Dep Inundation Sparsely Water-Si eld Obser urface water /ater table aturation p	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the cators (minimu	rs: of one is I Imagery ve Surface) Yes Yes	required;  (B7)  (ce (B8)	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge of	pply) Fauna (Buatic Plans Sulfide Rhizospe of Reduck Surfacer Well Dack Suplain in	13) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks) nches):	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
epth (inche emarks: Rain at ti Watseka  YDROLC  /etland Hy rimary India	me of sample. silty clay loam  OGY  drology Indicators (minimum of the cators (minimum of t	I Imagery ve Surface Yes Yes Yes	required; (B7) the (B8)  X X X	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	pply) Fauna (Buatic Planen Sulfide I Rhizospe of Reduron Reduck Surfacer Well Daixplain in Depth (in Depth	13) hts (B14) Odor (C1 heres on uced Iron uction in T e (C7) hta (D9) Remarks) nches): nches):	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Property (inchest emarks: Rain at tit Watseka  Property India Surface High Water Mater Mater Mater Mater Sparsely Water-Sield Observarface water table encludes cal	me of sample. silty clay loam  OGY  drology Indicator cators (minimum of the cators (minimu	I Imagery ve Surface Yes Yes Yes	required; (B7) the (B8)  X X X	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	pply) Fauna (Buatic Planen Sulfide I Rhizospe of Reduron Reduck Surfacer Well Daixplain in Depth (in Depth	13) hts (B14) Odor (C1 heres on uced Iron uction in T e (C7) hta (D9) Remarks) nches): nches):	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) eutral Test (D5)
Property (inches emarks: Rain at tit Watseka  Property India Surface High Water Mater Mater Mater Mater Mater Mater Sparsely Water-Sield Obserurface water table atturation procludes cal	me of sample. silty clay loam  OGY  drology Indicators (minimum of the cators (minimum of t	I Imagery ve Surface Yes Yes Yes	required; (B7) the (B8)  X X X	check a	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	pply) Fauna (Buatic Planen Sulfide I Rhizospe of Reduron Reduck Surfacer Well Daixplain in Depth (in Depth	13) hts (B14) Odor (C1 heres on uced Iron uction in T e (C7) hta (D9) Remarks) nches): nches):	nm,  S  Living Roots  (C4)  illed Soils	Secondary I Surface Drainag Dry-Se Crayfis Saturat Stunted Geomo	ndicators (minimum of two requires Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) th 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:	Cook Cou	nty Sampling Date:	9/30/15 and 10/27/15
Applicant/Owner:	<del></del>	State:	IL	Sampling Point:	Wetland 27
Investigator(s):		Secti	ion, Townshi		
Landform (hillslope, terrace, etc.):				ve, convex, none):	
Slope (%): Lat: 41.6328		Long:	-87.550	6 Datum:	
Soil Map Unit Name Gilford loamy sand, Watseka loar	my fine		NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical fo	or this time of	of the year?	(	If no, explain in remarks)	
Are vegetation , soil , or hydrol	logy	significantly	/ disturbed?	Are "normal circu	umstances"
	logy		oblematic?	7 11 0 11 11 11 11 11 11 11 11 11 11 11 1	present?
SUMMARY OF FINDINGS				(If needed, explain any a	answers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present?	·	Is the s	ampled area	a within a wetland?	Υ
Indicators of wetland hydrology present?	·	If yes, or	ptional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	- L separate r	enort )			<del></del>
	1 Sopulate .	ероп.,			
VEGETATION Use scientific names of plar	nto				
VEGETATION 056 Scientific flames of plai	Absolute	Dominant	Indicator	Dominance Test Works	sheet
Tree Stratum (Plot size: )	% Cover	Species	Staus	Number of Dominant Spec	
1 populus deltoides	40	Y		that are OBL, FACW, or FA	
2				Total Number of Domin	``
3				Species Across all Stra	
4				Percent of Dominant Spec	
5				that are OBL, FACW, or FA	AC: 80.00% (A/B)
	40	= Total Cover	ſ		
Sapling/Shrub stratum (Plot size:)	20	V	540	Prevalence Index Work	sheet
1 populus tremuloides	<del>30</del> 5	- <u>Y</u>	FAC	Total % Cover of:	v 1 = 0
2 salix babylonica 3	<del></del>			· ——	x 1 = 0 x 2 = 124
4				· —	x 3 = 180
5					x 4 = 0
	35	= Total Cover	r		x 5 = 0
Herb stratum (Plot size:)	,				(A) 304 (B)
1 phalaris arundinacea	50	Υ	FACW	Prevalence Index = B/A	= 2.49
2 solidago rugosa	30	Y	FAC		<del></del>
3 onoclea sensibilis	5	N	FACW	Hydrophytic Vegetation	n Indicators:
4 helianthus grosseserratus	2	N	FACW	Rapid test for hydror	
5				X Dominance test is >	
6				X Prevalence index is:	≤3.0*
7				Morphogical adaptat	
9				supporting data in R separate sheet)	emarks or on a
10				Problematic hydroph	autic vegetation*
	87	= Total Cover	r	(explain)	lylic vegetation
Woody vine stratum (Plot size: )				*Indicators of hydric soil and	wotland hydrology must be
1 vitis riparia	5	Υ	FACW	present, unless distur	
2				Hydrophytic	
	5	= Total Cover	٦	vegetation	
				present? Y	
Remarks: (Include photo numbers here or on a separ	ate sheet)				

Type:	SOIL									S	ampling Point: Wetland 27
Color (moist)	Profile Desc	ription: (Descri	be to the	e depth n	eeded	to docur	nent the	indicato	r or confirm	the absence	e of indicators.)
0 - 4	Depth				Re	dox Feat	ures				
4 - 10 2.5Y 2.5/1 100 10 RM M Loamy Sand 2.5Y 2.5/1 30 10 RM M Loamy Sand 2.5Y 2.5/1 30 10 RM M Loamy Sand 10 Loamy Sand Sand Sand Sand Sand Sand Sand Sand	(Inches)	Color (moist)	%	Color (r	noist)	%	Type*	Loc**	Text	ure	Remarks
10 - 23+ 2.5Y 6/3 60 10YR 6/8 10 RM M Loamy Sand  2.5Y 2.5/1 30 Loamy Sand Sandy Redox (S5) Loamy Sandy Redox (S5) Loamy Sandy Redox (S5) Loamy Sandy Sandy Redox (S5) Sandy Sandy Redox (S5) Loamy Sandy Sa	0 - 4	2.5Y 2.5/1	100						Loamy San	nd	Mucky Mineral
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  Hydric Soil Indicators: Histisol (A1) Histis Epipedon (A2) Black Histis (A3) Black Histis (A3) Sandy Redox (S5) Sandy Redox (S5) Statified Layers (A5) Loamy Mucky Mineral (F1) Stratified Layers (A5) Depleted Matrix (F2) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F3) Depleted Dark Surface (A12) Sandy Mucky Mineral (F3) Depleted Dark Surface (A12) Sandy Mucky Mineral (F3) Depleted Dark Surface (A13) Redox Depressions (F8)  Hydric soil present?  Hydric soil present?  Hydric soil present?  Y  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Aquatic Fauna (B13) Saturation (A3) Hydrogen Surface Odor (C1) Saturation (A3) Hydrogen Surface (A13) Saturation (A3) Hydrogen Surface (A14) Sediment Deposits (B3) Presence of Reduced Iron (C4) Saturation (A3) Presence of Reduced Iron (C4) Saturation (D4) Reaction in Tilled Soils FAC-Neutral Test (D5) FAC-Neutral Test (D5) Gauge or Well Data (D9)  FAC-Neutral Test (D5) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9)	4 - 10	2.5Y 2.5/1	100						Loamy San	ıd	
"Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. "Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators: Hististo (A1) Sandy Gleyed Matrix (S4) Histist Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8)  Wetland Hydrology must be present, unless disturbed or problematic  Remarks: Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aqualtic Fauna (B13) Aqualtic Fauna (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Orith (Explain in remarks) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots Saturation (A3) Appl Mator Crust (B4) (C3) Fresence of Reduced In in Illied Soils FAC-Neutral Test (D5) Into Manageae Masses (F12) (LRR K, L, R) Dark Surface (S7) (LRR K, L, R) Dark Surface (S7) (LRR K, L, R) Dark Surface (S7) (LRR K, L, R)  Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (F6) Thick Dark Surface (A11) Redox Depressions (F8)  Hydric soil present?  Y  Hydric soil present? Y  Hydric soil present? Y  Secondary Indicators (minimum of two require Stressed Plants (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Presence of Reduced Iron (C4) Saturation (V3) Saturation (V3) Appl Mator Crust (B4) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9)	10 - 23+	2.5Y 6/3	60	10YR	6/8	10	RM	М	Loamy San	nd	
"Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. "Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators: Hististo (A1) Sandy Gleyed Matrix (S4) Histist Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8)  Wetland Hydrology must be present, unless disturbed or problematic  Remarks: Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aqualtic Fauna (B13) Aqualtic Fauna (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Orith (Explain in remarks) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots Saturation (A3) Appl Mator Crust (B4) (C3) Fresence of Reduced In in Illied Soils FAC-Neutral Test (D5) Into Manageae Masses (F12) (LRR K, L, R) Dark Surface (S7) (LRR K, L, R) Dark Surface (S7) (LRR K, L, R) Dark Surface (S7) (LRR K, L, R)  Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (F6) Thick Dark Surface (A11) Redox Depressions (F8)  Hydric soil present?  Y  Hydric soil present? Y  Hydric soil present? Y  Secondary Indicators (minimum of two require Stressed Plants (B10) Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Presence of Reduced Iron (C4) Saturation (V3) Saturation (V3) Appl Mator Crust (B4) (C6) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Gauge or Well Data (D9)		2.5Y 2.5/1	30						Loamy San	nd	
Hydric Soil Indicators: Histisol (A1) Sandy Gleyed Matrix (S4) Histisol (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) Depleted Matrix (F2) Depleted Matrix (F3) Depleted Matrix (F3) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)  Restrictive Layer (if observed): Type: Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Coxidead Rhizospheres on Living Roots X Saturation (A3) X Saturation (A3) X Water Marks (B1) Sediment Deposits (B2) Cisi				<u> </u>		†	1		, ,		
Hydric Soil Indicators: Histisol (A1) Sandy Gleyed Matrix (S4) Histisol (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) Depleted Matrix (F2) Depleted Matrix (F3) Depleted Matrix (F3) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)  Restrictive Layer (if observed): Type: Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Coxidead Rhizospheres on Living Roots X Saturation (A3) X Saturation (A3) X Water Marks (B1) Sediment Deposits (B2) Cisi						+					
Hydric Soil Indicators: Histisol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) Depleted Matrix (F2) Communic Managanese Masses (F12) (LRR K, L, R) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)  Redox Depressions (F8)  Hydric soil present?  Restrictive Layer (if observed): Type: Remarks: Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) True Aquatic Plants (B14) True Aquatic Plants (B14) Types water (A3) True Aquatic Plants (B14) Types water (A3) X Saturation (A3) X Saturation (A3) X Saturation Layer (B1) Secondary Indicators (minimum of two requires Surface Water (A1) Surface (A1) Sur						+					
Hydric Soil Indicators: Histisol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) Depleted Matrix (F2) Communic Managanese Masses (F12) (LRR K, L, R) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Thick Dark Surface (A12) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)  Redox Depressions (F8)  Hydric soil present?  Restrictive Layer (if observed): Type: Remarks: Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) True Aquatic Plants (B14) True Aquatic Plants (B14) Types water (A3) True Aquatic Plants (B14) Types water (A3) X Saturation (A3) X Saturation (A3) X Saturation Layer (B1) Secondary Indicators (minimum of two requires Surface Water (A1) Surface (A1) Sur			<del>                                     </del>	<del> </del>		+	1				
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Redox Depressions (F8)   hydrology must be present, unless disturbed or problematic	Dep	leted Below Dark	Surface	(A11)	Red	dox Dark	Surface	(F6)			
Restrictive Layer (if observed): Type:		•	,	_				. ,	*Indic	ators of hyd	ophytic vegetation and weltand
Restrictive Layer (if observed): Type:	X San	dy Mucky Minera	l (S1)	_	Red	dox Depr	essions (	(F8)	hydro	ology must b	
Type:											problematic
Depth (inches):  Remarks:  Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Aquatic Fauna (B13)  High Water Table (A2)  True Aquatic Plants (B14)  True Aquatic Plants (B14)  Drainage Patterns (B10)  X Saturation (A3)  Hydrogen Sulfide Odor (C1)  Dry-Season Water Table (C2)  X Water Marks (B1)  Secondary Indicators (minimum of two required surface)  Cracks (B6)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Sediment Deposits (B2)  Crayfish Burrows (C8)  Sediment Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Iron Deposits (B5)  [C6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Gauge or Well Data (D9)	Restrictive I	Layer (if observe	ed):								
Remarks:  Confirmed to be mapped Gilford loamy sand  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) High Water Table (A2) True Aquatic Plants (B14) Drainage Patterns (B10) X Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) X Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Iron Deposits (B5) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Gauge or Well Data (D9)							_		Hydric	soil preser	t? <u>Y</u>
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Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Aquatic Fauna (B13)       Surface Soil Cracks (B6)         High Water Table (A2)       True Aquatic Plants (B14)       Drainage Patterns (B10)         X 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 Imagery (C9)         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)         Sparsely Vegetated Concave Surface (B8)       Gauge or Well Data (D9)	Confirme	d to be mappe	d Gilfor	d loamy	sand						
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Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled Soils  (C6)  (C6)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  FAC-Neutral Test (D5)		. ,					1 13111203p	nieres on	Living Roots _	•	` ,
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Sparsely Vegetated Concave Surface (B8)  Gauge or Well Data (D9)		, ,				_ ` ′			_	FAC-Ne	utral Test (D5)
<u> </u>						_					
Water Steined Leaves (DO)		=		:e (В8)		_ ~		` ,			
Water-Stained Leaves (B9) Other (Explain in Remarks)		•	<u> </u>			Other (E	хріаін ін	Remarks		1	
Field Observations:  Surface water present? Yes No Depth (inches):			Voc		No		Denth (i	inches):			
Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches): Indicators of wetland		•								Inc	dicators of wetland
Saturation present? Yes X No Depth (inches): hydrology present? Y				X			_				
(includes capillary fringe)	-						- · `	,			<del></del>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Describe rec	orded data (strea	ım gauge	, monitori	ng well	, aerial pl	hotos, pre	evious ins	spections), if a	available:	

Project/Site NICTD West Lake Corridor	City/	County:	Cook Cou	nty Sampling Date:	09/30/15
Applicant/Owner:	_	State:	IL	Sampling Point:	Wetland 28
Investigator(s):		Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%): Lat: 41.6516		Long:	-87.5870	Datum:	
Soil Map Unit Name Orthents (aquic) Watseka loamy fin	ne sand, C	Silford fine sar	ndy loaNWI (	Classification: PS	SS1C, PEMF
Are climatic/hydrologic conditions of the site typical for t	this time c	of the year?	(I	f no, explain in remarks)	
Are vegetation, soil, or hydrolog	ЭУ	significantly	disturbed?	Are "normal circ	umstances"
Are vegetation, soil, or hydrolog	ЭУ	naturally pro	blematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	answers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y			-	within a wetland?	<u>Y</u>
Indicators of wetland hydrology present? Y		If yes, op	tional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a s	eparate re	eport.)			
VEGETATION Use scientific names of plants	.s.				
	Absolute	Dominant	Indicator	Dominance Test Works	sheet
,	% Cover	Species	Staus	Number of Dominant Spec	
1 populus deltoides	10	<u> </u>	FAC	that are OBL, FACW, or FA	``
3				Total Number of Domin Species Across all Stra	
4				Percent of Dominant Spec	
5				that are OBL, FACW, or FA	AC: 100.00% (A/B)
	10 =	= Total Cover		Indo-Wad	
Sapling/Shrub stratum (Plot size:)  1 salix interior	5	Υ	FACW	Prevalence Index Work Total % Cover of:	sheet
2	<u> </u>	<u> </u>	FACTV	OBL species 70	x 1 = 70
3				· —	x 2 = 50
4				· —	x 3 = 30
5				FACU species 0	x 4 = 0
<u> </u>	5 =	= Total Cover		· —	x 5 = 0
Herb stratum (Plot size:)					(A) <u>150</u> (B)
1 lythrum salicaria	70	<u>Y</u>	OBL	Prevalence Index = B/A	= 1.43
2 phragmites australis 3	20	<u> </u>	FACW	Lludranhutia Vagatatia	n Indiantera
				Hydrophytic Vegetatio Rapid test for hydrop	
5				X Dominance test is >	
6				X Prevalence index is	
7				Morphogical adaptat	tions* (provide
8				supporting data in R	
9				separate sheet)	
10	90 :	= Total Cover		Problematic hydroph (explain)	nytic vegetation*
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and present, unless distu	
2				Hydrophytic	
	0 =	= Total Cover		vegetation present? Y	<u>,                                      </u>
Remarks: (Include photo numbers here or on a separate	e sheet)				<del></del>

SOIL									s	ampling Point: Wetland 28
Profile Desc	cription: (Desc	ribe to the	e depth r	needed	to docur	ment the	indicato	r or confirm	n the absenc	e of indicators.)
Depth	Matrix		l aopan		dox Feat				4500.10	T
(Inches)	Color (moist)	<u>-</u> %	Color (			Type*	Loc**		exture	Remarks
0+	()	$\overline{}$		(**************************************	Τ	T				Unable to take sample
UT		+				<del> </del>	<del>                                     </del>			Ollable to take sample
			<u> </u>			<del> </del>	<u> </u>			
						<u> </u>				
		+	<del>                                     </del>		+	+	+			
						<u> </u>				
	Concentration, D	= Depletion	on, RM =	Reduce	ed Matrix,	, MS = M	asked Sa			n: PL = Pore Lining, M = Matrix
Restrictive Type: Depth (inchese Soil:Orth po	o take sample ents (aquic), orly drained o	A4)  rk Surface (A12) ral (S1)  ved):  c. 6+ inch Watseka	es of sta	San Stri Loa Loa Del Rec Del Rec anding	nd, Gilfo	ox (S5) atrix (S6) ky Minera red Matrix atrix (F3) Surface ark Surface ressions (	al (F1) x (F2) (F6) ce (F7) (F8)	Co Da To Tro Ve Ott *Ind hyd	past Prairie Reark Surface (Som Mucky Pean-Manganese Pry Shallow Daher (explain in dicators of hyddrology must be soil preser	rophytic vegetation and weltand be present, unless disturbed or problematic
HYDROLO										
-	drology Indicat									
	cators (minimum	of one is	required;	; check a						dicators (minimum of two required)
X Surface	, ,				_	Fauna (B				Soil Cracks (B6)
	iter Table (A2)					uatic Plar	. ,	`		e Patterns (B10)
X Saturation							Odor (C1			son Water Table (C2)
X Water M	nt Deposits (B2)				(C3)	ı Rnizosp	meres on	Living Roots		Burrows (C8) on Visible on Aerial Imagery (C9)
	posits (B3)				_ ` ′	e of Redu	uced Iron	(C4)		or Stressed Plants (D1)
	at or Crust (B4)				_		uction in T			phic Position (D2)
	osits (B5)				(C6)					utral Test (D5)
	on Visible on Aeri	ial Imagery	(B7)		_	ick Surfac	ce (C7)			,
Sparsely	Vegetated Conc	ave Surfac	e (B8)		_	or Well Da				
X Water-S	tained Leaves (B	9)			Other (E	Explain in	Remarks)	)		
Field Obser	vations:				=					
Surface water	er present?	Yes	Χ	No		Depth (i	inches):			
Water table	•	Yes	X	No		Depth (i				dicators of wetland
Saturation p		Yes	X	No		Depth (i	inches):		_   h	ydrology present? Y
(includes ca	pillary fringe)									
Describe rec	corded data (stre	am gauge	, monitor	ing well	, aerial pl	hotos, pr	evious in	spections), i	f available:	

Soil Inundated

Project/Site:	NICTD West Lake Corridor	City/County: Coo	k County	Sampling Date:	30-Sep-15
Applicant/Owner:			State: IL	Sampling Point:	Wetland 29
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Townshi	p, Range:		
Landform (hillside,	terrace, etc.):		Loc	al relief (concave, convex, none:	
Slope %:	Lat: 41.6458	88	Long: <u>-87.5823</u>		Datum:
Soil Unit Name:	Pella silty clay loam			NWI Classification:	PEMA, PFO1A, PFO1C, PFO!/E
Are climatic / hydro	ologic conditions on the site typical for this tim	ne of year?	Yes No	) <u> </u>	
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal	Circumstances" present?	Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, ex	oplain any answers in Remarks.)	
SUMMARY OF	FINDINGS - Attach site map showi	ng sampling point loc	ations, transects,	important features, etc.	
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sam within a W	pling Area Yes etland?	xNo
	ation used Approach C, which entails estimati s not include on-site observation, identifying s				entory maps.
VEGETATION -	- Use scientific names of plants.				
Tree Stratum  1. populus 2 3 4 5	(Plot size: 30ft) deltoides	% Cover Species? S	tatus Number of That Are O	e Test Worksheet: Dominant Species BL, FACW, or FAC per of Dominant cross All Strata:	(A)
Sapling/Shrub Str	Total Cover: ratum (Plot size: 15ft )		Percent of	Dominant Species BL, FACW, or FAC:	(A/B)
2 3 4 5	Total Cover:			cies x 2 =	0 0 0
Herb Stratum	(Plot size: 5ft ) tes australis	F/	ACW+ Column To	es x 5 =	0 0 0 (B)
6 7 8 9 10	Total Cover:		Do Pre Mo dat	tic Vegetation Indicators: minance Test is >50% evalence Index is ≦3.0* rphological Adaptations* (Provid a in remarks or on a separate sh	eet)
Woody Vine Strat				of hydric soil and wetland hydrol	` ' '
1. <u></u> 2. <u></u>	Total Cover:		Hydrophyt Vegetation Present?		No
Remarks: (Includ	de photo numbers here or on a separate shee				

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	09/30/15			
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 30			
Investigator(s): Anna Hochhalter and Scott Beckmey	er	Sect	ion, Townsh	ip, Range:				
Landform (hillslope, terrace, etc.):		Local	relief (conca	ve, convex, none):				
Slope (%): Lat: 41.5501		Long:	-87.517	2 Datum:				
Soil Map Unit NameMaumee loamy fine sand		NWI Classification: none						
Are climatic/hydrologic conditions of the site typical for	or this time of	of the year?	(	If no, explain in remarks)				
Are vegetation , soil , or hydro	logy	significantl	y disturbed?	Are "normal circur	mstances"			
Are vegetation , soil , or hydro	logy	naturally problematic? present?						
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)			
Hydrophytic vegetation present? Y								
Hydric soil present?	_	Is the s	sampled are	a within a wetland?	N			
Indicators of wetland hydrology present? Y	_	If yes, o	ptional wetla	nd site ID:				
Remarks: (Explain alternative procedures here or in a	- a senarate r	report )						
Tromano. (Explain alternative procedures here of in t	a ocparate i	орон.,						
VEGETATION Use scientific names of pla	nte							
- Ose scientific flames of pla	Absolute	Dominant	Indicator	Dominance Test Worksh	neet			
Tree Stratum (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie				
1		·		that are OBL, FACW, or FAC				
2				Total Number of Domina	nt			
3				Species Across all Strate	a: (B)			
4				Percent of Dominant Specie				
5		<del></del>		that are OBL, FACW, or FAC	C: 100.00% (A/B)			
Conling/Chrub stratum (Diet size)	0	= Total Cove	r	Prevalence Index Works	shoot			
Sapling/Shrub stratum (Plot size:	)			Total % Cover of:	sneet			
2				OBL species 0 x	1 = 0			
3				FACW species 100 x				
4					3 = 0			
5				FACU species 0 x 4 = 0				
	0	= Total Cove	r	UPL species 0 x 5 = 0				
Herb stratum (Plot size:	)			Column totals 100 (A	A) <u>200</u> (B)			
1 phragmites australis	100	<u> </u>	FACW	Prevalence Index = B/A =	2.00			
2					I. P. A.			
3				Hydrophytic Vegetation				
5	·			Rapid test for hydroph  X Dominance test is >50	-			
6				X Prevalence index is ≤3				
7				Morphogical adaptation	ons* (provide			
8				supporting data in Rei	"			
9				separate sheet)				
10				Problematic hydrophy	tic vegetation*			
Mark to the Art of the	100	= Total Cove	r	(explain)				
Woody vine stratum (Plot size:	)			*Indicators of hydric soil and we				
1 2				present, unless disturbe	ed or problematic			
	0	= Total Cove		vegetation				
	Ü	10101 0010	•	present? Y	<u> </u>			
Remarks: (Include photo numbers here or on a separ	rate sheet)							

Depth (Inches)	Matri		- шории :							of indicators.)	
(Inches)		Χ		Re	dox Feat	ures					
	Color (moist)	_	Color (	Color (moist) % Type*				Textu	ire	Remarks	
0+	,									Unable to take sample	<del></del>
	oncentration, [	) = Depleti	on, RM =	Reduce	ed Matrix,	MS = Ma	asked Sa			PL = Pore Lining, M = N	Matrix
Hydric Soil										natic Hydric Soils:	
	sol (A1)	•	-			ed Matrix	(S4)			ox (A16) (LRR K, L, R)	
	Epipedon (A	2)			ndy Redo	. ,			Surface (S7)		D)
	( Histic (A3) ogen Sulfide (	۸ ۵ ۱	-		ipped Ma	` ,	J (E4)		=	or Peat (S3) ( <b>LRR K, L</b> ,	
	fied Layers (A	,	-		-	ky Minera ed Matrix			_	lasses (F12) ( <b>LRR K, L</b> Surface (TF12)	., K)
	Muck (A10)	(3)	-		pleted Ma		(1 2)		(explain in re		
	eted Below Da	ark Surface	(A11)			Surface	(F6)		(CXPIGITI III IX	markoj	
	Dark Surface		` ′ .			ark Surfac	. ,	*Indica	itors of hydro	phytic vegetation and w	veltand
	y Mucky Mine		-			essions (	. ,			present, unless disturb	
			•					-		roblematic	
Restrictive L	ayer (if obser	ved):									
Туре:	•	•						Hydric s	soil present	?	
Depth (inches	):					_				<del></del>	
Remarks:											
	take sample	e. Restric	ted by ra	ailroad	debris (	gravel.	constru	ction materia	ıls. asphalt)		
	nee loamy f			• • • •		,g. a. r e.,			,,		
	rly drained o		orly dra	ined so	oils						
HYDROLO	GY										
Wetland Hyd	rology Indica	tors:									
Primary Indica	ators (minimur	n of one is	required;	check a	all that ap	ply)		<u>Se</u>	condary Indi	cators (minimum of two	required
X Surface W	` '				_	Fauna (B		<u> </u>		oil Cracks (B6)	
	er Table (A2)					uatic Plan	. ,	<u> </u>		Patterns (B10)	
X Saturation	, ,					n Sulfide				n Water Table (C2)	
Water Mai	Deposits (B2)				(C3)	Rnizospi	neres on	Living Roots		urrows (C8) Visible on Aerial Imager	ov (CO)
Drift Depo				-	<b>-</b> ` ′	e of Redu	iced Iron i	(C4)		Stressed Plants (D1)	y (C9)
	or Crust (B4)			-	_	ron Redu				ic Position (D2)	
Iron Depo:	, ,				(C6)			_		ral Test (D5)	
Inundation	n Visible on Ae	rial Imagery	(B7)		_	ck Surfac	e (C7)			` ,	
Sparsely \	egetated Con	cave Surfac	ce (B8)		Gauge o	or Well Da	ta (D9)				
Water-Sta	ined Leaves (E	39)			Other (E	xplain in I	Remarks)				
Field Observ											
Surface water	•	Yes	X	No		Depth (ii					
Water table pr		Yes Yes	X	No No		Depth (in Depth (in				cators of wetland Irology present?	Υ
Saturation pre											v

Project/Site NICTD West Lake Corridor	City/0	County:	Lake Cou	nty Sampling Date:	09/30/15		
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 31		
Investigator(s): Anna Hochhalter and Scott Beckmeyer	r	Section	on, Townshi	p, Range:			
Landform (hillslope, terrace, etc.):		Local re	elief (concav	re, convex, none):			
Slope (%): Lat: 41.5494		Long:	-87.5168	B Datum:			
Soil Map Unit Name Rensselaer loam, calcareous subst	oil variant		NWI (	Classification:	PFO1C		
Are climatic/hydrologic conditions of the site typical for	this time o	f the year?	(I	f no, explain in remarks)			
Are vegetation, soil , or hydrolog	gy	significantly	ımstances"				
Are vegetation , soil , or hydrolog	gy	naturally pro	blematic?		present?		
SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)		
Hydrophytic vegetation present? Y							
Hydric soil present?			-	within a wetland?	N		
Indicators of wetland hydrology present? Y		If yes, op	tional wetlar	nd site ID:			
Remarks: (Explain alternative procedures here or in a s	separate re	eport.)					
VEGETATION Use scientific names of plant	is.						
	Absolute		Indicator	Dominance Test Works	heet		
	% Cover	Species	Staus	Number of Dominant Speci			
1 populus deltoides 2	40	<u> </u>	FAC	that are OBL, FACW, or FA			
				Total Number of Domina Species Across all Stra			
				Percent of Dominant Speci	``		
5				that are OBL, FACW, or FA			
	40 =	= Total Cover			·		
Sapling/Shrub stratur (Plot size:)				Prevalence Index Work	sheet		
1				Total % Cover of:			
				· —	(1 = 0		
				FACW species 100 x	(2 = <u>200</u> (3 = 120		
					(4 = 0		
	0 =	= Total Cover		UPL species $0 \times 5 = 0$			
Herb stratum (Plot size: )				Column totals 140 (A) 320 (B)			
1 phragmites australis	100	Υ	FACW	Prevalence Index = B/A =	2.29		
2							
3				Hydrophytic Vegetation			
				Rapid test for hydrop			
5				X Dominance test is >5 X Prevalence index is ≤			
7							
8				Morphogical adaptati supporting data in Re	"		
9				separate sheet)	/// C. C. C. C.		
10				Problematic hydrophy	ytic vegetation*		
	100 =	= Total Cover		(explain)			
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and v present, unless disturt			
2				Hydrophytic			
	0 =	= Total Cover		vegetation present? Y			
Remarks: (Include photo numbers here or on a separat	to sheet)				<u> </u>		
Remarks. (molude photo numbers here of on a separat	ie succi)						

									mpling Point: Wetland 31
Danth	cription: (Descr		e depth need			indicato	r or confirm t	he absence	of indicators.)
Depth	Matrix		0	Redox F			<b>-</b> .		5
(Inches)	Color (moist)	<u>%</u>	Color (mois	st) %	Type*	Loc**	Text	ure	Remarks
0+									Unable to take sample
*Type: C = C	Concentration, D	= Depleti	on, RM = Red	uced Ma	trix, MS = M	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicator	s for Proble	matic Hydric Soils:
	isol (A1)			-	leyed Matrix	(S4)			lox (A16) ( <b>LRR K, L, R</b> )
	ic Epipedon (A2)	)		-	edox (S5)			Surface (S7	
	ck Histic (A3)	4.			Matrix (S6)	1.(54)			or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A atified Layers (A5			-	lucky Minera leyed Matrix			•	Masses (F12) ( <b>LRR K, L, R</b> ) k Surface (TF12)
	nilled Layers (A5 n Muck (A10)	)		-	Matrix (F3)			r (explain in i	
	oleted Below Dark	k Surface		•	ark Surface			i (explain iii i	cinario)
	ck Dark Surface (		` '		Dark Surfa	` '	*Indica	ators of hydro	ophytic vegetation and weltand
San	dy Mucky Minera	al (S1)		Redox D	epressions (	(F8)			e present, unless disturbed or
									problematic
Restrictive	Layer (if observ	ed):							
Туре:							Hydric	soil present	?
Depth (inche	es):								
Remarks:						<u>.                                    </u>			
Unable to	o take sample.	Restric	ted by railro	ad debr	. , .				
			tou by rumo	au uebi	ıs (gravel,	constru	ction materia	als, asphalt	:)
	isselaer loam,		•		ıs (gravei,	constru	ction materia	als, asphalt	·)
Soil: Ren	isselaer loam, orly drained or	calcare	ous subsoil	variant	ıs (gravei,	constru	ction materia	als, asphalt	<b>:</b> )
Soil: Ren po	orly drained or	calcare	ous subsoil	variant	ıs (graveı,	constru	ction materia	als, asphalt	:)
Soil: Ren po	orly drained or	calcare	ous subsoil	variant	ıs (graveı,	constru	ction materia	als, asphalt	c)
Soil: Ren po HYDROLO Wetland Hy	orly drained or  OGY  drology Indicate	calcared very poor	ous subsoil porly drained	variant I soils		constru			
Soil: Ren po HYDROLO Wetland Hy Primary India	orly drained or  OGY  drology Indicate cators (minimum	calcared very poor	ous subsoil porly drained	variant I soils ck all tha	t apply)			econdary Ind	icators (minimum of two required
Soil: Ren po HYDROLO Wetland Hy Primary India X Surface	OGY drology Indicate cators (minimum Water (A1)	calcared very poor	ous subsoil porly drained	variant I soils ck all tha	t apply) tic Fauna (B	13)		econdary Ind Surface S	icators (minimum of two required
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface	OGY drology Indicate cators (minimum Water (A1) ter Table (A2)	calcared very poor	ous subsoil porly drained	variant I soils ck all tha Aqua True	t apply)	13) nts (B14)	<u>S</u>	econdary Ind Surface S Drainage	icators (minimum of two required
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio	OGY drology Indicate cators (minimum Water (A1) ter Table (A2)	calcared very poor	ous subsoil porly drained	ck all tha Aqua True Hydr	<u>t apply)</u> tic Fauna (B Aquatic Plar	13) nts (B14) Odor (C1	<u>S</u> .	econdary Ind Surface S Drainage Dry-Seas Crayfish I	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen	orly drained or  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)	calcared very poor	ous subsoil porly drained	ck all tha Aqua True Hydr Oxid (C3)	t apply) htic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp	13) nts (B14) Odor (C1 heres on	Si - - ) Living Roots	econdary Ind Surface S Drainage Dry-Seas Crayfish I	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep	orly drained or OGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)	calcared very po prs:	ous subsoil porly drained	ck all tha Aqua True Hydr Oxid (C3) Pres	t apply) htic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu	13) hts (B14) Odor (C1 heres on	<u>S</u> - ) Living Roots _ (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma	orly drained or OGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)	calcared very po prs:	ous subsoil porly drained	ck all tha Aqua True Hydr Oxid (C3) Pres Rece	t apply) htic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp	13) hts (B14) Odor (C1 heres on	<u>S</u> - ) Living Roots _ (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	orly drained or OGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)	ors:	ous subsoil porly drained	ck all tha Aqua True Hydr (C3) Pres Rece (C6)	t apply) htic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu	13) hts (B14) Odor (C1 heres on uced Iron o	<u>S</u> - ) Living Roots _ (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	orly drained or OGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	ors: of one is	required; che	ck all tha Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin	t apply) htic Fauna (B Aquatic Plar ogen Sulfide fized Rhizosp ence of Redu	13) hts (B14) Odor (C1 heres on uced Iron action in Ti	<u>S</u> - ) Living Roots _ (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	orly drained or OGY drology Indicate 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	ors: of one is	required; che	ck all tha Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gaue	t apply) htic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu ent Iron Redu	13) Its (B14) Odor (C1) heres on uced Iron of action in Tiese (C7) ata (D9)	Since Specification (C4)  Since Specification (C4)  [C4]  [C4]  [C5]  [C6]  [C7]	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-Si	orly drained or OGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) on Visible on Aeria or Vegetated Concatained Leaves (B9) vations:	ors: of one is al Imagery	required; che	ck all tha Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gaue	t apply) atic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu ent Iron Redu Muck Surfac ge or Well Da r (Explain in	13) Odor (C1 heres on action in Ti e (C7) ata (D9) Remarks)	Since Specification (C4)  Since Specification (C4)  [C4]  [C4]  [C5]  [C6]  [C7]	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted o	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-Si Field Obser Surface water	orly drained or  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) arks (B3) arks (B3) art or Crust (B4) osits (B5) on Visible on Aeria ovegetated Concatained Leaves (B9 vations: er present?	ors: of one is al Imagery ave Surface	required; che  (B7)  (B8)	ck all tha Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gaue	t apply) atic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu ent Iron Redu Muck Surfac ge or Well Da r (Explain in	13) hts (B14) Odor (C1 heres on uced Iron action in Ti ee (C7) ata (D9) Remarks)	Since Specification (C4)  Since Specification (C4)  [C4]  [C4]  [C5]  [C6]  [C7]	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted of Geomorp FAC-Neu	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-Si Field Obser Surface wate Water table	orly drained or  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) ot Deposits (B2) osits (B3) at or Crust (B4) osits (B5) on Visible on Aeria ovegetated Concatained Leaves (B9  vations: er present? present?	calcared very poors: of one is al Imagery ave Surface y) Yes Yes	required; che  (B7)  (ce (B8)	ck all tha Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gaug	t apply) atic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu ent Iron Redu Muck Surfac ge or Well Da r (Explain in Depth (i	13) hts (B14) Odor (C1 heres on uced Iron action in Ti ee (C7) ata (D9) Remarks) nches): nches):	Since Specification (C4)  Since Specification (C4)  [C4]  [C4]  [C5]  [C6]  [C7]	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted of Geomorp FAC-Neu	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)
Soil: Ren po  HYDROLO Wetland Hy Primary India X Surface High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St  Field Obser Surface wate Water table   Saturation po	orly drained or  OGY  drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) ot Deposits (B2) osits (B3) at or Crust (B4) osits (B5) on Visible on Aeria ovegetated Concatained Leaves (B9  vations: er present? present?	ors: of one is al Imagery ave Surface	required; che  (B7)  (B8)	ck all tha Aqua True Hydr Oxid (C3) Pres Rece (C6) Thin Gaug	t apply) atic Fauna (B Aquatic Plar ogen Sulfide ized Rhizosp ence of Redu ent Iron Redu Muck Surfac ge or Well Da r (Explain in	13) hts (B14) Odor (C1 heres on uced Iron action in Ti ee (C7) ata (D9) Remarks) nches): nches):	Since Specification (C4)  Since Specification (C4)  [C4]  [C4]  [C5]  [C6]  [C7]	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted of Geomorp FAC-Neu	icators (minimum of two required Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5)

Project/Site:	NICTD West Lake Corridor	City/County: L	ake County	Sampling Date: 30-Sep-15
Applicant/Owner:				State: IN Sampling Point: Wetland 32
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Town	ship, Range	:
Landform (hillside,	terrace, etc.):			Local relief (concave, convex, none:
Slope %:	Lat: 41.5476	66	Long	: <u>-87.517816</u> Datum:
Soil Unit Name:	rensselaer loam, calcareous subsoil varia	ant		NWI Classification: none
Are climatic / hydro	ologic conditions on the site typical for this time	e of year?	Yes	No
Are Vegetation	Soil or hydrology	Significantly disturbed?	F	Are "Normal Circumstances" present? Yes No
Are Vegetation	Soil or hydrology	Naturally problematic?	(	if needed, explain any answers in Remarks.)
SUMMARY OF	FINDINGS - Attach site map showing	ng sampling point l	ocations,	transects, important features, etc.
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent? Yes	No No		Is the Sampling Area Within a Wetland?  Yes No
Remarks: Wetland investiga	ation used Approach B, which entails identifyin	ng the dominant species a	and does not	t include collecting soil samples or calculating floristic quality.
VEGETATION -	- Use scientific names of plants.			
Tree Stratum  1. Populus  2  3  4  5	(Plot size: 30ft) deltoides	Absolute Dominant Species? 50	Indicator Status FAC+  	Dominance Test Worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC(A)  Total Number of Dominant Species Across All Strata:(B)
Sapling/Shrub Str	Total Cover:  ratum (Plot size: 15ft ) s frangula	50	FAC+	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
2. <u>salix inte</u> 3. <u></u> 4. <u></u> 5. <u></u>	Total Cover:	10	#N/A   	Prevalence Index Worksheet:           Total % Cover of         Multiply by:           OBL species         x 1 = 0           FACW species         x 2 = 0           FAC species         x 3 = 0
1. phragmit 2 3 4 5	(Plot size: 5ft ) tes australis	100	FACW+   	FACU species $\begin{array}{c} x \ 4 = & 0 \\ \text{UPL species} & x \ 5 = & 0 \\ \text{Column Totals} & \hline{\textbf{0}} & (A) & \hline{\textbf{0}} & (B) \\ \end{array}$
6 7 8 9 10	Total Cover:	100	   	Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is ≦3.0*  Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)
Woody Vine Strat				*Indicators of hydric soil and wetland hydrology must be present.
1 2	Total Cover:			Hydrophytic Vegetation Yes No
Remarks: (Includ	le photo numbers here or on a separate shee			

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	09/30/15			
Applicant/Owner:	<del>_</del>	State:	IN	Sampling Point:	Wetland 33			
Investigator(s): Anna Hochhalter and Scott Beckmey	er	Section	on, Townshi	p, Range:				
Landform (hillslope, terrace, etc.):		Local re	elief (concav	/e, convex, none):				
Slope (%): Lat: 41.5495		Long:	-87.517	7 Datum:				
Soil Map Unit NameMaumee loamy fine sand, Renss	elaer loam		NWI	Classification:	none			
Are climatic/hydrologic conditions of the site typical fo	r this time c	of the year?	(I	If no, explain in remarks)				
Are vegetation, soil , or hydrol	ogy	significantly	disturbed?	Are "normal circum	nstances"			
Are vegetation , soil , or hydrol	ogy	naturally problematic? present?						
SUMMARY OF FINDINGS				(If needed, explain any an	swers in remarks.)			
Hydrophytic vegetation present? Y								
Hydric soil present? Y	_	Is the sa	ampled area	a within a wetland?	Υ			
Indicators of wetland hydrology present? Y	_	If yes, op	otional wetlar	nd site ID:	<u> </u>			
Remarks: (Explain alternative procedures here or in a	separate r	eport.)						
	•	-r ,						
VEGETATION Use scientific names of plar	nts.							
	Absolute	Dominant	Indicator	Dominance Test Worksh	eet			
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Specie	es			
1				that are OBL, FACW, or FAC	C: (A)			
2				Total Number of Dominar				
3				Species Across all Strata	``			
5				Percent of Dominant Specie				
5	0 :	= Total Cover		that are OBL, FACW, or FAC	): 100.00% (A/D)			
Sapling/Shrub stratum (Plot size: )	,	- TOLAI GOVE		Prevalence Index Works	heet			
1 populus deltoides	10	Υ	FAC	Total % Cover of:				
2				OBL species 0 x	1 = 0			
3				FACW species 100 x 2	2 = 200			
4				FAC species 10 x 3				
5		=		FACU species 0 x 4 = 0				
(Diet size)	10	= Total Cover		UPL species $0 \times 5 = 0$				
Herb stratum (Plot size:)	100		E 4 OVA/	Column totals 110 (A) 230				
1 phragmites australis	100	Y	FACW	Prevalence Index = B/A =	2.09			
2 3				Hydrophytic Vegetation	Indicators:			
4				Rapid test for hydroph				
5				X Dominance test is >50	-			
6				X Prevalence index is ≤3				
7				Morphogical adaptatio	ns* (provide			
8				supporting data in Rer	"			
9				separate sheet)				
10	400	T-tal Cayor		Problematic hydrophyt	tic vegetation*			
Woody vine stratum (Plot size: )	100	= Total Cover		(explain)				
1				*Indicators of hydric soil and we present, unless disturbe				
'2				Hydrophytic	a or problemate			
	0 :	= Total Cover		vegetation				
				present? Y	_			
Remarks: (Include photo numbers here or on a separ	ate sheet)							

SOIL	Sampling Point:	Wetland 33
Davidla Davidada	(Description of the Lord on the Land of th	

Profile Desc	cription: (Descri	pe to th				indicato	r or contirm	tne absence	of indicators.)
Depth (Inches)	Matrix Color (moist)	%		dox Feat		Loc**	Tox	ture	Remarks
0 - 5	Color (moist)	1	Color (moist)	%	Type*	LOC			Remarks
	2.5Y 3/1	100					Silty Clay	+	
5 - 7	5Y 2.5/1	75					Clay Loan		
	5Y 7/2	15	2.5Y 5/6	10	RM	М	Clay Loan	1	
17 - 22	2.5Y 3/2	100					Loamy Sa	nd	
22 - 25+	2.5Y5/2	100					Loamy Sa	nd	
*Type: C = C	Concentration, D =	= Depleti	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa	nd Grains.	**Location:	PL = Pore Lining, M = Matrix
	oil Indicators:	- 1	,	· · · · ,					matic Hydric Soils:
Hist	tisol (A1)		Sar	dy Gleye	ed Matrix	(S4)			lox (A16) ( <b>LRR K, L, R</b> )
Hist	tic Epipedon (A2)		Sar	dy Redo	x (S5)		Dar	k Surface (S7	) (LRR K, L)
Blad	ck Histic (A3)		Stri	pped Ma	trix (S6)		5 cr	n Mucky Peat	or Peat (S3) (LRR K, L, R)
	drogen Sulfide (A4	-		-	ky Minera	. ,		-	Masses (F12) (LRR K, L, R)
	atified Layers (A5)	)			ed Matrix	(F2)		-	k Surface (TF12)
	m Muck (A10)				atrix (F3)		Oth	er (explain in i	remarks)
	oleted Below Dark		· · ·		Surface	. ,			
	ck Dark Surface (				rk Surfac	, ,			ophytic vegetation and weltand
San	ndy Mucky Minera	1 (51)	Red	iox Depr	essions (	F8)	hyd		e present, unless disturbed or problematic
						1			problematic
	Layer (if observe	ed):							
Type:	201				-		Hydri	c soil present	:? <u>Y</u>
Depth (inche	es). 				-				
Remarks:									
Maumee	loamy fine sar	nd							
	,								
	201/								
HYDROLO									
	drology Indicato								
· -	cators (minimum	of one is	required; check a				<u> </u>	_	licators (minimum of two required)
	Water (A1)				Fauna (B	,			Soil Cracks (B6)
	iter Table (A2)			_	uatic Plan		`		Patterns (B10)
X Saturation	on (A3) larks (B1)					Odor (C1			on Water Table (C2) Burrows (C8)
	nt Deposits (B2)			(C3)	ı Kılızosp	neres on	Living Roots		n Visible on Aerial Imagery (C9)
	posits (B3)				e of Redu	iced Iron (	(C4)		r Stressed Plants (D1)
	at or Crust (B4)			•)		ction in Ti			hic Position (D2)
	osits (B5)			(C6)	101111000	0			tral Test (D5)
	on Visible on Aeria	l Imagery	(B7)	Thin Mu	ck Surfac	e (C7)			,
X Sparsely	Vegetated Conca	ve Surfac	ce (B8)	Gauge o	r Well Da	ita (D9)			
Water-S	tained Leaves (B9)	)		Other (E	xplain in l	Remarks)			
Field Obser	vations:								
Surface water	•	Yes	No	X	Depth (i				
Water table	•	Yes	No	Х	Depth (i			- 1	icators of wetland
Saturation p		Yes	X No		Depth (i	nches):		. hy	drology present? Y
	pillary fringe)								
Describe rec	corded data (strea	ım gauge	e, monitoring well,	aerial pl	notos, pre	evious ins	spections), if	available:	
Remarks:									

Project/Site NICTD West Lake Corridor	City/	/County:	Lake Cou	inty Sampling Date:	9/30/15			
Applicant/Owner:		State:	IN	<del></del>	Wetland 34			
Investigator(s): Anna Hochhalter and Scott Beckmey	er		ion, Townshi	<del></del>				
Landform (hillslope, terrace, etc.):				ve, convex, none):				
Slope (%): Lat: 41.551335	5	Long:	-87.5183	· · · · · · · · · · · · · · · · · · ·				
Soil Map Unit NameMaumee loamy fine sand				<del></del>	none			
Are climatic/hydrologic conditions of the site typical for	or this time (							
Are vegetation , soil , or hydrol		•	y disturbed?	,				
	· —	naturally pr		Are "normal circum	stances" present?			
Are vegetation , soil , or hydrol SUMMARY OF FINDINGS		riaturally pi	oblematic?	(If needed, explain any ans	·			
				(II fleeded, explain any and	wers in remarks.)			
Hydrophytic vegetation present?  Y	_	la tha a		a within a watland?	V			
Hydric soil present? Y	-		-	a within a wetland?	<u>Y</u>			
Indicators of wetland hydrology present? Y	_	if yes, o	ptional wetla	ind site ID:				
Remarks: (Explain alternative procedures here or in a	a separate r	report.)						
VEGETATION Use scientific names of plan	nts.							
	Absolute	Dominant	Indicator	Dominance Test Worksho	et			
Tree Stratum (Plot size:) 1	% Cover	Species	Staus	Number of Dominant Species that are OBL, FACW, or FAC				
2				Total Number of Dominan Species Across all Strata				
4				Percent of Dominant Species				
5				that are OBL, FACW, or FAC				
	0	= Total Cove	r					
Sapling/Shrub stratur (Plot size: )				Prevalence Index Worksh	ieet			
1 cornus stolonifer	20	Υ		Total % Cover of:				
2 frangula alnus	5	Υ	FACW	OBL species 42 x 1	= 42			
3				FACW species 57 x 2				
4				FAC species 0 x 3				
5		<del></del>		FACU species 0 x 4				
Horb stratum (Diet size:	25	= Total Cove	r	UPL species $0 \times 5 = 0$				
Herb stratum (Plot size:)	00		0.51	Column totals 99 (A)				
1 lythrum salicaria	30	<u>Y</u>	OBL	Prevalence Index = B/A =	1.58			
2 phragmites australis 3 geum laciniatum	20	<u> </u>	FACW	Hydrophytic Vegetation I	n diagtara.			
4 typha angustifolia	10	N	OBL	Rapid test for hydrophy				
5 scirpus atrovirens	2		OBL	X Dominance test is >50°	=			
6 juncus torreyi		N	FACW	X Prevalence index is ≤3.				
7				Morphogical adaptation				
8				supporting data in Rem				
9				separate sheet)				
10				Problematic hydrophyti	c vegetation*			
	94	= Total Cove	r	(explain)				
Woody vine stratum (Plot size:) 1				*Indicators of hydric soil and wel present, unless disturbed				
2				Hydrophytic				
	0	= Total Cover vegetation present? Y						
Remarks: (Include photo numbers here or on a separ	rate sheet)							

SOIL								Sar	mpling Point:	Wetland 34
Profile Desc	cription: (Descri	be to the				indicato	or or confirm the a	bsence	of indicators.)	
Depth	Matrix			dox Feat					_	
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type*	Loc**	Texture		Rema	rks
0 - 5	2.5Y 3/1	100	<b></b>	<b></b>	↓	<u> </u>	Silty Clay Loam			
5 - 7	5Y 2.5/1	75	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Clay Loam			
	5Y 7/2	15	2.5Y 5/6	10	RM	М	Clay Loam			
17 - 22	2.5Y 3/2	100			<u> </u>		Loamy Sand			
22 - 25+	2.5Y5/2	100					Loamy Sand			
				1	1					
*Type: C = C	Concentration, D =	= Depleti	on, RM = Reduce	ed Matrix	. MS = M	asked Sa	and Grains. **L	ocation:	PL = Pore Lining,	M = Matrix
	oil Indicators:								matic Hydric Soi	
Hist	tisol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Coast Pra	airie Redo	ox (A16) ( <b>LRR K</b> ,	
	tic Epipedon (A2)			ndy Redo	. ,			. ,	(LRR K, L)	
	ck Histic (A3)			ipped Ma	, ,			•	or Peat (S3) (LRR	,
	drogen Sulfide (A4	,		amy Muck	-	, ,		-	Masses (F12) (LRI	₹ K, L, R)
	atified Layers (A5) m Muck (A10)	1		amy Gley			Other (ex		Surface (TF12)	
	n Muck (A10) bleted Below Dark	Surface		pleted Ma dox Dark	, ,		— Other (ex	рын н	епіаткь)	
	ck Dark Surface (		· · · —	pleted Da		. ,	*Indicators	of bydro	phytic vegetation	and weltand
	ndy Mucky Minera			dox Depr		, ,		must be	e present, unless o problematic	
Restrictive	Layer (if observe	ed):								
Туре:					_		Hydric soil	present	? <u>Y</u>	
Depth (inche	es):				_					
Remarks:										
	loamy fine sar	ıd								
HYDROLO	)GV									
	drology Indicato	vre:								
_	cators (minimum		required: check	all that ar	anly)		Socon	danı İndi	cators (minimum	of two required)
-	Water (A1)	JI ONC IC	required, oricon t		Fauna (B	113)			oil Cracks (B6)	JI two required)
	iter Table (A2)				uatic Plan	,			Patterns (B10)	
X Saturation	on (A3)		_			Odor (C1	1)	Ory-Seaso	on Water Table (C2	<u>'</u> )
	arks (B1)				d Rhizosp	heres on			Burrows (C8)	
	nt Deposits (B2)		_	(C3)	( D - 4)				Visible on Aerial I	• • , ,
	oosits (B3)		_	_		uced Iron	` '		r Stressed Plants (I	<b>)</b>
	at or Crust (B4) posits (B5)			(C6)	ron Reau	iction in i			nic Position (D2) ral Test (D5)	
	on Visible on Aeria	ıl Imagery	/ (B7)	_ ` ′	ıck Surfac	ce (C7)	<u>—</u> ·	AO-11001	idi i cot (Do)	
	Vegetated Conca	0 ,	, , ,	_	or Well Da					
Water-St	tained Leaves (B9)	)	<u> </u>	Other (E	Explain in	Remarks)	)			
Field Obser	vations:									
Surface water	•	Yes	No No	X	Depth (i	-				
Water table	•	Yes	No	X	Depth (i	,			icators of wetlan	
Saturation policy (includes cap		Yes	X No		Depth (i	ncnes):		nyo	drology present?	Y
(includes cap	piliary iririge)									

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Project/Site:	NICTD West Lake Corridor		City/County:	Lake County	Sampling Date:	30-Sep-15			
Applicant/Owner:					State: IN Sampling Point	: Wetland 35			
Investigator(s):	Anna Hochhalter and Scott Beck	meyer	Section, Tow	nship, Range	::				
Landform (hillside,	terrace, etc.):				Local relief (concave, convex, none	:			
Slope %:		: 41.544721		Long	: <u>-</u> 87.51663	_ Datum:			
Soil Unit Name:	Rensselaer loam, calcareous su	osoil variant			NWI Classification	: none			
Are climatic / hydro	logic conditions on the site typical for	or this time of year	?	Yes	No				
Are Vegetation	Soil or hydrology	Significa	antly disturbed?	,	Are "Normal Circumstances" present?	Yes No			
Are Vegetation	Soil or hydrology	Naturally	y problematic?	(	(if needed, explain any answers in Remarks.)	)			
SUMMARY OF	FINDINGS - Attach site map	showing sam	pling point	locations,	transects, important features, etc.				
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent? Ye	s N	o o		Is the Sampling Area Yes within a Wetland?	sxNo			
Remarks: Wetland investigation used Approach B, which entails identifying the dominant species and does not include collecting soil samples or calculating floristic quality.									
VEGETATION -	Use scientific names of pla	ints.							
Tree Stratum  1. salix inter 2. populus c 3 4 5			e Dominant er Species?	Indicator Status #N/A FAC+	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC  Total Number of Dominant Species Across All Strata:	(A)			
Sapling/Shrub Stra	atum (Plot size: 15ft olonifera	10		FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)			
2. <u>fraxinus p</u> 3 4 5	pennsylvanica  Tota (Plot size: 5ft )			  	Prevalence Index Worksheet:           Total % Cover of         Multiply by:           OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =           FACU species         x 4 =	0 0 0 0			
1. typha and 2 3 4 5		85		OBL   	UPL species x 5 = Column Totals 0 (A)  Prevalence Index = B/A =	0 0 (B)			
6 7 8 9 10	Tota	Cover:		    	Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is ≤3.0*  Morphological Adaptations* (Providata in remarks or on a separate s	heet)			
Woody Vine Strate	um (Plot size: 15ft	_)	_	=	*Indicators of hydric soil and wetland hydro	` ' '			
1. <u>vitis ripari</u> 2. <u></u>	Tota	5 I Cover:		FACW-	Hydrophytic Vegetation Yes Present?	s <u>x</u> No			
Remarks: (Include	e photo numbers here or on a sepa	rate sheet.)							

Project/Site NICTD West Lake Corridor	City/	County:	Lake Cou	nty Sampling Date:	09/30/15
Applicant/Owner:	<del>-</del>	State:	IN	Sampling Point:	Wetland 36
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Section	on, Townshi	p, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	ve, convex, none):	
Slope (%): Lat: 41.5437		Long:	-87.5168	8 Datum:	
Soil Map Unit NameRensselaer loam, calcareous sub	soil variant		NWI (	Classification:	none
Are climatic/hydrologic conditions of the site typical for	r this time c	of the year?	(1	If no, explain in remarks)	
Are vegetation, soil, or hydrolo	ogy	significantly	disturbed?	Are "normal circur	nstances"
Are vegetation , soil , or hydrole	ogy	naturally pro	oblematic?	-	present?
SUMMARY OF FINDINGS				(If needed, explain any an	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	_ [	If yes, op	otional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate r	eport.)		-	
		rested ditch			
VEGETATION Use scientific names of plar					
PLOETATION - 000 0010111110 11411100 01 p.a.	Absolute	Dominant	Indicator	Dominance Test Worksh	neet
<u>Tree Stratum</u> (Plot size: )	% Cover	Species	Staus	Number of Dominant Specie	
1 poplar deltoides	40	Y		that are OBL, FACW, or FAC	
2				Total Number of Domina	
3				Species Across all Strata	a: (B)
4				Percent of Dominant Specie	
5	40	= Total Cover		that are OBL, FACW, or FAC	C: <u>50.00%</u> (A/B)
Sapling/Shrub stratun (Plot size: )	40	- Tulai Guvei		Prevalence Index Works	sheet
1				Total % Cover of:	11001
2				OBL species 40 x	1 = 40
3				FACW species 50 x	2 = 100
4				' <u></u>	3 = 0
5				·	4 = 0
(Dist size)	0	= Total Cover		· —	5 = 0
Herb stratum (Plot size:)	-0	.,	= 1 O.M.	Column totals 90 (A	
1 phragmites australis	50	<u>Y</u> .	FACW	Prevalence Index = B/A =	1.56
2 typha angustifolia 3 lythrum salicaria	10		OBL OBL	Hydrophytic Vegetation	Indicators:
4			ODL	Rapid test for hydroph	
5				Dominance test is >50	
6				X Prevalence index is ≤3	
7				Morphogical adaptation	ons* (provide
8				supporting data in Rei	**
9				separate sheet)	
10		T-t-l Cayon		Problematic hydrophy	tic vegetation*
Woody vine stratum (Plot size: )	90	= Total Cover		(explain)	
Woody vine stratum (Plot size:)  1 rubus occidentalis	5	Υ		*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 separa	ate sheet)				

								Sa	mpling Point: Wetland 36
Profile Desc	ription: (Descri	be to th	e depth neede	d to docu	ment the	indicato	r or confirm t	the absence	of indicators.)
Depth	<u>Matrix</u>		_	Redox Fea					
(Inches)	Color (moist)	%	Color (moist	%	Type*	Loc**	Text	ure	Remarks
*Type: C = C	concentration, D =	- Denleti	n RM = Redu	ced Matrix	MS = M	asked Sa	and Grains	**Location	PL = Pore Lining, M = Matrix
	il Indicators:	Dopica	on, ravi rada	oca matrix	., 1410 141	donou oc			ematic Hydric Soils:
•	isol (A1)		S	andy Gley	ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			andy Red		,	— Dark	Surface (S7	) (LRR K, L)
Blac	ck Histic (A3)		s	tripped Ma	atrix (S6)		5 cm	Mucky Peat	or Peat (S3) (LRR K, L, R)
	rogen Sulfide (A4	-		oamy Muc	•			-	Masses (F12) (LRR K, L, R)
	tified Layers (A5)	)		oamy Gley		, ,			k Surface (TF12)
	n Muck (A10)	0 (		epleted M			Othe	er (explain in i	remarks)
	leted Below Dark ck Dark Surface (/			edox Dark		. ,			
	dy Mucky Minera	-		epleted Dep					ophytic vegetation and weltand e present, unless disturbed or
<u> </u>	dy Macky Miliera	(01)	'	соох Бер	103310113 (	(10)	riyur		problematic
Doctrictive I	Layer (if observe	٠ ط\.							<u></u>
	Layer (II observe	ea):							
IVDO:							Hydric	coil procont	12 V
Type:	<i>ie).</i>				_		Hydric	soil present	1? <u>Y</u>
Depth (inche	es):				- -		Hydric	soil present	1? <u>Y</u>
Depth (inche Remarks:		ed soil s	ample. Rens	selaer lo	- - am is m	apped s	-	soil present	1? <u>Y</u>
Depth (inche Remarks:	water prevente	ed soil s	ample. Rens	selaer lo	- am is m	apped s	-	soil present	t? <u>Y</u>
Depth (inche Remarks: standing	water prevente	ed soil s	ample. Rens	selaer lo	am is m	apped s	-	soil present	t? <u>Y</u>
Depth (inche Remarks: standing	water prevente		ample. Rens	selaer lo	am is m	apped s	-	soil present	t? <u>Y</u>
Depth (inche Remarks: standing mapped so Wetland Hyd	water prevente oils: drology Indicato	ors:				apped s	oil		
Depth (inche Remarks: standing mapped so Wetland Hyd	water prevente  oils:  drology Indicato  cators (minimum o	ors:		c all that a	pply)		oil	econdary Ind	licators (minimum of two required
Depth (inche Remarks: standing  mapped so Wetland Hyd Primary India X Surface	water prevente	ors:		call that a	pply) Fauna (B	13)	oil	econdary Ind Surface S	licators (minimum of two required Soil Cracks (B6)
Depth (inche Remarks: standing  mapped so Wetland Hyd Primary India X Surface	water prevente	ors:		c all that a Aquatic True Ac	pply)	.13) nts (B14)	oil <u>S</u>	econdary Ind Surface S Drainage	licators (minimum of two required
mapped some substitution of the second secon	water prevente	ors:		<all a<br="" that="">Aquatic True Ac Hydrog</all>	<u>pply)</u> Fauna (B quatic Plar en Sulfide	.13) nts (B14) Odor (C1	oil <u>S</u>	econdary Ind Surface S Drainage Dry-Seas	licators (minimum of two required Soil Cracks (B6) Patterns (B10)
mapped something with the standing mapped something ma	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)	ors:		c all that a Aquatic True Ac Hydrog Oxidize (C3)	pply) Fauna (B quatic Plar en Sulfide d Rhizosp	n13) nts (B14) Odor (C1 oheres on	Oil S Living Roots	econdary Ind Surface S Drainage Dry-Seas Crayfish I	licators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
mapped s wetland Hyd Primary India X Surface Mater May Sedimen Drift Dep	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) of Deposits (B2) oosits (B3)	ors:		Aquatic True Ac Hydrog Oxidize (C3) Presence	pply) Fauna (B quatic Plar en Sulfide d Rhizosp	13) hts (B14) Odor (C1 heres on	Oil  S  Living Roots  (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation	licators (minimum of two required Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1)
mapped s wetland Hyd Primary India X Surface V High Wa X Saturatio Water May Sedimen Drift Dep Algal Ma	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4)	ors:		Aquatica Aquatica True Aca Hydrogo Oxidize (C3) Present Recent	pply) Fauna (B quatic Plar en Sulfide d Rhizosp	13) hts (B14) Odor (C1 heres on	Oil  S  Living Roots  (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted c	dicators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
mapped s wetland Hyd Primary India X Surface Mater May Sedimen Drift Dep Algal Ma Iron Dep	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	ors: of one is	required; checl	Aquatic True Ac Hydrog Oxidize (C3) Presence Recent (C6)	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu	ota (B14) Odor (C1 oheres on uced Iron uction in T	Oil  S  Living Roots  (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted c	licators (minimum of two required Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Or Stressed Plants (D1)
mapped some service of the control o	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) tt or Crust (B4) oosits (B5) on Visible on Aeria	ors: of one is	required; checl	Call that a Aquatic True Ac Hydrog Oxidize (C3) Presence Recent (C6) Thin Mu	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu	of 13) Ints (B14) Odor (C1) Inheres on Luced Iron Luction in The	Oil  S  Living Roots  (C4)	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted c	dicators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
mapped so Wetland Hyd Primary Indio X Surface V High Water Moods Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	ors: of one is I Imagery ve Surfac	required; checl	c all that a Aquatic True Ac Hydrog Oxidize (C3) Presend Recent (C6) Thin Mu	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu	of 13)  Odor (C1)  Theres on a cition in The ce (C7)  ata (D9)	oil  S Living Roots  (C4)  (C4)  illed Soils	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted c	dicators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
mapped so Wetland Hyd Primary Indio X Surface V High Water Moods Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Conca	ors: of one is I Imagery ve Surfac	required; checl	c all that a Aquatic True Ac Hydrog Oxidize (C3) Presend Recent (C6) Thin Mu	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu uck Surfac	of 13)  Odor (C1)  Theres on a cition in The ce (C7)  ata (D9)	oil  S Living Roots  (C4)  (C4)  illed Soils	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted c	dicators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
mapped some standing	water prevented  oils: drology Indicator cators (minimum of 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	ors: of one is I Imagery ve Surfac	required; checl	c all that a Aquatic True Ac Hydrog Oxidize (C3) Presend Recent (C6) Thin Mu	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu uck Surfac	nts (B14) Odor (C1 wheres on uced Iron uction in T are (C7) ata (D9) Remarks	oil  S Living Roots  (C4)  (C4)  illed Soils	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted c	dicators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2)
mapped some standing	water prevented  oils: drology Indicator cators (minimum of the Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present? oresent?	I Imagery ve Surface	required; check	c all that a Aquatic True Ac Hydrog Oxidize (C3) Presend Recent (C6) Thin Mu	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu uck Surfac or Well Da Explain in Depth (i	nts (B14) Odor (C1 wheres on action in T ace (C7) ata (D9) Remarks; inches):	oil  S Living Roots  (C4)  (C4)  illed Soils	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted of Geomorp FAC-Neu	dicators (minimum of two required Soil Cracks (B6) Patterns (B10) Ion Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) In Stressed Plants (D1) Inchic Position (D2) Itral Test (D5)
mapped some standing	water prevented  oils: drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) of Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria vegetated Concal cained Leaves (B9) vations: er present? oresent?	ors: of one is I Imagery ve Surface)	required; check	c all that a Aquatic True Ac Hydrog Oxidize (C3) Presend Recent (C6) Thin Mu	pply) Fauna (B quatic Plar en Sulfide d Rhizosp ce of Redu Iron Redu uck Surfac or Well Da Explain in	nts (B14) Odor (C1 wheres on action in T ace (C7) ata (D9) Remarks; inches):	oil  S Living Roots  (C4)  (C4)  illed Soils	econdary Ind Surface S Drainage Dry-Seas Crayfish I Saturation Stunted of Geomorp FAC-Neu	licators (minimum of two required Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) shic Position (D2) tral Test (D5)

Project/Site:	NICTD West Lake Corridor	City/County: L	ake County	Sampling Date: 30-Sep-15					
Applicant/Owner:				State: IN Sampling Point: Wetland 37					
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Town	ship, Range	:					
Landform (hillside,	terrace, etc.):			Local relief (concave, convex, none:					
Slope %:	Lat: 41.5443	34	Long	: <u>-87.518</u> Datum:					
Soil Unit Name:	Rensselaer loam, calcareous subsoil vari	ant		NWI Classification: none					
Are climatic / hydro	ologic conditions on the site typical for this tim	e of year?	Yes	No					
Are Vegetation	Soil or hydrology	Significantly disturbed?	A	Are "Normal Circumstances" present? Yes No					
Are Vegetation	Soil or hydrology	Naturally problematic?	(	if needed, explain any answers in Remarks.)					
SUMMARY OF	FINDINGS - Attach site map showing	ng sampling point l	ocations,	transects, important features, etc.					
Hydrophytic Vege Hydric Soils Prese Wetland Hydrolog	ent? Yes	No No		Is the Sampling Area Within a Wetland?  Yes No					
Remarks: Wetland investigation used Approach B, which entails identifying the dominant species and does not include collecting soil samples or calculating floristic quality.									
VEGETATION -	- Use scientific names of plants.								
Tree Stratum  1. salix inte 2. populus ( 3 4		Absolute Dominant % Cover Species? 50 5	Indicator Status #N/A FAC+	Dominance Test Worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC(A)  Total Number of Dominant Species Across All Strata:(B)					
5. <u></u>	Total Cover:			Percent of Dominant Species					
2. <u>fraxinus</u> 3 4 5 Herb Stratum	ratum (Plot size:15ft) tononlifera pennsylvanica  Total Cover: (Plot size:5ft) gustifolia	10 5 	#N/A FACW    OBL  	That Are OBL, FACW, or FAC:         (A/B)           Prevalence Index Worksheet:           Total % Cover of OBL species         Multiply by: OBL species         0           FACW species         x 2 = 0         0           FAC species         x 3 = 0         0           FACU species         x 4 = 0         0           UPL species         x 5 = 0         0           Column Totals         0 (A)         0 (B)           Prevalence Index = B/A =					
7 8 9 10  Woody Vine Strat  1. Vitris rips 2	<u> </u>	5	    #N/A	Dominance Test is >50% Prevalence Index is ≤3.0* Morphological 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.  Hydrophytic Vegetation Yes No Present?					
Remarks: (Includ	le photo numbers here or on a separate shee	t.)							

Project/Site NICTD West Lake Corridor	City/County:	Lake Cou	unty Sampling Date:	10/27/15
Applicant/Owner:	State:	IN	Sampling Point:	Upland 38
Investigator(s): Anna Hochhalter and Scott Beckmeyer	Sec	tion, Townshi	ip, Range:	
Landform (hillslope, terrace, etc.):	Local	relief (conca	ve, convex, none):	
Slope (%):	Long:		Datum:	
Soil Map Unit Namebono silty clay		NWI	Classification:	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	significantl	y disturbed?	Are "normal circum	stances"
Are vegetation , soil , or hydrology		roblematic?		present?
SUMMARY OF FINDINGS			(If needed, explain any ans	wers in remarks.)
Hydrophytic vegetation present? N				
Hydric soil present? N	Is the s	sampled are	a within a wetland?	N
Indicators of wetland hydrology present?	If yes, c	ptional wetla	and site ID:	
Remarks: (Explain alternative procedures here or in a sepa	L arate report.)			
Active Agricultural I	land is the dom	inant uplan	nd condition	
VEGETATION Use scientific names of plants.				
	olute Dominant	Indicator	Dominance Test Workshe	
	Cover Species	Staus	Number of Dominant Species	
1	,	-	that are OBL, FACW, or FAC:	
2			Total Number of Dominant	
3			Species Across all Strata	
4			Percent of Dominant Species	
5			that are OBL, FACW, or FAC	:(A/B)
	0 = Total Cove	er		
Sapling/Shrub stratum (Plot size:)			Prevalence Index Worksh	ieet
			Total % Cover of:  OBL species 0 x 1	= 0
3			FACW species 0 x 2	
4			FAC species 0 x 3	
5			FACU species 0 x 4	
	0 = Total Cove	er	UPL species 0 x 5	5 = 0
Herb stratum (Plot size: )			Column totals 0 (A)	) 0 (B)
1			Prevalence Index = B/A =	
2				
3			Hydrophytic Vegetation II	ndicators:
4			Rapid test for hydrophy	=
5			Dominance test is >509	
6			Prevalence index is ≤3.	.0*
8			Morphogical adaptation	
9			supporting data in Rem separate sheet)	narks or on a
10			Problematic hydrophyti	ic vegetation*
	0 = Total Cove	er	(explain)	C vegetation
Woody vine stratum (Plot size: )			*Indicators of hydric soil and wet	flood bydrology must be
1			present, unless disturbed	, ,,
2			Hydrophytic	
	0 = Total Cove	er .	vegetation	
			present? N	
Remarks: (Include photo numbers here or on a separate sh	ieet)			

SOIL								Sa	ampling Point: Upland 38
Profile Desc	cription: (Descr	ibe to the	depth needed	to docu	ment the	indicato	r or confirm t	he absence	e of indicators.)
Depth	<u>Matrix</u>		Re	dox Feat	tures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ure	Remarks
0-19+	2.5Y 6/3	5					Sandy Clay	Loam	
	2.5Y 3/2	64					Sandy Clay	Loam	
	2.5Y 7/8	1					Sandy Clay		
	2.5Y 5/2	30		†			Sandy Clay		
	2.01 0/2	+ **+		+			Carray Clay	Louin	
		+		+					
		++		┼──					
		+		<del> </del>					
	Concentration, D	<ul><li>Depletion</li></ul>	ı, RM = Reduce	ed Matrix	, MS = M	asked Sa			: PL = Pore Lining, M = Matrix
-	oil Indicators:								ematic Hydric Soils:
	tisol (A1)				ed Matrix	(S4)			dox (A16) ( <b>LRR K, L, R</b> )
	tic Epipedon (A2)	)		ndy Redo					7) (LRR K, L)
	ck Histic (A3)			ipped Ma	, ,			-	t or Peat (S3) (LRR K, L, R)
	drogen Sulfide (A	•		-	ky Minera			_	Masses (F12) (LRR K, L, R)
	atified Layers (A5	')			ed Matrix				rk Surface (TF12)
	m Muck (A10)			•	atrix (F3)		Othe	r (explain in	remarks)
	oleted Below Darl	•	·		Surface	. ,			
	ck Dark Surface (	, ,			ark Surfac				rophytic vegetation and weltand
Sar	ndy Mucky Minera	al (S1)	Re	dox Depr	ressions (	(F8)	hydro	ology must b	be present, unless disturbed or
									problematic
	Layer (if observences): 19	ed):			_		Hydric	soil presen	nt? N
					_				
Remarks: Dense cl	lay, unable to b	ore deep	er						
HYDROLO	OGY								
	drology Indicate	ors:							
-	cators (minimum		eauired: check :	all that ar	(vlac		Se	econdary Inc	dicators (minimum of two required)
	Water (A1)			•	Fauna (B	13)	<u></u>	-	Soil Cracks (B6)
	iter Table (A2)			_ `	uatic Plar	•	_		e Patterns (B10)
Saturation	` ,					Odor (C1	_		son Water Table (C2)
Water M	larks (B1)			Oxidize	d Rhizosp	heres on	Living Roots	Crayfish	Burrows (C8)
Sedimer	nt Deposits (B2)			(C3)			_	Saturation	on Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)			Presenc	e of Redu	uced Iron	(C4)	Stunted	or Stressed Plants (D1)
Algal Ma	at or Crust (B4)			Recent	Iron Redu	iction in T	illed Soils	Geomor	phic Position (D2)
	oosits (B5)			(C6)			_	FAC-Nei	utral Test (D5)
	on Visible on Aeria			_	ick Surfac				
	Vegetated Conca		(B8)	_ ~	or Well Da	` ,			
	tained Leaves (B9	<i>'</i> )		Other (E	xpiain in	Remarks)			
Field Obser		.,			<b>5</b>				
Surface water	•	Yes _	No	X	Depth (i				
Water table		Yes _	No No	X	Depth (i				dicators of wetland
Saturation p		Yes _	No No	Х	Depth (i	ncnes):		n;	ydrology present? N
	pillary fringe)		<del></del>	<del></del>		<del></del>			
Describe rec	corded data (strea	am gauge,	monitoring well	, aerial p	notos, pre	evious ins	spections), if a	vailable:	

Project/Site NICTD West Lake Corridor	City	/County:	Lake Cou	inty Sampling Date:	10/27/15
Applicant/Owner:		State:	IN		Wetland 38
Investigator(s): Anna Hochhalter and Scott Beckmey	/er	Sect	ion, Townsh	ip, Range:	
Landform (hillslope, terrace, etc.):		Local ı	elief (conca	ve, convex, none):	
Slope (%): Lat: 41.5246		Long:	-87.518	2 Datum:	
Soil Map Unit NameBono silty clay			NWI	Classification:	none
Are climatic/hydrologic conditions of the site typical for	or this time	of the year?	(	If no, explain in remarks)	
Are vegetation , soil , or hydro	logy	significantly	disturbed?	Are "normal circun	nstances"
Are vegetation , soil , or hydro	··-	naturally pr		Ale normal circum	present?
SUMMARY OF FINDINGS	<u> </u>	. , , ,		(If needed, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y					·
Hydric soil present? Y	_	Is the s	ampled are	a within a wetland?	Υ
Indicators of wetland hydrology present?	_		otional wetla		
	- o congrato i				
Remarks: (Explain alternative procedures here or in	a separate i	eport.)			
	fo	rested ditch	l		
NEOFTATION					
VEGETATION Use scientific names of pla				Dominance Test Worksh	
Tree Stratum (Plot size: )	Absolute % Cover	Dominant Species	Indicator Staus		
1 acer saccharinum	20	Y	FACW	Number of Dominant Specie that are OBL, FACW, or FAC	
2 poplar deltoides	20	<u> </u>		Total Number of Dominar	<del></del> ` ` ´
3 prunus serotina	10	Υ	FACU	Species Across all Strata	
4				Percent of Dominant Specie	es
5				that are OBL, FACW, or FAC	C: 50.00% (A/B)
	50	= Total Cove	٢		
Sapling/Shrub stratur (Plot size:	)			Prevalence Index Works	heet
1 cornus stolonifera	10	- <del>Y</del>	FACW	Total % Cover of:	1 - 0
2 salix interior		·	FACW	· —	1 = <u>0</u> 2 = 80
4					3 = 15
5				· —	4 = 40
	20	= Total Cove		UPL species 0 x	5 = 0
Herb stratum (Plot size:	)	1		Column totals 55 (A	135 (B)
1 phragmites australis	10	Υ	FACW	Prevalence Index = B/A =	2.45
2 equisetum arvense	5	Υ	FAC		
3				Hydrophytic Vegetation	
4				Rapid test for hydroph	-
5				Dominance test is >50	
6		· ——		X Prevalence index is ≤3	
8		· <del></del>		Morphogical adaptatio supporting data in Rer	
9				supporting data in reli	narks or on a
10				Problematic hydrophyt	tic vegetation*
	15	= Total Cove		(explain)	
Woody vine stratum (Plot size:	)	•		*Indicators of hydric soil and we	etland hydrology must be
1 rubus occidentalis	5	Y		present, unless disturbe	
2				Hydrophytic	
	5	= Total Cove	ſ	vegetation present? Y	
Domarka: (Ingludo photo pumbaro baro or an a cara	rata abaat\				<u> </u>
Remarks: (Include photo numbers here or on a sepa	rate sneet)				

SOIL	Sampling Point:	Wetland 38

Profile Desc	ription: (Descri	be to the	e depth needed t			indicato	or or confirm	the absence	e of indicators.)	
Depth	<u>Matrix</u>		Red	dox Featu	ures_					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Tex	xture	Remarks	
1 - 4	2.5Y 2.5/1	50					Clay Loan	n		
	2.5Y 7/3	35	10YR 4/6	5	CS	М	Loamy Sa	ınd		
4 - 8	2.5Y 7/3	68	10YR 4/6	2	CS	М	Loamy Sa	ind		
	2.5Y 2.5/1	30					Loamy Sa	ınd		
8 - 28+	2.5Y 5/4	65	2.5YR 6/8	5	RM	М	Loamy Sa			
<u> </u>	2.5Y 3/2	30	2.01110.0	-			Loamy Sa			
	2.01 0/2	- 00					Loanly oa	iiiu		
*T 0 . 0		Daniel	DM Darker	-1.84-4-5-	N40 N4	0 -		**! 1'	Di Dan Lisian M. Matris	
	il Indicators:	Depletion	on, RM = Reduce	d Matrix,	MS = Ma	asked Sa			: PL = Pore Lining, M = Matrix	
_			Con	du Clava	d Matrix	(84)			ematic Hydric Soils: dox (A16) (LRR K, L, R)	
	isol (A1) ic Epipedon (A2)			dy Gleye dy Redo		(34)		rk Surface (S7		
				-						
	ck Histic (A3)	,		oped Mat	. ,	1 (54)		-	t or Peat (S3) (LRR K, L, R)	
	rogen Sulfide (A4	-		my Muck	-			_	Masses (F12) (LRR K, L, R)	
	tified Layers (A5)			my Gleye		(F2)		•	rk Surface (TF12)	
	n Muck (A10)	0 (		leted Ma		(FO)	Oth	ner (explain in	remarks)	
·	leted Below Dark		` ′	lox Dark		` '				
	k Dark Surface (A	,		leted Da		. ,			ophytic vegetation and weltand	
San	dy Mucky Minera	I (S1)	Red	lox Depre	essions (	F8)	hyd	Irology must b	e present, unless disturbed or	
									problematic	
	Layer (if observe	ed):								
Type:							Hydri	c soil presen	t? <u>Y</u>	
Depth (inche	s):				i					
Remarks:						<u> </u>				
Bono silt	v clav									
•	, ,									
HYDROLC										
1	drology Indicato									
Primary India	cators (minimum o	of one is	required; check a	II that ap	<u>ply)</u>			-	dicators (minimum of two required)	
	Water (A1)				Fauna (B	,			Soil Cracks (B6)	
	ter Table (A2)				ıatic Plan				Patterns (B10)	
X Saturation	, ,					Odor (C1			son Water Table (C2)	
Water Ma	` '				Rhizosp	heres on	Living Roots		Burrows (C8)	
	t Deposits (B2)			(C3)					on Visible on Aerial Imagery (C9)	
	osits (B3)					ced Iron			or Stressed Plants (D1)	
	t or Crust (B4)				ron Redu	ction in Ti	illed Soils		phic Position (D2)	
	osits (B5)	Ilmaaan	(D7)	(C6)	- I. Of	- (07)		FAC-Net	utral Test (D5)	
	on Visible on Aeria				ck Surfac					
	Vegetated Concar			_	r Well Da					
	ained Leaves (B9)	1		Outer (E)	vhiqii ili i	Remarks)	)			
Field Obser		V	NI.	V	Donth (	aaba=\:				
Surface water	•	Yes	No No		Depth (in			-	dia atawa af wastlaw d	
Water table p		Yes	X No		Depth (in		25 10	_	dicators of wetland	
Saturation procession (includes care		Yes	X No		Depth (ii	iciies).	10	-   "	ydrology present? Y	
		m gover	monitoring well	aorial sh	otos pre	vious is:	enections) if	available:		
Describe rec	orded data (střea	ııı gauge	, monitoring well,	aenai pr	iotos, pre	evious ins	spections), If	avallable:		
Remarks:										

Project/Site NICTD West Lake Corridor	City/Co	unty:	Lake Cou	nty Sampling	Date:	10/27/1	5	
Applicant/Owner:	•	State:	IN	Sampling		Upland 3		
Investigator(s): Anna Hochhalter and Scott Beckmeyer			on, Townshi					
Landform (hillslope, terrace, etc.):		_		re, convex, none):				
Slope (%):		₋ong:	`	Datum:				
Soil Map Unit NameBono silty clay		<u> </u>	NWI	Classification:	nc	ne		
Are climatic/hydrologic conditions of the site typical for this	s time of th	he vear?		f no, explain in rema				
Are vegetation , soil , or hydrology		-			,	nnoor"		
Are vegetation , soil , or hydrology		significantly disturbed? Are "normal circumstances" naturally problematic? present?						
SUMMARY OF FINDINGS		ataran, pro		(If needed, explain	•		arks.)	
Hydrophytic vegetation present? N				, , ,			,	
Hydric soil present?		Is the sampled area within a wetland?				N		
Indicators of wetland hydrology present?		If yes, optional wetland site ID:						
<u> </u>						_		
Remarks: (Explain alternative procedures here or in a sep	parate repo	ort.)						
Active Agricultural	I land is t	the domir	nant uplan	d condition				
<b>VEGETATION</b> Use scientific names of plants.				<del> </del>				
		ominant	Indicator	Dominance Test		!		
Tree Stratum (Plot size:) % (	Cover S	Species	Staus	Number of Domina that are OBL, FACV	•	0	(A)	
				Total Number of	_	- 0	_ (^)	
3		<del></del> -		Species Across		0	(B)	
4				Percent of Domina	_		-` ′	
5				that are OBL, FACV	•	0.00%	(A/B)	
	0 = T	otal Cover						
Sapling/Shrub stratur (Plot size:)				Prevalence Index		et		
1				Total % Cover of:				
				OBL species	0 x 1 =	0	_	
3		<del></del> -		FACW species FAC species	0 x 2 = 0 x 3 =	0	_	
5				FAC species	0 x3= 0 x4=	0	_	
	0 = T	otal Cover		UPL species	0 x 5 =	0	_	
Herb stratum (Plot size: )				Column totals	0 (A)	0	(B)	
				Prevalence Index			<b>-</b> ` ′	
2					_		_	
3				Hydrophytic Veg	etation Ind	icators:		
4				Rapid test for	hydrophytic	vegetation	on	
5				Dominance te				
				Prevalence in	dex is ≤3.0*			
7				Morphogical a				
9				supporting da separate shee		ks or on a	1	
10		<del></del> -				,aaatatian	.*	
	0 = T	otal Cover		Problematic h (explain)	iyaropriyiic \	regetation	•	
Woody vine stratum (Plot size: )				<del></del>	aail aad watlaa	d budsologs		
1				*Indicators of hydric s present, unle	soil and wetlar ss disturbed o			
2				Hydrophytic				
	0 = T	otal Cover		vegetation	A.I			
				present?	N			
Remarks: (Include photo numbers here or on a separate s	sheet)							

								Sampling Point:	Upland 39
Profile Desc	ription: (Descri	ibe to the				indicato	r or confirm the	absence of indicators	.)
Depth	<u>Matrix</u>		_	Redox Fea					
(Inches)	Color (moist)	%	Color (moist	) %	Type*	Loc**	Texture	e Re	emarks
0-19+	2.5Y 6/3	5					Sandy Clay Lo	oam	
	2.5Y 3/2	64					Sandy Clay Lo	oam	
	2.5Y 7/8	1					Sandy Clay Lo	oam	
	2.5Y 5/2	30					Sandy Clay Lo	oam	
					1				
					1				
	oncentration, D =	= Depleti	on, RM = Redu	ced Matrix	, MS = M	asked Sa		*Location: PL = Pore Lin	
-	il Indicators:							for Problematic Hydric	
	isol (A1)			Sandy Gley		(S4)		Prairie Redox (A16) (LRR	( K, L, R)
	ic Epipedon (A2)			Sandy Red	. ,			urface (S7) (LRR K, L)	
	ck Histic (A3)			Stripped Ma	. ,			ucky Peat or Peat (S3) (I	
	rogen Sulfide (A	-		oamy Muc	-			inganese Masses (F12)	
	tified Layers (A5)	)		oamy Gley				nallow Dark Surface (TF1	2)
	n Muck (A10)	0 (		epleted M	٠,		Other (e	explain in remarks)	
	leted Below Dark			Redox Dark		. ,			
	k Dark Surface (	•		epleted D		, ,		rs of hydrophytic vegeta	
Sand	dy Mucky Minera	al (S1)	'	Redox Dep	ressions (	(F8)	hydrolo	gy must be present, unle	ss disturbed or
								problematic	
	_ayer (if observe	ed):							
	ense Clay				_		Hydric so	il present? N	
Depth (inches	s): <u>19</u>				_				
Remarks:									
Dense cla	ay, unable to b	ore dee	eper						
	•		•						
HYDROLO	GY								
Wetland Hyd	drology Indicate	rs:							
Primary Indic	cators (minimum	of one is	required; chec	k all that a	oply)		Seco	ondary Indicators (minim	um of two required)
Surface V	Nater (A1)			Aquatic	Fauna (B	13)		Surface Soil Cracks (B6)	
High Wat	ter Table (A2)		_	True Ac	uatic Plar	nts (B14)		Drainage Patterns (B10)	
Saturation	n (A3)		_	Hydroge	en Sulfide	Odor (C1	)	Dry-Season Water Table	(C2)
	arks (B1)			Oxidize	d Rhizosp	heres on	Living Roots	Crayfish Burrows (C8)	
Water Ma	` '			(00)				Saturation Visible on Aer	rial Imageny (C0)
Water Ma Sediment	t Deposits (B2)			(C3)				<b>-</b> 1	
Water Ma Sediment Drift Depo	t Deposits (B2) osits (B3)		<u>-</u>		ce of Redu	uced Iron	(C4)	Stunted or Stressed Plan	nts (D1)
Water Ma Sediment Drift Depo	t Deposits (B2) osits (B3) t or Crust (B4)		<u>-</u>	Present Recent	ce of Redu Iron Redu			Stunted or Stressed Plar Geomorphic Position (D2	nts (D1)
Water Ma Sediment Drift Depo Algal Mat	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)			Present Recent (C6)	Iron Redu	iction in Ti		Stunted or Stressed Plan	nts (D1)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria			Present (C6) Thin Mu	Iron Redu ick Surfac	e (C7)		Stunted or Stressed Plar Geomorphic Position (D2	nts (D1)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca	ive Surfac		Presend Recent (C6) Thin Mu	Iron Redu ick Surfac or Well Da	e (C7) ata (D9)	illed Soils	Stunted or Stressed Plar Geomorphic Position (D2	nts (D1)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9	ive Surfac		Presend Recent (C6) Thin Mu	Iron Redu ick Surfac	e (C7) ata (D9)	illed Soils	Stunted or Stressed Plar Geomorphic Position (D2	nts (D1)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9 vations:	ve Surfac	ce (B8)	Presend Recent (C6) Thin Mu Gauge Other (E	Iron Redu ick Surfac or Well Da Explain in	e (C7) ata (D9) Remarks)	illed Soils	Stunted or Stressed Plar Geomorphic Position (D2	nts (D1)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta  Field Observ Surface wate	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present?	ve Surfac ) Yes	ce (B8)Nc	Present (C6) Thin Mu Gauge Other (E	Iron Reduck Surfactor Well Daster Explain in Depth (i	e (C7) ata (D9) Remarks)	illed Soils	Stunted or Stressed Plar Geomorphic Position (D2 FAC-Neutral Test (D5)	nts (D1) 2)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta  Field Observ Surface wate Water table p	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9 vations: er present?	yes Yes Yes	De (B8) No	Present (C6) Thin Mu Gauge Other (E	Iron Reduction Reduction Well Date Explain in Depth (in Depth (in Depth (in Reduction	ee (C7) ata (D9) Remarks) inches):	illed Soils	Stunted or Stressed Plar Geomorphic Position (D2 FAC-Neutral Test (D5)	ats (D1) 2)
Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Water-Sta  Field Observ Surface wate	t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca ained Leaves (B9 vations: or present? oresent?	ve Surfac ) Yes	ce (B8)Nc	Present (C6) Thin Mu Gauge Other (E	Iron Reduck Surfactor Well Daster Explain in Depth (i	ee (C7) ata (D9) Remarks) inches):	illed Soils	Stunted or Stressed Plar Geomorphic Position (D2 FAC-Neutral Test (D5)	ats (D1) 2)

Project/Site NICTD West Lake Corridor	City/	/County:	Lake Cou	nty Sampling Date:	10/27/15	
Applicant/Owner:		State:	IN	<del></del>	Wetland 39	
Investigator(s): Anna Hochhalter and Scott Beckmey	/er		ion, Townsh	<del></del>		
Landform (hillslope, terrace, etc.):				ve, convex, none):		
Slope (%): Lat: 41.5248		Long:	-87.522	· -		
Soil Map Unit NameBono silty clay				Classification:	none	
Are climatic/hydrologic conditions of the site typical for	or this time (	of the year?		If no, explain in remarks)	Tione	
Are vegetation , soil , or hydro		-	y disturbed?	,		
	·· <del></del>		oblematic?	Are "normal circum	nstances" present?	
Are vegetation , soil , or hydro SUMMARY OF FINDINGS	llogy	riaturally pi	oblematic?	(If needed, explain any ans	·	
				(II fleeded, explain any and	swers in remarks.)	
Hydrophytic vegetation present?	-	la tha a		a within a watlandO	V	
Hydric soil present? Y	_		-	a within a wetland?	<u>Y</u>	
Indicators of wetland hydrology present? Y	_	If yes, optional wetland site ID:				
Remarks: (Explain alternative procedures here or in	a separate r	eport.)				
		ditch				
VEGETATION Use scientific names of pla	nts.					
	Absolute	Dominant	Indicator	Dominance Test Worksh	eet	
Tree Stratum (Plot size:)	% Cover	Species	Staus	Number of Dominant Specie		
1 salix fragilis	35	Y	FAC	that are OBL, FACW, or FAC	: <u>3</u> (A)	
2 populus deltoides	5	N	FAC	Total Number of Dominar		
3				Species Across all Strata	``	
4				Percent of Dominant Specie that are OBL, FACW, or FAC		
<u> </u>	40	= Total Cove		that are OBL, FACVV, or FAC	: <u>100.00%</u> (A/B)	
Sapling/Shrub stratun (Plot size:	) <del> </del>	- Total Cove	1	Prevalence Index Works	neet	
1 salix interior	30	Υ	FACW	Total % Cover of:		
2		· <del></del>			1 = 0	
3				FACW species 130 x 2	2 = 260	
4				FAC species 40 x 3	3 = 120	
5				FACU species 0 x 4	4 = 0	
	30	= Total Cove	r	UPL species 0 x 5	5 = 0	
Herb stratum (Plot size:	)			Column totals 170 (A	) <u>380</u> (B)	
1 phragmites australis	100	Υ	FACW	Prevalence Index = B/A =	2.24	
2						
3				Hydrophytic Vegetation I		
4				Rapid test for hydroph	=	
5				X Dominance test is >50		
0				X Prevalence index is ≤3		
8				Morphogical adaptatio		
9				supporting data in Ren separate sheet)	narks or on a	
10				Problematic hydrophyt	ic vegetation*	
	100	= Total Cove	r	(explain)	ic vegetation	
Woody vine stratum (Plot size:	)			<del></del>	tland bydrology must bo	
1				*Indicators of hydric soil and we present, unless disturbe		
2				Hydrophytic		
	0	= Total Cove	r	vegetation		
				present? Y	<u> </u>	
Remarks: (Include photo numbers here or on a sepa	rate sheet)					

SOIL	Sampling Point:	Wetland 39

Profile Desc	ription: (Descri	be to the	e depth needed t	o docun	nent the	indicato	r or confirm th	ne absence	e of indicators.)	
Depth	<u>Matrix</u>			dox Feat						
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textu	re	Remarks	
1 - 4	2.5Y 2.5/1	50					Clay Loam			
	2.5Y 7/3	35	10YR 4/6	5	CS	М	Loamy Sand			
4 - 8	2.5Y 7/3	68	10YR 4/6	2	CS	М	Loamy Sand			
	2.5Y 2.5/1	30					Loamy Sand			
8 - 28+	2.5Y 5/4	65	2.5YR 6/8	5	RM	М	Loamy Sand			
	2.5Y 3/2	30					Loamy Sand			
							,			
*Type: C = C	Concentration D =	Depletic	on, RM = Reduce	d Matrix.	MS = Ma	asked Sa	and Grains.	**I ocation	: PL = Pore Lining, M = Matrix	
	il Indicators:	Dopicii	on, raw radade	a main,	1010 1010	doned oc			ematic Hydric Soils:	
_	isol (A1)		San	dv Gleve	ed Matrix	(S4)			dox (A16) ( <b>LRR K, L, R</b> )	
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)			
	Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  Iron-Manganese Masses (F12) (LRR K, L,									
	atified Layers (A5) Loamy Gleyed Matrix (F2) Very Shallow Dark Surface (TF12)									
2 cm Muck (A10) Depleted Matrix (F3) Other (explain in remarks)						, ,				
X Dep	leted Below Dark	Surface	(A11) Red	lox Dark	Surface	(F6)				
Thic	k Dark Surface (A	A12)	Dep	leted Da	rk Surfac	e (F7)	*Indica	tors of hydr	ophytic vegetation and weltand	
San	dy Mucky Minera	l (S1)	Red	lox Depre	essions (	F8)		•	pe present, unless disturbed or	
									problematic	
Restrictive	Layer (if observe	ed):								
Туре:					_		Hydric s	soil presen	t?Y	
Depth (inche	s):				-' -					
Remarks:										
Bono silt	v clav									
	,,									
HYDROLO										
1	drology Indicato						_			
		of one is	required; check a				<u>Se</u>	-	dicators (minimum of two required)	
	Water (A1)			•	Fauna (B	a (B13) Plants (B14)		Surface Soil Cracks (B6)		
X High wa	ter Table (A2)				มลถเต Pian n Sulfide			X Drainage Patterns (B10)  Dry-Season Water Table (C2)		
Water M	. ,					•	) Living Roots		Burrows (C8)	
	t Deposits (B2)			(C3)	i Kilizosp	neres on			on Visible on Aerial Imagery (C9)	
	osits (B3)				e of Redu	ced Iron	(C4)		or Stressed Plants (D1)	
	t or Crust (B4)								phic Position (D2)	
	osits (B5)			(C6)			_		utral Test (D5)	
Inundatio	on Visible on Aeria	I Imagery	(B7)	Thin Mu	ck Surfac	e (C7)	_	<del></del>		
Sparsely	Vegetated Conca	ve Surfac	e (B8)	Gauge o	r Well Da	ta (D9)				
Water-St	ained Leaves (B9)	)		Other (E	xplain in l	Remarks)	1			
Field Obser					_					
Surface water		Yes	No No	X	Depth (i					
Water table		Yes	X No		Depth (i		25		dicators of wetland	
Saturation po (includes car		Yes	X No		Depth (i	ncnes):	10	l ny	ydrology present? Y	
		m co::=:	monitoring	aorial!	notes ==	vious !=	anostiana\ if =	voileble:		
Describe rec	orded data (střea	ını gauge	, monitoring well,	aenai pr	iolos, pre	evious ins	spections), it av	allable:		
Remarks:										

Project/Site NICTD West Lake Corridor	City/County:	Lake Cou	unty Sampling Date:	10/27/15	
Applicant/Owner:	State:	IN	<del></del>	Upland 40	
Investigator(s): Anna Hochhalter and Scott Beckmeyer		tion, Townshi		- 1-	
Landform (hillslope, terrace, etc.):	-		ve, convex, none):		
Slope (%):	Long:	•	Datum:		
Soil Map Unit NameBono silty clay		NWI	Classification:	none	
Are climatic/hydrologic conditions of the site typical for this	s time of the year?	(	(If no, explain in remarks)		
Are vegetation , soil , or hydrology	-	ly disturbed?	Are "normal circun	netances"	
Are vegetation , soil , or hydrology		naturally problematic? present?			
SUMMARY OF FINDINGS			(If needed, explain any an	swers in remarks.)	
Hydrophytic vegetation present? N			· · · · · · · · · · · · · · · · · · ·		
Hydric soil present? N	Is the	sampled area	N		
Indicators of wetland hydrology present? N		optional wetla			
Remarks: (Explain alternative procedures here or in a sep		<u> </u>		<del></del>	
Remains. (Explain alternative procedures here of in a sep	arate report.				
Active Agricultural	I land is the dom	ninant uplan	nd condition		
VECETATION Lies especific names of plants					
<b>VEGETATION</b> Use scientific names of plants.	luta Daminant	Indicator	Dominance Test Worksh		
	solute Dominant Cover Species	Indicator Staus	Number of Dominant Specie		
1		•	that are OBL, FACW, or FAC		
2			Total Number of Dominar	<del></del> `´	
3			Species Across all Strata		
4			Percent of Dominant Specie	<u></u>	
5			that are OBL, FACW, or FAC	C: <u>0.00%</u> (A/B)	
	0 = Total Cove	er			
Sapling/Shrub stratum (Plot size:)			Prevalence Index Works	heet	
			Total % Cover of:	4 0	
			· —	1 = <u>0</u> 2 = 0	
			· —	3 = 0	
5	<del></del>			4 = 0	
~ —	0 = Total Cove	er	· —	5 = 0	
Herb stratum (Plot size: )		-	Column totals 0 (A		
1			Prevalence Index = B/A =	, <u> </u>	
2					
3			Hydrophytic Vegetation	Indicators:	
4			Rapid test for hydroph	ytic vegetation	
5			Dominance test is >50	)%	
6			Prevalence index is ≤3	3.0*	
7			Morphogical adaptatio	ns* (provide	
8			supporting data in Rer	marks or on a	
9			separate sheet)		
10	^ =Tatal Cov		Problematic hydrophyt	tic vegetation*	
Woody vine stratum (Plot size: )	0 = Total Cove	er e	(explain)		
1			*Indicators of hydric soil and we present, unless disturbe		
2			Hydrophytic	ad of problematic	
	0 = Total Cove	<u></u>	vegetation		
		21	present? N	<u> </u>	
Remarks: (Include photo numbers here or on a separate s	sheet)		<u> </u>		
, , ,	•				

i i Oilic Des	cription: (Descri	be to the	e depth neede	d to docur	nent the	indicato	r or confirm the ab	sence of indicators.)	
Depth	Matrix			edox Feat				,	
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks	
0-19+	2.5Y 6/3	5					Sandy Clay Loam	ı	
	2.5Y 3/2	64					Sandy Clay Loam	1	
	2.5Y 7/8	1					Sandy Clay Loam	1	
	2.5Y 5/2	30					Sandy Clay Loam	1	
							,,		
*T. ma. C = (	Concentration D =	Donloti	DM = Dodu	and Matrix	MC - M	aaltad Ca	and Crains **I a	postion DL - Doro Lining M - Matrix	
	Concentration, D = oil Indicators:	Depletio	on, RIVI = Redu	ced Matrix,	, IVIS = IVI	asked Sa		cation: PL = Pore Lining, M = Matrix  Problematic Hydric Soils:	
-	tisol (A1)		S	andy Gleye	ed Matrix	(\$4)		rie Redox (A16) (LRR K, L, R)	
	tic Epipedon (A2)					(04)		ce (S7) (LRR K, L)	
Histic Epipedon (A2)  Black Histic (A3)  Sandy Redox (S5)  Stripped Matrix (S6)								y Peat or Peat (S3) (LRR K, L, R)	
	drogen Sulfide (A4	.)		camy Mucl		al (F1)	Iron-Manganese Masses (F12) (LRR K, L, R)		
Stra	atified Layers (A5)		—— <sub>L</sub>	oamy Gley	ed Matrix	(F2)	Very Shallo	ow Dark Surface (TF12)	
2 cr	m Muck (A10)		<u></u> D	epleted Ma	atrix (F3)		Other (exp	lain in remarks)	
	pleted Below Dark			edox Dark		. ,			
	ck Dark Surface (A	-		epleted Da				of hydrophytic vegetation and weltand	
Sar	ndy Mucky Minera	l (S1)	R	edox Depr	essions (	F8)	hydrology	must be present, unless disturbed or	
								problematic	
	Layer (if observe	ed):							
	ense Clay				=		Hydric soil p	oresent? N	
Depth (inche	es): <u>19</u>				-				
Remarks:						•			
Dense cl	lay, unable to b	ore dee	per						
	207								
UVDDOL	)( = Y								
Wetland Hy	drology Indicato		roguirod, obsol	all that an	(دراهد		Casand		
<b>Wetland Hy</b> Primary Indi	drology Indicato		required; check	-		12)		ary Indicators (minimum of two require	
Primary Indi Surface	rdrology Indicato cators (minimum o Water (A1)		required; check	Aquatic	Fauna (B		Su	urface Soil Cracks (B6)	
Wetland Hy Primary Indi Surface High Wa	rdrology Indicato cators (minimum o Water (A1) ater Table (A2)		required; check	Aquatic True Aq	Fauna (B uatic Plan	its (B14)	St Dr	urface Soil Cracks (B6) rainage Patterns (B10)	
Wetland Hy Primary Indi Surface High Wa Saturatio	rdrology Indicato cators (minimum o Water (A1) ater Table (A2)		required; check — — —	Aquatic True Aq Hydroge	Fauna (B uatic Plan en Sulfide	its (B14) Odor (C1	Si Dr	urface Soil Cracks (B6)	
Wetland Hy Primary Indi Surface High Wa Saturatic Water M	rdrology Indicato icators (minimum o Water (A1) ater Table (A2) on (A3)		required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plan en Sulfide	its (B14) Odor (C1	St  Dr  Dr   Living RootsCr	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2)	
Wetland Hy Primary Indi Surface High Wa Saturation Water M Sedimer Drift Dep	rdrology Indicato cators (minimum of Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (Buatic Planen Sulfide Rhizospote of Redu	ots (B14) Odor (C1) heres on	St	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)	
Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	rdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presence Recent	Fauna (B uatic Plan en Sulfide d Rhizosp	ots (B14) Odor (C1) heres on	St	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)	
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	rdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one is	- - - -	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6)	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu Iron Redu	ots (B14) Odor (C1 heres on uced Iron ction in T	St	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)	
Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	rdrology Indicato reators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac	ots (B14) Odor (C1) heres on siced Iron ction in T	St	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)	
Wetland Hy Primary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic	rdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one is Imagery	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da	odor (C1) heres on uced Iron ction in T e (C7) uta (D9)	St Dr Dr Dr Living Roots Cr Sc (C4) St Uilled Soils FA	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)	
Wetland Hy Primary Indi Surface High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Sparsely Water-S	rdrology Indicator (cators (minimum of Water (A1)) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria by Vegetated Concastained Leaves (B9)	of one is Imagery	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac	odor (C1) heres on uced Iron ction in T e (C7) uta (D9)	St Dr Dr Dr Living Roots Cr Sc (C4) St Uilled Soils FA	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)	
Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser	rdrology Indicato icators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria by Vegetated Conca itained Leaves (B9) rvations:	of one is Imagery	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (Buatic Planen Sulfide de Rhizospee of Redulation Reduck Surfactor Well Dates	odor (C1) heres on liced Iron ction in T e (C7) hta (D9) Remarks)	St Dr Dr Dr Living Roots Cr Sc (C4) St Uilled Soils FA	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)	
Wetland Hy Primary Indi Surface High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation Sparsely Water-S	rdrology Indicato reators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria by Vegetated Conca stained Leaves (B9) rvations: er present?	of one is Imagery	(B7) ————————————————————————————————————	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plan en Sulfide d Rhizosp e of Redu Iron Redu ck Surfac or Well Da	nts (B14) Odor (C1) heres on ced Iron ction in T e (C7) hta (D9) Remarks)	St Dr Dr Dr Living Roots Cr Sc (C4) St Uilled Soils FA	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)	
Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser	rdrology Indicato reators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria by Vegetated Concar reatined Leaves (B9) rvations: er present? present?	I Imagery ve Surfac	(B7) — ee (B8) — No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Planen Sulfide de Rhizospee of Redulation Reduck Surfactor Well Dates Depth (i	nts (B14) Odor (C1 heres on liced Iron ction in T le (C7) lta (D9) Remarks) nches): nches):	St Dr Dr Dr Living Roots Cr Sc (C4) St Uilled Soils FA	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)	

Project/Site NICTD West Lake Corridor	City/	City/County: Lake Cou		nty Sampling Date:	10/27/15	
Applicant/Owner:		State:	IN	Sampling Point:	Wetland 40	
Investigator(s): Anna Hochhalter and Scott Beckmeye	er	Section	on, Townshi <sub>l</sub>	p, Range:		
Landform (hillslope, terrace, etc.):		Local relief (concave, convex, none):				
Slope (%): Lat: 41.5237		Long:	-87.523	1 Datum:		
Soil Map Unit NameBono silty clay			NWI (	Classification:	none	
Are climatic/hydrologic conditions of the site typical for	this time c	of the year?	(I	f no, explain in remarks)		
Are vegetation, soil, or hydrolo	ogy	significantly	disturbed?	Are "normal circum	ıstances"	
Are vegetation , soil , or hydrolo	ogy	naturally pro	blematic?		present?	
SUMMARY OF FINDINGS				(If needed, explain any ans	swers in remarks.)	
Hydrophytic vegetation present? Y						
Hydric soil present? Y			-	a within a wetland?	Υ	
Indicators of wetland hydrology present? Y		If yes, op	tional wetlar	nd site ID:		
Remarks: (Explain alternative procedures here or in a	separate r	eport.)				
VEGETATION Use scientific names of plan	its.					
	Absolute	Dominant	Indicator	Dominance Test Worksho	eet	
<u>Tree Stratum</u> (Plot size:)	% Cover	Species	Staus	Number of Dominant Species		
1				that are OBL, FACW, or FAC	: <u>2</u> (A)	
				Total Number of Dominan		
3				Species Across all Strata	``	
5				Percent of Dominant Species that are OBL, FACW, or FAC		
	0 :	= Total Cover		1100 010 011, 111, 111, 111	100.0070 ()	
Sapling/Shrub stratum (Plot size: )				Prevalence Index Worksh	neet	
1 salix interior	35	Y	FACW	Total % Cover of:		
2				OBL species 80 x 1		
3				FACW species 50 x 2		
				FACULARISIS 0 x 3		
5	35 =	= Total Cover		FACU species 0 x 4 UPL species 0 x 5		
Herb stratum (Plot size: )		- I Ulai Covei		Column totals 130 (A		
1 lythrum salicaria	80	Y	OBL	Prevalence Index = B/A =	1.38	
2 juncus dudleyi	10		FACW	FIEVAICHUE HIUGA - DIFA	1.50	
3 epilobium ciliatum	5		FACW	Hydrophytic Vegetation I	ndicators:	
4				Rapid test for hydrophy		
5				X Dominance test is >50	%	
6				X Prevalence index is ≤3	.0*	
7				Morphogical adaptation	"	
8				supporting data in Ren	narks or on a	
10				separate sheet)	:- ::acatation*	
	95 :	= Total Cover		Problematic hydrophyt (explain)	ic vegetation	
Woody vine stratum (Plot size: )				*Indicators of hydric soil and we	Hand budralagy must be	
1				present, unless disturbe		
2				Hydrophytic		
	0 :	= Total Cover		vegetation yresent?		
	<del> </del>			present? Y	_	
Remarks: (Include photo numbers here or on a separa	ite sheet)					

SOIL								s	ampling Point: Wetland 40
	crintion: (Descri	he to th	e depth needed t	to docur	ment the	indicato	or or confirm		-
Depth	Matrix	DC tO til		dox Feat		marcato	01 001111111	tile abserte	
(Inches)	Color (moist)	%	Color (moist)					ture	Remarks
0 - 14	2.5Y 2.5/1	100	,		T		Clay		
14 - 20+	2.5Y 4/1	75	10YR 6/8	15	RM	М	Sandy Cla	V	
	2.5Y 2.5/1	10	10111070		1		Sandy Cla	-	
	2.01 2.071				1		Curity City	,	
					<del>                                     </del>				
				<u> </u>	+				
					<del>                                     </del>				
			L	<u> </u>	<u> </u>	<u> </u>			
		= Depleti	on, RM = Reduce	d Matrix	, MS = M	asked Sa			n: PL = Pore Lining, M = Matrix
-	oil Indicators:		Com	adv. Clav.	ad Matrix	. (04)			ematic Hydric Soils:
	tisol (A1) tic Epipedon (A2)			idy Gleyi idy Redo	ed Matrix	(54)			dox (A16) ( <b>LRR K, L, R</b> ) 7) ( <b>LRR K, L)</b>
	ck Histic (A3)			-	trix (S6)				it or Peat (S3) (LRR K, L, R)
	lrogen Sulfide (A	1)			ky Minera	al (F1)		•	Masses (F12) ( <b>LRR K, L, R</b> )
	atified Layers (A5)	•		-	ed Matrix	. ,		_	irk Surface (TF12)
	m Muck (A10)				atrix (F3)			er (explain in	
Dep	oleted Below Dark	Surface	(A11) Red	dox Dark	Surface	(F6)			
	ck Dark Surface (	•			ark Surfac	. ,	*Indio	cators of hyd	rophytic vegetation and weltand
San	ndy Mucky Minera	l (S1)	Red	dox Depr	ressions (	(F8)	hydı	rology must l	pe present, unless disturbed or
									problematic
Restrictive	Layer (if observe	ed):							
Type:					_		Hydric	soil preser	nt? <u>Y</u>
Depth (inche	es):				_				
Remarks:						1			
Difficult to	o bore. Clay								
Bono silt	y clay								
11)/DD 01 6	201								
HYDROLO									
-	drology Indicato						_		
	•	of one is	required; check a			40)	<u>S</u>		dicators (minimum of two required)
	Water (A1) Iter Table (A2)				Fauna (B uatic Plan				Soil Cracks (B6) e Patterns (B10)
Saturatio	` ,				en Sulfide				son Water Table (C2)
	arks (B1)						Living Roots		Burrows (C8)
Sedimen	nt Deposits (B2)			(C3)	·		,	Saturation	on Visible on Aerial Imagery (C9)
	oosits (B3)			Presenc	ce of Redu	uced Iron	(C4)		or Stressed Plants (D1)
	t or Crust (B4)				Iron Redu	iction in T	illed Soils		phic Position (D2)
X Iron Dep	osits (B5) on Visible on Aeria	Llmagan		(C6)	ali Cumfaa	. (07)		X FAC-Ne	utral Test (D5)
	Vegetated Conca			-	ick Surfac or Well Da				
	tained Leaves (B9				Explain in	, ,	)		
Field Obser	vations:			<u> </u>	<del>.</del>				
Surface water		Yes	No	X	Depth (i	inches):			
Water table	present?	Yes	No	Х	Depth (i			In	dicators of wetland
Saturation p		Yes	No	Χ	Depth (i	inches):		h	ydrology present? Y
(includes cap	-								
Describe rec	corded data (strea	าน ตรกเตย	monitoring well	aerial n	notos pro	evious in:	spections) if:	available:	

Remarks:

Project/Site:	NICTD West Lake Corridor	City/County:	Lake County	Sampling Date: 27-Oct-15					
Applicant/Owner:				State: IN Sampling Point: Wetland 41					
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Tow	nship, Range	E					
Landform (hillside,	terrace, etc.):			Local relief (concave, convex, none:					
Slope %:	Lat: <u>41.543</u>	4	Long	g: <u>-87.5182</u> Datum:					
Soil Unit Name:	Rensselaer loam, calcareous subsoil var	iant		NWI Classification: none					
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year?	Yes	No					
Are Vegetation	Soil or hydrology	Significantly disturbed?	,	Are "Normal Circumstances" present? Yes No					
	Soil or hydrology			(if needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No		Is the Sampling Area within a Wetland?  Yes x No No					
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ng the dominant species	and does no	t include collecting soil samples or calculating floristic quality.					
VEGETATION	- Use scientific names of plants.								
Tree Stratum	(Plot size: 30ft )	Absolute Dominant % Cover Species?	Indicator	Dominance Test Worksheet: Number of Dominant Species					
	deltoides	% Cover Species?	Status FAC+	That Are OBL, FACW, or FAC (A)					
2				Total Number of Deminerat					
3. <u></u> 4. <del></del>			<del></del>	Total Number of Dominant Species Across All Strata: (B)					
5				,					
	Total Cover:			Percent of Dominant Species					
Sapling/Shrub St 1	ratum (Plot size: 15ft )			That Are OBL, FACW, or FAC:(A/B)					
2				Prevalence Index Worksheet:					
3. <u></u> 4		<del></del>		Total % Cover of Multiply by:  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					
	tes australis		FACW+	UPL species $x = 5 = 6$					
2. <u></u> 3. <del></del>		· · · · · · · · · · · · · · · · · · ·		Column Totals 0 (A) 0 (B)					
4				Prevalence Index = B/A =					
5. <u></u>				Hydrophytic Vegetation Indicators:					
6. <u></u> 7. <del></del>				Dominance Test is >50%					
8				Prevalence Index is ≦3.0*					
9. <u></u>				Morphological Adaptations* (Provide supporting					
10				data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)					
Woody Vine Stra				*Indicators of hydric soil and wetland hydrology must be present.					
1	(Flot size. 15it )			indicators of flydric soil and wettand flydrology must be present.					
2				Hydrophytic					
	Total Cover:			Vegetation         Yes         No           Present?					
	de photo numbers here or on a separate shee	et.)							
Follows topograp	hy at rail embankment.								

US Army Corps of Engineers

Project/Site:	NICTD West Lake Corridor	City/County: L	ake County	Sampling Date: 27-Oct-15					
Applicant/Owner:				State: IN Sampling Point: Wetland 42					
Investigator(s):	Anna Hochhalter and Scott Beckmeyer	Section, Town	ship, Range	×					
Landform (hillside,	terrace, etc.):			Local relief (concave, convex, none:					
Slope %:	Lat: <u>41.535</u>		Long	; <u>-87.518</u> Datum:					
Soil Unit Name:	Bono silty clay			NWI Classification: none					
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year?	Yes	No					
Are Vegetation	Soil or hydrology	Significantly disturbed?	,	Are "Normal Circumstances" present? Yes No					
Are Vegetation	Soil or hydrology	Naturally problematic?	(	(if needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No		Is the Sampling Area within a Wetland?  Yes x No					
Remarks: Wetland investiga	ation used Approach B, which entails identifyi	ing the dominant species a	and does no	t include collecting soil samples or calculating floristic quality.					
VEGETATION	- Use scientific names of plants.								
Tree Stratum	(Plot size: 30ft)	Absolute Dominant % Cover Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species					
1 2. <u></u>				That Are OBL, FACW, or FAC(A)					
3. <u></u> 4. <u></u>				Total Number of Dominant Species Across All Strata:(B)					
5. <u></u>	Total Cover:			Percent of Dominant Species					
Sapling/Shrub St	ratum (Plot size: 15ft )		FACW	That Are OBL, FACW, or FAC:(A/B)					
2	tolonifera			Prevalence Index Worksheet:					
3. <u></u> 4. <u></u>				Total % Cover of         Multiply by:           OBL species         x 1 =					
5. <u></u>	Total Cover:			FACW species					
Herb Stratum	(Plot size: 5ft )			FACU species x 4 = 0					
1. <u>Lythrum</u> 2. Andropo			OBL FAC-	UPL species $x 5 = 0$ Column Totals $x 5 = 0$ (B)					
3	gon gonaran								
4. <u></u> 5. <del></del>				Prevalence Index = B/A =					
6. <u></u> 7				Hydrophytic Vegetation Indicators:  Dominance Test is >50%					
8				Prevalence Index is ≦3.0*					
9. <u></u> 10. <del></del>				Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)					
	Total Cover:			Problematic Hydrophytic Vegetation (Explain)					
Woody Vine Stra	tum (Plot size: 15ft )			*Indicators of hydric soil and wetland hydrology must be present.					
1. <u></u> 2				Hydrophytic					
	Total Cover:			Vegetation Yes No					
Remarks: (Includ	de photo numbers here or on a separate shee	et.)							

Design (10% NIOTD Me al la Comita	0:1.4	02,		ot a Caralia Bata	40/07/45	
Project/Site NICTD West Lake Corridor	_ City/	County:			10/27/15	
Applicant/Owner:		State:	IN .		Wetland 43	
Investigator(s): Anna Hochhalter and Scott Beckmeyer			on, Townshi	· -		
Landform (hillslope, terrace, etc.):		-		ve, convex, none):		
Slope (%): Lat: 41.537		Long:	-87.518			
Soil Map Unit NameBono silty clay				Classification: nor	ne	
Are climatic/hydrologic conditions of the site typical for the		-	(	If no, explain in remarks)		
Are vegetation, soil, or hydrology				Are "normal circumsta	nces"	
Are vegetation, soil, or hydrology	у	naturally pr	oblematic?	· ·	sent?	_
SUMMARY OF FINDINGS				(If needed, explain any answe	rs in remarks	s.)
Hydrophytic vegetation present? N						
Hydric soil present? Y		Is the s	ampled area	a within a wetland?	1	
Indicators of wetland hydrology present? Y		If yes, or	otional wetla	nd site ID:	_	
Remarks: (Explain alternative procedures here or in a se	eparate re	eport.)				
No Vegetation. Soil samples were not taker	n due to	the prese	nce of rip-ı	rap and standing water withi	n wetland	
<b>VEGETATION</b> Use scientific names of plants	<u> </u>					
·	bsolute	Dominant	Indicator	Dominance Test Worksheet		
	Cover	Species	Staus	Number of Dominant Species		
1				that are OBL, FACW, or FAC:	0 (A	١)
2				Total Number of Dominant		
3				Species Across all Strata:	0 (B	3)
4				Percent of Dominant Species		
5				that are OBL, FACW, or FAC:	0.00% (A	VB)
<u> </u>	0 :	= Total Cover	=			
Sapling/Shrub stratum (Plot size:)				Prevalence Index Worksheet	t	
1 2				Total % Cover of:	0	
3				OBL species 0 x 1 = FACW species 0 x 2 =	0	
				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 0 (A)	(B	3)
1				Prevalence Index = B/A =		
2				_		
3				Hydrophytic Vegetation Indi	cators:	
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 Remark	s or on a	
9				separate sheet)		
10	0 :	= Total Cover		Problematic hydrophytic vo (explain)	egetation*	
Woody vine stratum (Plot size: )		- Total Covel		<u> </u>		
1				*Indicators of hydric soil and wetland present, unless disturbed or		st be
				Hydrophytic	problematic	
	0 :	= Total Cover		vegetation		
				present? N		
Remarks: (Include photo numbers here or on a separate	sheet)			•		

	iption: (Descri	be to th	e depth neede	d to docu	ment the	indicator	r or confirm	the absen	ce of indicators.)
Depth	Matrix			Redox Features					1
(Inches)	Color (moist)	%	Color (moist		Type*	Loc**	Tex	ture	Remarks
			,		1				
+									
Type: C = Cc	oncentration, D =	- Denleti	on PM = Pedu	ıcad Mətriy	MS = Ma	sekad Sar	nd Grains	**Location	on: PL = Pore Lining, M = Matrix
	Indicators:	- Depleti	on, Rivi – Reut	iceu main	K, IVIO – IVIO	askeu Sai			blematic Hydric Soils:
-	sol (A1)			Sandy Gley	ed Matrix	(\$4)			Redox (A16) (LRR K, L, R)
	Epipedon (A2)			Sandy Red		(04)			S7) ( <b>LRR K, L)</b>
	Histic (A3)			Stripped Ma					eat or Peat (S3) (LRR K, L, R)
	ogen Sulfide (A4	1)		oamy Muc	, ,	I (F1)		-	se Masses (F12) (LRR K, L, R)
	fied Layers (A5)	•		oamy Gle				_	Oark Surface (TF12)
	Muck (A10)	•		Depleted M		(-)			in remarks)
	eted Below Dark	Surface		Redox Dark		(F6)		(	,
	Dark Surface (A			Depleted D		` ,	*India	cators of hy	drophytic vegetation and weltand
	y Mucky Minera			Redox Dep					t be present, unless disturbed or
	,	` ,		•	,	,	, ,	3,	problematic
Restrictive I :	ayer (if observe	54).			Ī				
	ayer (ii observe	Juj.							
							Hydrid	soil nres	ent? Y
Туре:	):				_		Hydric	soil pres	ent? Y
Type: Depth (inches	):				_ _		Hydrid	soil pres	ent? <u>Y</u>
Type: Depth (inches Remarks:		- 1 1	Diameter				Hydrid	soil preso	ent? <u>Y</u>
Type: Depth (inches Remarks:	clay is mappe	ed soil.	Rip-rap prev	ented soi	- - I sample		Hydrid	soil prese	ent? <u>Y</u>
Type: Depth (inches Remarks:		ed soil.	Rip-rap prev	ented soi	- - I sample		Hydrid	c soil preso	ent? <u>Y</u>
Type: Depth (inches Remarks:		ed soil.	Rip-rap prev	ented soi	– I sample		Hydrid	soil pres	ent? <u>Y</u>
Type:  Depth (inches  Remarks:  Bono silty	clay is mappe	ed soil.	Rip-rap prev	ented soi	- I sample		Hydrid	soil preso	ent? Y
Type: Depth (inches Remarks: Bono silty	clay is mappe		Rip-rap prev	ented soi	- I sample		Hydrid	soil preso	ent? <u>Y</u>
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyd	clay is mappe	ors:							
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyde Primary Indica	clay is mappe  GY  rology Indicato ators (minimum o	ors:		k all that a	pply)			Secondary	Indicators (minimum of two require
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W	clay is mappe	ors:		k all that a	pply) : Fauna (B1	13)		Secondary Surfac	Indicators (minimum of two require e Soil Cracks (B6)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Wate	GY rology Indicato ators (minimum o /ater (A1) er Table (A2)	ors:		k all that a Aquatic	pply) : Fauna (B1 quatic Plan	13) ts (B14)	<u>\$</u>	Secondary Surfac Draina	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Wate Saturation	GY rology Indicato ators (minimum of /ater (A1) er Table (A2)	ors:		k all that a Aquatic True Ac Hydrog	pply) Fauna (B1 quatic Planten Sulfide	13) ts (B14) Odor (C1)	<u>S</u>	Secondary Surfac Draina Dry-Se	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyd Primary Indica X Surface W High Wate Saturation Water Mai	clay is mappe GY rology Indicato ators (minimum of /ater (A1) er Table (A2) 1 (A3) rks (B1)	ors:		k all that a Aquatic True Ac Hydrog Oxidize	pply) Fauna (B1 quatic Planten Sulfide	13) ts (B14) Odor (C1)	<u>\$</u>	Secondary Surfac Draina Dry-Se Crayfis	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyd Primary Indica X Surface W High Wate Saturation Water Mai	clay is mappe GY rology Indicato ators (minimum of /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	ors:		k all that a Aquatic True Ac Hydrog Oxidize (C3)	pply) Fauna (B1 quatic Planten Sulfide	13) ts (B14) Odor (C1) neres on L	<u>S</u> .iving Roots	Surfac Surfac Draina Dry-Se Crayfis Satura	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Wate Saturation Water Man Sediment Drift Depo	clay is mappe GY rology Indicato ators (minimum of /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	ors:		k all that a Aquatic True Ac Hydrog Oxidize (C3) Presen	pply) Fauna (B1 quatic Plan en Sulfide d Rhizosph	13) ts (B14) Odor (C1) neres on L	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depos	clay is mapped  GY  rology Indicators (minimum of Atter (A1))  er Table (A2)  (A3)  rks (B1)  Deposits (B2)  sits (B3)  or Crust (B4)  sits (B5)	ors: of one is	required; chec - - - -	k all that a Aquatic True Ac Hydrog Oxidize (C3) Present Recent (C6)	pply) Fauna (B1 quatic Planten Sulfide of Rhizosphate of Reduction Reduction	13) ts (B14) Odor (C1) neres on L ced Iron (ction in Til	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyde Primary Indicat X Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundation	clay is mapped  GY  rology Indicators (minimum of Atter (A1)) er Table (A2) in (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) in Visible on Aeria	ors: of one is	required; chec	k all that a Aquatic True Ac Hydrog Oxidize (C3) Presen Recent (C6) Thin Mo	pply) Fauna (B1 quatic Planten Sulfide of Rhizosphate of Reduction	13) ts (B14) Odor (C1) heres on L ced Iron (ction in Til	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyde Primary Indica X Surface W High Wate Saturation Water Man Sediment Drift Depo Algal Mat Iron Depo: Inundatior Sparsely \	clay is mapped of the color of	ors: of one is	required; chec	Aquation True Ao Hydrog Oxidize (C3) Presen Recent (C6) Thin Mi Gauge	pply) Fauna (B1 quatic Planten Sulfide of Rhizosphare of Reduction Reduction Well Date	13) ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9)	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundation Sparsely \ Water-Sta	clay is mapped  GY  rology Indicators (minimum of later (A1))  er Table (A2)  1 (A3)  rks (B1)  Deposits (B2)  1 (B3)  or Crust (B4)  1 visible on Aeria  1 degetated Concalined Leaves (B9)	ors: of one is	required; chec	Aquation True Ao Hydrog Oxidize (C3) Presen Recent (C6) Thin Mi Gauge	pply) Fauna (B1 quatic Planten Sulfide of Rhizosphate of Reduction	13) ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9)	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundatior Sparsely \ Water-Sta	clay is mapped  GY  rology Indicators (minimum of Actors (Minimum of A	ors: of one is I Imagery ve Surfac	required; chec - - - - - (B7) - ce (B8) -	Aquatic True Ad Hydrog Oxidize (C3) Present Recent (C6) Thin Mi Gauge Other (I	pply) Fauna (B1 quatic Planten Sulfide of Reduction Reduction Reduction Well Dates	ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9) Remarks)	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundatior Sparsely \ Water-Sta  Field Observa Surface water	clay is mapped  GY  rology Indicators (minimum of Actors (Minimum of A	ors: of one is I Imagery ve Surface) Yes	required; chec	Aquatic True Ac Hydrog Oxidize (C3) Presen Recent (C6) Thin Mi Gauge Other (I	pply) Fauna (B1 quatic Planten Sulfide of Reduction Reduction Reduction Well Date Explain in F	ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9) Remarks)	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hydi Primary Indica X Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundatior Sparsely \ Water-Sta  Field Observ: Surface water Water table pri	clay is mapped  GY  rology Indicators (minimum of Actors (Minimum of A	I Imagery ve Surface	required; chec	k all that a Aquatic True Ac Hydrog Oxidize (C3) Presen Recent (C6) Thin Mo Gauge Other (I	pply) Fauna (B1 quatic Planter Sulfide of Reduction Reduction Well Date Explain in Face Depth (in Depth (i	ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9) Remarks) nches):	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyde Primary Indica X Surface W High Water Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundatior Sparsely N Water-Sta Field Observater Water table pr Saturation pre	clay is mapped of the control of the	ors: of one is I Imagery ve Surface) Yes	required; chec	k all that a Aquatic True Ac Hydrog Oxidize (C3) Presen Recent (C6) Thin Mo Gauge Other (I	pply) Fauna (B1 quatic Planten Sulfide of Reduction Reduction Reduction Well Date Explain in F	ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9) Remarks) nches):	) Living Roots	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)
Type: Depth (inches Remarks: Bono silty  HYDROLOG Wetland Hyde Primary Indica X Surface W High Water Saturation Water Man Sediment Drift Depo Algal Mat Iron Depos Inundation Sparsely \ Water-Sta  Field Observe Surface water Water table pre Saturation pre (includes capi	clay is mapped of the control of the	I Imagery ve Surface) Yes Yes	required; chec	Aquatic True Ac Hydrog Oxidize (C3) Present (C6) Thin Mi Gauge Other (i	pply) Fauna (B1 quatic Planten Sulfide of Reduction Redu	13) ts (B14) Odor (C1) neres on L ced Iron (ction in Til e (C7) ta (D9) Remarks) nches): nches):	Living Roots  C4)  lled Soils	Secondary Surfac Draina Dry-Se Crayfis Satura Stunte Geome	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)

Project/Site NICTD West Lake Corridor	City/Cou	unty:	Lake Coun	ity Sampling Date:	10/27/15
Applicant/Owner:		State: IN		Sampling Point:	Wetland 44
Investigator(s): Anna Hochhalter and Scott Beckmeyer		Section	n, Township	o, Range:	
Landform (hillslope, terrace, etc.):		Local re	elief (concav	e, convex, none):	
Slope (%): Lat: 41.5379	L	ong:	-87.5182	2 Datum:	
Soil Map Unit NameBono silty clay			NWI C	Classification:	none
Are climatic/hydrologic conditions of the site typical for thi	nis time of the	e year?	(If	f no, explain in remarks)	
Are vegetation, soil , or hydrology	y siç	gnificantly	disturbed?	Are "normal circu	mstances"
Are vegetation, soil, or hydrology	y na	aturally pro	blematic?		present?
SUMMARY OF FINDINGS				(If needed, explain any a	nswers in remarks.)
Hydrophytic vegetation present? Y					
Hydric soil present? Y		Is the sa	mpled area	within a wetland?	Υ
Indicators of wetland hydrology present?		If yes, opt	tional wetlan	nd site ID:	
Remarks: (Explain alternative procedures here or in a sep	parate repo	rt.)			
Soil sample was not taker	n due to st	tanding w	vater. Upia	and is mowed lawn.	
VEGETATION Use scientific names of plants.	 ;_				
		ominant	Indicator	Dominance Test Works	heet
		Species	Staus	Number of Dominant Speci	ies
1				that are OBL, FACW, or FA	
2				Total Number of Domina	-
3				Species Across all Stra	``
				Percent of Dominant Speci	
	0 = To	otal Cover		that are OBL, FACW, or FA	.C: 100.00% (A/B)
Sapling/Shrub stratum (Plot size: )		Mai Govei	ŀ	Prevalence Index Work	sheet
1				Total % Cover of:	Silect
			<del></del>	OBL species 100 x	(1 = 100
3				FACW species 0 x	2 = 0
4				FAC species 0 x	3 = 0
5		<u> </u>			(4 = 0
<u> </u>	0 = To	otal Cover		· —	(5 = 0
Herb stratum (Plot size:)					A) <u>100</u> (B)
1 typha angustifolia	80	<u>Y</u> -	OBL	Prevalence Index = B/A =	= 1.00
2 lythrum salicaria	20	<u>Y</u> _	OBL	Underskie Vogetation	I dicatora,
3	—— —			Hydrophytic Vegetation Rapid test for hydrop	
5				X Dominance test is >5	-
	<del></del>			X Prevalence index is ≤	
7				—— Morphogical adaptati	
8				supporting data in Re	
9				separate sheet)	
10				Problematic hydrophy	ytic vegetation*
<u> </u>	100 = To	otal Cover		(explain)	
Woody vine stratum (Plot size:)				*Indicators of hydric soil and v	
	—— —			present, unless disturt  Hydrophytic	ed or problematic
	0 = To	otal Cover	<del></del>	vegetation	
	•	AG. 00.0.		present? Y	
Remarks: (Include photo numbers here or on a separate	sheet)				<u>—</u>

SOIL								Sa	ampling Point:	Wetland 44
Profile Desc	cription: (Descri	be to the	e depth needed	to docur	nent the	indicato	or or confirm	the absence	e of indicators.)	
Depth	Matrix		Re	dox Feat	ures					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Text	ture	Rema	arks
				1						
				1						
*Type: C = C	Concentration, D =	Depletion	on, RM = Reduce	ed Matrix,	MS = M	asked Sa	and Grains.	**Location	: PL = Pore Lining	, M = Matrix
Hydric So	il Indicators:	-					Indicato	rs for Probl	ematic Hydric So	ils:
Hist	isol (A1)		Sa	ndy Gley	ed Matrix	(S4)	Coa	st Prairie Re	dox (A16) ( <b>LRR K</b>	, L, R)
Hist	tic Epipedon (A2)		Sa	ndy Redo	x (S5)		Dark	Surface (S7	7) (LRR K, L <b>)</b>	
Blac	ck Histic (A3)		Str	ipped Ma	trix (S6)		5 cm	n Mucky Pea	t or Peat (S3) ( <b>LR</b> I	R K, L, R)
	Irogen Sulfide (A4		Loa	amy Mucl	ky Minera	al (F1)	Iron-	-Manganese	Masses (F12) (LR	R K, L, R)
	itified Layers (A5)	1		amy Gley		(F2)			rk Surface (TF12)	
	n Muck (A10)			pleted Ma			Othe	er (explain in	remarks)	
	leted Below Dark			dox Dark		` '				
	ck Dark Surface (/			pleted Da					rophytic vegetation	
San	idy Mucky Minera	I (S1)	Re	dox Depr	essions (	F8)	hydr	ology must b	pe present, unless	disturbed or
									problematic	
Restrictive	Layer (if observe	ed):								
Type:					_		Hydric	soil presen	t? <u>Y</u>	
Depth (inche	es):				_					
Remarks:										
Bono silt	y clay soil map	ped.								
,	, ,	•								
HYDROLO										
_	drology Indicato									
-	cators (minimum o	of one is	required; check	-			<u>S</u>	=	<u>dicators (minimum</u>	of two required
X Surface	` '				Fauna (B	,			Soil Cracks (B6)	
	ter Table (A2)				uatic Plar	, ,			Patterns (B10)	.0.
Saturation					n Sulfide				son Water Table (C Burrows (C8)	2)
	arks (B1) it Deposits (B2)			(C3)	ı Knizosp	neres on	Living Roots		on Visible on Aerial	Imagery (C0)
	oosits (B3)				e of Redu	iced Iron	(C4)		or Stressed Plants	
	it or Crust (B4)			_			illed Soils		ohic Position (D2)	(2.)
	osits (B5)			(C6)					utral Test (D5)	
	on Visible on Aeria	l Imagery	(B7)	_	ck Surfac	e (C7)	-		` '	
Sparsely	Vegetated Conca	ve Surfac	ce (B8)	Gauge o	r Well Da	ta (D9)				
Water-S	tained Leaves (B9)	)		Other (E	xplain in	Remarks	)			
Field Obser										-
Surface water		Yes	No	X	Depth (i					
Water table		Yes	No No		Depth (i				dicators of wetlar	
Saturation p		Yes	No		Depth (i	ncnes):		n,	ydrology present	? <u>Y</u>
	pillary fringe)				L - 6 -					
Describe rec	corded data (strea	m gauge	e, monitoring well	, aerial pl	notos, pre	evious in	spections), if a	available:		
Remarks:										

Project/Site:	NICTD West Lake C	Corridor		City/County:	Cook County	Sampling Date:	13-Nov-15
Applicant/Owner:						State: IL Sampling Point	: Wetland 45
Investigator(s):	Anna Hochhalter ar	nd Cheryl Nash		Section, Tow	nship, Range	:	
Landform (hillside,	terrace, etc.):					Local relief (concave, convex, none	:
Slope %:		Lat: 41.644	09		Long	: -87.5779	Datum:
Soil Unit Name:	Landfill					NWI Classification	: PEM/FO1A
Are climatic / hydro	ologic conditions on th	e site typical for this tim	ne of year?		Yes	No	
Are Vegetation	Soil	or hydrology	Significant	ly disturbed?	A	Are "Normal Circumstances" present?	Yes No
Are Vegetation	Soil	or hydrology	Naturally p	roblematic?	(	if needed, explain any answers in Remarks.)	ı
SUMMARY OF	FINDINGS - Atta	ch site map showi	ng samp	ling point	locations,	transects, important features, etc.	
Hydrophytic Vege Hydric Soils Press Wetland Hydrolog Remarks:	ent? gy Present?	Yes Yes	No No			within a Wetland?	s <u>x</u> No
		C, which entails estimati bservation, identifying s				aerial photography and National Wetland Inv rulating floristic quality.	entory maps.
VEGETATION -	- Use scientific na	ames of plants.					
Tree Stratum  1.	(Plot size: 30ft	)		Dominant Species?	Indicator Status #N/A	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC	(A)
2 3 4 5					   	Total Number of Dominant Species Across All Strata:	(B)
Sapling/Shrub Str	ratum (Plot size:	Total Cover:				Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
2 3 4 5		Total Cover:			  	Prevalence Index Worksheet:           Total % Cover of         Multiply by:           OBL species         x 1 =           FACW species         x 2 =           FAC species         x 3 =	0 0 0
Herb Stratum  1. 2 3 4 5	(Plot size: 5ft	)		·	#N/A   	FACU species $x 4 = 0$ UPL species $x 5 = 0$ Column Totals $x 5 = 0$ Prevalence Index = B/A =	0 0 0 (B)
6 7 8 9 10					    	Hydrophytic Vegetation Indicators:	heet)
Woody Vine Strat	<u>um</u> (Plot size:	Total Cover:				Problematic Hydrophytic Vegetatio *Indicators of hydric soil and wetland hydro	` ' '
2. <u></u>		Total Cover:				Hydrophytic Vegetation Yes Present?	s No
Remarks: (Includ	le photo numbers here	e or on a separate shee	et.)				

US Army Corps of Engineers

Project/Site:	NICTD West Lake Corridor	City/County: Cook Cour	nty Sampling Date: 13-Nov-15						
Applicant/Owner:			State: IL Sampling Point: Wetland 46						
Investigator(s):	Anna Hochhalter and Cheryl Nash	Section, Township, Rang	ge:						
Landform (hillside,	terrace, etc.): open, flat		Local relief (concave, convex, none:						
Slope %:	Lat: <u>41.663</u>	1 Loi	ng: -87.5969 Datum:						
Soil Unit Name:	Orthents, clayey		NWI Classification: NA						
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year? Yes	s No						
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No						
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes x No No No						
Remarks: Wetland investiga	<del></del>		n aerial photography and National Wetland Inventory maps.  alculating floristic quality.						
VEGETATION -	Use scientific names of plants.								
1. 2 3	(Plot size: 30ft )	Absolute Dominant Indicator Status #N/A	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC(A)  Total Number of Dominant						
4. <u></u> 5. <u></u>			Species Across All Strata:(B)						
Sapling/Shrub Str	Total Cover: <u>ratum</u> (Plot size: <u>15ft</u> )	#N/A	Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)						
2 3 4 5	Total Cover:		Prevalence Index Worksheet:   Total % Cover of   Multiply by:     OBL species   x 1 = 0     FACW species   x 2 = 0     FAC species   x 3 = 0						
1. 2 3 4 5	(Plot size: <u>5ft</u> )	#N/A	FACU species						
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50%  Prevalence Index is ≦3.0*  Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)						
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.						
1. <u></u> 2. <u></u>	Total Cover:		Hydrophytic Vegetation Present?  Yes x No						
Remarks: (Includ	le photo numbers here or on a separate shee								

US Army Corps of Engineers

Project/Site:	NICTD West Lake Corridor	City/County: Cook Cou	Sampling Date: 13-Nov-15						
Applicant/Owner:			State: IL Sampling Point: Wetland 47						
Investigator(s):	Anna Hochhalter and Cheryl Nash	Section, Township, Ran	nge:						
Landform (hillside,	terrace, etc.): open, flat		Local relief (concave, convex, none:						
Slope %:	Lat: <u>41.664</u>	Lo	ong: <u>-87.598</u> Datum:						
Soil Unit Name:	Orthents, loamy		NWI Classification: none						
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year? Ye	es No						
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No						
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area Yes x No						
Remarks: Wetland investiga	<del></del>		on aerial photography and National Wetland Inventory maps. calculating floristic quality.						
VEGETATION -	Use scientific names of plants.								
Tree Stratum  1. 2 3 4	(Plot size: 30ft )	Absolute Dominant Indicator Status #N/A	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC  Total Number of Dominant Species Across All Strata:  (B)						
5	Total Covers								
Sapling/Shrub Str	Total Cover: <u>ratum</u> (Plot size: 15ft)	#N/A	Percent of Dominant Species  That Are OBL, FACW, or FAC: (A/B)						
2 3 4 5	Total Cover:		Prevalence Index Worksheet:   Total % Cover of   Multiply by:						
Herb Stratum  1. 2 3 4 5	(Plot size: <u>5ft</u> )	#N/A	FACU species						
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50% Prevalence Index is ≦3.0*  Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)						
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.						
1. <u></u> 2. <u></u>	Total Cover:	<del></del>	Hydrophytic Vegetation Yes x No Present?						
Remarks: (Includ	le photo numbers here or on a separate shee								

Project/Site:	NICTD West Lake C	Corridor		City/County:	Cook County	Sampling Date:	13-Nov-15
Applicant/Owner:						State: IL Sampling Point	Wetland 48
Investigator(s):	Anna Hochhalter ar	nd Cheryl Nash		Section, Tow	nship, Range	:	
Landform (hillside,	terrace, etc.):	open, flat				Local relief (concave, convex, none	:
Slope %:		Lat: 41.663			Long	: -87.598	Datum:
Soil Unit Name:	Orthents, loamy					NWI Classification	: PF01/EMCd
Are climatic / hydro	logic conditions on th	e site typical for this tin	ne of year?		Yes	No	
Are Vegetation	Soil	or hydrology	Significant	ly disturbed?	A	Are "Normal Circumstances" present?	Yes No
Are Vegetation	Soil	or hydrology	Naturally p	roblematic?	(	if needed, explain any answers in Remarks.)	
SUMMARY OF	FINDINGS - Atta	ch site map showi	ng samp	ling point	locations,	transects, important features, etc.	
	ent? ly Present? tion used Approach C	Yes	No ing the wetla	and boundari		aerial photography and National Wetland Inv	sxNoentory maps.
VEGETATION -	· Use scientific no	<u> </u>		Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species	
1	(Flot Size. 30it			Species:	#N/A	That Are OBL, FACW, or FAC	(A)
3 4 5		Total Cover:			  	Total Number of Dominant Species Across All Strata: Percent of Dominant Species	(B)
Sapling/Shrub Str 1.	atum (Plot size:	15ft )			#N/A	That Are OBL, FACW, or FAC:	(A/B)
2 3 4 5  Herb Stratum 1 2 3 4 5 6 7 8 9 10  Woody Vine Strat 1 2		Total Cover:  15ft )  Total Cover:			-	Prevalence Index Worksheet:  Total % Cover of Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals (A)  Prevalence Index = B/A =  Hydrophytic Vegetation Indicators: Dominance Test is >50% Prevalence Index is ≤ 3.0* Morphological Adaptations* (Providata in remarks or on a separate slepton indicators of hydric soil and wetland hydrothydrophytic Vegetation  Hydrophytic Vegetation Yes Present?	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Remarks: (Includ	e photo numbers here	e or on a separate shee	et.)				

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Project/Site:	NICTD West Lake Corridor	City/County: Cook Coun	Sampling Date: 13-Nov-15		
Applicant/Owner:			State: IL Sampling Point: Wetland 49		
Investigator(s):	Anna Hochhalter and Cheryl Nash	Section, Township, Rang	ge:		
Landform (hillside,	terrace, etc.): open, flat		Local relief (concave, convex, none:		
Slope %:	Lat: <u>41.626</u>	Lor	ng: <u>-87.526</u> Datum:		
Soil Unit Name:	Urban land		NWI Classification: none		
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year? Yes	S No		
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No		
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)		
			, transects, important features, etc.		
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No No	Is the Sampling Area Yes x No		
Remarks: Wetland investigation used Approach C, which entails estimating the wetland boundaries based on aerial photography and National Wetland Inventory maps. This method does not include on-site observation, identifying species, collecting soil samples or calculating floristic quality.					
VEGETATION -	- Use scientific names of plants.				
Tree Stratum  1. 2 3 4	(Plot size: 30ft )	Absolute Dominant Indicator Status #N/A	Dominance Test Worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC  Total Number of Dominant  Species Across All Strata: (B)		
5. <u></u>	Total Cover:		Percent of Dominant Species		
Sapling/Shrub Str		#N/A	That Are OBL, FACW, or FAC:(A/B)		
2 3 4 5  Herb Stratum  1 2 3 4 5 6 7 8 9 10  Woody Vine Strat	Total Cover:  (Plot size:5ft)  Total Cover:  (Plot size: _15ft)	#N/A	Prevalence Index Worksheet:  Total % Cover of Multiply by:  OBL species		
1 2	Total Cover:		Hydrophytic Vegetation Yes x No		
			Present?		
Remarks: (Includ	e photo numbers here or on a separate shee	et.)			

Project/Site:	NICTD West Lake Corridor	City/County: Cook Cou	nty Sampling Date: 13-Nov-15		
Applicant/Owner:			State: IL Sampling Point: Wetland 50		
Investigator(s):	Anna Hochhalter and Cheryl Nash	Section, Township, Range	ge:		
Landform (hillside,	terrace, etc.): Riparian hillside		Local relief (concave, convex, none:		
Slope %:	Lat: <u>41.626</u>	Lo	ng: -87.526 Datum:		
Soil Unit Name:	Orthents, loamy-skeletal		NWI Classification: none		
Are climatic / hydro	ologic conditions on the site typical for this time	ne of year? Yes	s No		
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No		
	Soil or hydrology		(if needed, explain any answers in Remarks.)		
			s, transects, important features, etc.		
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No No	Is the Sampling Area Yes x No		
Remarks: Wetland investigation used Approach C, which entails estimating the wetland boundaries based on aerial photography and National Wetland Inventory maps. This method does not include on-site observation, identifying species, collecting soil samples or calculating floristic quality.					
VEGETATION -	- Use scientific names of plants.				
Tree Stratum  1. 2 3 4	(Plot size: 30ft )	Absolute Dominant Indicator Status #N/A	Dominance Test Worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC  Total Number of Dominant Species Across All Strata:  (B)		
5	Total Cover:		Percent of Dominant Species		
Sapling/Shrub Str 1.	ratum (Plot size: 15ft )	#N/A	That Are OBL, FACW, or FAC:(A/B)		
2 3 4 5	Total Cover: (Plot size: _ 5ft )		Prevalence Index Worksheet:   Total % Cover of   Multiply by:     OBL species   x 1 = 0     FACW species   x 2 = 0     FAC species   x 3 = 0     FACU species   x 4 = 0		
1. 2 3 4		#N/A	UPL species		
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50% Prevalence Index is ≦3.0*  Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)		
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.		
1. <u></u> 2. <u></u>	Total Cover:		Hydrophytic Vegetation Present?  Yes x No		
Remarks: (Includ	le photo numbers here or on a separate shee	et.)			

Project/Site:	NICTD West Lake Corridor	City/County: Lake Coun	ty Sampling Date: 13-Nov-15		
Applicant/Owner:			State: IN Sampling Point: Wetland 51		
Investigator(s):	Anna Hochhalter and Cheryl Nash	Section, Township, Rang	ge:		
Landform (hillside,	terrace, etc.): <u>flat, open</u>		Local relief (concave, convex, none:		
Slope %:	Lat: 41.625	Lor	ng: <u>-87.518</u> Datum:		
Soil Unit Name:	Urban land		NWI Classification: none		
Are climatic / hydro	logic conditions on the site typical for this tim	ne of year? Yes	No		
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No		
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)		
			, transects, important features, etc.		
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No No	Is the Sampling Area within a Wetland?  Yes x No No		
Remarks: Wetland investigation used Approach C, which entails estimating the wetland boundaries based on aerial photography and National Wetland Inventory maps. This method does not include on-site observation, identifying species, collecting soil samples or calculating floristic quality.					
VEGETATION -	Use scientific names of plants.				
1. 2 3	(Plot size: 30ft )	Absolute Dominant Indicator % Cover Species? Status #N/A	Dominance Test Worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC  Total Number of Dominant  Consider Appear All Strates  (D)		
4 5			Species Across All Strata:(B)		
Sapling/Shrub Str	Total Cover:  atum (Plot size: 15ft )	#N/A	Percent of Dominant Species  That Are OBL, FACW, or FAC: (A/B)		
2 3 4 5	Total Cover:		Prevalence Index Worksheet:   Total % Cover of		
1. 2 3 4 5	(Plot size: 5ft )	#N/A	FACU species		
6 7 8 9 10	Total Cover:	    	Hydrophytic Vegetation Indicators:  Dominance Test is >50% Prevalence Index is ≤3.0* Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)		
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.		
1. <u></u> 2. <u></u>	Total Cover:		Hydrophytic Vegetation Present?  Yes x No		
Remarks: (Includ	e photo numbers here or on a separate shee	ot.)			

US Army Corps of Engineers

Project/Site:	NICTD West Lake Corridor	City/County: Lake Coun	Sampling Date: 13-Nov-15		
Applicant/Owner:			State: IN Sampling Point: Wetland 52		
Investigator(s):	Anna Hochhalter and Cheryl Nash	Section, Township, Ranç	ge:		
Landform (hillside,	terrace, etc.): <u>flat, open</u>		Local relief (concave, convex, none:		
Slope %:	Lat: <u>41.624</u>	Lor	ng: <u>-87.518</u> Datum:		
Soil Unit Name:	Urban land		NWI Classification: none		
Are climatic / hydro	logic conditions on the site typical for this tim	ne of year? Yes	S No		
Are Vegetation	Soil or hydrology	Significantly disturbed?	Are "Normal Circumstances" present? Yes No		
Are Vegetation	Soil or hydrology	Naturally problematic?	(if needed, explain any answers in Remarks.)		
			s, transects, important features, etc.		
Hydrophytic Vege Hydric Soils Pres Wetland Hydrolog	ent? Yes	No No	Is the Sampling Area within a Wetland?  Yes x No No		
Remarks: Wetland investigation used Approach C, which entails estimating the wetland boundaries based on aerial photography and National Wetland Inventory maps. This method does not include on-site observation, identifying species, collecting soil samples or calculating floristic quality.					
VEGETATION -	Use scientific names of plants.				
Tree Stratum  1. 2 3 4	(Plot size: 30ft )	Absolute Dominant Indicator Status #N/A	Dominance Test Worksheet:  Number of Dominant Species  That Are OBL, FACW, or FAC  Total Number of Dominant  Species Across All Strata:  (B)		
5	Total Cover:		Percent of Dominant Species		
Sapling/Shrub Str 1.	atum (Plot size: 15ft )	#N/A	That Are OBL, FACW, or FAC:(A/B)		
2 3 4 5	Total Cover:		Prevalence Index Worksheet:   Total % Cover of   Multiply by:   OBL species   x 1 = 0     FACW species   x 2 = 0     FAC species   x 3 = 0		
1	(Plot size:5ft)	#N/A	FACU species		
6 7 8 9 10	Total Cover:		Hydrophytic Vegetation Indicators:  Dominance Test is >50% Prevalence Index is ≤3.0* Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)  Problematic Hydrophytic Vegetation (Explain)		
Woody Vine Strat			*Indicators of hydric soil and wetland hydrology must be present.		
1. <u></u> 2. <u></u>	Total Cover:		Hydrophytic Vegetation Present?  Yes x No		
Remarks: (Includ	e photo numbers here or on a separate shee	et.)			

US Army Corps of Engineers



# APPENDIX D Photographs of Wetland Investigation Areas



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/14/15

**Direction Photo** 

Taken:

North

Description:

Wetland 1

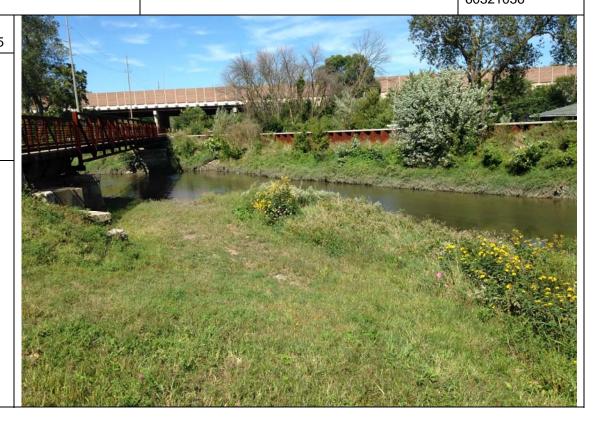


Photo No.

**Date:** 09/14/15

Direction Photo Taken:

Description:

Wetland 1

Wetland Soil sample



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/14/15

Direction Photo Taken:

East

Description:

Wetland 2



Photo No.

**Date:** 09/14/15

Direction Photo Taken:

Description:

Wetland 2

Wetland Soil Sample



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

Project No. 60321036

Photo No. 5

Date: 09/14/15

**Direction Photo** Taken:

West

Description:

Wetland 3



Photo No. 6

Date: 09/14/15

**Direction Photo** Taken:

Description:

Wetland 3

Soil Sample



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/15/15

**Direction Photo** 

Taken:

East

Description:

Wetland 4



Photo No.

**Date:** 09/15/15

Direction Photo Taken:

north

Description:

Wetland 4

Soil Sample



### **PHOTOGRAPHIC LOG**

Project: NICTD West Lake Corridor

Project

Site Location: Hammond, IN

Project No.

Photo No. 9

Date: 09/15/15

**Direction Photo** Taken:

South

Description:

Wetland 5

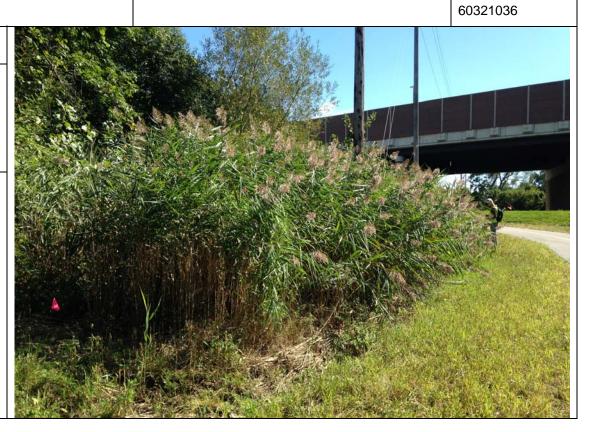


Photo No. 10

Date: 09/15/15

**Direction Photo** Taken:

north

Description:

Wetland 5

Soils Sample



### PHOTOGRAPHIC LOG

**Project: NICTD West Lake Corridor** 

Project

Site Location: Hammond, IN

Project No. 60321036

Photo No. 11

Date: 09/15/15

**Direction Photo** 

Taken:

South

Description:

Wetland 6



Photo No. 12

Date: 09/15/15

**Direction Photo** Taken:

north

Description:

Wetland 6

Soils Sample



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Hammond, IN

Project No. 60321036

Photo No. 13

Date: 09/17/15

Direction Photo

Taken:

South

Description:

Wetland 7



Photo No. 14

Date: 09/17/15

**Direction Photo** Taken:

north

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Hammond, IN

**Project No.** 60321036

Photo No.

**Date:** 09/17/15

**Direction Photo** 

Taken:

North

Description:

Wetland 8



Photo No.

**Date:** 09/17/15

Direction Photo Taken:

north

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Dyer, IN

**Project No.** 60321036

Photo No.

**Date:** 09/16/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 9



Photo No.

**Date:** 09/16/15

Direction Photo Taken:

north

Description:

Wetland 9

Soil Sample



# **A≡**COM

### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Hammond, IN

**Project No.** 60321036

Photo No. 19

**Date:** 09/16/15

Direction Photo Taken:

· anon

South

Description:

Wetland 10



Photo No. 20

**Date:** 09/16/15

Direction Photo Taken:

north

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Dyer, IN

**Project No.** 60321036

Photo No. 21

**Date:** 09/17/15

**Direction Photo** 

Taken:

South

Description:

Wetland 11



Photo No. 22

**Date:** 09/17/15

Direction Photo Taken:

West

Wetland 11

Description:



# A=COM

### **PHOTOGRAPHIC LOG**

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

Project No. 60321036

Photo No. 23

Date: 09/17/15

**Direction Photo** 

Taken:

South

Description:

Wetland 12



Photo No. 24

Date: 09/17/15

**Direction Photo** Taken:

north

Description:

Wetland 12

Soil Sample



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Chicago, IL

**Project No.** 60321036

Photo No. 25

**Date:** 09/28/15

**Direction Photo** 

Taken:

North

Description:

Wetland 13



Photo No. 26

**Date:** 09/28/15

Direction Photo

Taken:

North

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Chicago, IL

**Project No.** 60321036

Photo No. 27

**Date:** 09/28/15

**Direction Photo** 

Taken:

South

Description:

Wetland 14



Photo No. 28

**Date:** 09/28/15

**Direction Photo** 

Taken:

north

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

**Site Location: West Lake Corridor Study Area** 

**Project No.** 60321036

Photo No. 29

Date:

09/28/15

**Direction Photo** 

Taken:

South

Description:

Wetland 15



Photo No. 30

**Date:** 09/28/15

Direction Photo Taken:

north

Description:

Wetland 15

Soil Sample



# **A≡COM**

### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor
Project
Site Location: Chicago, IL
Project No.
60321036

 Photo No.
 Date:

 31
 09/28/15

 Direction Photo

Taken:

Northeast

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No. 32

**Date:** 09/28/15

**Direction Photo** 

Taken:

South

Description:

Wetland 17



Photo No. 33

**Date:** 09/28/15

Direction Photo Taken:

north

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

. . 0,000

Photo No. 34

**Date:** 09/28/15

**Direction Photo** 

Taken:

Northeast

Description:

Wetland 18



Photo No. 35

**Date:** 09/28/15

Direction Photo Taken:

East

Description:



### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

Date:

09/28/15

**Direction Photo** 

Taken:

South

Description:

Wetland 19

Disturbed wet prairie wetland



Photo No. 37

**Date:** 09/28/15

Direction Photo Taken:

North

Description:

Wetland 19

Soil sample



#### **PHOTOGRAPHIC LOG**

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

Project No.

Photo No. 38

**Date:** 09/28/15

Direction Photo Taken:

Northeast

Description:

Wetland 19

Standing water in wetland. Wetland egetation growing through gravel



Photo No. 39

**Date:** 09/28/15

Direction Photo Taken:

North

Description:

Wetland 19

Crayfish holes



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

Date:

09/28/15

**Direction Photo** 

Taken:

West

Description:

Wetland 20



Photo No.

41

**Date:** 09/28/15

Direction Photo

Taken:

north

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No. 42

**Date:** 09/28/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 21



Photo No. 43

**Date:** 09/28/15

Direction Photo Taken:

Northeast

Description:



# **A≡**COM

#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Burnham, IL

**Project No.** 60321036

Photo No. 44

**Date:** 09/29/15

Direction Photo

Taken:

North

Description:

Wetland 22



Photo No. 45

**Date:** 09/29/15

**Direction Photo** 

Taken:

West

Description:



# **A≡C**OM

#### PHOTOGRAPHIC LOG

**Project: NICTD West Lake Corridor** 

Project

Site Location: Burnham, IL

Project No. 60321036

Photo No.

46

Date: 09/29/15

**Direction Photo** 

Taken:

South

Description:

Wetland 23



Photo No. 47

Date: 09/29/15

**Direction Photo** Taken:

South

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Burnham, IL

**Project No.** 60321036

Photo No.

**Date:** 09/29/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 24



Photo No. 49

**Date:** 09/29/15

Direction Photo

Taken:

Northeast

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Burnham, IL

**Project No.** 60321036

Photo No. **50** 

**Date:** 09/29/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 25



Photo No. 51

**Date:** 09/29/15

Direction Photo Taken:

East

Description:

Wetland 26

Beaubian Woods



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Chicago, IL

**Project No.** 60321036

Photo No. **52** 

**Date:** 09/29/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 26

Beaubian Woods



Photo No. 53

**Date:** 09/29/15

Direction Photo Taken:

Description:

Wetland 26

Soil Sample



# **PHOTOGRAPHIC LOG**

Project: NICTD West Lake Corridor Project

Site Location: Burnham, IL

**Project No.** 60321036

Photo No. **54** 

**Date:** 09/29/15

Direction Photo Taken:

Northeast

Description:

#### Wetland 27

Contiguous to Burnham Prairie wetland – far western edge near Manistee Ave and 143<sup>rd</sup> St.



Photo No. 55

**Date:** 09/29/15

Direction Photo Taken:

Northeast

Description:

Wetland 27

Soil Sample



#### **PHOTOGRAPHIC LOG**

Project: NICTD West Lake Corridor Project

Site Location: Burnham, IL

**Project No.** 60321036

Photo No. **56** 

**Date:** 10/27/15

**Direction Photo** 

Taken:

Northeast

Description:

Wetland 27

Burnham Prairie wetland – interior of wetland



Photo No. **57** 

**Date:** 10/2715

Direction Photo Taken:

Southwest

Description:

Wetland 27

Burnham Prairie wetland – interior of wetland



#### **PHOTOGRAPHIC LOG**

Project: NICTD West Lake Corridor

Project

Site Location: Chicago, IL

**Project No.** 60321036

Photo No. **58** 

**Date:** 09/30/15

Direction Photo Taken:

Southwest

Description:

Wetland 28

Beaubian Woods – interior of wetland



Photo No. 59

**Date:** 09/30/15

Direction Photo Taken:

Southeast

Description:

Wetland 28

Beaubian Woods – western edge at rail embankment and 132<sup>nd</sup> St.



Photo No. **60** 

**Date:** 09/30/15

Direction Photo Taken:

Southeast

Description:

Wetland 28

Beaubian Woods – interior of wetland



Photo No. 61

**Date:** 09/30/15

**Direction Photo** 

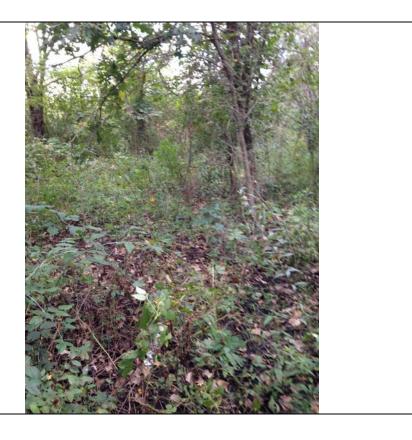
Taken:

Southeast

Description:

Wetland 28

Beaubian Woods – forested wetland at far eastern edge near Flatfoot Lake



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/30/15

**Direction Photo** 

Taken:

West

Description:

Wetland 29



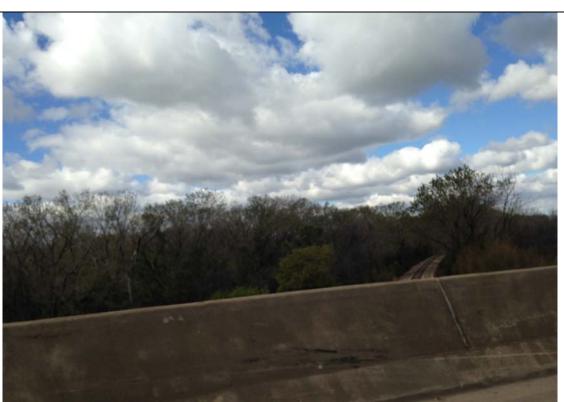
Photo No. 63

**Date:** 09/30/15

Direction Photo Taken:

West

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

64

**Date:** 09/30/15

**Direction Photo** 

Taken:

West

Description:

Wetland 30



Photo No. 65

**Date:** 09/30/15

Direction Photo Taken:

East

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/30/15

**Direction Photo** 

Taken:

West

Description:

Wetland 31



Photo No. 67

**Date:** 09/30/15

Direction Photo Taken:

Northwest

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/30/15

**Direction Photo** 

Taken:

West

Description:

Wetland 32



Photo No.

**Date:** 09/30/15

**Direction Photo** 

Taken:

West

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/30/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 33



Photo No. 71

**Date:** 09/30/15

Direction Photo Taken:

West

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No. 72

**Date:** 09/30/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 34



Photo No. 73

**Date:** 09/30/15

Direction Photo Taken:

Northeast

Description:

Wetland 34

Soil Sample



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 09/30/15

**Direction Photo** 

Taken:

Northeast

Description:

Wetland 35



Photo No. 75

**Date:** 09/30/15

Direction Photo Taken:

North

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**76** 

**Date:** 09/30/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 36



Photo No. 77

**Date:** 09/30/15

**Direction Photo** 

Taken:

Northeast

Description:



#### PHOTOGRAPHIC LOG

**Project: NICTD West Lake Corridor** Project

Site Location: Munster, IN

Project No. 60321036

Photo No. **78** 

Date: 09/30/15

**Direction Photo** 

Taken:

Northeast

Description:

Wetland 37



Photo No. **79** 

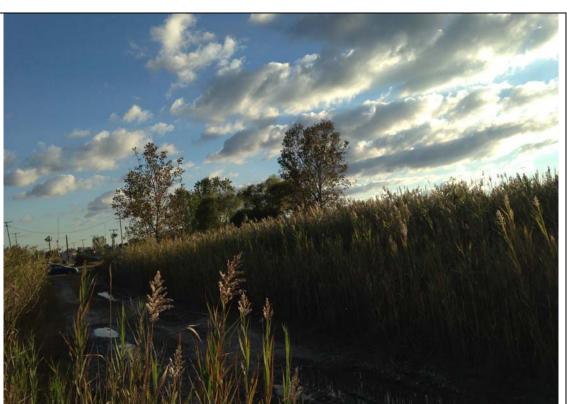
Date: 09/30/15

**Direction Photo** 

Taken:

Southwest

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

**Date:** 10/27/15

**Direction Photo** 

Taken:

South

Description:

Wetland 38



Photo No. 81 **Date:** 10/27/15

Direction Photo Taken:

East

Description:

Wetland 38

Soil Sample



#### PHOTOGRAPHIC LOG

**Project: NICTD West Lake Corridor** 

Project

Site Location: Munster, IN

Project No. 60321036

Photo No.

82

Date: 10/27/15

**Direction Photo** 

Taken:

East

Description:

Wetland 39



Photo No. 83

Date: 10/27/15

**Direction Photo** Taken:

North

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor Project

Site Location: Munster, IN

**Project No.** 60321036

Photo No.

84

**Date:** 10/27/15

**Direction Photo** 

Taken:

West

Description:

Wetland 40



Photo No. 85

**Date:** 10/27/15

Direction Photo Taken:

Northeast

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor
Project
Site Location: Munster, IN
Project No.
60321036

Photo No. Date: 10/27/15

**Direction Photo** 

Taken:

Southwest

Description:

Wetland 41



Photo No. 87

**Date:** 10/27/15

Direction Photo

Taken:

Northeast

Description:



#### PHOTOGRAPHIC LOG

**Project: NICTD West Lake Corridor** 

Project

Site Location: Munster, IN

Project No. 60321036

Photo No.

88

Date: 10/27/15

**Direction Photo** 

Taken:

Northeast

Description:

Wetland 42



Photo No. 89

Date: 10/27/15

**Direction Photo** 

Taken:

Northeast

Description:



#### PHOTOGRAPHIC LOG

Project: NICTD West Lake Corridor

Project

Site Location: Munster, IN

Project No.

Photo No.

**Date:** 10/27/15

**Direction Photo** 

Taken:

South

Description:

Wetland 43



Photo No. 91 **Date:** 10/27/15

**Direction Photo** 

Taken:

East

Description:



#### PHOTOGRAPHIC LOG

**Project: NICTD West Lake Corridor** Project

Site Location: Munster, IN

Project No. 60321036

Photo No. 92

Date:

10/27/15

**Direction Photo** 

Taken:

East

Description:

Wetland 44



Photo No. 93

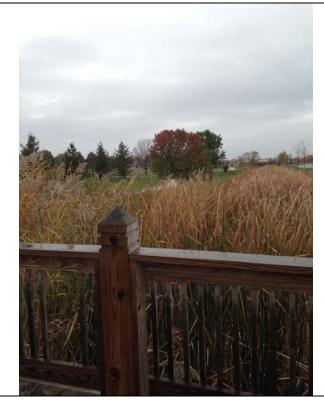
Date: 10/27/15

**Direction Photo** 

Taken:

West

**Description:** 





# **APPENDIX E Floristic Quality Inventory Reports**



SITE: NICTD LOCALE: Wetland 1 BY: Anna Hochhalter

NOTES:

CONSERVATISM-ADDITIONAL METRICS BASED **METRICS** MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.15 (ALL) 22 SPECIES RICHNESS MEAN C (ALL SPECIES) 1.27 (NATIVE) 13 % NON-NATIVE 0.41 WET INDICATOR

MEAN C (NATIVE TREES) n/a MEAN C (NATIVE SHRUBS) 7.00 (ALL) -0.41 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 1.75 (NATIVE) -0.77 % HYDROPHYTE (NATIVE SPECIES) 7.77 (MIDWEST) 0.68 FQAI % NATIVE (ALL SPECIES) 5.97 PERENNIAL 0.36 ADJUSTED FQAI 16.56 % NATIVE ANNUAL 0.18 % C VALUE 0 0.64 % ANNUAL 0.32 % C VALUE 1-3 0.18 % PERENNIAL 0.59 % C VALUE 4-6 0.14 % C VALUE 7-10 0.05

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) AGROSTIS	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)		DURATION	NATIVITY
agralb	Agrostis gigantea	ALBA ARCTIUM	Black Bent		0 FACW	FACW	-	-1 Grass	Perennial	Adventive
arclap	Arctium lappa	LAPPA Bidens	Great Burdock Nodding Burr-		0 UPL	UPL		2 Forb	Biennial	Adventive
bidcer	Bidens cernua	cernua CIRSIUM	Marigold		5 OBL	OBL	-	-2 Forb	Annual	Native
cirarv	Cirsium arvense	ARVENSE Cyperus	Canadian Thistle		0 FACU	FACU		1 Forb	Perennial	Adventive
cypesc	Cyperus esculentus Echinochloa crus-	esculentus Echinochloa	Chufa Large Barnyard		0 FACW	FACW	-	-1 Sedge	Perennial	Native
echcru	galli Eupatorium	crusgalli Eupatorium	Grass Late-Flowering		0 FACW	FAC	-	-1 Grass	Annual	Native
eupser	serotinum Glechoma	serotinum GLECHOMA	Thoroughwort		0 FAC	FAC		0 Forb	Perennial	Native
glehed	hederacea Helianthus	HEDERACEA Helianthus	Groundivy Jerusalem-		0 FACU	FACU		1 Forb	Perennial	Adventive
heltub	tuberosus	tuberosus IPOMOEA	Artichoke Ivy-Leaf Morning-		3 FACU	FACU		1 Forb	Perennial	Native
ipohed	Ipomoea hederacea	HEDERACEA LYTHRUM	Glory		0 FAC	FAC		0 Forb	Annual	Adventive
lytsal	Lythrum salicaria	SALICARIA Oenothera	Purple Loosestrife		0 OBL	OBL	-	-2 Forb	Perennial	Adventive
oenbie	Oenothera biennis	biennis Polygonum coccineum; Polygonum amphibium	King's-Cureall		0 FACU	FACU		1 Forb	Biennial	Native
polamp	Persicaria amphibia Persicaria	stipulaceum Polygonum	Water Smartweed		4 OBL	OBL	-	-2 Forb	Perennial	Native
polhyd	hydropiper	hydropiper Polygonum lapathifolium	Mild Water-Pepper		2 OBL	OBL	-	-2 Forb	Annual	Native
pollap	Persicaria Iapathifolia Phalaris	POLYGONUM SCABRUM PHALARIS ARUNDINACE	Dock-Leaf Smartweed		0 FACW	FACW	-	-1 Forb	Annual	Native
phaaru	arundinacea	A Salix	Reed Canary Grass		0 FACW	FACW	-	-1 Grass	Perennial	Adventive
salpet	Salix petiolaris	petiolaris SETARIA	Meadow Willow		7 OBL	FACW	-	-2 Shrub	Perennial	Native
setgla	Setaria pumila	GLAUCA Solidago	Yellow Bristle Grass		0 FAC	FAC		0 Grass	Annual	Adventive
solalt	Solidago altissima	altissima	Tall Goldenrod		1 FACU	FACU		1 Forb	Perennial	Native

solgig	Solidago gigantea	Solidago gigantea SONCHUS	Late Goldenrod Common Sow-	4 FACW	FACW	-1 Forb	Perennial	Native
sonole	Sonchus oleraceus Urtica dioica ssp.	OLERACEUS Urtica	Thistle	0 FACU	FACU	1 Forb	Annual	Adventive
urtdio	gracilis	procera	Tall Nettle	2 FACW	FAC	-1 Forb	Perennial	Native

SITE: NICTD LOCALE: Wetland 2 Anna Hochhalter

NOTES:

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 3.13 (ALL) 18 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 2.61 (NATIVE) 15 (NATIVE TREES) 2.83 % NON-NATIVE 0.17 MEAN C WET INDICATOR (NATIVE SHRUBS) n/a (ALL) -0.44 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 4.00 (NATIVE) -0.40 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 12.14 0.78 FQAI % NATIVE (ALL SPECIES) 11.08 PERENNIAL 0.67 ADJUSTED FQAI 28.60 % NATIVE ANNUAL 0.17 % C VALUE 0 0.22 % ANNUAL 0.17 % C VALUE 1-3 0.50 % PERENNIAL 0.78 % C VALUE 4-6 0.22 % C VALUE 7-10 0.06

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer negundo	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
aceneg	Acer negundo	var. violaceum Bidens	Ash-Leaf Maple Nodding Burr-		0 FAC	FAC	0 Tree	Perennial	Native
bidcer	Bidens cernua	cernua CIRSIUM	Marigold		5 OBL	OBL	-2 Forb	Annual	Native
cirvul	Cirsium vulgare	VULGARE Crataegus	Bull Thistle		0 FACU	FACU	1 Forb	Biennial	Adventive
cramol	Crataegus mollis	mollis Cyperus flavescens	Downy Hawthorn		2 FAC	FAC	0 Tree	Perennial	Native
cypfla	Cyperus flavescens	poaeformis Fraxinus pennsylvanic a	Yellow Flat Sedge		9 OBL	OBL	-2 Sedge	Annual	Native
	Fraxinus	subintegerrim	1						
frapen	pennsylvanica	a Geum	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
geulac	Geum laciniatum Helianthus	laciniatum Helianthus	Rough Avens Jerusalem-		2 FACW	FACW	-1 Forb	Perennial	Native
heltub	tuberosus	tuberosus Parthenocissu	Artichoke		3 FACU	FACU	1 Forb	Perennial	Native
parqui	Parthenocissus quinquefolia Persicaria	s quinquefolia Polygonum	Virginia-Creeper		2 FACU	FACU	1 Vine	Perennial	Native
polhyd	hydropiper	hydropiper PHALARIS	Mild Water-Pepper		2 OBL	OBL	-2 Forb	Annual	Native
	Phalaris	ARUNDINACE							
phaaru 	arundinacea	A	Reed Canary Grass		0 FACW	FACW	-1 Grass	Perennial	Adventive
quealb	Quercus alba Quercus	Quercus alba Quercus			5 FACU	FACU	1 Tree	Perennial	Native
quemac	macrocarpa Symphyotrichum	macrocarpa	Burr Oak White Panicled		5 FAC	FACU	0 Tree	Perennial	Native
astsim	lanceolatum Toxicodendron	Aster simplex Rhus	American-Aster		3 FAC	FACW	0 Forb	Perennial	Native
rhurad	radicans	radicans Typha	Eastern Poison-Ivy Narrow-Leaf Cat-		2 FAC	FAC	0 Vine	Perennial	Native
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL	-2 Forb	Perennial	Adventive
ulmrub	Ulmus rubra	Ulmus rubra	Slippery Elm		4 FAC	FAC	0 Tree	Perennial	Native
vitrip	Vitis riparia	Vitis riparia	River-Bank Grape		2 FACW	FAC	-1 Vine	Perennial	Native
· ·									

SITE: NICTD LOCALE: Wetland 3 BY: Anna Hochhalter

NOTES:

CONSERVATISM-BASED ADDITIONAL METRICS METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 1.59 (ALL) 24 SPECIES RICHNESS MEAN C (ALL SPECIES) 1.13 (NATIVE) 17 MEAN C (NATIVE TREES) 2.00 % NON-NATIVE 0.29 MEAN C WET INDICATOR (NATIVE SHRUBS) 1.00 (ALL) -0.13 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 1.54 (NATIVE) -0.24 % HYDROPHYTE (MIDWEST) (NATIVE SPECIES) 6.55 0.63 FQAI % NATIVE (ALL SPECIES) 0.50 5.51 PERENNIAL ADJUSTED FQAI 13.37 % NATIVE ANNUAL 0.21 % C VALUE 0 0.50 % ANNUAL 0.25 % C VALUE 1-3 0.42 % PERENNIAL 0.71 % C VALUE 4-6 0.08 % C VALUE 7-10 0.00

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
acesau	Acer saccharum	saccharum Ambrosia	Sugar Maple		3 FACU	FACU	1 Tree	Perennial	Native
ambtri	Ambrosia trifida	trifida ARCTIUM	Great Ragweed		O FAC	FAC	0 Forb	Annual	Native
arclap	Arctium lappa	LAPPA Bidens	Great Burdock Nodding Burr-		0 UPL	UPL	2 Forb	Biennial	Adventive
bidcer	Bidens cernua	cernua CATALPA	Marigold		5 OBL	OBL	-2 Forb	Annual	Native
catspe	Catalpa speciosa	SPECIOSA CIRSIUM	Northern Catalpa		0 FACU	FACU	1 Tree	Perennial	Adventive
cirarv	Cirsium arvense	ARVENSE Elymus	Canadian Thistle		0 FACU	FACU	1 Forb	Perennial	Adventive
elyvir	Elymus virginicus Eupatorium	virginicus Eupatorium	Virginia Wild Rye Late-Flowering		4 FACW	FACW	-1 Grass	Perennial	Native
eupser	serotinum	serotinum Fraxinus	Thoroughwort		0 FAC	FAC	0 Forb	Perennial	Native
		pennsylvanic a							
	Fraxinus	subintegerrim	1						
frapen	pennsylvanica	а	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
	Helianthus	Helianthus	Jerusalem-						
heltub	tuberosus	tuberosus Impatiens	Artichoke Spotted Touch-Me-		3 FACU	FACU	1 Forb	Perennial	Native
impcap	Impatiens capensis	capensis	Not		3 FACW	FACW	-1 Forb	Annual	Native
		IPOMOEA	Ivy-Leaf Morning-						
ipohed	Ipomoea hederacea	HEDERACEA	Glory		0 FAC	FAC	0 Forb	Annual	Adventive
moralb	Morus alba	MORUS ALBA Polygonum lapathifolium	White Mulberry		0 FAC	FACU	0 Tree	Perennial	Adventive
	Daniela anta	POLYCONIUM	Deels Leef						
pollap	Persicaria Iapathifolia	POLYGONUM SCABRUM	Dock-Leaf Smartweed		0 FACW	FACW	-1 Forb	Annual	Native
	Dholorio	PHALARIS							
a la a a a a	Phalaris	ARUNDINACE			0.54014	EA CVA/	1.0	D	A -l +!
phaaru	arundinacea Phragmites	Α	Reed Canary Grass		0 FACW	FACW	-1 Grass	Perennial	Adventive
	australis ssp.	Phragmites							
phrausm	americanus	australis	Common Reed		1 FACW	FACW	-1 Grass	Perennial	Native
phyame	Phytolacca americana	Phytolacca americana	American Pokeweed	ı	1 FACU	FACU	1 Forb	Perennial	Native
phydine	Sambucus nigra	Sambucus	, is is all 1 one week	•			. 1010	. or or ir iidi	
samcan	ssp. canadensis	canadensis	Black Elder		1 FACW	FACW	-1 Shrub	Perennial	Native
solame	Solanum americanum	Solanum americanum	American Black Nightshade		0 FACU	FACU	1 Forb	Annual	Native

		Solidago						
solalt	Solidago altissima Symphyotrichum	altissima	Tall Goldenrod White Oldfield	1 FACU	FACU	1 Forb	Perennial	Native
astpil	pilosum	Aster pilosus	American-Aster Narrow-Leaf Cat-	0 FACU	FACU	1 Forb	Perennial	Native
typang	Typha angustifolia Urtica dioica ssp.	Typha angustifolia Urtica	Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
urtdio vitrip	gracilis Vitis riparia	procera Vitis riparia	Tall Nettle River-Bank Grape	2 FACW 2 FACW	FAC FAC	-1 Forb -1 Vine	Perennial Perennial	Native Native

SITE: NICTD LOCALE: Wetland 4 Anna Hochhalter BY:

NOTES:

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 1.50 (ALL) 15 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.00 (NATIVE) 10 (NATIVE TREES) 1.25 % NON-NATIVE 0.33 MEAN C WET INDICATOR (NATIVE SHRUBS) n/a (ALL) -0.27 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 1.50 (NATIVE) -0.20 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 4.74 0.73 FQAI % NATIVE (ALL SPECIES) 0.67 3.87 PERENNIAL ADJUSTED FQAI 12.25 % NATIVE ANNUAL 0.00 % C VALUE 0 0.53 % ANNUAL 0.00 % C VALUE 1-3 0.33 % PERENNIAL 1.00 % C VALUE 4-6 0.13 % C VALUE 7-10 0.00

Acer negundo   Violaceum   Ach-Leaf Maple   O FAC   FAC   O Tree   Perennial   Native	SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer negundo var.	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
Fraxinus pennsylvanic a Fraxinus Subintegerrim frapen pennsylvanica LYSIMACHIA lysnam nummularia MORUS ALBA White Mulberry Parthenocissus parqui quinquefolia quinquefolia quinquefolia Phalaris ARUNDINACE pharamites australis ssp. phraum asfira Solidago gigantea Symphyotrichum astpil  Solidago Ulmus rubra Virgnam subra Partenocissus Solidago Solidago Solidago Solidago Solidago Solidago Solidago Solidago Solidago Ulmus rubra Virgnam subra	aceneg	Acer negundo	violaceum	Ash-Leaf Maple		O FAC	FAC		0 Tree	Perennial	Native
Perential Pere	acesai	Acer saccharinum	Fraxinus pennsylvanic	Silver Maple		0 FACW	FACW	-	1 Tree	Perennial	Native
Lysimachia   Lysimachia   Lysimachia   NUMMULARIA   Creeping-Jenny   O FACW   FACW   O Tree   Perennial   Adventive   Parthenocissus   Parthenocisus   Parthenocissus   Parthenocisus   Parthenocisus   Parthenocissus   Parthenocisus   Parthenocisus   Parthenoci		Fraxinus	subintegerrim	ı							
moralb         Morus alba         MORUS ALBA Parthenocissus Parthenocissus         White Mulberry Parthenocissus         0 FAC         FACU         0 Tree         Perennial Perennial         Adventive           parqui         Parthenocissus quinquefolia quinquefolia PHALLARIS Phalaris         Virginia-Creeper         2 FACU         FACU         1 Vine         Perennial         Native           phaaru         Phalaris arundinacea Phragmites australis ssp.         A         Reed Canary Grass         0 FACW         FACW         -1 Grass         Perennial         Adventive           phrausm         americanus         australis SALIX         Common Reed         1 FACW         FACW         -1 Grass         Perennial         Native           salfra         Salix fragilis         FRAGILIS         Crack Willow         0 UPL         UPL         2 Tree         Perennial         Adventive           solalt         Solidago altissima         altissima Solidago         Tall Goldenrod         1 FACU         FACU         1 Forb         Perennial         Native           solig         Solidago gigantea Symphyotrichum         Solidago         American-Aster White Oldfield         0 FACU         FACU         1 Forb         Perennial         Native           typang         Typha angustifolia Ulmus rubra         Tall	frapen	, ,		Green Ash		1 FACW	FACW	-	1 Tree	Perennial	Native
Parthenocissus s parqui Parthenocissus quinquefolia quinquefolia PHALARIS Phalaris ARUNDINACE   lysnum	nummularia	NUMMULARIA	Creeping-Jenny		0 FACW	FACW	-	1 Forb	Perennial	Adventive	
parqui quinquefolia quinquefolia PHALARIS Phalaris ARUNDINACE  phaaru arundinacea Phragmites australis ssp. Phragmites australis ssp. Pragmites salfra Salix fragilis FRAGILIS Crack Willow OUPL UPL 2 Tree Perennial Adventive Solidago solalt Solidago gigantea Symphyotrichum astpil pilosum Aster pilosus Typha angustifolia ungustifolia ungurubra Virgangus Arundinacea Arundinacea Arundinacea Phragmites ARUNDINACE Reed Canary Grass O FACW FACW -1 Grass Perennial Adventive FACW FACW -1 Grass Perennial Native FACU 1 FACW PACW -1 FACW -1 FACW PACW PACW -1 FACW PACW PACW -1 FACW PACW PACW PACW PACW PACW PACW PACW P		Morus alba				0 FAC	FACU		0 Tree	Perennial	Adventive
PHALARIS Phalaris Phalaris ARUNDINACE  phaeru  arundinacea Phragmites australis ssp. phragmites australis ssp. phragmites australis Salix Salix Salix Salix Solidago		Parthenocissus	S								
phaaruarundinacea Phragmites australis ssp. phrausmAReed Canary Grass0 FACWFACW-1 GrassPerennialAdventivephrausmamericanusPhragmites australis ssp. SALIXCommon Reed1 FACWFACW-1 GrassPerennialNativesalfraSalix fragilisFRAGILIS SolidagoCrack Willow0 UPLUPL2 TreePerennialAdventivesolaltSolidago altissima Solidago gigantea SymphyotrichumAltissima SolidagoTall Goldenrod White Oldfield4 FACWFACW1 ForbPerennialNativesolgigSolidago gigantea SymphyotrichumAster pilosus TyphaAmerican-Aster Narrow-Leaf Cat- Typha0 FACUFACU1 ForbPerennialNativetypangTypha angustifolia ulmus rubraTall Ulmus rubra0 OBL Ulmus rubraOBL FAC-2 Forb O TreePerennial PerennialAdventive	parqui	quinquefolia		Virginia-Creeper		2 FACU	FACU		1 Vine	Perennial	Native
Phragmites australis ssp. Phragmites australis ssp. phrausm americanus australis SALIX  Salfra Salix fragilis FRAGILIS Solidago gigantea Symphyotrichum Aster pilosum Aster pilosus Typha Narrow-Leaf Cat- Typha Angustifolia Angustifolia Angustifolia Adventive Ulmus rubra Slippery Elm At FACC FACC FACC O Tree Perennial Native Perennial Adventive Perennial Native Narrow-Leaf Cat- Racius Native Perennial Native Perennial Native Native Perennial Native		Phalaris	ARUNDINACE								
phrausm americanus australis SALIX  salfra Salix fragilis FRAGILIS Crack Willow 0 UPL UPL 2 Tree Perennial Adventive Solidago solalt Solidago altissima altissima altissima Solidago solgig Solidago gigantea Symphyotrichum Aster pilosus American-Aster Typha angustifolia angustifolia angustifolia ulmrub Ulmus rubra Slippery Elm 1 FACU FACU 1 FACU	phaaru	Phragmites		Reed Canary Grass		0 FACW	FACW	-	1 Grass	Perennial	Adventive
Salfra Salix fragilis FRAGILIS Crack Willow 0 UPL UPL 2 Tree Perennial Adventive Solidago 1 Solidag		australis ssp.									
Solidago altissima Solidago Solidago altissima Solidago Solidago gigantea Solidago Solidago gigantea Solidago Solidago gigantea Symphyotrichum Solidago Solidago gigantea Symphyotrichum Solidago Solidago gigantea Solidago gigantea Symphyotrichum Solidago Solidago gigantea Solidago gigantea Symphyotrichum Solidago Solidago 1 FACU SOLIDAGO SOLIDA	phrausm	americanus		Common Reed		1 FACW	FACW	-	1 Grass	Perennial	Native
Soldago altissima Soldago Soldago gigantea Symphyotrichum  astpil pilosum Typha angustifolia ulmrub  Typha Qumrub  Altissima Soldenrod 1 FACU FACU 1 FACU 1 Forb Perennial Native FACW FACW -1 Forb Perennial Native FACU FACU FACU 1 FORD Perennial Native FACU FACU FACU 1 FORD Perennial Native FACU FACU 1 FORD Perennial Native FACU FACU 7 FACU 1 FORD Perennial Native FACU FACU 7 FA	salfra	Salix fragilis		Crack Willow		0 UPL	UPL		2 Tree	Perennial	Adventive
Solgig Solidago gigantea Symphyotrichum Symphyotrichum Aster pilosum American-Aster O FACU FACU FACU 1 Forb Perennial Native  Typha Narrow-Leaf Cat-  typang Typha angustifolia angustifolia ulmrub Ulmus rubra Slippery Elm 4 FAC FAC FAC 0 Tree Perennial Native	solalt	Solidago altissima		Tall Goldenrod		1 FACU	FACU		1 Forb	Perennial	Native
astpil pilosum Aster pilosus American-Aster 0 FACU FACU 1 Forb Perennial Native  Typha Narrow-Leaf Cat-  typang Typha angustifolia ulmrub Ulmus rubra Ulmus rubra Slippery Elm 4 FAC FAC 0 Tree Perennial Native	solgig					4 FACW	FACW	-	1 Forb	Perennial	Native
typang Typha angustifolia angustifolia angustifolia Ulmus rubra Ulmus rubra Ulmus rubra Ulmus rubra OBL 4 FAC TAC TO Tree Perennial Native	astpil			American-Aster		0 FACU	FACU		1 Forb	Perennial	Native
ulmrub Ulmus rubra Ulmus rubra Slippery Elm 4 FAC FAC 0 Tree Perennial Native	typang	Typha angustifolia				0 OBL	OBL	-	2 Forb	Perennial	Adventive
The state of the s											

SITE: NICTD
LOCALE: Wetland 5
BY: Anna Hochhalter
NOTES:

CONSERVATISM-

BASED METRICS			ADDITIONAL METRICS
MEAN C	0.00	SPECIES RICHNESS	
(NATIVE SPECIES)	2.22	(ALL)	21
MFAN C		SPECIES RICHNESS	
(ALL SPECIES)	1.90	(NATIVE)	18
MEAN C	,6	()	.0
(NATIVE TREES)	1.00	% NON-NATIVE	0.14
MEAN C		WET INDICATOR	
(NATIVE SHRUBS)	5.00	(ALL)	-0.71
MEAN C			
(NATIVE		WET INDICATOR	
HERBACEOUS)	2.31	(NATIVE)	-0.78
FQAI		% HYDROPHYTE	
(NATIVE SPECIES)	9.43	(MIDWEST)	0.90
FQAI		% NATIVE	
(ALL SPECIES)	8.73	PERENNIAL	0.67
ADJUSTED FQAI	20.57	% NATIVE ANNUAL	0.19
% C VALUE 0	0.43	% ANNUAL	0.24
% C VALUE 1-3	0.24	% PERENNIAL	0.76
% C VALUE 4-6	0.33		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer negundo	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
aceneg	Acer negundo	var. violaceum	Ash-Leaf Maple		0 FAC	FAC	0 Tree	Perennial	Native
bidcer	Bidens cernua	Bidens cernua Cyperus	Nodding Burr- Marigold		5 OBL	OBL	-2 Forb	Annual	Native
cypesc	Cyperus esculentus Desmanthus		Chufa Prairie Bundle-		0 FACW	FACW	-1 Sedge	Perennial	Native
desili	illinoensis Echinochloa crus-	illinoensis Echinochloa	Flower Large Barnyard		3 FACU	FACU	1 Forb	Perennial	Native
echcru	galli	crusgalli Elymus	Grass		0 FACW	FAC	-1 Grass	Annual	Native
elyvir	Elymus virginicus Eupatorium	virginicus Eupatorium	Virginia Wild Rye Late-Flowering		4 FACW	FACW	-1 Grass	Perennial	Native
eupser	serotinum	serotinum Solidago graminifolia; Solidago	Thoroughwort		0 FAC	FAC	0 Forb	Perennial	Native
solgra	Euthamia graminifolia	graminifolia nuttallii Fraxinus pennsylvanic a	Flat-Top Goldentop		4 FACW	FAC	-1 Forb	Perennial	Native
	Fraxinus	subintegerrim							
frapen	pennsylvanica Glechoma	a GLECHOMA	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
glehed	hederacea	HEDERACEA Juncus	Groundivy		0 FACU	FACU	1 Forb	Perennial	Adventive
jundud	Juncus dudleyi	dudleyi Juncus	Dudley's Rush		4 FACW	FACW	-1 Forb	Perennial	Native
juntor	Juncus torreyi	torreyi LYTHRUM	Torrey's Rush		4 FACW	FACW	-1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA Polygonum lapathifolium	Purple Loosestrife		0 OBL	OBL	-2 Forb	Perennial	Adventive
pollap	Persicaria lapathifolia Phragmites	POLYGONUM SCABRUM	Dock-Leaf Smartweed		0 FACW	FACW	-1 Forb	Annual	Native
PHRAUSM	australis ssp. americanus	Phragmites australis Plantago	Common Reed		1 FACW	FACW	-1 Grass	Perennial	Native
plarug	Plantago rugelii	rugelii Populus	Black-Seed Plantain		0 FAC	FAC	0 Forb	Annual	Native
popdel	Populus deltoides	deltoides	Eastern Cottonwood	I	2 FAC	FAC	0 Tree	Perennial	Native

saleri	Salix eriocephala	Salix eriocephala	Missouri Willow	5 FACW	FACW	-1 Shrub	Perennial	Native
		Scirpus						
	Schoenoplectus	validus	Soft-Stem Club-					
scival	tabernaemontani	creber	Rush	5 OBL	OBL	-2 Sedge	Perennial	Native
		SETARIA				_		
setgla	Setaria pumila	GLAUCA	Yellow Bristle Grass	0 FAC	FAC	0 Grass	Annual	Adventive
vitrip	Vitis riparia	Vitis riparia	River-Bank Grape	2 FACW	FAC	-1 Vine	Perennial	Native

SITE: NICTD LOCALE: Wetland 6 Anna Hochhalter BY:

NOTES:

CONSERVATISM-BASED ADDITIONAL METRICS METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.29 21 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) 1.86 (NATIVE) 17 MEAN C (NATIVE TREES) 1.33 % NON-NATIVE 0.19 MEAN C WET INDICATOR (NATIVE SHRUBS) 7.00 (ALL) -0.90 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 2.40 (NATIVE) -0.94 % HYDROPHYTE (MIDWEST) (NATIVE SPECIES) 9.46 0.95 FQAI % NATIVE (ALL SPECIES) 8.51 PERENNIAL 0.62 ADJUSTED FQAI 20.64 % NATIVE ANNUAL 0.19 % C VALUE 0 0.38 % ANNUAL 0.19 % C VALUE 1-3 0.48 % PERENNIAL 0.81 % C VALUE 4-6 0.10 % C VALUE 7-10 0.05

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer negundo	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
aceneg	Acer negundo	var. violaceum Acer	Ash-Leaf Maple		0 FAC	FAC	0 Tree	Perennial	Native
acesai	Acer saccharinum	saccharinum AILANTHUS	Silver Maple		0 FACW	FACW	-1 Tree	Perennial	Native
ailalt	Ailanthus altissima	ALTISSIMA Bidens	Tree-of-Heaven Nodding Burr-		0 FACU	UPL	1 Tree	Perennial	Adventive
bidcer	Bidens cernua	cernua Crataegus	Marigold		5 OBL	OBL	-2 Forb	Annual	Native
cramol	Crataegus mollis Epilobium	mollis Epilobium	Downy Hawthorn Purple-Leaf		2 FAC	FAC	0 Tree	Perennial	Native
epicol	coloratum Eupatorium	coloratum Eupatorium	Willowherb Late-Flowering		3 OBL	OBL	-2 Forb	Perennial	Native
eupser	serotinum	serotinum Fraxinus pennsylvanic a	Thoroughwort		O FAC	FAC	0 Forb	Perennial	Native
	Fraxinus	subintegerrim							
frapen	pennsylvanica	a Geum	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
	Geum laciniatum	laciniatum							
geulact	var. trichocarpum	trichocarpum Impatiens	Rough Avens Spotted Touch-Me-		2 FACW	FACW	-1 Forb	Perennial	Native
impcap	Impatiens capensis	capensis LYTHRUM	Not		3 FACW	FACW	-1 Forb	Annual	Native
lytsal	Lythrum salicaria Persicaria	SALICARIA Polygonum	Purple Loosestrife		0 OBL	OBL	-2 Forb	Perennial	Adventive
polhyd	hydropiper	hydropiper Polygonum lapathifolium	Mild Water-Pepper		2 OBL	OBL	-2 Forb	Annual	Native
pollap	Persicaria lapathifolia Phragmites	POLYGONUM SCABRUM	Dock-Leaf Smartweed		0 FACW	FACW	-1 Forb	Annual	Native
PHRAUSM	australis ssp. americanus	Phragmites australis Populus	Common Reed		1 FACW	FACW	-1 Grass	Perennial	Native
popdel	Populus deltoides	deltoides RHAMNUS	Eastern Cottonwood		2 FAC	FAC	0 Tree	Perennial	Native
rhacat	Rhamnus cathartica		European Buckthorn	ı	O FAC	FAC	0 Shrub	Perennial	Adventive
ribame	Ribes americanum Scutellaria	americanum Scutellaria	Wild Black Currant		7 FACW	FACW	-1 Shrub	Perennial	Native
sculat	lateriflora	lateriflora	Mad Dog Skullcap		5 OBL	OBL	-2 Forb	Perennial	Native

	Symphyotrichum		White Panicled					
astsim	lanceolatum	Aster simplex	American-Aster	3 FAC	FACW	0 Forb	Perennial	Native
		Typha	Narrow-Leaf Cat-					
typang	Typha angustifolia	angustifolia	Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
		Ulmus						
ulmame	Ulmus americana	americana	American Elm	3 FACW	FACW	-1 Tree	Perennial	Native

SITE: LOCALE: BY: NOTES: NICTD Wetland 7 Anna Hochhalter

CONSERVATISM- BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	2.26	SPECIES RICHNESS (ALL)	22
MEAN C (ALL SPECIES) MEAN C	1.95	SPECIES RICHNESS (NATIVE)	19
(NATIVE TREES)	1.00	% NON-NATIVE	0.14
MEAN C		WET INDICATOR	
(NATIVE SHRUBS)	1.00	(ALL)	-0.73
MEAN C			
(NATIVE		WET INDICATOR	
HERBACEOUS)	2.71	(NATIVE)	-0.63
FQAI		% HYDROPHYTE	
(NATIVE SPECIES)	9.86	(MIDWEST)	0.91
FQAI		% NATIVE	
(ALL SPECIES)	9.17	PERENNIAL	0.73
ADJUSTED FOAI	21.03	% NATIVE ANNUAL	0.14
% C VALUE 0	0.32	% ANNUAL	0.14
% C VALUE 1-3	0.41	% PERENNIAL	0.86
% C VALUE 4-6	0.23		
% C VALUE 7-10	0.05		
,5 5 V/LOL / 10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
acesai	Acer saccharinum	saccharinum Alisma	Silver Maple Northern Water-		0 FACW	FACW	-	-1 Tree	Perennial	Native
alitri	Alisma triviale	triviale Bidens	Plantain Nodding Burr-		4 OBL	OBL	-	-2 Forb	Perennial	Native
bidcer	Bidens cernua	cernua Bidens	Marigold		5 OBL	OBL		-2 Forb	Annual	Native
bidfro	Bidens frondosa	frondosa Cyperus	Devil's-Pitchfork		1 FACW	FACW	-	-1 Forb	Annual	Native
cypesc	Cyperus esculentus	esculentus Equisetum	Chufa		0 FACW	FACW	-	-1 Sedge	Perennial	Native
equarv	Equisetum arvense	arvense Fraxinus pennsylvanic a	Field Horsetail		0 FAC	FAC		0 Fern	Perennial	Native
6	Fraxinus	subintegerrim			1 540)4/	FACIAL		4 T	D l . l	N1 - 41
frapen	pennsylvanica	a Geum	Green Ash		1 FACW	FACW	-	-1 Tree	Perennial	Native
geucan	Geum canadense Helianthus	canadense Helianthus	White Avens		1 FAC	FAC		0 Forb	Perennial	Native
helgig	giganteus Laportea	giganteus Laportea	Giant Sunflower Canadian Wood-		9 FACW	FACW		-1 Forb	Perennial	Native
lapcan	canadensis	canadensis LYTHRUM	Nettle		3 FACW	FACW		-1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
moralb	Morus alba	MORUS ALBA Panicum	White Mulberry		0 FAC	FACU		0 Tree	Perennial	Adventive
panvir	Panicum virgatum	virgatum Polygonum lapathifolium	Wand Panic Grass		5 FAC	FAC		0 Grass	Perennial	Native
	Persicaria	POLYGONUM	Dock-Leaf							
pollap	lapathifolia Phragmites	SCABRUM	Smartweed		0 FACW	FACW		-1 Forb	Annual	Native
	australis ssp.	Phragmites								
PHRAUSM	americanus	australis Populus	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
popdel	Populus deltoides	deltoides	Eastern Cottonwood	I	2 FAC	FAC		0 Tree	Perennial	Native
rhuhir	Rhus hirta	Rhus typhina	Staghorn Sumac		1 UPL	UPL		2 Tree	Perennial	Native
salint	Salix interior	Salix interior Solidago	Sandbar Willow		1 FACW	FACW	-	-1 Shrub	Perennial	Native
solalt	Solidago altissima	altissima Solidago	Tall Goldenrod		1 FACU	FACU		1 Forb	Perennial	Native
solgig	Solidago gigantea Symphyotrichum	gigantea Aster novae-	Late Goldenrod New England		4 FACW	FACW	-	-1 Forb	Perennial	Native
astnov	novae-angliae	angliae	American-Aster		4 FACW	FACW		-1 Forb	Perennial	Native

Typha angustifolia angustifolia Narrow-Leaf Cat-Tail

0 OBL OBL -2 Forb typang

Perennial Adventive

SITE: NICTD LOCALE: Wetland 8 Anna Hochhalter BY:

NOTES:

CONSERVATISM-ADDITIONAL METRICS BASED METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 1.95 (ALL) 26 SPECIES RICHNESS MEAN C (ALL SPECIES) 1.58 (NATIVE) 21 MEAN C (NATIVE TREES) 1.00 % NON-NATIVE 0.19 MEAN C WET INDICATOR (NATIVE SHRUBS) 1.00 (ALL) -0.58 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 2.19 (NATIVE) -0.62 % HYDROPHYTE (MIDWEST) (NATIVE SPECIES) 8.95 0.81 FQAI % NATIVE (ALL SPECIES) 8.04 PERENNIAL 0.65 ADJUSTED FQAI 17.55 % NATIVE ANNUAL 0.15 % C VALUE 0 0.38 % ANNUAL 0.23 % C VALUE 1-3 0.42 % PERENNIAL 0.77 % C VALUE 4-6 0.15 % C VALUE 7-10 0.04

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
acesai	Acer saccharinum Alisma	saccharinum Alisma	Silver Maple American Water-		0 FACW	FACW	-1 Tree	Perennial	Native
alisub	subcordatum	subcordatum Allium	Plantain		4 OBL	OBL	-2 Forb	Perennial	Native
allcer	Allium cernuum	cernuum Ambrosia	Nodding Onion		7 FACU	FACU	1 Forb	Perennial	Native
ambtri	Ambrosia trifida	trifida Bidens	Great Ragweed Nodding Burr-		0 FAC	FAC	0 Forb	Annual	Native
bidcer	Bidens cernua	cernua Bidens	Marigold		5 OBL	OBL	-2 Forb	Annual	Native
bidfro	Bidens frondosa	frondosa Carex	Devil's-Pitchfork		1 FACW	FACW	-1 Forb	Annual	Native
cxvulp	Carex vulpinoidea	vulpinoidea Cyperus	Common Fox Sedge		2 FACW	OBL	-1 Sedge	Perennial	Native
cypesc	Cyperus esculentus Eupatorium	esculentus Eupatorium	Chufa Late-Flowering		0 FACW	FACW	-1 Sedge	Perennial	Native
eupser	serotinum	serotinum Fraxinus pennsylvanic a	Thoroughwort		O FAC	FAC	0 Forb	Perennial	Native
£	Fraxinus	subintegerrim			1.54014/	E A C) A /	4 T	Danier III	NI - Ali
frapen	pennsylvanica  Geum laciniatum	a Geum Iaciniatum	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
geulact	var. trichocarpum	trichocarpum IPOMOEA	Rough Avens Ivy-Leaf Morning-		2 FACW	FACW	-1 Forb	Perennial	Native
ipohed	Ipomoea hederacea								
	ipomoca nederacea	Juncus	Glory		O FAC	FAC	0 Forb	Annual	Adventive
juntor	Juncus torreyi		Torrey's Rush		0 FAC 4 FACW	FAC FACW	0 Forb -1 Forb	Annual Perennial	Adventive Native
juntor lytsal	·	Juncus torreyi	-						
•	Juncus torreyi  Lythrum salicaria  Persicaria lapathifolia Phragmites	Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM	Torrey's Rush		4 FACW	FACW	-1 Forb	Perennial	Native
lytsal	Juncus torreyi Lythrum salicaria Persicaria lapathifolia Phragmites australis ssp. americanus	Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM Phragmites australis	Torrey's Rush Purple Loosestrife Dock-Leaf		4 FACW 0 OBL	FACW OBL	-1 Forb -2 Forb	Perennial Perennial	Native Adventive
lytsal pollap PHRAUSM	Juncus torreyi  Lythrum salicaria  Persicaria lapathifolia Phragmites australis ssp.	Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM Phragmites	Torrey's Rush Purple Loosestrife  Dock-Leaf Smartweed		4 FACW 0 OBL 0 FACW	FACW OBL	-1 Forb -2 Forb	Perennial Perennial Annual	Native  Adventive  Native
lytsal	Juncus torreyi Lythrum salicaria  Persicaria lapathifolia Phragmites australis ssp. americanus Phytolacca	Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium; POLYGONUM SCABRUM Phragmites australis Phytolacca	Torrey's Rush Purple Loosestrife  Dock-Leaf Smartweed  Common Reed		4 FACW 0 OBL 0 FACW 1 FACW	FACW FACW	-1 Forb -2 Forb -1 Forb	Perennial Perennial Annual Perennial	Native  Adventive  Native

robpse salint	Robinia pseudoacacia Salix interior	ROBINIA PSEUDOACAC IA Salix interior Solidago	Black Locust Sandbar Willow	O FACU 1 FACW	FACU FACW	1 Tree -1 Shrub	Perennial Perennial	Adventive Native
solalt	Solidago altissima Symphyotrichum	altissima	Tall Goldenrod White Panicled	1 FACU	FACU	1 Forb	Perennial	Native
astsim	lanceolatum	Aster simplex Typha	American-Aster Narrow-Leaf Cat-	3 FAC	FACW	0 Forb	Perennial	Native
typang	Typha angustifolia	angustifolia Verbena	Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
verhas vitrip	Verbena hastata Vitis riparia	hastata Vitis riparia	Simpler's-Joy River-Bank Grape	4 FACW 2 FACW	FACW FAC	-1 Forb -1 Vine	Perennial Perennial	Native Native

SITE: LOCALE: BY: NOTES: NICTD Wetland 9 Anna Hochhalter

CONSERVATISM- BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	2.82	SPECIES RICHNESS (ALL)	24
MEAN C (ALL SPECIES) MEAN C	2.00	SPECIES RICHNESS (NATIVE)	17
(NATIVE TREES)	0.00	% NON-NATIVE	0.29
MEAN C (NATIVE SHRUBS) MEAN C	5.00	WET INDICATOR (ALL)	-0.63
(NATIVE HERBACEOUS)	2.64	WET INDICATOR (NATIVE)	-1.00
,	2.04	, ,	1.00
FQAI (NATIVE SPECIES) FQAI	11.64	% HYDROPHYTE (MIDWEST) % NATIVE	0.79
(ALL SPECIES)	9.80	PERENNIAL	0.67
ADJUSTED FQAI	23.76	% NATIVE ANNUAL	0.04
% C VALUE 0	0.42	% ANNUAL	0.04
% C VALUE 1-3	0.29	% PERENNIAL	0.92
% C VALUE 4-6	0.21		
% C VALUE 7-10	0.08		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)		DURATION	NATIVITY
acesai	Acer saccharinum	saccharinum ARCTIUM	Silver Maple		0 FACW	FACW		-1 Tree	Perennial	Native
arclap	Arctium lappa	LAPPA	Great Burdock		0 UPL	UPL		2 Forb	Biennial	Adventive
cxstri	Carex stricta	Carex stricta CATALPA	Uptight Sedge		5 OBL	OBL		-2 Sedge	Perennial	Native
catspe	Catalpa speciosa Epilobium	SPECIOSA Epilobium	Northern Catalpa Purple-Leaf		0 FACU	FACU		1 Tree	Perennial	Adventive
epicol	coloratum Eupatorium	coloratum Eupatorium	Willowherb Late-Flowering		3 OBL	OBL		-2 Forb	Perennial	Native
eupser	serotinum	serotinum RHAMNUS	Thoroughwort Glossy False		0 FAC	FAC		0 Forb	Perennial	Native
rhafra	Frangula alnus	FRANGULA Geum	Buckthorn		0 FACW	FAC		-1 Shrub	Perennial	Adventive
	Geum laciniatum	laciniatum	5		0.54004	54 OM		45.		
geulact	var. trichocarpum	trichocarpum LYTHRUM			2 FACW	FACW		-1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA Polygonum coccineum; Polygonum amphibium	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
polamp	Persicaria amphibia	stipulaceum Polygonum lapathifolium	Water Smartweed		4 OBL	OBL		-2 Forb	Perennial	Native
	Persicaria	POLYGONUM			0. 540144	FACW		1 F	A 1	NI - 41
pollap	lapathifolia Phragmites australis ssp.	SCABRUM Phragmites	Smartweed		0 FACW	FACW		-1 Forb	Annual	Native
PHRAUSM	americanus	australis PYRUS	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
pyrcal	Pyrus calleryana		Ornamental Pear		0 UPL	UPL		2 Tree	Perennial	Adventive
pyrcom	Pyrus communis	COMMUNIS Ribes	Pear		O UPL	UPL		2 Tree	Perennial	Adventive
ribame	Ribes americanum	americanum Rosa	Wild Black Currant		7 FACW	FACW		-1 Shrub	Perennial	Native
rospal	Rosa palustris Sambucus nigra	palustris Sambucus	Swamp Rose		7 OBL	OBL		-2 Shrub	Perennial	Native
samcan	ssp. canadensis	canadensis Solidago	Black Elder		1 FACW	FACW		-1 Shrub	Perennial	Native
solalt	Solidago altissima	altissima Spartina	Tall Goldenrod Freshwater Cord		1 FACU	FACU		1 Forb	Perennial	Native
spapec	Spartina pectinata	pectinata	Grass		4 FACW	FACW		-1 Grass	Perennial	Native

astvim	Symphyotrichum racemosum	Aster vimineus	Fragile-Stem American-Aste	5 FACW	FACW	-1 Forb	Perennial	Native
toxrad	Toxicodendron radicans	Rhus radicans Typha	Eastern Poison-Ivy Narrow-Leaf Cat-	2 FAC	FAC	0 Vine	Perennial	Native
typang	Typha angustifolia	angustifolia Verbena	Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
verhas vitrip	Verbena hastata Vitis riparia	hastata Vitis riparia	Simpler's-Joy River-Bank Grape	4 FACW 2 FACW	FACW FAC	-1 Forb -1 Vine	Perennial Perennial	Native Native

SITE: NICTD
LOCALE: Wetland 10
BY: Anna Hochhalter
NOTES:

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CONSERVATISM- BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	1.95	SPECIES RICHNESS (ALL)	26
MEAN C (ALL SPECIES) MEAN C	1.58	SPECIES RICHNESS (NATIVE)	21
(NATIVE TREES)	1.00	% NON-NATIVE	0.19
MEAN C (NATIVE SHRUBS) MEAN C	1.00	WET INDICATOR (ALL)	-0.58
(NATIVE HERBACEOUS)	2.19	WET INDICATOR (NATIVE)	-0.62
FQAI		% HYDROPHYTE	
(NATIVE SPECIES) FOAI	8.95	(MIDWEST) % NATIVE	0.81
(ALL SPECIES)	8.04	PERENNIAL	0.65
ADJUSTED FQAI	17.55	% NATIVE ANNUAL	0.15
% C VALUE 0	0.38	% ANNUAL	0.23
% C VALUE 1-3	0.42	% PERENNIAL	0.77
% C VALUE 4-6	0.15		
% C VALUE 7-10	0.04		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
acesai	Acer saccharinum Alisma	saccharinum Alisma	Silver Maple American Water-		0 FACW	FACW	-1 Tree	Perennial	Native
alisub	subcordatum	subcordatum Allium	Plantain		4 OBL	OBL	-2 Forb	Perennial	Native
allcer	Allium cernuum	cernuum Ambrosia	Nodding Onion		7 FACU	FACU	1 Forb	Perennial	Native
ambtri	Ambrosia trifida	trifida Bidens	Great Ragweed Nodding Burr-		0 FAC	FAC	0 Forb	Annual	Native
bidcer	Bidens cernua	cernua Bidens	Marigold		5 OBL	OBL	-2 Forb	Annual	Native
bidfro	Bidens frondosa	frondosa Carex	Devil's-Pitchfork		1 FACW	FACW	-1 Forb	Annual	Native
cxvulp	Carex vulpinoidea	vulpinoidea Cyperus	Common Fox Sedge		2 FACW	OBL	-1 Sedge	Perennial	Native
cypesc	Cyperus esculentus Eupatorium	esculentus Eupatorium	Chufa Late-Flowering		0 FACW	FACW	-1 Sedge	Perennial	Native
eupser	serotinum	serotinum Fraxinus pennsylvanic a	Thoroughwort		O FAC	FAC	0 Forb	Perennial	Native
	Fraxinus	subintegerrim							
frapen	pennsylvanica	a Geum	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
·	Geum laciniatum	Geum laciniatum							
geulact	Geum laciniatum var. trichocarpum	Geum laciniatum trichocarpum IPOMOEA	Rough Avens Ivy-Leaf Morning-		2 FACW	FACW	-1 Forb	Perennial	Native
geulact ipohed	Geum laciniatum var. trichocarpum Ipomoea hederacea	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus	Rough Avens Ivy-Leaf Morning- Glory		2 FACW 0 FAC	FACW FAC	-1 Forb O Forb	Perennial Annual	Native Adventive
geulact ipohed juntor	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyi LYTHRUM	Rough Avens Ivy-Leaf Morning- Glory Torrey's Rush		2 FACW 0 FAC 4 FACW	FACW FAC	-1 Forb O Forb -1 Forb	Perennial Annual Perennial	Native Adventive Native
geulact ipohed	Geum laciniatum var. trichocarpum Ipomoea hederacea	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyi	Rough Avens Ivy-Leaf Morning- Glory		2 FACW 0 FAC	FACW FAC	-1 Forb O Forb	Perennial Annual	Native Adventive
geulact ipohed juntor lytsal	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi Lythrum salicaria	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM	Rough Avens Ivy-Leaf Morning- Glory Torrey's Rush Purple Loosestrife Dock-Leaf		2 FACW 0 FAC 4 FACW 0 OBL	FACW FAC FACW OBL	-1 Forb 0 Forb -1 Forb -2 Forb	Perennial Annual Perennial	Native Adventive Native Adventive
geulact ipohed juntor	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi Lythrum salicaria Persicaria lapathifolia Phragmites	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM	Rough Avens Ivy-Leaf Morning- Glory Torrey's Rush Purple Loosestrife		2 FACW 0 FAC 4 FACW	FACW FAC	-1 Forb O Forb -1 Forb	Perennial Annual Perennial	Native Adventive Native
geulact ipohed juntor lytsal	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi Lythrum salicaria Persicaria lapathifolia Phragmites australis ssp.	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM Phragmites	Rough Avens Ivy-Leaf Morning- Glory  Torrey's Rush  Purple Loosestrife  Dock-Leaf Smartweed		2 FACW 0 FAC 4 FACW 0 OBL	FACW FACW OBL	-1 Forb 0 Forb -1 Forb -2 Forb	Perennial Annual Perennial Perennial	Native Adventive Native Adventive
geulact ipohed juntor lytsal  pollap PHRAUSM	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi Lythrum salicaria Persicaria lapathifolia Phragmites australis ssp. americanus Phytolacca	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyl LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM Phragmites australis Phytolacca	Rough Avens Ivy-Leaf Morning- Glory Torrey's Rush Purple Loosestrife  Dock-Leaf Smartweed  Common Reed		2 FACW 0 FAC 4 FACW 0 OBL 0 FACW	FACW OBL FACW FACW	-1 Forb 0 Forb -1 Forb -2 Forb -1 Forb	Perennial Annual Perennial Annual Annual	Native Adventive Adventive Adventive Native
geulact ipohed juntor lytsal  pollap  PHRAUSM phyame	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi Lythrum salicaria Persicaria lapathifolia Phragmites australis ssp. americanus Phytolacca americana	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyi LYTHRUM SALICARIA Polygonum lapathifolium; POLYGONUM SCABRUM Phragmites australis Phytolacca americana	Rough Avens Ivy-Leaf Morning- Glory Torrey's Rush Purple Loosestrife  Dock-Leaf Smartweed  Common Reed  American Pokeweed		2 FACW 0 FAC 4 FACW 0 OBL 0 FACW 1 FACW 1 FACW	FACW FACW OBL FACW FACW FACW	-1 Forb 0 Forb -1 Forb -2 Forb -1 Forb -1 Forb -1 Forb	Perennial Annual Perennial Annual Annual Perennial Perennial	Native Adventive Native Adventive Native Native Native
geulact ipohed juntor lytsal  pollap PHRAUSM	Geum laciniatum var. trichocarpum Ipomoea hederacea Juncus torreyi Lythrum salicaria Persicaria lapathifolia Phragmites australis ssp. americanus Phytolacca	Geum laciniatum trichocarpum IPOMOEA HEDERACEA Juncus torreyl LYTHRUM SALICARIA Polygonum lapathifolium ; POLYGONUM SCABRUM Phragmites australis Phytolacca	Rough Avens Ivy-Leaf Morning- Glory Torrey's Rush Purple Loosestrife  Dock-Leaf Smartweed  Common Reed		2 FACW 0 FAC 4 FACW 0 OBL 0 FACW	FACW OBL FACW FACW	-1 Forb 0 Forb -1 Forb -2 Forb -1 Forb	Perennial Annual Perennial Annual Annual	Native Adventive Adventive Adventive Native

robpse salint	Robinia pseudoacacia Salix interior	ROBINIA PSEUDOACAC IA Salix interior Solidago	Black Locust Sandbar Willow	O FACU 1 FACW	FACU FACW	1 Tree -1 Shrub	Perennial Perennial	Adventive Native
solalt	Solidago altissima Symphyotrichum	altissima	Tall Goldenrod White Panicled	1 FACU	FACU	1 Forb	Perennial	Native
astsim	lanceolatum	Aster simplex Typha	American-Aster Narrow-Leaf Cat-	3 FAC	FACW	0 Forb	Perennial	Native
typang	Typha angustifolia	angustifolia Verbena	Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
verhas vitrip	Verbena hastata Vitis riparia	hastata Vitis riparia	Simpler's-Joy River-Bank Grape	4 FACW 2 FACW	FACW FAC	-1 Forb -1 Vine	Perennial Perennial	Native Native

SITE: NICTD Wetland 12 LOCALE: Anna Hochhalter

NOTES:

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.15 (ALL) 15 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.87 (NATIVE) 13 (NATIVE TREES) n/a % NON-NATIVE 0.13 MEAN C WET INDICATOR (NATIVE SHRUBS) 3.50 (ALL) -0.93 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 1.91 (NATIVE) -0.77 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 7.77 0.87 FQAI % NATIVE (ALL SPECIES) PERENNIAL 0.67 7.23 % NATIVE ANNUAL % ANNUAL ADJUSTED FQAI 20.05 0.20 % C VALUE 0 0.40 0.20 % C VALUE 1-3 0.27 % PERENNIAL 0.80 % C VALUE 4-6 0.33 % C VALUE 7-10 0.00

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET		DURATION	NATIVITY
bidcer	Bidens cernua	Bidens cernua Cornus	Nodding Burr- Marigold		5 OBL	OBL	-2 Forb	Annual	Native
coralb	Cornus alba	stolonifera Cyperus	Red Osier		6 FACW	FACW	-1 Shrub	Perennial	Native
cypesc	Cyperus esculentus Eupatorium	esculentus Eupatorium	Chufa Late-Flowering		0 FACW	FACW	-1 Sedge	Perennial	Native
eupser	serotinum	serotinum Geum	Thoroughwort		O FAC	FAC	0 Forb	Perennial	Native
geulact	Geum laciniatum var. trichocarpum	laciniatum trichocarpum LYTHRUM	Rough Avens		2 FACW	FACW	-1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA Polygonum lapathifolium	Purple Loosestrife		0 OBL	OBL	-2 Forb	Perennial	Adventive
pollap	Persicaria lapathifolia Phragmites	POLYGONUM SCABRUM	Dock-Leaf Smartweed		0 FACW	FACW	-1 Forb	Annual	Native
PHRAUSM salint	australis ssp. americanus Salix interior	Phragmites australis Salix interior Scirpus	Common Reed Sandbar Willow		1 FACW 1 FACW	FACW FACW	-1 Grass -1 Shrub	Perennial Perennial	Native Native
sciatv	Scirpus atrovirens Solanum	atrovirens Solanum	Dark-Green Bulrush American Black		4 OBL	OBL	-2 Sedge	Perennial	Native
solame	americanum	americanum Solidago	Nightshade		0 FACU	FACU	1 Forb	Annual	Native
solalt	Solidago altissima Symphyotrichum	altissima Aster novae-	Tall Goldenrod New England		1 FACU	FACU	1 Forb	Perennial	Native
astnov	novae-angliae	angliae Typha	American-Aster Narrow-Leaf Cat-		4 FACW	FACW	-1 Forb	Perennial	Native
typang	Typha angustifolia	angustifolia Verbena	Tail		0 OBL	OBL	-2 Forb	Perennial	Adventive
verhas	Verbena hastata	hastata	Simpler's-Joy		4 FACW	FACW	-1 Forb	Perennial	Native

SITE: NICTD
LOCALE: Wetland 15
BY: Anna Hochhalter
NOTES:

CONSERVATISM- BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	2.00	SPECIES RICHNESS (ALL)	12
MEAN C (ALL SPECIES) MEAN C	1.50	SPECIES RICHNESS (NATIVE)	9
(NATIVE TREES)	2.00	% NON-NATIVE	0.25
MEAN C (NATIVE SHRUBS) MEAN C	0.00	WET INDICATOR (ALL)	-1.08
(NATIVE HERBACEOUS)	2.00	WET INDICATOR (NATIVE)	-1.00
FQAI		% HYDROPHYTE	
(NATIVE SPECIES) FQAI	6.00	(MIDWEST) % NATIVE	1.00
(ALL SPECIES)	5.20	PERENNIAL	0.58
ADJUSTED FQAI	17.32	% NATIVE ANNUAL	0.17
% C VALUE 0	0.50	% ANNUAL	0.17
% C VALUE 1-3	0.33	% PERENNIAL	0.83
% C VALUE 4-6	0.17		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Cyperus	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
cypesc	Cyperus esculentus Echinochloa crus-	esculentus Echinochloa	Chufa Large Barnyard		0 FACW	FACW	-1 Sedge	Perennial	Native
echcru	galli	crusgalli Eleocharis erythropoda; Eleocharis palustris major; Eleocharis	Grass  Common Spike-		O FACW	FAC	-1 Grass	Annual	Native
eleery	Eleocharis palustris	smallii Helianthus	Rush		2 OBL	OBL	-2 Sedge	Perennial	Native
	Helianthus	grosseserratu	Saw-Tooth						
helgro	grosseserratus	s LYTHRUM	Sunflower		2 FACW	FACW	-1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA Polygonum lapathifolium	Purple Loosestrife		0 OBL	OBL	-2 Forb	Perennial	Adventive
	Persicaria	POLYGONUM	Dock-Leaf						
pollap	lapathifolia	SCABRUM Populus	Smartweed		0 FACW	FACW	-1 Forb	Annual	Native
popdel	Populus deltoides	deltoides RHAMNUS	Eastern Cottonwood	I	2 FAC	FAC	0 Tree	Perennial	Native
rhacat	Rhamnus cathartica		European Buckthorn	ı	0 FAC	FAC	0 Shrub	Perennial	Adventive
sciatv	Scirpus atrovirens	atrovirens Solidago	Dark-Green Bulrush Wrinkle-Leaf	ı	4 OBL	OBL	-2 Sedge	Perennial	Native
solrug	Solidago rugosa	rugosa Typha	Goldenrod Narrow-Leaf Cat-		6 FAC	FAC	0 Forb	Perennial	Native
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL	-2 Forb	Perennial	Adventive
vitrip	Vitis riparia	Vitis riparia	River-Bank Grape		2 FACW	FAC	-1 Vine	Perennial	Native

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NOTES:

CONSERVATISM-

BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	2.67	SPECIES RICHM (ALL)	NESS 5
MEAN C (ALL SPECIES) MEAN C	1.60	SPECIES RICHN (NATIVE)	NESS 3
(NATIVE TREES) MEAN C	n/a	% NON-NATIVE WET INDICATO	
(NATIVE SHRUBS) MEAN C	n/a	(ALL)	-1.80
(NATIVE		WET INDICATO	R
HERBACEOUS)	2.67	(NATIVE)	-1.67
FQAI		% HYDROPHYT	E
(NATIVE SPECIES) FQAI	4.62	(MIDWEST) % NATIVE	1.00
(ALL SPECIES)	3.58	PERENNIAL	0.40
ADJUSTED FQAI	20.66	% NATIVE ANN	UAL 0.20
% C VALUE 0	0.40	% ANNUAL	0.20
% C VALUE 1-3	0.40	% PERENNIAL	0.80
% C VALUE 4-6	0.20	1	
% C VALUE 7-10	0.00	1	

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Bidens	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
bidcer	Bidens cernua	cernua Eleocharis erythropoda; Eleocharis palustris major;	Nodding Burr- Marigold		5 OBL	OBL	-	-2 Forb	Annual	Native
		Eleocharis	Common Spike-							
eleery	Eleocharis palustris	smallii LYTHRUM	Rush		2 OBL	OBL	-	-2 Sedge	Perennial	Native
lytsal	Lythrum salicaria Phragmites	SALICARIA	Purple Loosestrife		0 OBL	OBL	-	-2 Forb	Perennial	Adventive
DUDALIONA	australis ssp.	Phragmites			4 54014	E4014/				
PHRAUSM	americanus	australis Typha	Common Reed Narrow-Leaf Cat-		1 FACW	FACW	-	·1 Grass	Perennial	Native
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL	-	2 Forb	Perennial	Adventive

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		ADDITIONAL METRICS
3.60	SPECIES RICHNESS (ALL)	13
2.77	SPECIES RICHNESS (NATIVE)	10
5.50	% NON-NATIVE	0.23
3.50	(ALL)	-0.62
3.00	WET INDICATOR	-1.00
3.00	(NATIVE)	-1.00
	% HYDROPHYTE	
11.38	(MIDWEST) % NATIVE	0.77
9.98	PERENNIAL	0.62
31.57	% NATIVE ANNUAL	0.15
0.23	% ANNUAL	0.15
0.38	% PERENNIAL	0.85
0.31		
0.08		
	2.77 5.50 3.50 3.00 11.38 9.98 31.57 0.23 0.38 0.31	SPECIES RICHNESS (NATIVE)  5.50

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Bidens	COMMON NAME Nodding Burr-	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	-	DURATION	NATIVITY
bidcer	Bidens cernua	cernua Cornus	Marigold		5 OBL	OBL	-2 Forb	Annual	Native
CORALB	Cornus alba Elaeagnus	stolonifera ELAEAGNUS	Red Osier		6 FACW	FACW	-1 Shrub	Perennial	Native
elaumb	umbellata	UMBELLATA Eleocharis erythropoda; Eleocharis palustris major;	Autumn-Olive		O UPL	UPL	2 Shrub	Perennial	Adventive
eleery	Eleocharis palustris	Eleocharis smallii Juncus	Common Spike- Rush		2 OBL	OBL	-2 Sedge	Perennial	Native
jundud	Juncus dudleyi	dudleyi Juncus	Dudley's Rush		4 FACW	FACW	-1 Forb	Perennial	Native
juntor	Juncus torreyi	torreyi LYTHRUM	Torrey's Rush		4 FACW	FACW	-1 Forb	Perennial	Native
lytsal	Lythrum salicaria Persicaria	SALICARIA Polygonum	Purple Loosestrife		0 OBL	OBL	-2 Forb	Perennial	Adventive
polhyd	hydropiper Phragmites	hydropiper	Mild Water-Pepper		2 OBL	OBL	-2 Forb	Annual	Native
	australis ssp.	Phragmites							
PHRAUSM	americanus	australis	Common Reed		1 FACW	FACW	-1 Grass	Perennial	Native
picabi	Picea abies		Norway Spruce		0 UPL	UPL	2 Tree	Perennial	Adventive
pinban	Pinus banksiana	Pinus banksiana Populus	Jack Pine		9 FACU	FACU	1 Tree	Perennial	Native
popdel	Populus deltoides	deltoides	Eastern Cottonwood	l	2 FAC	FAC	0 Tree	Perennial	Native
salint	Salix interior	Salix interior	Sandbar Willow		1 FACW	FACW	-1 Shrub	Perennial	Native

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NOTES:

% C VALUE 7-10

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.33 11 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.91 (NATIVE) 9 (NATIVE TREES) n/a % NON-NATIVE 0.18 MEAN C WET INDICATOR (NATIVE SHRUBS) 1.00 (ALL) -1.36 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 2.57 (NATIVE) -1.22 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 7.00 1.00 FQAI % NATIVE (ALL SPECIES) 0.73 6.33 PERENNIAL ADJUSTED FQAI 21.11 % NATIVE ANNUAL 0.09 % C VALUE 0 0.36 % ANNUAL 0.09 % C VALUE 1-3 0.36 % PERENNIAL 0.91 % C VALUE 4-6 0.27

0.00

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Bidens	COMMON NAME Nodding Burr-	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	e HABIT	DURATION	NATIVITY
bidcer	Bidens cernua	cernua Cyperus	Marigold		5 OBL	OBL		-2 Forb	Annual	Native
cypesc	Cyperus esculentus	esculentus Eleocharis erythropoda; Eleocharis palustris major;	Chufa		0 FACW	FACW	-	-1 Sedge	Perennial	Native
		Eleocharis	Common Spike-							
eleery	Eleocharis palustris	smallii	Rush		2 OBL	OBL		-2 Sedge	Perennial	Native
eupser	Eupatorium serotinum	Eupatorium serotinum Geum	Late-Flowering Thoroughwort		O FAC	FAC		0 Forb	Perennial	Native
	Geum laciniatum	laciniatum								
geulact	var. trichocarpum	trichocarpum LYTHRUM	Rough Avens		2 FACW	FACW	-	-1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
salint	Salix interior	Salix interior	Sandbar Willow		1 FACW	FACW		-1 Shrub	Perennial	Native
	Schoenoplectus	Scirpus								
scipun	pungens	pungens	Three-Square		5 OBL	OBL		-2 Sedge	Perennial	Native
astnov	Symphyotrichum novae-angliae	Aster novae- angliae Typha	New England American-Aster Narrow-Leaf Cat-		4 FACW	FACW		-1 Forb	Perennial	Native
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL		-2 Forb	Perennial	Adventive
vitrip	Vitis riparia	Vitis riparia	River-Bank Grape		2 FACW	FAC		-1 Vine	Perennial	Native

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NOTES:

% C VALUE 7-10

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 9 3.86 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 3.00 (NATIVE) 7 (NATIVE TREES) n/a % NON-NATIVE 0.22 MEAN C WET INDICATOR (NATIVE SHRUBS) 3.50 (ALL) -1.44 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 4.00 (NATIVE) -1.43 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 10.21 1.00 FQAI % NATIVE (ALL SPECIES) 9.00 PERENNIAL 0.67 ADJUSTED FQAI 34.02 % NATIVE ANNUAL 0.11 % C VALUE 0 0.22 % ANNUAL 0.11 % C VALUE 1-3 0.22 % PERENNIAL 0.89 % C VALUE 4-6 0.56

0.00

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Bidens	COMMON NAME Nodding Burr-	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	-	DURATION	NATIVITY
bidcer	Bidens cernua	cernua Cornus	Marigold		5 OBL	OBL		-2 Forb	Annual	Native
CORALB	Cornus alba	stolonifera Eleocharis erythropoda; Eleocharis palustris major;	Red Osier		6 FACW	FACW		-1 Shrub	Perennial	Native
eleery	Eleocharis palustris	Eleocharis smallii Juncus	Common Spike- Rush		2 OBL	OBL		-2 Sedge	Perennial	Native
jundud	Juncus dudleyi Lysimachia	dudleyi LYSIMACHIA	Dudley's Rush		4 FACW	FACW		-1 Forb	Perennial	Native
lysnum	nummularia	NUMMULARIA LYTHRUM	Creeping-Jenny		0 FACW	FACW		-1 Forb	Perennial	Adventive
lytsal salint	Lythrum salicaria Salix interior Schoenoplectus	SALICARIA Salix interior Scirpus	Purple Loosestrife Sandbar Willow		0 OBL 1 FACW	OBL FACW		-2 Forb -1 Shrub	Perennial Perennial	Adventive Native
scipun	pungens Symphyotrichum	pungens Aster novae-	Three-Square New England		5 OBL	OBL		-2 Sedge	Perennial	Native
astnov	novae-angliae	angliae	American-Aster		4 FACW	FACW		-1 Forb	Perennial	Native

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CONSERVATISM- BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	3.93	SPECIES RICHNESS (ALL)	55
MEAN C (ALL SPECIES) MEAN C	3.15	SPECIES RICHNESS (NATIVE)	44
(NATIVE TREES)	2.43	% NON-NATIVE	0.20
MEAN C		WET INDICATOR	
(NATIVE SHRUBS) MEAN C	3.00	(ALL)	-0.60
(NATIVE		WET INDICATOR	
HERBACEOUS)	4.39	(NATIVE)	-0.73
FQAI		% HYDROPHYTE	
(NATIVE SPECIES)	26.08	(MIDWEST)	0.78
FQAI		% NATIVE	
(ALL SPECIES)	23.33	PERENNIAL	0.71
ADJUSTED FQAI	35.17	% NATIVE ANNUAL	0.09
% C VALUE 0	0.24	% ANNUAL	0.09
% C VALUE 1-3	0.31	% PERENNIAL	0.91
% C VALUE 4-6	0.36		
% C VALUE 7-10	0.09		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) AGROSTIS	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
agralb	Agrostis gigantea Alisma	ALBA Alisma	Black Bent American Water-		0 FACW	FACW	-1 Grass	Perennial	Adventive
alisub	subcordatum	subcordatum Allium			4 OBL	OBL	-2 Forb	Perennial	Native
allcer	Allium cernuum Andropogon	cernuum Andropogon	Nodding Onion		7 FACU	FACU	1 Forb	Perennial	Native
andger	gerardii Asparagus	gerardii ASPARAGUS	Big Bluestem		5 FAC	FACU	0 Grass	Perennial	Native
aspoff	officinalis	OFFICINALIS Bidens	Asparagus Nodding Burr-		0 FACU	FACU	1 Forb	Perennial	Adventive
bidcer	Bidens cernua Bidens	cernua Bidens	Marigold Crowned		5 OBL	OBL	-2 Forb	Annual	Native
bidcor	trichosperma	coronata Carex	Beggarticks		9 OBL	OBL	-2 Forb	Annual	Native
cxproj cxstri	Carex projecta Carex stricta	projecta Carex stricta Circaea	Necklace Sedge Uptight Sedge Small Enchanter's-		4 FACW 5 OBL	FACW OBL	-1 Sedge -2 Sedge	Perennial Perennial	Native Native
ciralp	Circaea alpina	alpina Cornus	Nightshade		10 FACW	FACW	-1 Forb	Perennial	Native
coralb	Cornus alba	stolonifera Crataegus	Red Osier		6 FACW	FACW	-1 Shrub	Perennial	Native
cramol	Crataegus mollis	mollis Cyperus flavescens	Downy Hawthorn		2 FAC	FAC	0 Tree	Perennial	Native
cypfla	Cyperus flavescens	poaeformis ELAEAGNUS	Yellow Flat Sedge		9 OBL	OBL	-2 Sedge	Annual	Native
elaang	Elaeagnus angustifolia	ANGUSTIFOLI A Equisetum	Russian-Olive		0 FACU	FACU	1 Shrub	Perennial	Adventive
equarv	Equisetum arvense	arvense Equisetum	Field Horsetail		O FAC	FAC	0 Fern	Perennial	Native
equhye	Equisetum hyemale Eupatorium	•	Tall Scouring-Rush		3 FACW	FAC	-1 Fern	Perennial	Native
eupper	perfoliatum Eupatorium	perfoliatum Eupatorium	Common Boneset Late-Flowering		4 OBL	FACW	-2 Forb	Perennial	Native
eupser	serotinum	serotinum RHAMNUS	Thoroughwort Glossy False		0 FAC	FAC	0 Forb	Perennial	Native
rhafra	Frangula alnus Fraxinus	FRANGULA Fraxinus pennsylvanic a subintegerrim	Buckthorn		O FACW	FAC	-1 Shrub	Perennial	Adventive
frapen	pennsylvanica	a Geum	Green Ash		1 FACW	FACW	-1 Tree	Perennial	Native
geulac	Geum laciniatum	laciniatum	Rough Avens		2 FACW	FACW	-1 Forb	Perennial	Native

holtub	Helianthus	Helianthus	Jerusalem-	2 EACH	FACIL	1 Forb	Doronnial	Nativo
heltub	tuberosus	tuberosus Impatiens	Artichoke Spotted Touch-Me-	3 FACU	FACU	1 Forb	Perennial	Native
impcap	Impatiens capensis Iris virginica var.	capensis Iris virginica	Not	3 FACW	FACW	-1 Forb	Annual	Native
irivir	shrevei	shrevei Juncus	Virginia Blueflag	5 OBL	OBL	-2 Forb	Perennial	Native
jundud	Juncus dudleyi	dudleyi Juncus	Dudley's Rush	4 FACW	FACW	-1 Forb	Perennial	Native
juntor	Juncus torreyi Laportea	torreyi Laportea	Torrey's Rush Canadian Wood-	4 FACW	FACW	-1 Forb	Perennial	Native
lapcan	canadensis	canadensis Lobelia	Nettle	3 FACW	FACW	-1 Forb	Perennial	Native
lobsip	Lobelia siphilitica	siphilitica LONICERA	Great Blue Lobelia	6 OBL	FACW	-2 Forb	Perennial	Native
Ionmaa	Lonicera maackii	MAACKII	Amur Honeysuckle Cut-Leaf Water-	0 UPL	UPL	2 Shrub	Perennial	Adventive
lycame	Lycopus americanus		Horehound	5 OBL	OBL	-2 Forb	Perennial	Native
lytsal	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife	0 OBL	OBL	-2 Forb	Perennial	Adventive
moralb	Morus alba		White Mulberry	0 FAC	FACU	0 Tree	Perennial	Adventive
	Penstemon	TUBAEFLORU						
pentub	tubaeflorus	S Penthorum	Beardstongue	0 UPL	UPL	2 Forb	Perennial	Adventive
pensed	Penthorum sedoides	s sedoides PHALARIS	Ditch-Stonecrop	5 OBL	OBL	-2 Forb	Perennial	Native
	Phalaris	ARUNDINACE						
phaaru	arundinacea Phragmites	A	Reed Canary Grass	0 FACW	FACW	-1 Grass	Perennial	Adventive
phrausm	australis ssp. americanus	Phragmites australis	Common Reed	1 FACW	FACW	-1 Grass	Perennial	Native
popdel	Populus deltoides	Populus deltoides	Eastern Cottonwood	2 FAC	FAC	0 Tree	Perennial	Native
pruser	Prunus serotina	Prunus serotina	Black Cherry	1 FACU	FACU	1 Tree	Perennial	Native
quemac	Quercus macrocarpa	Quercus macrocarpa RHAMNUS	Burr Oak	5 FAC	FACU	0 Tree	Perennial	Native
rhacat	Rhamnus cathartica		European Buckthorn	0 FAC	FAC	0 Shrub	Perennial	Adventive
rhuhir	Rhus hirta		Staghorn Sumac	1 UPL	UPL	2 Tree	Perennial	Native
rubocc	Rubus occidentalis	occidentalis Rudbeckia	Black Raspberry	2 UPL	UPL	2 Shrub	Perennial	Native
rudtri	Rudbeckia triloba	triloba Sagittaria	Brown-Eyed-Susan	3 FACU	FACU	1 Forb	Annual	Native
saglat	Sagittaria latifolia	latifolia Sagittaria	Duck-Potato Sessile-Fruit	4 OBL	OBL	-2 Forb	Perennial	Native
sagrig	Sagittaria rigida	rigida	Arrowhead	10 OBL	OBL	-2 Forb	Perennial	Native
salint	Salix interior Schoenoplectus	Salix interior Scirpus	Sandbar Willow	1 FACW	FACW	-1 Shrub	Perennial	Native
scipun	pungens	pungens Silphium	Three-Square	5 OBL	OBL	-2 Sedge	Perennial	Native
	Silphium	integrifolium	Entire-Leaf					
silint	integrifolium	deamii Solidago	Rosinweed	5 UPL	FAC	2 Forb	Perennial	Native
solgig	Solidago gigantea Symphyotrichum	gigantea	Late Goldenrod White Panicled	4 FACW	FACW	-1 Forb	Perennial	Native
astsim	lanceolatum Symphyotrichum	Aster simplex Aster novae-	American-Aster New England	3 FAC	FACW	0 Forb	Perennial	Native
astnov	novae-angliae	angliae Tilia	American-Aster	4 FACW	FACW	-1 Forb	Perennial	Native
tilame	Tilia americana	americana Typha	American Basswood Narrow-Leaf Cat-	5 FACU	FACU	1 Tree	Perennial	Native
typang	Typha angustifolia	angustifolia Typha	Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
typlat	Typha latifolia	latifolia	Broad-Leaf Cat-Tail	1 OBL	OBL	-2 Forb	Perennial	Native
vitrip	Vitis riparia	Vitis riparia	River-Bank Grape	2 FACW	FAC	-1 Vine	Perennial	Native

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NOTES:

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 3.56 (ALL) 23 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 2.78 (NATIVE) 18 (NATIVE TREES) 4.50 % NON-NATIVE 0.22 MEAN C WET INDICATOR (NATIVE SHRUBS) 2.00 (ALL) -0.43 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 3.50 (NATIVE) -0.33 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 15.08 0.83 FQAI % NATIVE (ALL SPECIES) 0.74 13.34 PERENNIAL ADJUSTED FQAI 31.45 % NATIVE ANNUAL 0.04 % C VALUE 0 0.30 % ANNUAL 0.04 % C VALUE 1-3 0.26 % PERENNIAL 0.96 % C VALUE 4-6 0.35 % C VALUE 7-10 0.09

SPECIES	SPECIES NAME (NWPL/	SPECIES	COMMON		MIDWEST WET	NC NE WET	WET INDICATOR	•		
ACRONYM	MOHLENBROCK)	(SYNONYM) AILANTHUS	NAME	C VALUE	INDICATOR				DURATION	NATIVITY
ailalt	Ailanthus altissima	ALTISSIMA Bidens	Tree-of-Heaven Nodding Burr-		0 FACU	UPL		1 Tree	Perennial	Adventive
bidcer	Bidens cernua	cernua Equisetum	Marigold		5 OBL	OBL		-2 Forb	Annual	Native
equarv	Equisetum arvense Eupatorium	arvense Eupatorium	Field Horsetail Late-Flowering		0 FAC	FAC		0 Fern	Perennial	Native
eupser	serotinum	serotinum Geum	Thoroughwort		0 FAC	FAC		0 Forb	Perennial	Native
geulac	Geum laciniatum	laciniatum Helianthus	Rough Avens		2 FACW	FACW		-1 Forb	Perennial	Native
	Helianthus	grosseserratu	Saw-Tooth							
helgro	grosseserratus Iris virginica var.	s Iris virginica	Sunflower		2 FACW	FACW		-1 Forb	Perennial	Native
irivir	shrevei	shrevei Juncus	Virginia Blueflag		5 OBL	OBL		-2 Forb	Perennial	Native
jundud	Juncus dudleyi	dudleyi Juncus	Dudley's Rush		4 FACW	FACW		-1 Forb	Perennial	Native
juntor	Juncus torreyi	torreyi LYTHRUM	Torrey's Rush		4 FACW	FACW		-1 Forb	Perennial	Native
LYTSAL	Lythrum salicaria	SALICARIA Onoclea	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
onosen	Onoclea sensibilis	sensibilis PHALARIS	Sensitive Fern		8 FACW	FACW		-1 Fern	Perennial	Native
	Phalaris	ARUNDINACE								
phaaru	arundinacea Phragmites	Α	Reed Canary Grass		0 FACW	FACW		-1 Grass	Perennial	Adventive
	australis ssp.	Phragmites								
PHRAUSM	americanus	australis Populus	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
popdel	Populus deltoides	deltoides Populus	Eastern Cottonwood	l	2 FAC	FAC		0 Tree	Perennial	Native
poptre	Populus tremuloides Quercus	tremuloides Quercus	Quaking Aspen		4 FAC	FAC		0 Tree	Perennial	Native
quemac	macrocarpa	macrocarpa Quercus	Burr Oak		5 FAC	FACU		0 Tree	Perennial	Native
querub	Quercus rubra	rubra Rubus	Northern Red Oak		7 FACU	FACU		1 Tree	Perennial	Native
rubocc	Rubus occidentalis	occidentalis SALIX	Black Raspberry		2 UPL	UPL		2 Shrub	Perennial	Native
salbab	Salix babylonica	Silphium	Chinese Willow		0 FAC	FACW		0 Tree	Perennial	Adventive
	Silphium	integrifolium	Entire-Leaf							
silint	integrifolium	deamii Solidago	Rosinweed Wrinkle-Leaf		5 UPL	FAC		2 Forb	Perennial	Native
solrug	Solidago rugosa	rugosa	Goldenrod		6 FAC	FAC		0 Forb	Perennial	Native

Typha Narrow-Leaf Cattypang Typha angustifolia angustifolia angustifolia Vitis riparia Vitis riparia River-Bank Grape 2 FACW FAC -1 Vine Perennial Native

SITE: LOCALE: BY: NOTES: NICTD Wetland 28 Anna Hochhalter

CONSERVATISM- BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	3.83	SPECIES RICHNESS (ALL)	35
MEAN C (ALL SPECIES) MEAN C	3.29	SPECIES RICHNESS (NATIVE)	30
(NATIVE TREES)	2.67	% NON-NATIVE	0.14
MEAN C		WET INDICATOR	
(NATIVE SHRUBS)	3.33	(ALL)	-0.83
MEAN C		WET INDICATOR	
(NATIVE	4.13		-0.93
HERBACEOUS)	4.13	(NATIVE)	-0.93
FQAI		% HYDROPHYTE	
(NATIVE SPECIES)	21.00	(MIDWEST)	0.86
FQAI		% NATIVE	
(ALL SPECIES)	19.44	PERENNIAL	0.71
ADJUSTED FQAI	35.49	% NATIVE ANNUAL	0.14
% C VALUE 0	0.20	% ANNUAL	0.14
% C VALUE 1-3	0.31	% PERENNIAL	0.86
% C VALUE 4-6	0.34		
% C VALUE 7-10	0.14		

	SPECIES NAME				MIDWEST		WET			
SPECIES	(NWPL/	SPECIES	COMMON		WET	NC-NE WET				
ACRONYM	MOHLENBROCK)	(SYNONYM)	NAME	C VALUE	INDICATOR	INDICATOR	(NUMERIC)	HABIT	DURATION	NATIVITY
	Alisma	Alisma	American Water-		4.000	0.01		0.5.1		
alisub	subcordatum	subcordatum Allium	Plantain		4 OBL	OBL		-2 Forb	Perennial	Native
allcer	Allium cernuum	cernuum	Nodding Onion		7 FACU	FACU		1 Forb	Perennial	Native
	Andropogon	Andropogon								
andger	gerardii	gerardii	Big Bluestem		5 FAC	FACU		0 Grass	Perennial	Native
	Anemone	Anemone	Round-Leaf							
anecan	canadensis	canadensis	Thimbleweed		4 FACW	FACW		-1 Forb	Perennial	Native
		Bidens	Nodding Burr-							
bidcer	Bidens cernua	cernua	Marigold		5 OBL	OBL		-2 Forb	Annual	Native
	Bidens	Bidens	Crowned		0.001	0.01		0.5.1		
bidcor	trichosperma	coronata	Beggarticks		9 OBL	OBL		-2 Forb	Annual	Native
cxstri	Carex stricta	Carex stricta	Uptight Sedge		5 OBL	OBL		-2 Sedge	Perennial	Native
atura tur	Olassas aladas	Circaea	Small Enchanter's-		10 54014	EACIA!		4 5	D	NI-Ali
ciralp	Circaea alpina	alpina	Nightshade Red-Root Flat		10 FACW	FACW		-1 Forb	Perennial	Native
0.0000	Cyperus	Cyperus			2 OBL	OBL		2 Codeo	Annual	Native
cypery	erythrorhizos	erythrorhizos Elymus	Sedge		2 UBL	OBL		-2 Sedge	Annuai	ivative
elyvir	Elymus virginicus	virginicus	Virginia Wild Rye		4 FACW	FACW		-1 Grass	Perennial	Native
Ciyvii	Liyinus virginicus	Equisetum	virginia vviid Kye		4 I ACW	TACW		- i Grass	refermal	ivative
equarv	Equisetum arvense	arvense	Field Horsetail		O FAC	FAC		0 Fern	Perennial	Native
cquarv	Eupatorium	Eupatorium	Late-Flowering		OTAC	TAC		O I CITI	rerennar	Native
eupser	serotinum	serotinum	Thoroughwort		0 FAC	FAC		0 Forb	Perennial	Native
oupso.	Sorotinam	Fraxinus	mor oug.mort		0.7.10	.,		0.0.2	. 0. 0	
		pennsylvanic								
		a								
	Fraxinus	subintegerrim	1							
frapen	pennsylvanica	а	Green Ash		1 FACW	FACW		-1 Tree	Perennial	Native
•		Impatiens	Spotted Touch-Me-							
impcap	Impatiens capensis	capensis	Not		3 FACW	FACW		-1 Forb	Annual	Native
	Laportea	Laportea	Canadian Wood-							
lapcan	canadensis	canadensis	Nettle		3 FACW	FACW		-1 Forb	Perennial	Native
		Lobelia								
lobsip	Lobelia siphilitica	siphilitica	Great Blue Lobelia		6 OBL	FACW		-2 Forb	Perennial	Native
		Lycopus	Northern Water-							
lycuni	Lycopus uniflorus	uniflorus	Horehound		7 OBL	OBL		-2 Forb	Perennial	Native
		LYTHRUM								
lytsal	Lythrum salicaria	SALICARIA	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
	Persicaria	Polygonum								
polhyd	hydropiper	hydropiper	Mild Water-Pepper		2 OBL	OBL		-2 Forb	Annual	Native
	Phragmites									
	australis ssp.	Phragmites								
phrausm	americanus	australis	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
		Populus								
popdel	Populus deltoides	deltoides	Eastern Cottonwood		2 FAC	FAC		0 Tree	Perennial	Native

	Quercus	Quercus						
quemac	macrocarpa	macrocarpa RHAMNUS	Burr Oak	5 FAC	FACU	0 Tree	Perennial	Native
rhacat	Rhamnus cathartica	CATHARTICA Ribes	European Buckthorn	0 FAC	FAC	0 Shrub	Perennial	Adventive
ribame	Ribes americanum	americanum ROBINIA	Wild Black Currant	7 FACW	FACW	-1 Shrub	Perennial	Native
	Robinia	<b>PSEUDOACAC</b>						
robpse	pseudoacacia	IA Rubus	Black Locust	0 FACU	FACU	1 Tree	Perennial	Adventive
rubocc	Rubus occidentalis	occidentalis Rudbeckia	Black Raspberry	2 UPL	UPL	2 Shrub	Perennial	Native
rudhir	Rudbeckia hirta	hirta Sagittaria	Black-Eyed-Susan	1 FACU	FACU	1 Forb	Perennial	Native
saglat	Sagittaria latifolia	latifolia	Duck-Potato	4 OBL	OBL	-2 Forb	Perennial	Native
salint	Salix interior	Salix interior Scirpus	Sandbar Willow	1 FACW	FACW	-1 Shrub	Perennial	Native
sciatv	Scirpus atrovirens Symphyotrichum	atrovirens Aster novae-	Dark-Green Bulrush New England	4 OBL	OBL	-2 Sedge	Perennial	Native
astnov	novae-angliae	angliae Thalictrum	American-Aster	4 FACW	FACW	-1 Forb	Perennial	Native
	Thalictrum	dasycarpum						
thadas	dasycarpum		Purple Meadow-Rue Narrow-Leaf Cat-	5 FACW	FACW	-1 Forb	Perennial	Native
typang	Typha angustifolia		Tail	0 OBL	OBL	-2 Forb	Perennial	Adventive
ulmpum	Ulmus pumila	PUMILA	Siberian Elm	0 UPL	FACU	2 Tree	Perennial	Adventive
vitrip	Vitis riparia	Vitis riparia	River-Bank Grape	2 FACW	FAC	-1 Vine	Perennial	Native

SITE: NICTD
LOCALE: Wetland 30
BY: Anna Hochhalter

NOTES:

CONSERVATISM-

ADDITIONAL METRICS
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SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK) Phragmites	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR		 HABIT	DURATION	NATIVITY
phrausm	australis ssp. americanus	Phragmites australis	Common Reed		1 FACW	FACW	 1 Grass	Perennial	Native

SITE: NICTD LOCALE: Wetland 31 Anna Hochhalter BY:

NOTES:

CONSERVATISM-BASED ADDITIONAL METRICS METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 1.94 (ALL) 22 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.41 (NATIVE) 16 (NATIVE TREES) 1.40 % NON-NATIVE 0.27 MEAN C WET INDICATOR (NATIVE SHRUBS) 3.50 (ALL) -0.68 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 1.89 (NATIVE) -0.75 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 7.75 0.86 FQAI % NATIVE (ALL SPECIES) 6.61 PERENNIAL 0.64 ADJUSTED FQAI 16.52 % NATIVE ANNUAL 0.09 % C VALUE 0 0.55 % ANNUAL 0.09 % C VALUE 1-3 0.23 % PERENNIAL 0.91 % C VALUE 4-6 0.23 % C VALUE 7-10 0.00

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer negundo	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
aceneg	Acer negundo	var. violaceum Acer	Ash-Leaf Maple		0 FAC	FAC	0 Tree	Perennial	Native
acesai	Acer saccharinum Alisma	saccharinum Alisma	Silver Maple American Water-		0 FACW	FACW	-1 Tree	Perennial	Native
alisub	subcordatum	subcordatum	Plantain		4 OBL	OBL	-2 Forb	Perennial	Native
cxbebb	Carex bebbii	Carex bebbii Cornus	Bebb's Sedge		6 OBL	OBL	-2 Sedge	Perennial	Native
CORALB	Cornus alba	stolonifera Cyperus	Red Osier		6 FACW	FACW	-1 Shrub	Perennial	Native
cypesc	Cyperus esculentus Echinochloa crus-	esculentus Echinochloa	Chufa Large Barnyard		0 FACW	FACW	-1 Sedge	Perennial	Native
echcru	galli	crusgalli Equisetum	Grass		0 FACW	FAC	-1 Grass	Annual	Native
equarv	Equisetum arvense Eupatorium	arvense Eupatorium	Field Horsetail Late-Flowering		0 FAC	FAC	0 Fern	Perennial	Native
eupser	serotinum	serotinum RHAMNUS	Thoroughwort Glossy False		0 FAC	FAC	0 Forb	Perennial	Native
FRAALN	Frangula alnus	FRANGULA Fraxinus pennsylvanic a	Buckthorn		0 FACW	FAC	-1 Shrub	Perennial	Adventive
	Fraxinus	subintegerrim	ı						
frapen	pennsylvanica	a LONICERA	Green Ash Japanese		1 FACW	FACW	-1 Tree	Perennial	Native
lonjap	Lonicera japonica	JAPONICA LYTHRUM	Honeysuckle		0 FACU	FACU	1 Vine	Perennial	Adventive
lytsal	Lythrum salicaria	SALICARIA Malus	Purple Loosestrife Wild Sweet Crab		0 OBL	OBL	-2 Forb	Perennial	Adventive
malcor	Malus coronaria Persicaria	coronaria Polygonum	Apple		4 UPL	UPL	2 Tree	Perennial	Native
perhyr	hydropiper Phragmites	hydropiper	Mild Water-Pepper		2 OBL	OBL	-2 Forb	Annual	Native
PHRAUSM	australis ssp. americanus	Phragmites australis Populus	Common Reed		1 FACW	FACW	-1 Grass	Perennial	Native
popdel	Populus deltoides	deltoides ROBINIA	Eastern Cottonwood	l	2 FAC	FAC	0 Tree	Perennial	Native
	Robinia	PSEUDOACAC							
robpse	pseudoacacia	IA SALIX	Black Locust		0 FACU	FACU	1 Tree	Perennial	Adventive
salbab	Salix babylonica		Chinese Willow		0 FAC	FACW	0 Tree	Perennial	Adventive
salint	Salix interior Symphyotrichum	Salix interior Aster novae-	Sandbar Willow New England		1 FACW	FACW	-1 Shrub	Perennial	Native
astnov	novae-angliae	angliae	American-Aster		4 FACW	FACW	-1 Forb	Perennial	Native

Typha angustifolia angustifolia Narrow-Leaf Cat-Tail

0 OBL OBL -2 Forb typang Perennial Adventive SITE: NICTD Wetland 33 LOCALE: Anna Hochhalter

NOTES:

% C VALUE 7-10

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.25 11 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.64 (NATIVE) 8 (NATIVE TREES) 2.00 % NON-NATIVE 0.27 MEAN C WET INDICATOR (NATIVE SHRUBS) 6.00 (ALL) -0.27 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 1.60 (NATIVE) -0.63 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 6.36 0.82 FQAI % NATIVE (ALL SPECIES) 5.43 0.73 PERENNIAL ADJUSTED FQAI 19.19 % NATIVE ANNUAL 0.00 % C VALUE 0 0.45 % ANNUAL 0.00 % C VALUE 1-3 0.36 % PERENNIAL 1.00 % C VALUE 4-6 0.18

0.00

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)		DURATION	NATIVITY
aspoff	Asparagus officinalis	ASPARAGUS OFFICINALIS Cornus	Asparagus		0 FACU	FACU		1 Forb	Perennial	Adventive
coralb	Cornus alba	stolonifera ELAEAGNUS	Red Osier		6 FACW	FACW		-1 Shrub	Perennial	Native
elaang	Elaeagnus angustifolia	ANGUSTIFOLI A Equisetum	Russian-Olive		0 FACU	FACU		1 Shrub	Perennial	Adventive
equarv	Equisetum arvense Eupatorium	arvense Eupatorium	Field Horsetail Late-Flowering		0 FAC	FAC		0 Fern	Perennial	Native
eupser	serotinum Phragmites	serotinum	Thoroughwort		0 FAC	FAC		0 Forb	Perennial	Native
phrausm	australis ssp. americanus	Phragmites australis Populus	Common Reed		1 FACW	FACW	-	-1 Grass	Perennial	Native
popdel	Populus deltoides	deltoides RHAMNUS	Eastern Cottonwood		2 FAC	FAC		0 Tree	Perennial	Native
rhacat	Rhamnus cathartica	CATHARTICA Solidago	European Buckthorn Wrinkle-Leaf		0 FAC	FAC		0 Shrub	Perennial	Adventive
solrug	Solidago rugosa	rugosa Typha	Goldenrod		6 FAC	FAC		0 Forb	Perennial	Native
typlat vitrip	Typha latifolia Vitis riparia	latifolia Vitis riparia	Broad-Leaf Cat-Tail River-Bank Grape		1 OBL 2 FACW	OBL FAC		-2 Forb -1 Vine	Perennial Perennial	Native Native

SITE: NICTD LOCALE: Wetland 34 Anna Hochhalter BY:

NOTES:

CONSERVATISM-BASED ADDITIONAL METRICS METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.91 (ALL) 14 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 2.29 (NATIVE) 11 (NATIVE TREES) 2.00 % NON-NATIVE 0.21 MEAN C WET INDICATOR (NATIVE SHRUBS) 6.00 (ALL) -1.29 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 2.67 (NATIVE) -1.18 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 9.65 1.00 FQAI % NATIVE (ALL SPECIES) 8.55 PERENNIAL 0.64 ADJUSTED FQAI 25.79 % NATIVE ANNUAL 0.14 % C VALUE 0 0.36 % ANNUAL 0.14 % C VALUE 1-3 0.29 % PERENNIAL 0.86 % C VALUE 4-6 0.29 % C VALUE 7-10 0.07

	SPECIES NAME				MIDWEST		WET			
SPECIES	(NWPL/	SPECIES	COMMON		WET	NC-NE WET	INDICATO			
ACRONYM	MOHLENBROCK)	(SYNONYM)	NAME	C VALUE	INDICATOR	INDICATOR	(NUMERIC)	) HABIT	DURATION	NATIVITY
		Cornus								
CORALB	Cornus alba	stolonifera	Red Osier		6 FACW	FACW		-1 Shrub	Perennial	Native
		Cyperus								
cypesc	Cyperus esculentus	esculentus	Chufa		0 FACW	FACW		-1 Sedge	Perennial	Native
	Echinochloa crus-	Echinochloa	Large Barnyard							
echcru	galli	crusgalli	Grass		0 FACW	FAC		-1 Grass	Annual	Native
		RHAMNUS	Glossy False							
FRAALN	Frangula alnus	FRANGULA	Buckthorn		0 FACW	FAC		-1 Shrub	Perennial	Adventive
		Geum								
	Geum laciniatum	laciniatum								
geulact	var. trichocarpum	trichocarpum	Rough Avens		2 FACW	FACW		-1 Forb	Perennial	Native
		Juncus								
jundud	Juncus dudleyi	dudleyi	Dudley's Rush		4 FACW	FACW		-1 Forb	Perennial	Native
		Juncus								
juntor	Juncus torreyi	torreyi	Torrey's Rush		4 FACW	FACW		-1 Forb	Perennial	Native
		Lycopus	Northern Water-							
lycuni	Lycopus uniflorus	uniflorus	Horehound		7 OBL	OBL		-2 Forb	Perennial	Native
		LYTHRUM								
lytsal	Lythrum salicaria	SALICARIA	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
	Persicaria	Polygonum								
polhyd	hydropiper	hydropiper	Mild Water-Pepper		2 OBL	OBL		-2 Forb	Annual	Native
	Phragmites									
	australis ssp.	Phragmites								
PHRAUSM	americanus	australis	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
		Populus								
popdel	Populus deltoides	deltoides	Eastern Cottonwood		2 FAC	FAC		0 Tree	Perennial	Native
		Scirpus								
sciatv	Scirpus atrovirens	atrovirens	Dark-Green Bulrush		4 OBL	OBL		-2 Sedge	Perennial	Native
		Typha	Narrow-Leaf Cat-							
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL		-2 Forb	Perennial	Adventive

SITE: NICTD Wetland 36 LOCALE: Anna Hochhalter

NOTES:

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 3.00 11 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 2.45 (NATIVE) 9 (NATIVE TREES) 2.00 % NON-NATIVE 0.18 MEAN C WET INDICATOR (NATIVE SHRUBS) n/a (ALL) -1.18 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 3.13 (NATIVE) -1.00 % HYDROPHYTE (NATIVE SPECIES) 9.00 (MIDWEST) 1.00 FQAI % NATIVE (ALL SPECIES) 8.14 PERENNIAL 0.64 ADJUSTED FQAI 27.14 % NATIVE ANNUAL 0.18 % C VALUE 0 0.36 % ANNUAL 0.18 % C VALUE 1-3 0.18 % PERENNIAL 0.82 % C VALUE 4-6 0.36 % C VALUE 7-10 0.09

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Bidens	COMMON NAME Nodding Burr-	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	-	DURATION	NATIVITY
bidcer	Bidens cernua Eupatorium	cernua Eupatorium	Marigold  Late-Flowering		5 OBL	OBL		-2 Forb	Annual	Native
eupser	serotinum	serotinum Juncus	Thoroughwort		O FAC	FAC		0 Forb	Perennial	Native
jundud	Juncus dudleyi	dudleyi Juncus	Dudley's Rush		4 FACW	FACW		-1 Forb	Perennial	Native
juntor	Juncus torreyi	torreyi Lycopus	Torrey's Rush Northern Water-		4 FACW	FACW		-1 Forb	Perennial	Native
lycuni	Lycopus uniflorus	uniflorus LYTHRUM	Horehound		7 OBL	OBL		-2 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA Polygonum lapathifolium	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
	Persicaria	POLYGONUM	Dock-Leaf							
pollap	lapathifolia Phragmites	SCABRUM	Smartweed		0 FACW	FACW		-1 Forb	Annual	Native
	australis ssp.	Phragmites								
phrausm	americanus	australis Populus	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
popdel	Populus deltoides Symphyotrichum	deltoides Aster novae-	Eastern Cottonwood New England	d	2 FAC	FAC		0 Tree	Perennial	Native
astnov	novae-angliae	angliae Typha	American-Aster Narrow-Leaf Cat-		4 FACW	FACW		-1 Forb	Perennial	Native
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL		-2 Forb	Perennial	Adventive

SITE: NICTD LOCALE: Wetland 38 Anna Hochhalter

NOTES:

% C VALUE 7-10

CONSERVATISM-BASED ADDITIONAL METRICS METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.06 19 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.74 (NATIVE) 16 (NATIVE TREES) 1.25 % NON-NATIVE 0.16 MEAN C WET INDICATOR (NATIVE SHRUBS) 2.75 (ALL) -0.32 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 2.14 (NATIVE) -0.25 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 8.25 0.68 FQAI % NATIVE (ALL SPECIES) 7.57 0.79 PERENNIAL ADJUSTED FQAI 18.93 % NATIVE ANNUAL 0.05 % C VALUE 0 0.42 % ANNUAL 0.05 % C VALUE 1-3 0.37 % PERENNIAL 0.95 % C VALUE 4-6 0.16

0.05

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM) Acer negundo	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR		DURATION	NATIVITY
aceneg	Acer negundo	var. violaceum Acer	Ash-Leaf Maple		O FAC	FAC	0 Tree	Perennial	Native
acesai	Acer saccharinum	saccharinum Asclepias	Silver Maple		0 FACW	FACW	-1 Tree	Perennial	Native
ascsyr cxbebb	Asclepias syriaca Carex bebbii	syriaca Carex bebbii Cornus	Common Milkweed Bebb's Sedge		0 FACU 6 OBL	UPL OBL	1 Forb -2 Sedge	Perennial Perennial	Native Native
coralb	Cornus alba Echinochloa crus-	stolonifera Echinochloa	Red Osier Large Barnyard		6 FACW	FACW	-1 Shrub	Perennial	Native
echcru	galli	crusgalli Equisetum	Grass		0 FACW	FAC	-1 Grass	Annual	Native
equarv	Equisetum arvense	arvense Equisetum	Field Horsetail		O FAC	FAC	0 Fern	Perennial	Native
equflu	Equisetum fluviatile		Water Horsetail		7 OBL	OBL	-2 Fern	Perennial	Native
fravir	Fragaria virginiana	virginiana LYTHRUM	Virginia Strawberry		1 FACU	FACU	1 Forb	Perennial	Native
lytsal	Lythrum salicaria	SALICARIA Malus	Purple Loosestrife Wild Sweet Crab		0 OBL	OBL	-2 Forb	Perennial	Adventive
MALCOR	Malus coronaria Phragmites	coronaria	Apple		4 UPL	UPL	2 Tree	Perennial	Native
phrausm	australis ssp. americanus	Phragmites australis Prunus	Common Reed		1 FACW	FACW	-1 Grass	Perennial	Native
pruser	Prunus serotina	serotina Rubus	Black Cherry		1 FACU	FACU	1 Tree	Perennial	Native
rubocc saldis	Rubus occidentalis Salix discolor	occidentalis Salix discolor	Black Raspberry Pussy Willow		2 UPL 2 FACW	UPL FACW	2 Shrub -1 Shrub	Perennial Perennial	Native Native
salfra salint	Salix fragilis Salix interior	SALIX FRAGILIS Salix interior Typha	Crack Willow Sandbar Willow Narrow-Leaf Cat-		0 UPL 1 FACW	UPL FACW	2 Tree -1 Shrub	Perennial Perennial	Adventive Native
typang vitrip	Typha angustifolia Vitis riparia	angustifolia Vitis riparia	Tail River-Bank Grape		0 OBL 2 FACW	OBL FAC	-2 Forb -1 Vine	Perennial Perennial	Adventive Native

SITE: NICTD Wetland 39 LOCALE: Anna Hochhalter

NOTES:

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 1.80 (ALL) 8 SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 1.13 (NATIVE) 5 (NATIVE TREES) 1.00 % NON-NATIVE 0.38 MEAN C WET INDICATOR (NATIVE SHRUBS) 3.50 (ALL) -0.25 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 0.50 (NATIVE) -0.40 % HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 4.02 0.75 FQAI % NATIVE (ALL SPECIES) 3.18 PERENNIAL 0.63 ADJUSTED FQAI 14.23 % NATIVE ANNUAL 0.00 % C VALUE 0 0.50 % ANNUAL 0.00 % C VALUE 1-3 0.38 % PERENNIAL 1.00 % C VALUE 4-6 0.13 % C VALUE 7-10 0.00

	SPECIES NAME				MIDWEST		WET			
SPECIES	(NWPL/	SPECIES	COMMON		WET	NC-NE WET	INDICATOR			
ACRONYM	MOHLENBROCK)	(SYNONYM)	NAME	C VALUE	INDICATOR	INDICATOR	(NUMERIC)	HABIT	DURATION	NATIVITY
		Cornus								
coralb	Cornus alba	stolonifera	Red Osier		6 FACW	FACW		-1 Shrub	Perennial	Native
		Equisetum								
equarv	Equisetum arvense	arvense	Field Horsetail		0 FAC	FAC		0 Fern	Perennial	Native
		LYTHRUM								
lytsal	Lythrum salicaria	SALICARIA	Purple Loosestrife		0 OBL	OBL		-2 Forb	Perennial	Adventive
moralb	Morus alba	MORUS ALBA	White Mulberry		0 FAC	FACU		0 Tree	Perennial	Adventive
	Phragmites		_							
	australis ssp.	Phragmites								
phrausm	americanus	australis	Common Reed		1 FACW	FACW		-1 Grass	Perennial	Native
•		Prunus								
pruser	Prunus serotina	serotina	Black Cherry		1 FACU	FACU		1 Tree	Perennial	Native
r		SALIX								
salfra	Salix fragilis	FRAGILIS	Crack Willow		O UPL	UPL		2 Tree	Perennial	Adventive
salint	Salix interior	Salix interior	Sandbar Willow		1 FACW	FACW		-1 Shrub	Perennial	Native
Ju	54	Cann interior	Caaba. Willow					. 5 46	. o. o. ii iidi	

SITE: NICTD Wetland 40 LOCALE: Anna Hochhalter

NOTES:

% C VALUE 7-10

CONSERVATISM-BASED METRICS ADDITIONAL METRICS MEAN C SPECIES RICHNESS (NATIVE SPECIES) 2.33 7 (ALL) SPECIES RICHNESS MEAN C (ALL SPECIES) MEAN C 2.00 (NATIVE) 6 (NATIVE TREES) n/a % NON-NATIVE 0.14 MEAN C WET INDICATOR (NATIVE SHRUBS) 1.00 (ALL) -0.71 MEAN C (NATIVE WET INDICATOR HERBACEOUS) 2.60 (NATIVE) -0.50

% HYDROPHYTE (NATIVE SPECIES) (MIDWEST) 5.72 0.71 FQAI % NATIVE (ALL SPECIES) 5.29 0.71 PERENNIAL ADJUSTED FQAI 21.60 % NATIVE ANNUAL 0.00 % C VALUE 0 0.29 % ANNUAL 0.00 % C VALUE 1-3 0.43 % PERENNIAL 0.86 % C VALUE 4-6 0.29

0.00

	SPECIES NAME				MIDWEST		WET			
SPECIES	(NWPL/	SPECIES	COMMON		WET	NC-NE WET	INDICATOR			
ACRONYM	MOHLENBROCK)	(SYNONYM)	NAME	C VALUE	INDICATOR	INDICATOR	(NUMERIC) HA	BIT DU	JRATION	NATIVITY
CXSTRI	Carex stricta	Carex stricta Epilobium	Uptight Sedge		5 OBL	OBL	-2 Se	dge Pei	rennial	Native
epicil	Epilobium ciliatum	ciliatum Fragaria	Fringed Willowherb		3 FACW	FACW	-1 Fo	rb Pei	rennial	Native
fravir	Fragaria virginiana	virginiana Juncus	Virginia Strawberry		1 FACU	FACU	1 Fo	rb Pei	rennial	Native
jundud	Juncus dudleyi	dudleyi LYTHRUM	Dudley's Rush		4 FACW	FACW	-1 Fo	rb Pei	rennial	Native
lytsal	Lythrum salicaria	SALICARIA Oenothera	Purple Loosestrife		0 OBL	OBL	-2 Fo	rb Pei	rennial	Adventive
oenbie	Oenothera biennis	biennis	King's-Cureall		0 FACU	FACU	1 Fo	rb Bie	ennial	Native
salint	Salix interior	Salix interior	Sandbar Willow		1 FACW	FACW	-1 Sh	rub Pei	rennial	Native

SITE: NICTD
LOCALE: Wetland 44
BY: Anna Hochhalter
NOTES:

CONSERVATISM-

BASED METRICS			ADDITIONAL METRICS
MEAN C (NATIVE SPECIES)	2.20	SPECIES RICHNESS (ALL)	8
MEAN C (ALL SPECIES) MEAN C	1.38	SPECIES RICHNESS (NATIVE)	5
(NATIVE TREES) MEAN C	n/a	% NON-NATIVE WET INDICATOR	0.38
(NATIVE SHRUBS) MEAN C	2.67	(ALL)	-1.00
(NATIVE HERBACEOUS)	1.00	WET INDICATOR (NATIVE)	-0.80
FQAI (NATIVE SPECIES) FQAI	4.92	% HYDROPHYTE (MIDWEST) % NATIVE	1.00
(ALL SPECIES)	3.89	PERENNIAL	0.63
ADJUSTED FQAI	17.39	% NATIVE ANNUAL	0.00
% C VALUE 0	0.38	% ANNUAL	0.00
% C VALUE 1-3	0.50	% PERENNIAL	1.00
% C VALUE 4-6	0.13		
% C VALUE 7-10	0.00		

SPECIES	SPECIES NAME (NWPL/	SPECIES	COMMON		MIDWEST WET	NC-NE WET	WET			
ACRONYM	•		NAME	C VALUE	INDICATOR				DURATION	NATIVITY
ACRONYIVI	MOHLENBROCK)	(SYNONYM) Cornus	INAIVIE	C VALUE	INDICATOR	INDICATOR	(NUMERIC)	HABIT	DURATION	NATIVITY
CORALB	Cornus alba	stolonifera	Red Osier		6 FACW	FACW		1 Shrub	Perennial	Native
CORALD	Corrius alba	Cornus	Red Oslei		OTACW	IACW	-	1 Siliub	refermal	Native
CORRAC	Cornus racemosa	racemosa	Gray Dogwood		1 FAC	FAC		0 Shrub	Perennial	Native
00111110	Corrido Facciniosa	LYTHRUM	Gray Dogwood		11710	1710		O SIII UD	rerennar	Native
lytsal	Lythrum salicaria	SALICARIA	Purple Loosestrife		0 OBL	OBL	_	2 Forb	Perennial	Adventive
.,	Phragmites									
	australis ssp.	Phragmites								
PHRAUSM	americanus	australis	Common Reed		1 FACW	FACW	-	1 Grass	Perennial	Native
		RHAMNUS								
RHACAT	Rhamnus cathartica	CATHARTICA	European Buckthori	า	0 FAC	FAC		0 Shrub	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow		1 FACW	FACW	-	1 Shrub	Perennial	Native
		Typha	Narrow-Leaf Cat-							
typang	Typha angustifolia	angustifolia	Tail		0 OBL	OBL	-	2 Forb	Perennial	Adventive
VITRIP	Vitis riparia	Vitis riparia	River-Bank Grape		2 FACW	FAC	-	1 Vine	Perennial	Native



## APPENDIX F Agricultural Land Assessment





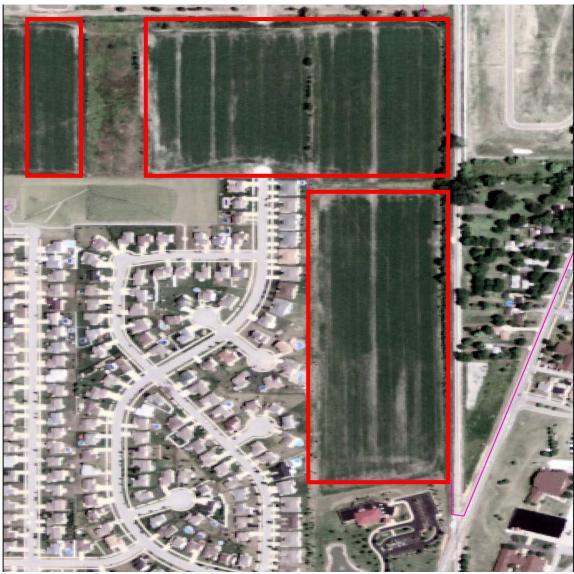
April 1998 – Normal Rainfall Year for Munster, IN

Image Source: Google Earth Pro



April 2002 - Wet Rainfall Year for Munster, IN

Image Source: Google Earth Pro



July 2007 - Normal Rainfall Year for Munster, IN

Image Source: NAIP



June 2008 - Normal Rainfall Year for Munster, IN

Image Source: Google Earth Pro



June 2009 - Normal Rainfall Year for Munster, IN

Image Source: Google Earth Pro



June 2012 - Normal Rainfall Year for Munster, IN

Image Source: NAIP



## APPENDIX G Resource Agency Coordination









## United States Department of the Interior Fish and Wildlife Service

Bloomington Field Office (ES) 620 South Walker Street Bloomington, IN 47403-2121 Phone: (812) 334-4261 Fax: (812) 334-4273



November 4, 2014

NICTD West Lake Corridor Project 33 East U.S. Highway 12 Chesterton, Indiana 46304

#### Dear Sir:

This is in reference to the September 30, 2014 Federal Register Notice of Intent to Prepare an Environmental Impact Statement for development of a commuter rail line within an approximate 9-mile corridor between Dyer and Hammond, with a possible extension southeast to St. John, all in Lake County, Indiana. The U.S. Fish and Wildlife Service (FWS) offers the following comments.

A coalition of the Northern Indiana Commuter Transportation District (NICTD), Town of Munster, and City of Hammond owns the abandoned right-of-way of the Monon Railroad between the 45<sup>th</sup>/Fisher Streets area in Munster and Sibley Street in Hammond and proposes using this corridor, in conjunction with the active CSX track, currently utilized by Amtrak and freight trains, south of 45<sup>th</sup> Street, as the primary route of the proposed commuter rail line. New tracks will be required beyond Sibley Street. Use of a portion of the existing South Shore Line (SSL) and Metra Electric District (MED) facilities or alternative existing rail lines between Hammond and Chicago will also be addressed. Several alternatives for a rail yard/maintenance facility will be considered, including near US 41 at St. John, near Main Street in Dyer, and at the site of the former Monon rail yard in southern Hammond.

There may be wetlands in the Fisher/45<sup>th</sup> Streets area in southern Munster because numerous other proposed developments in that area have encountered wetlands. However, we do not know what specific parcel has already been purchased by the NICTD/Munster/Hammond coalition in anticipation of a passenger station in that area, so we do not know if wetlands are involved or not. Wetland delineations will therefore be necessary in this area.

There may also be wetlands associated with the proposed crossings of the West Branch Little Calumet River, West Branch Grand Calumet River, and/or Calumet River/Calumet Sag Channel, depending upon the route chosen. The crossing of the West Branch Little Calumet will likely be at the site of the existing abandoned bridge, and a crossing of the Calumet River/Cal Sag Channel would be in the vicinity of the existing Indiana Harbor Belt (IHB) Railroad bridge in Burnham. The IHB route bisects Beaubien Woods Forest Preserve in Illinois, which contains numerous wetlands, including adjacent to the existing single railroad track; in Burnham, the IHB is also adjacent to wetlands, plus the Burnham Prairie Nature Preserve. Since entirely new tracks will be required in the downtown Hammond area to connect the old Monon right-of-way with the existing SSL tracks north of the West Branch Grand Calumet River, it is currently unknown where there may be a new crossing of the West Branch Grand Calumet.

The existing bridge over the West Branch Little Calumet River includes several piers within the river channel which are known to collect debris and contribute to flooding problems during high water events. Therefore, the DEIS needs to evaluate the impacts of leaving this bridge in place to serve the commuter line versus removing it and replacing it at the same site with a clear span bridge with no in-channel piers.

The FWS will request mitigation for wetland losses; the mitigation ratio for the loss of forested wetland is 4:1, with 2: or 3:1 for emergent and scrub-shrub wetlands. The U.S. Army Corps of Engineers, Chicago District, will have to determine whether or not a Section 404 permit would be required for the filling of wetlands due to the rail project. However, the Federal Transit Administration has an obligation to minimize the destruction, loss, or degradation of wetlands pursuant to Executive Order 11990, as amended by Executive Order 12608, concerning protection of wetlands, regardless of the need for a wetland fill permit.

Of particular concern to the FWS is the possibility of a new crossing of the West Branch Grand Calumet River in Hammond. The FWS, in conjunction with the other Natural Resources Trustees (Indiana Departments of Natural Resources and Environmental Management) has been working with the U.S. Environmental Protection Agency (EPA) to remediate the severely polluted sediments within both the West and East Branches of the Grand Calumet River in Indiana utilizing Great Lakes Legacy Act and the Great Lakes Restoration Initiative funding. This multi-year project has been proceeding along various distinct segments of the river, with the westernmost portion, Reaches 6 and 7 between Hohman Avenue and the State Line, being the last segment to be remediated within the West Branch Grand Calumet; permits have been received and work will begin shortly. The work involves dredging of some of the contaminated sediments and capping of the remaining sediments with a geosynthetic grid, organoclay, and/or granulated activiated carbon a minimum of 2 feet deep, topped with several feet of clean sand. Because of the dredging and capping, the Trustees are opposed to any construction activities that could compromise the integrity of the cap, including the placement of piers and abutments for a new railroad bridge. If it is determined by the FTA that a new bridge will be necessary to cross the West Branch Grand Calumet within Hammond, this bridge must be a clear span, with no

piers or abutments within the river channel. We are not aware of similar constraints to the construction of a new bridge over the river in Illinois, because to our knowledge the State of Illinois has not proposed to dredge and cap the river in that state.

Executive Order 13186, issued on January 10, 2001, directs each Federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with the FWS to develop an agreement to conserve those birds under the Migratory Bird Treaty Act (MBTA). In addition to avoiding or minimizing impacts to migratory bird populations, agencies will be expected to take reasonable steps that include restoring and enhancing habitat and incorporating migratory bird conservation into agency planning processes whenever possible. Therefore, the DEIS you are preparing will need to address this issue. Included in the migratory bird issue is the presence of bald eagles nesting/attempting to nest within wetland and woodland habitats in the Grand Calumet/Cal-Sag Channel/Lake Calumet area in Illinois during the past 4-5 years. An adult eagle pair has attempted to nest at several locations in this area, but we do not have information about the success of the most recent nesting attempt, although the first several attempts were not successful. Bald eagles are protected by the MBTA and also by the Bald and Golden Eagle Protection Act; please refer to the National Bald Eagle Management Guidelines available on the U.S. Fish and Wildlife Service's Website.

As discussed in the Federal Transit Administration's October 1, 2014 letter to the U.S. Fish and Wildlife Service, our agency agrees to be a Participating Agency during the EIS process. Staff at our Northern Indiana Suboffice is available to attend the interagency meetings and/or field reviews and to provide early coordination comments on the proposal. Please address correspondence to Mrs. Elizabeth McCloskey, U.S. Fish and Wildlife Service, Northern Indiana Suboffice, P.O. Box 2616, Chesterton, Indiana 46304, phone (219) 983-9753, elizabeth mccloskey@fws.gov.

### **ENDANGERED SPECIES**

Lake County, Indiana is within the range of the Federally endangered Indiana bat (<u>Myotis sodalis</u>) and Karner blue butterfly (<u>Lycaeides melissa samuelis</u>), the proposed endangered northern long-eared bat (<u>Myotis septentrionalis</u>), and the threatened Pitcher's thistle (<u>Cirsium pitcheri</u>) and Mead's milkweed (<u>Asclepias meadii</u>). Cook County, Illinois is within the range of the Federally endangered piping plover (<u>Charadrius melodus</u>), Hine's emerald dragonfly (<u>Somatochlora hineana</u>), and leafy-prairie clover (<u>Dalea foliosa</u>), the proposed endangered northern long-eared bat, the threatened prairie bush clover (<u>Lespedeza leptostachya</u>), eastern prairie fringed orchid (<u>Platanthera leucophaea</u>), and Mead's milkweed, and the candidate eastern massasauga rattlesnake (<u>Sistrurus catenatus</u>) and rattlesnake-master borer moth (<u>Papaipema eryngii</u>). Also in Cook County there is designated Critical Habitat for the Hine's emerald dragonfly.

None of the Lake County listed species are known within the West Lake Corridor Project Study Area. Most of the Cook County listed species are also not known within the Corridor, including the Hine's emerald dragonfly and its Critical Habitat. However, we do not know the status of some of the species within the Forest Preserves, Nature Preserves, and other protected habitats within the Corridor.

We appreciate the opportunity to provide input during this environmental scoping process. If you have any questions about our comments, please contact Elizabeth McCloskey at (219) 983-9753 or elizabeth mccloskey@fws.gov.

Sincerely yours,

Elizabeth S. Mcl.
Acting for Scott E. Pruitt
Supervisor

cc: Regional Director, FWS, Ft. Snelling, MN (HC/EC/NWI) (ER 14/0622)
USDI, Office of Environmental Policy and Compliance, Washington, DC. (PEP/NRM)
Shawn Cirton, USFWS, Chicago Field Office, Barrington, IL
Carl Wodrich, IDNR, Land Acquisition, Indianapolis, IN
Lori White, IDNR, Regional Environmental Biologist, West Lafayette, IN
Christie Stanifer, IDNR, Environmental Coordinator, Indianapolis, IN
Marty Maupin, IDEM, Office of Water Quality, Indianapolis, IN
Paul Leffler, USACE, Regulatory Branch, Chicago, IL
Kenneth Westlake, USEPA, NEPA Implementation Section, Chicago, IL

### State of Indiana DEPARTMENT OF NATURAL RESOURCES Division of Fish and Wildlife

## Early Coordination/Environmental Assessment

DNR #:

ER-17897

Request Received: October 6, 2014

Requestor:

**US Department of Transportation** 

Mark Assam

Federal Transit Administration 200 West Adams Street, Suite 320

Chicago, IL 60606-5253

Project:

West Lake Corridor Project, Lake Co., IN and Cook Co., IL EIS: new track

improvements, four (4) new stations, and a maintenance facility along a 9 mile southern

extension along the Northern Indiana Commuter Transportation District (NICTD)

existing South Shore Line (SSL) between Dyer and Hammond, IN

County/Site info:

Lake

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not

have permitting authority, all recommendations are voluntary.

Regulatory Assessment:

This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile, or the Lake Preservation Act (IC 14-26-2) for any construction that will take place at or lakeward of the legal shoreline of a public freshwater lake. Please submit more detailed plans to the Division of Water's Technical Services Section if you are unsure whether or not a permit will be required.

Natural Heritage Database:

The Natural Heritage Program's data have been checked.

This project does not impact any DNR owned nature preserves. Also, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur within the proposed corridor. However, a historical record of the northern leopard frog (Lithobates pipiens), a state species of special concern, and a wet-mesic sand prairie "between EJE Railroad and Conrail Railroad tracks" near Dyer about 0.4 mile east of project, have been documented with 1/2 mile of the proposed corridor.

This review is based on the current proposed alignment. Once stations and maintenance sites are determined, or if the proposed alignment is changed, further

review and comments may be needed.

Fish & Wildlife Comments:

We do not foresee any impacts to the Northern leopard frog as a result of this project.

Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

1) Stream Crossings:

Utilizing existing structures will produce fewer impacts to streams, wetlands, and surrounding habitats. If the rehabilitation of an existing structure is not feasible, consider the following:

## State of Indiana DEPARTMENT OF NATURAL RESOURCES Division of Fish and Wildlife

### Early Coordination/Environmental Assessment

Using a three span structure without piers within the Little Calumet River could provide benefits to the river by removing the existing structure and piers and allowing the river to flow unobstructed. Locating a new structure within the footprint of the existing structure and minimizing impacts to surrounding habitat will aid to further minimize impacts to the river, wetlands, and surrounding habitat.

For purposes of maintaining fish passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2") below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the conatural stream channel.

#### 2) Bank Stabilization:

Establishing vegetation along the banks is critical for stabilization and erosion control. In addition to vegetation, some other form of bank stabilization may be needed. While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank stabilization methods can provide additional bank protection while not compromising the benefits to fish and wildlife. Information about bioengineering techniques can be found at <a href="http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf">http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf</a>. Also, the following is a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: <a href="http://directives.sc.egov.usda.gov/17553.wba.">http://directives.sc.egov.usda.gov/17553.wba.</a>

The new, replacement, or rehabbed structure, and any bank stabilization under or around the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. A level area of natural ground under the structure is ideal for wildlife passage. If hard armoring is needed, we recommend a smooth-surfaced material such as articulated concrete mats (or riprap at the toe and turf reinforcement mats above the riprap toe protection) be placed on the side-slopes instead of riprap. Such materials will not impair wildlife movement along the banks under the bridge.

Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Northern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion.

#### 3) Riparian Habitat:

same Africa and War in I

We recommend a mitigation plan be developed (and submitted with the permit application, if required) if habitat impacts will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at:

http://www.in.gov/legislative/iac/20140806-IR-312140295NRA.xml.pdf.

## State of Indiana DEPARTMENT OF NATURAL RESOURCES Division of Fish and Wildlife

## Early Coordination/Environmental Assessment

Impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees).

Remediation efforts along the west and east branches of the Grand Calumet River under the Great Lakes Legacy Act and Great Lakes Restoration Initiative have been on-going, and the last segment of remediation work along the Grand Calumet River from Hohman Avenue to the state line will begin soon. Any work proposed within the Grand Calumet River floodway for this project should avoid impacts to any mitigation planting areas from the remediation project.

#### 4) Wetlands:

A formal wetland delineation should be conducted in order to determine the presence of and extent of any wetland habitat within the project corridor. Impacts should be avoided and minimized to the greatest extent possible.

Due to the presence or potential presence of wetlands on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USACE) 404 program. Impacts to wetlands should be mitigated at the appropriate ratio (see guidelines above).

#### 5) Exposed Soils:

All exposed soil areas must be stabilized with temporary or permanent vegetation by November 1. Between November 1 and April 1, all exposed soils idle for longer than 7 days must be stabilized with erosion control blankets or with a bonded fiber matrix hydro-mulch. Sites must be protected from seasonal flooding by keeping traffic areas covered with stone and soil stockpiles seeded, stable and contained with silt fencing.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

- 1. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.
- 2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
- 3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
- 4. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.
- 5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
- 6. Do not construct any temporary runarounds, causeways, or cofferdams.
- 7. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
- 8. Do not use broken concrete as riprap.
- 9. Minimize the movement of resuspended bottom sediment from the immediate project area.
- 10. Do not deposit or allow demolition materials or debris to fall or otherwise enter the waterway.
- 11. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
- 12. Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with

### THIS IS NOT A PERMIT

# State of Indiana DEPARTMENT OF NATURAL RESOURCES Division of Fish and Wildlife

## Early Coordination/Environmental Assessment

erosion control blankets (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

**Contact Staff:** 

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please contact the above

Date: November 7, 2014

staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer

Environ. Coordinator

Division of Fish and Wildlife