

Chicago-Milwaukee  
Amtrak Hiawatha Service  
Draft Environmental Assessment

Appendix E  
Illinois Natural Resources Review

## Section 1

Sequence 19152

Chicago - Milwaukee Rail Corridor Main Right-of-Way and

Glenview Crossover, Lake Forest Crossover, Deerfield Holding Track, UPRR Siding Extension at A-20, and Speed Increase between A-20 and Rondout Project Areas

Contents:

Natural Resources Review Letter – Seq. 19152

Official Species List

NLEB 4d Streamlined Consultation Form



# Illinois Department of Transportation

## Memorandum

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To: John E. Oimoen                      Attn: Elliott Ramos  
From: Maureen M. Addis              By: Thomas C. Brooks  
Subject: Natural Resources Review  
Date: April 18, 2016

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A handwritten signature in black ink that reads "Thomas C. Brooks".

Chicago – Milwaukee Rail Corridor Main Right Of Way  
Glenview Crossover, Lake Forest Crossover, Deerfield Holding Track, UPRR  
Siding Extension at A-20, and Speed Increase between A-20 and Rondout  
Chicago Union Station to Illinois/Wisconsin Border (CP MP 47.5)  
Cook and Lake Counties  
Sequence # 19152

The proposed project involves replacement and/or installation of new track and signals, sidings, crossovers, bridge, and retaining walls at various locations in the corridor within railroad right-of-way. Five separate projects will be constructed to accommodate the increase in service: Glenview Crossover, Lake Forest Crossover, Deerfield Holding Track, UPRR Siding Extension at A-20, and Speed Increase between A-20 and Rondout. These five projects generally but not continuously occur between Chicago Union Station and the Illinois/Wisconsin border. The Speed Increase between A-20 and Rondout portion of this project geographically overlaps Sequence # 19157 (Chicago – Milwaukee Intercity Passenger Rail, Rondout Extension/Metra Fox Lake Second Track).

There will be no land acquisition for the project. There will be no instream work. There will be no trees to be removed. Land cover in the vicinity of the proposed improvement is a mixture of county forest preserves with wetlands and woodlands, as well as adjacent to residential and commercial properties.

### **Review for Illinois Endangered Species Protection and Illinois Natural Areas Preservation – Part 1075**

The Illinois Natural Heritage Database contains several records of State-listed threatened or endangered species, Illinois Natural Area Inventory sites (INAI), dedicated Illinois Nature Preserves (NP), or registered Land and Water Reserves in the vicinity of the project location, as described below. The Illinois Natural History Survey (INHS) conducted field surveys for Sequence # 19157, with results applicable to this project summarized below. There will be no adverse effect by this project on any of the protected resources in the project vicinity, summarized below:

- Glenview Crossover – This project occurs between Touhy Avenue at its south end and Willow Road at its north end (in Morton Grove, Golf, and

Glenview). Wayside Prairie INAI with several listed species and St. Paul's Forest Preserve INAI with several listed species occur adjacent to the project area on Aerial #8 near Dempster Street. An upland sandpiper record (possibly extirpated) occurs adjacent to the project area on Aerial #11. Glenview Naval Air Station INAI with several listed species occurs just south of Willow Road.

- Lake Forest Crossover – This project occurs between Half Day Road at the south end and West Kennedy Road at the north end. Roadside Prairie remnants occur from Old Mill Road (Metra MP 27.27) on Aerial #1 north to Everett Road (Metra MP 28.06) on Aerial #2. Middlefork Savanna INAI and NP with numerous listed species occurs starting at West Kennedy Road (Metra MP 29.4) on Aerial #4 and extending northerly.
- Deerfield Holding Track – This project occurs from the Deerfield Metra Station at Deerfield Road (Metra MP 24.5) north to Waukegan Road. This area is all residential. There is no habitat for listed species. None occur in this area.
- UPRR Siding Extension at A-20 – This project occurs from East Euclid Avenue north to Dundee Road in Northbrook. The project area is mainly residential and industrial. Listed species associated with the Glenview Naval Air Station INAI occur just east of the midpoint of this project, but there is no habitat in this project area for those species. Somme Prairie INAI and NP containing state listed oval milkweed in various locations throughout occur starting just north of Dundee Road (Metra MP 21.92) at the north end of this project. The INAI occurs on both east and west sides of the railroad. The NP occurs on the west side of the railroad.
- Speed Increase between A-20 and Rondout – This project occurs from Willow Road north to IL 176. At the time of ESR submittal the scope of work beyond increasing freight train speeds from 40 MPH to 50 MPH was unknown. There had been potential for re-spacing of signals and thus potential work to modify grade crossing warning devices at any location throughout the twelve miles of this project location. However, per email from Melanie Johnson of Quandel Consultants dated April 6, 2016, no signal work or modifications to grade crossings shall be done for this project. Thus, the only scope of work for the Speed Increase project is increasing freight train speeds from 40 MPH to 50 MPH. This project overlaps the previously discussed UPRR Siding Extension at A-20, Deerfield Holding Track, and Lake Forest Crossover projects, as well as IDOT Seq. # 19157 (Rondout Extension/Metra Fox Lake Second Track). Sensitive resources for the Rondout Extension project mainly involve those associated with Middlefork Savanna INAI and NP, discussed below:
- Middlefork Savanna INAI straddles the Speed Increase project area. The NP occurs on both sides of the project location, apparently with its right of way contiguous with that of UPRR. There will be no impact to the NP since no right of way will be taken from it and since no work will be done in this area. There are records of the following state-listed species

occurring within the vicinity of the project area, with their last observed dates and locations: king rail and Wilson's phalarope (2008 in the INAI), golden sedge (2008 in Section 31 at the south end of the project), pale vetchling (1995 but not found during 2002 survey, Section 36 northeast corner), marsh speedwell (1998 but not found during 2002 survey, Section 36 northeast corner and Sections 25 and 30), Eastern prairie fringed orchid (2012, Section 36 northeast corner), Iowa darter (1995 but not found in 2006 survey, Section 23), and Blanding's turtle (1991 but not found again in 2006, Section 25). The Illinois Natural History Survey (INHS) conducted the following surveys in 2015 for Sequence # 19157: botany, bats, birds, turtles, fish, mussels, water quality, benthic macroinvertebrates, and wetlands with applicable results summarized below. Their reports are attached.

- **Botanical Survey**

INHS conducted botanical surveys in June, July, and August, 2015. It was noted that the ecological quality of the plant communities within the project limits was generally less than that beyond the project limits. One population each of the state threatened plant species marsh speedwell (*Veronica scutellata*, Botanical Site 12, new occurrence) and golden sedge (*Carex aurea*, Botanical Site 13, reconfirming existing population), were found within the project limits on the east side of the railroad tracks. Two Eastern prairie fringed orchid (EPFO) individuals were found within a high-quality wetland that was previously known to harbor an EPFO population (just outside Botanical Site 9). While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. One of the EPFO plants was approximately 15 feet east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation. The other EPFO plant occurred approximately 600 feet east of the project area. No rail work is proposed at Botanical Sites 9, 12, or 13 or anywhere along the railroad tracks in the Middlefork Savanna NP area. There will thus be no adverse effect on the marsh speedwell, golden sedge, or EPFO by the project.

- **Bat Habitat Survey**

INHS mammalogists conducted bat habitat suitability surveys August 3 and 4, 2015. No mist netting was conducted due to lack of suitable sites. INHS mammalogists found thirteen potential roost trees. INHS stated that the project corridor is of low habitat suitability for listed bats due to better habitat occurring outside the corridor and few suitable trees occurring within the corridor. INHS wetlands scientists also conducted bat habitat suitability assessments on June 15-16, July 6-7 and 15-16, and August 1, 2015. They found no bats or signs of bats under four bridges and a few swallows and nests under the I-94 overpass. No work near the I-94 overpass will occur with the Speed Increase project. There will be no tree removal or bridge work with this project and thus no adverse effect on the Northern long-eared bat by this project. Further discussion regarding bats is in the Section 7 portion of this NRR.

- **Bird Survey**

INHS conducted avian surveys June 7 and 16 and July 15, 2015. They found breeding least bitterns, which were probably breeding at Middlefork Savanna just east of the project area. Usually king rail and Wilson's phalarope and other listed

species are also found breeding at Middlefork Savanna but were not found during this survey. No work will occur in this area for the Speed Increase project other than increasing the freight train speeds from 40 MPH to 50 MPH. Since there is already disturbance consisting of constant train traffic, the project is likely to have little impact on breeding listed birds. This office has determined that there will be no adverse effect on the least bittern and other listed nesting avian species by the project.

- **Fish and Mussel Survey**

INHS conducted fish and mussel surveys on June 17-18, 2015. INHS found no mussels. Iowa darters were found at the following locations and quantities, with Site 1 at the south end of the project and Site 4 at the north end: none were found at Site 1 (= unnamed tributary to a wetland); two were found at Site 2 (= unnamed tributary to the North Branch Chicago River in Middlefork Savanna); 42 were found at Site 3 (= North Branch Chicago River in Middlefork Savanna); and 11 were found at Site 4 (= North Branch Chicago River in Rondout). There will be no instream work for this project. Thus, this office has determined that there will be no adverse effect to the Iowa darter.

- **Blanding's Turtle Survey**

INHS conducted Blanding's turtle surveys June 16, 17, and 18, 2015. None were captured in this survey, nor have any been captured in many prior surveys conducted during the past decade in and around Middlefork Savanna. It is unlikely that this species occurs in the project area. This office has determined that this project will not adversely impact the Blanding's turtle.

The scope of work for each of the five projects was reviewed in relation to the sensitive resources closest to the projects. In each case given the minimal scope of work and the work being conducted within existing right of way, there will be no adverse effect by the projects on any of the sensitive resources. Per email dated April 8, 2016, from Sheldon Fairfield of IDNR, there is no need to submit EcoCAT for this project due to minimal scope of work in any sensitive area. **Therefore, consultation under Part 1075 is terminated.**

**This review for compliance with 17 Ill. Adm. Code Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed improvement is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the proposed improvement has not been implemented within two years of the date of this memorandum, or any of the above listed conditions develop, a new review will be necessary.**

### **Review for Illinois Interagency Wetland Policy Act – Part 1090**

The National Wetlands Inventory shows wetlands in the vicinity of the project location. A survey for wetlands was conducted for IDOT Sequence # 19157 within the Environmental Survey Request limits of the Rondout Extension project for the proposed improvements. Several sites were examined and 18 were determined to be wetlands. The Wetland Delineation Report and spatial information (ArcGIS shapefile) are saved in the project folder. Those wetland delineations cover the north end of the Speed Increase and Lake Forest

Crossover projects. There will be no impact to any of these wetlands by the subject project due to the scope and location of work. Because there will be no right of way, no instream work, and no tree removal, there will be no impact to any other wetlands found in the remaining project areas (i.e., southern portions of Speed Increase and Lake Forest Crossover projects, Deerfield Holding Track, UPRR Siding Extension, and Glenview Universal Crossover). **Therefore, the wetland review under Part 1090 is terminated.**

### **Review for Endangered Species Act - Section 7**

The proposed improvement was reviewed in fulfillment of our obligation under Section 7(a)2 of the Endangered Species Act. Our review included use of the US Fish and Wildlife Service's Information for Planning and Conservation (IPaC) web-based review tool. Through IPaC, an official species list was received and is saved to the project folder. The list contains the endangered, threatened, proposed and candidate species and proposed and designated critical habitat that may be present within or in the vicinity of the proposed improvement. The following species are listed: Northern long-eared bat (NLEB), piping plover, red knot, Pitcher's thistle, leafy prairie-clover, Mead's milkweed, prairie bush-clover, Karner blue butterfly, Hine's emerald dragonfly, rattlesnake-master borer moth, Eastern massasauga, and eastern prairie fringed orchid. No proposed or designated critical habitat is listed.

### **Northern Long-eared Bat**

Northern long-eared bat suitable summer habitat consists of a wide variety of forested or wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees or snags three or more inches dbh that have exfoliating bark, cracks, crevices, or hollows) as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested or wooded habitat. Trees found in high developed urban areas (e.g., street trees, downtown areas) are extremely unlikely to be suitable NLEB habitat. Northern long-eared bats have also been observed roosting in bridges; therefore, these structures should also be considered potential summer habitat.

We assessed the potential for adverse impacts to the NLEB in accordance with the *Federal Highway Administration Range-Wide Biological Assessment (BA) for Transportation Projects for Indiana Bat and Northern Long-Eared Bat*. In accordance with the BA, an assessment for signs of bats was conducted June 15-16, July 6-7 and 15-16, and August 1, 2015. No mist netting was conducted due to lack of suitable sites. INHS mammalogists found thirteen potential roost trees. INHS stated that the project corridor is of low habitat suitability for listed bats due to better habitat occurring outside the corridor and few suitable trees occurring within the corridor. No bats or signs of bats were observed under the

bridges. There will be no tree removal for this project. We determined that this action will not affect the NLEB.

### **Eastern Prairie Fringed Orchid**

INHS found Eastern prairie fringed orchid (EPFO) during botanical surveys in 2015 for the Rondout Extension project, Sequence # 19157. [The Speed Increase between A-20 and Rondout portion of this project geographically overlaps Sequence # 19157 (Chicago – Milwaukee Intercity Passenger Rail, Rondout Extension/Metra Fox Lake Second Track).] Two EPFO plants were found within a high-quality wetland that was previously known to harbor an EPFO population (just outside Botanical Site 9 and Wetland Site 10). While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. The closest EPFO plant was approximately 15 feet east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation. The other EPFO plant occurred approximately 600 feet east of the project area. There will be no work by this project in the areas in which the EPFO were found. There will thus be no adverse effect on the EPFO by the project. Erosion and sediment control commitments will also be implemented in order to further protect these species.

We cross-referenced the preferred habitat of each listed species with our knowledge of the project area and determined that there is no suitable habitat present for the species listed above. We have made a no effect determination on these species.

**We have determined that the proposed improvement is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of any critical habitat.**

Should the proposed improvement be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination should be initiated.

SDH



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Chicago Ecological Service Field Office  
1250 SOUTH GROVE AVENUE SUITE 103  
BARRINGTON, IL 60010  
PHONE: (847)381-2253 FAX: (847)381-2285  
URL:

[www.fws.gov/midwest/endangered/section7/s7process/7a2process.html](http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html)

Consultation Code: 03E13000-2016-SLI-0161

April 08, 2016

Event Code: 03E13000-2016-E-00223

Project Name: Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

***Please note!*** For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

For all other projects, continue the Section 7 Consultation process by going to our Section 7 Technical Assistance website at

<http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. If you are familiar with this website, you may want to go to Step 2 of the Section 7 Consultation process at <http://www.fws.gov/midwest/endangered/section7/s7process/step2.html>.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and

completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

## Official Species List

### Provided by:

Chicago Ecological Service Field Office

1250 SOUTH GROVE AVENUE SUITE 103

BARRINGTON, IL 60010

(847) 381-2253

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

**Consultation Code:** 03E13000-2016-SLI-0161

**Event Code:** 03E13000-2016-E-00223

**Project Type:** TRANSPORTATION

**Project Name:** Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

**Project Description:** 5 subprojects in IL: Glenview Crossover, Lake Forest Crossover, Deerfield Holding Track, UPRR Siding Extension, Speed Increase. Replace or new track, signals, sidings, crossovers. No new ROW, no tree removal, no bridge work, no instream work. No effect NLEB. Project areas range between urban residential, commercial, parks to rural. Construction timing unknown.

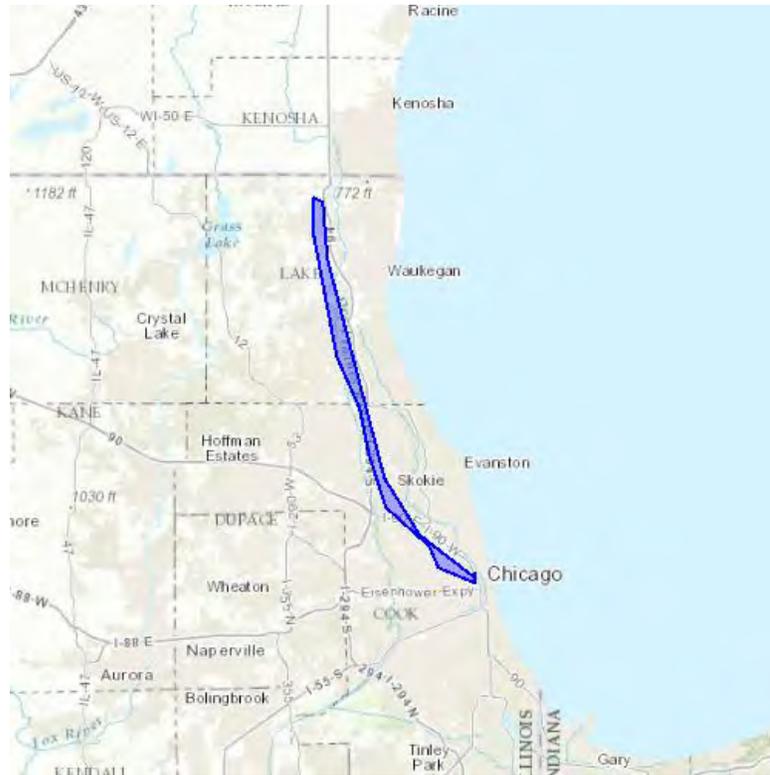
**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-87.96478271484375 42.45386118849115, -87.95379638671874 42.369705548164845, -87.83843994140625 42.04317376494972, -87.76702880859374 41.95642641461421, -87.65853881835938 41.89409955811395, -87.65579223632812 41.902277040963696, -87.65579223632812 41.88592102814744, -87.72994995117188 41.9094314794687, -87.75054931640625 41.94110578381598, -87.83706665039061 41.99828401778616, -87.87139892578125 42.07783959017503, -87.88787841796875 42.147114459220994, -87.93594360351562 42.224449701009725, -87.98126220703125 42.40622065620649, -87.98126220703125 42.461966608980134, -87.96478271484375 42.45386118849115)))

**Project Counties:** Cook, IL | Lake, IL



United States Department of Interior  
Fish and Wildlife Service

Project name: Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

## Endangered Species Act Species List

There are a total of 12 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Piping Plover ( <i>Charadrius melodus</i> ) Population: Great Lakes watershed	Endangered		
Red Knot ( <i>Calidris canutus rufa</i> )	Threatened		
<b>Flowering Plants</b>			
Eastern Prairie Fringed orchid ( <i>Platanthera leucophaea</i> )	Threatened		Will this project impact, directly or indirectly, emergent wetland, wet meadow, sedge meadow, fen, wet to mesic prairie, or marsh edges?
Leafy prairie-clover ( <i>Dalea foliosa</i> )	Endangered		
Mead's milkweed ( <i>Asclepias meadii</i> )	Threatened		
Pitcher's thistle ( <i>Cirsium pitcheri</i> )	Threatened		
Prairie bush-clover ( <i>Lespedeza leptostachya</i> ) Population: Entire	Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

<b>Insects</b>			
Hine's Emerald dragonfly <i>(Somatochlora hineana)</i>	Endangered	Final designated	
Karner Blue butterfly <i>(Lycaeides melissa samuelis)</i> Population: Entire	Endangered		
Rattlesnake-Master Borer moth <i>(Papaipema eryngii)</i>	Candidate		
<b>Mammals</b>			
Northern long-eared Bat <i>(Myotis septentrionalis)</i>	Threatened		
<b>Reptiles</b>			
eastern Massasauga <i>(Sistrurus catenatus)</i>	Proposed Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Chicago to Milwaukee Main ROW, Lake & Cook Cos, IL, seq. 19152

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.

## Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

### Information to Determine 4(d) Rule Compliance:

	YES	NO
1. Does the project occur wholly outside of the WNS Zone <sup>1</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Have you contacted the appropriate agency <sup>2</sup> to determine if your project is near known hibernacula or maternity roost trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Could the project alter the entrance or interior environment of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

**Agency and Applicant**<sup>3</sup> (Name, Email, Phone No.): IDOT, [Susan.Hargrove@illinois.gov](mailto:Susan.Hargrove@illinois.gov), 217-785-0150

**Project Name:** Chicago-Milwaukee Rail Corridor, Lake & Cook Cos, IL, seq. 19152

**Project Location** (include coordinates if known): Chgo Union Station to IL/WI Border (CP MP 47.5)

**Basic Project Description** (provide narrative below or attach additional information): Five sub-projects in IL: Glenview Crossover, Lake Forest Crossover, Deerfield Holding Track, UPRR Siding Extension, Speed Increase. Replace or new track, signals, sidings, crossovers. No new ROW, no tree removal, no bridge work, no instream work. Project areas range between urban residential, commercial, parks to rural. Construction timing is unknown.

<sup>1</sup> <http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>

<sup>2</sup> See <http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html>

<sup>3</sup> If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project occur within 150 feet of a known maternity roost tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project include forest conversion <sup>4</sup> ? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of forest conversion		
If known, estimated acres <sup>5</sup> of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31 <sup>6</sup>		
Does the project include timber harvest? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: Swan D. Hargrave

Date Submitted: 4-8-16

<sup>4</sup> Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).

<sup>5</sup> If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.

<sup>6</sup> If the activity includes tree clearing in June and July, also include those acreage in April to October.

## Section 2

### Sequence 19157

# Chicago - Milwaukee Intercity Passenger Rail Corridor Rondout Extension/Metra Fox Lake Second Track Project Area

#### Contents:

Natural Resources Review Letter – Seq. 19157

EcoCAT Results

Botanical Survey Report

Mammal Survey Report – Bat Habitat Assessment

Avian Survey Report – Breeding Bird Survey

Aquatic Survey Report – Fish and Mussel Survey

Aquatic Survey Report – Blanding’s Turtle Habitat

Aquatic Survey Report – Water Quality/ Benthic Macro Invertebrates Habitat

Wetland Determination Report

Official Species List

NLEB 4d Streamlined Consultation Form

Illinois DNR Concurrence Letter



# Illinois Department of Transportation

## Memorandum

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To: John E. Oimoen                      Attn: Elliott Ramos  
From: Maureen M. Addis                By: Thomas C. Brooks  
Subject: Natural Resources Review  
Date: April 1, 2016

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*Thomas C. Brooks*

Chicago – Milwaukee Intercity Passenger Rail Corridor  
Rondout Extension/Metra Fox Lake Second Track  
Canadian Pacific MP 31.16 to Metra MP 33.85  
Lake County  
Sequence # 19157

The proposed project involves replacing a small railroad bridge over the North Branch Chicago River at the north end of the project, replacing track, and installing new track and signals. The project is 2.7 miles long and runs through Middlefork Savanna Forest Preserve.

There will be 0.78 acres of land acquisition for the project at the north end of the project. There may be instream work in the North Branch Chicago River. There may be tree removal. The decision regarding potential of instream work and tree removal will be decided during the final design phase of this project. Land cover in the vicinity of the proposed improvement is a mixture of county forest preserve with wetlands and woodlands, as well as adjacent to residential properties.

### **Review for Illinois Endangered Species Protection and Illinois Natural Areas Preservation – Part 1075**

The Illinois Natural Heritage Database contains records of State-listed threatened or endangered species found within and near Middlefork Savanna Natural Areas Inventory Site (INAI) and Nature Preserve (NP) at the project location. The INAI straddles the project area. The NP occurs on both sides of the project location, apparently with its right of way contiguous with that of Canadian Pacific Railroad. There will be no impact to the NP since no right of way will be taken from it. There are records of the following state-listed species occurring within the vicinity of the project area, with their last observed dates and locations: king rail and Wilson's phalarope (2008 in the INAI), golden sedge (2008 in Section 31 at the south end of the project), pale vetchling (1995 but not found during 2002 survey, Section 36 northeast corner), marsh speedwell (1998 but not found during 2002 survey, Section 36 northeast corner and Sections 25 and 30), Eastern prairie fringed orchid (2012, Section 36 northeast corner), Iowa darter (1995 but not found in 2006 survey, Section 23), and Blanding's turtle (1991 but not found again in 2006, Section 25). EcoCAT was submitted March 28, 2016, to Illinois Department of Natural Resources (IDNR) and consultation is open pending

receipt of the Natural Resources Review (NRR) memo. IDNR's EcoCAT response dated March 31, 2016, contains several recommendations, summarized below as commitments. The Illinois Natural History Survey (INHS) conducted the following surveys in 2015: botany, bats, birds, turtles, fish, mussels, water quality, benthic macroinvertebrates, and wetlands with results summarized below. Their reports are attached.

### **Botanical Survey**

INHS conducted botanical surveys in June, July, and August, 2015. It was noted that the ecological quality of the plant communities within the project limits was generally less than that beyond the project limits. One population each of the state threatened plant species marsh speedwell (*Veronica scutellata*, Site 12, new occurrence) and golden sedge (*Carex aurea*, Site 13, reconfirming existing population), were found within the project limits on the east side of the railroad tracks. Two Eastern prairie fringed orchid (EPFO) individuals were found within a high-quality wetland that was previously known to harbor an EPFO population (just outside Site 9). While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. One of the EPFO plants was approximately 15 feet east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation. The other EPFO plant occurred approximately 600 feet east of the project area. No rail work is proposed at Sites 9, 12, or 13. The proposed rail work will either occur on the opposite (west) side of the railroad tracks or elsewhere on both sides of the tracks in spot locations. There will thus be no adverse effect on the marsh speedwell, golden sedge, or EPFO by the project. Erosion and sediment control commitments will also be implemented in order to further protect these species.

### **Bat Habitat Survey**

INHS mammalogists conducted bat habitat suitability surveys August 3 and 4, 2015. No mist netting was conducted due to lack of suitable sites. INHS mammalogists found thirteen potential roost trees. INHS stated that the project corridor is of low habitat suitability for listed bats due to better habitat occurring outside the corridor and few suitable trees occurring within the corridor. INHS wetlands scientists also conducted bat habitat suitability assessments on June 15-16, July 6-7 and 15-16, and August 1, 2015. They found no bats or signs of bats under four bridges and a few swallows and nests under the I-94 overpass. Further discussion regarding bats and swallows is in the Section 7 portion of this NRR.

### **Bird Survey**

INHS conducted avian surveys June 7 and 16 and July 15, 2015. They found breeding least bitterns, which were probably breeding at Middlefork Savanna just east of the project area. Usually king rail and Wilson's phalarope and other listed species are also found breeding at Middlefork Savanna but were not found during this survey. The rail work is being conducted mostly within existing right of way on the opposite side of the tracks than where the least bittern occurs. Since the proposed rail work will occur on the opposite side of the tracks than the least bitterns, and since there is already disturbance consisting of constant train

traffic, the project is likely to have little impact on breeding listed birds. This office has determined that there will be no adverse effect on the least bittern and other listed nesting avian species by the project.

### **Fish and Mussel Survey**

INHS conducted fish and mussel surveys on June 17-18, 2015. INHS found no mussels. Iowa darters were found at the following locations and quantities, with Site 1 at the south end of the project and Site 4 at the north end: none were found at Site 1 (= unnamed tributary to a wetland); two were found at Site 2 (= unnamed tributary to the North Branch Chicago River in Middlefork Savanna); 42 were found at Site 3 (= North Branch Chicago River in Middlefork Savanna); and 11 were found at Site 4 (= North Branch Chicago River in Rondout). The bridge at Site 4 will be replaced. There will be no work on the bridges at Sites 1, 2, and 3. The decision regarding potential of instream work will be decided during the final design phase of this project. This office has determined that there will be no adverse effect to the Iowa darter with the implementation of a commitment to conduct no instream work during the Iowa darter spawning season. This office has determined that there will be no adverse effect on the Iowa darter by this project with the implementation of a commitment for no instream work from April 1 through June 30 during any construction year.

### **Blanding's Turtle Survey**

INHS conducted Blanding's turtle surveys June 16, 17, and 18, 2015. None were captured in this survey, nor have any been captured in many prior surveys conducted during the past decade in and around Middlefork Savanna. It is unlikely that this species occurs in the project area. This office has determined that this project will not adversely impact the Blanding's turtle.

### **Review for Illinois Interagency Wetland Policy Act – Part 1090**

The National Wetlands Inventory shows wetlands in the vicinity of the project location. A survey for wetlands was conducted within the Environmental Survey Request limits for the proposed improvements. Several sites were examined and 18 were determined to be wetlands. The Wetland Delineation Report and spatial information (ArcGIS shapefile) are saved in the project folder.

The project sponsor will consider location and design alternatives to avoid and minimize adverse wetland impacts to the extent practical. **Please note that Wetland Sites 7, 10, 16, 21, 32, if impacted, will require a mitigation ratio of 5.5:1.0 due to FQI over 20 and/or mean C 4.0 or higher. Please note also that EPFO was found near Wetland Site 10.** After the extent of impacts is determined, a Wetland Impact Evaluation (WIE) form will be completed and submitted to the IDOT Bureau of Design and Environment. Unavoidable adverse wetland impacts are subject to the applicable ratios specified in 17 Ill. Adm. Code Part 1090.50 (c)(8). If the project will avoid adverse wetland impacts, the WIE should reflect the determination that adverse wetland impacts will not occur. The WIE form and instructions for its completion can be accessed at <http://apps.dot.illinois.gov/environment/wetlands.asp>.

## **Review for Endangered Species Act - Section 7**

The proposed improvement was reviewed in fulfillment of our obligation under Section 7(a)2 of the Endangered Species Act. Our review included use of the US Fish and Wildlife Service's Information for Planning and Conservation (IPaC) web-based review tool. Through IPaC, an official species list was received and is saved to the project folder. The list contains the endangered, threatened, proposed and candidate species and proposed and designated critical habitat that may be present within or in the vicinity of the proposed improvement. The following species are listed: Northern long-eared bat (NLEB), piping plover, red knot, Pitcher's thistle, Karner blue butterfly, Eastern massasauga, and eastern prairie fringed orchid. No proposed or designated critical habitat is listed.

### **Northern Long-eared Bat**

Northern long-eared bat suitable summer habitat consists of a wide variety of forested or wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees or snags three or more inches dbh that have exfoliating bark, cracks, crevices, or hollows) as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested or wooded habitat. Trees found in high developed urban areas (e.g., street trees, downtown areas) are extremely unlikely to be suitable NLEB habitat. Northern long-eared bats have also been observed roosting in bridges; therefore, these structures should also be considered potential summer habitat.

We assessed the potential for adverse impacts to the NLEB in accordance with the *Federal Highway Administration Range-Wide Biological Assessment (BA) for Transportation Projects for Indiana Bat and Northern Long-Eared Bat*. The proposed improvement may involve tree clearing, to be determined in the final design phase. In accordance with the BA, an assessment for signs of bats was conducted June 15-16, July 6-7 and 15-16, and August 1, 2015. No mist netting was conducted due to lack of suitable sites. INHS mammalogists found thirteen potential roost trees. INHS stated that the project corridor is of low habitat suitability for listed bats due to better habitat occurring outside the corridor and few suitable trees occurring within the corridor. No bats or signs of bats were observed under the bridges. We determined that this action is not likely to adversely affect the NLEB. In accordance with the final 4(de) rule for NLEB, the following voluntary conservation measure may be implemented to reduce the impacts of this action on the NLEB: trees five (5) inches or greater in diameter at breast height will not be cleared from April 1 through October 14.

### **Eastern Prairie Fringed Orchid**

INHS found Eastern prairie fringed orchid (EPFO) during botanical surveys in 2015. Two EPFO plants were found within a high-quality wetland that was

previously known to harbor an EPFO population (just outside Botanical Site 9 and Wetland Site 10). While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. The closest EPFO plant was approximately 15 feet east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation. The other EPFO plant occurred approximately 600 feet east of the project area. The proposed rail work will either occur on the opposite (west) side of the railroad tracks or elsewhere on both sides of the tracks in spot locations. There will thus be no adverse effect on the EPFO by the project. Erosion and sediment control commitments will also be implemented in order to further protect these species.

We cross-referenced the preferred habitat of each listed species with our knowledge of the project area and determined that there is no suitable habitat present for the species listed above other than the NLEB. We have made a no effect determination on these species.

**We have determined that the proposed improvement is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of any critical habitat.**

#### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transport, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the U.S. Fish and Wildlife Service (USFWS). As such, work under the I-94 overpass should be conducted outside the breeding season.

INHS found swallows and a few nests under the I-94 overpass during bat habitat surveys conducted June 15-16, July 6-7 and 15-16, and August 1, 2015. Construction of new railroad track is proposed to occur under the I-94 overpass, potentially impacting nesting swallows.

Therefore, the following commitments shall be adhered to in order to protect nesting swallows, in accordance with MBTA:

- No work shall be conducted under the I-94 overpass from May 1 through August 15 of any construction year in order to protect nesting birds under the overpass.
- If the work cannot be started until after May 1, netting or other obstructions should be placed under the overpass prior to April 1 to prevent birds from nesting under the overpass but so as not to interfere with train traffic.

If these commitments are adhered to, there will be no effect to nesting birds by this project.

#### **Commitments**

1. In order to protect the state and federally listed Northern long-eared bat, trees five inches or greater in diameter at breast height (dbh) to be cut within the project area shall be clearly flagged and/or marked and shall not be cut between the dates of April 1 through October 14.
2. In order to protect the state listed Iowa darter, there shall be no instream work during the dates April 1 through June 30.
3. Strict adherence to best management practices for erosion and sedimentation control should be used to minimize the possibility of any adverse impacts to aquatic species, streams, Middlefork Savanna Nature Preserve, and wetlands in the vicinity of this project action.
4. Direct coordination is needed at the appropriate time with the Illinois Nature Preserves Commission staff to ensure avoidance of any impacts, direct or indirect, to the Middlefork Savanna Nature Preserve, up to and including permitting by INPC if necessary. Contact Kelly Neal, INPC Stewardship Project Manager, [Kelly.neal@illinois.gov](mailto:Kelly.neal@illinois.gov) or by phone at 217/524-2415.
5. No work shall be conducted under the I-94 overpass from May 1 through August 15 of any construction year in order to protect nesting birds under the overpass.
6. If the work cannot be started until after May 1, netting or other obstructions should be placed under the overpass prior to April 1 to prevent birds from nesting under the overpass but so as not to interfere with train traffic.

Should the proposed improvement be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination should be initiated.

Cc: Sheldon Fairfield (IDNR)

SDH

*Applicant:* Illinois Department of Transportation  
*Contact:* Susan Hargrove  
*Address:* 2300 S Dirksen Parkway  
 Room 330  
 Springfield, IL 62764

*IDNR Project Number:* 1608980  
*Date:* 03/28/2016  
*Alternate Number:* 19157

*Project:* Ro  
*Address:* n/a, Lake Bluff area

*Description:* Replace small RR bridge over NB Chicago R; replace track, new track & signals from CP MP 31.16 to Metra MP 33.85, Lake Co. Middlefork Savanna INAI/NP w/ many T&E. INHS found marsh speedwell, golden sedge, EPFO, least bittern, IA darter 3 streams, no Blanding's turtles. Commitments.

### Natural Resource Review Results

#### Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

- Middle Fork Savanna INAI Site
- Jean Farwell Woods Land And Water Reserve
- Middlefork Savanna Nature Preserve
- Blanding's Turtle (*Emydoidea blandingii*)
- Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)
- Golden Sedge (*Carex aurea*)
- Iowa Darter (*Etheostoma exile*)
- King Rail (*Rallus elegans*)
- Marsh Speedwell (*Veronica scutellata*)
- Northern Long-Eared Myotis (*Myotis septentrionalis*)
- Pale Vetchling (*Lathyrus ochroleucus*)
- Wilson's Phalarope (*Phalaropus tricolor*)

**An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.**

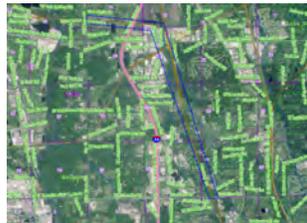
#### Location

The applicant is responsible for the accuracy of the location submitted for the project.

*County:* Lake

*Township, Range, Section:*

- 43N, 12E, 6
- 44N, 11E, 13
- 44N, 11E, 14
- 44N, 11E, 23
- 44N, 11E, 24
- 44N, 11E, 25
- 44N, 11E, 36
- 44N, 12E, 31



**IL Department of Natural Resources**  
**Contact**  
Sheldon Fairfield  
217-785-5500  
Division of Ecosystems & Environment

**Government Jurisdiction**  
IL Department of Transportation  
Susan Hargrove  
2300 South Dirksen Parkway, Room 330  
Bureau of Design and Environment  
Springfield, Illinois 62764

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### **Disclaimer**

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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ILLINOIS NATURAL  
HISTORY SURVEY  
PRAIRIE RESEARCH INSTITUTE

# BOTANICAL SURVEY REPORT

## Results of Botanical Surveys of Metra Fox Lake rail project including Middle Fork Savanna Forest Preserve, Lake Co, IL

IDOT Sequence Number: 19157



Prepared by:  
Greg Spyreas, Botanist

**INHS/IDOT Statewide Biological Survey & Assessment Program  
2015 (57)**

December 17, 2015



## Project Summary

Botanical surveys were conducted in June, July, and August 2015 within the Roundout/Metra Fox Lake railroad corridor in Lake County, Illinois. The emphasis of the surveys were to locate, map, and describe any Threatened or Endangered (T & E) species and high-quality natural plant communities. One population each of the state Threatened plant species, marsh speedwell (*Veronica scutellata*) and golden sedge (*Carex aurea*), were found within the project boundary. There were several remnant plant communities of considerable natural quality (Grade B or C) found within the project corridor, and most of these extended beyond the project corridor boundary into the adjacent Middle Fork Savanna Nature Preserve to the east. Several areas qualified as potential habitat for the Federally Threatened Eastern Prairie Fringed Orchid (*Platanthera leucophaea*), and they were searched in detail. Two EPFO individuals were found within a high-quality wetland that was previously known to harbor an EPFO population. While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. One of the EPFO plants was only ~15 ft. east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation.

Signed: 

Date: December 17, 2015

Eric Ulaszek  
Biological Surveys & Assessment Program  
Botany Coordinator

Surveys Conducted by: Greg Spyreas, Botanist  
Eric Ulaszek, Botanist

GIS Layers by: Janet Jarvis, Remote Sensing Specialist

University of Illinois  
Prairie Research Institute, Illinois Natural History Survey  
Statewide Biological Survey and Assessment Program  
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## Contents

Project Summary.....	1
Introduction .....	3
Methods.....	3
Results and Discussion .....	6
Rare, Threatened, and Endangered Plants.....	6
Botanical Inventory Sites .....	7
Conclusions .....	14
Literature Cited .....	16
Appendix .....	17
Maps.....	17
Photographs.....	22
Site Species Lists .....	33
EPFO Associates .....	68

Cover Photo: High-quality savanna and prairie habitat, showing vegetation zonation outward from rail line. Image taken facing north.

## Introduction

A request was received from the Illinois Department of Transportation (IDOT) to conduct vegetation surveys within the Metra Fox Lake rail project area in Lake County, Illinois. Much of this area passes through Lake County Forest Preserve District's Middle Fork Savanna and the Middle Fork Savanna Nature Preserve (Appendix: Map 1). The goal was to search for Threatened and Endangered species (T & E) and high quality remnant vegetation communities within the railroad (RR) corridor. One Illinois Natural Area Inventory (INAI) area (Middle Fork Savanna, a high-quality mesic savanna [INHD 2015]), barely extends into the project corridor (see Botanical Inventory Sites 8-10). Current or historic T & E occurrences within, or very near, the project area include, pale vetchling (*Lathyrus ochroleucus*), marsh speedwell (*Veronica scutellata*), golden sedge (*Carex aurea*), and the Federally Threatened Eastern Prairie Fringed Orchid (*Platanthera leucophaea*; henceforth EPFO) (INHD 2015). Concurrent wetland surveys in the project area were conducted by the INHS-IDOT Wetland Surveys Group (Kenney et al. 2015), although the two projects were conducted independently of one another.

## Methods

Searches were conducted for T & E plant species and high-quality native vegetation throughout the RR corridor beginning in early June, and ending in mid-August 2015. Beyond an initial assessment, detailed ground surveys were not undertaken in highly degraded areas or developed land because natural communities in these areas had been destroyed and no suitable habitat for Threatened and Endangered species remained in them (i.e., Grade E; see explanation of grades below). Therefore, complete plant species inventories, along with detailed vegetation descriptions were only made for remnant plant communities with at least a moderate level of natural quality (i.e., Grades A, B, or occasionally C), or those that harbored T & E species. These are described in detail as Botanical Inventory Sites (henceforth, Site). Note that these Sites are numbered differently from the wetland Sites described in the surveys carried out by the INHS-IDOT Wetland Surveys Group because the delineation boundaries often differed (Kenney et al. 2015). This means that direct comparisons between them are not possible. The location of Botanical Inventory Sites and T & E plants were recorded using a hand-held GPS unit set to WGS 84/NAD 83. Maps were made by Janet Jarvis, Remote Sensing Specialist using ARCMAP.

For each Site, a species list was generated, relative abundance values (RAV) were assigned to each species, and the natural quality of the remnant vegetation was assessed. RAV are reported as (1) uncommon, (2) occasional, (3) common, (4) abundant, and (5) dominant. Floristic Quality Assessment (FQA) was also used to evaluate habitat quality (Taft et al. 1997); where the Coefficient of Conservatism (C or CC) values assigned to the native plant species documented were used to calculate the native Mean C (Mean C<sub>n</sub>) and native FQI (FQI<sub>n</sub>) scores. A summary list of the plant species and FQA values of Sites can be found in Site Species

Lists section of the Appendix. Throughout this report, exotic species are indicated by an asterisk (\*). Botanical nomenclature follows Swink and Wilhelm (1994), with some exceptions for T & E plant species, whereupon nomenclature used by the Illinois Endangered Species Protection Board is followed (IESPB 2015).

The natural quality of the vegetation in surveyed habitats was assigned a grade from A (highest quality native remnant) to E, generally following the methods described by White (1978), and the updated Natural Areas Program (IDNR 2010). Grades of natural quality are as follows:

**Grade A:** Very high-quality natural remnant community. Exhibits native species composition, structure, and function with no, or very minimal, signs of degradation.

**Grade B:** High-quality natural remnant community. Community that has experienced some degradation, but community structure, composition, and function are still intact; or community has recovered from degradation to achieve the natural quality of a complete and functional, remnant community.

**Grade C:** Medium-quality natural community. Community that has experienced moderate to heavy degradation, with evident effects on plant structure, composition or function, but it still maintains considerable natural quality, or has the potential to have its structure, composition and function to be restored to that of a high-quality community.

**Grade D:** Low-quality natural community. Community that has experienced severe degradation and not recovered its structure, composition, or function. Original structure, composition, and function typically cannot be restored to that of a high-quality community, but management efforts can improve conditions.

**Grade E:** Very severely disturbed community. Community has been removed from the landscape or destroyed beyond recovery. Little, to no native or remnant vegetation remains.

In addition to the A to E grade system, qualifiers of + and - are used to further distinguish plant communities. For example, the classification of "C+" indicates a community that is intermediate between "C" and a "B-". Some criteria used to determine the status and quality of habitat and communities included: the presence of Endangered, Threatened, and watch-list species; the abundance of exotic (non-native) vegetation; levels of human disturbance (historic or current), as from grazing, logging, hydrological alteration, etc.; age and successional stage of the community; the physical and compositional structure of the vegetation; the presence and abundance of conservative plant species; the size and position of the community in the landscape.

While "C" quality communities are typically not considered of high enough quality to qualify as Illinois Natural Areas Inventory (INAI) habitats because of their disturbances and

degradation levels, they are often regionally important for preserving biodiversity. They may be especially important if they are large, or if they are the “best-in-kind” for their community type in a particular region. For example, the rich, black soil, “silt-loam” savanna detailed in this report comprises a rare statewide community type and even grade C communities of this type are exceedingly valuable (Taft et al. 2009). Unlike other savanna types which require 20 acres of high quality habitat to qualify for INAI status, only 5 acres of high-quality deep soil savanna are required (IDNR 2010). Grade C savannas are therefore described in this report.

EPFO searches were conducted in areas deemed to be potential habitat for this species. The criteria for determining potential EPFO habitat followed U.S. Fish and Wildlife Service guidelines; where an FQIn score of  $\geq 20$  **or** a Mean Cn  $\geq 3.5$ , **and** the presence of 4 or more associate species (for detailed explanation of guidelines and protocols see, <http://www.fws.gov/midwest/Endangered/section7/s7process/plants/epfos7guide.html>). EPFO associate species found are highlighted in the Site Species Lists section in the Appendix. Following USFWS protocols, searches were conducted on three non-consecutive days between (July 3rd and July 10th), which is when EPFO populations in the area were known to be in bloom and were most likely to be discovered by surveys.

Due to the length of the project corridor and to the abundant natural areas within it, Site Species Lists were constrained to only include species within the project boundary (but see Sites 2 & 12 for exceptions). However, grading of natural areas and T & E searches extended for approximately 25 feet outside of the project boundary. This was done to indicate of how far T & E localities extended outside of the project corridor. Habitat assessments and grading extended beyond the project area because habitats, and their influences, are contiguous (e.g., hydrology), and assessing habitat quality slightly beyond the corridor area helps to put the grade of communities in context.

Initial species lists for all potential EPFO habitats were made in June to determine which ones met the USFWS criteria before the search window in July. Site EPFO search results are indicated in Table 1 and individual Botanical Inventory Site descriptions below. Note that several large sections within the project boundary met the USFWS criteria for EPFO surveys and were searched for EPFO’s, but because they were not noteworthy natural areas (e.g., of at least Grade C natural quality) they were not described in this report. Due to the time constraints of a short July sampling window and amount of area that met EPFO survey criteria, searches were restricted to portions of the Site that were within the project boundary along with a small buffer outside of the project boundary. It would not have been possible to search entire contiguous habitats when they extended beyond the project area, because in most cases the potential EPFO habitats extended for hundreds of acres east into the Middle Fork Savanna Nature Preserve. In two potential EPFO search areas, the determination of whether the area was a potential EPFO habitat by the INHS–IDOT Wetland Surveys Group differed from the determination in this report. For example, sites 32 and 36 from Kenney et al. (2015) were

indicated as potential EPFO habitat, but were not considered potential habitat in this report. This was probably because different Site boundaries between the wetland and botanical surveys resulted in different species lists for each Site. For example, their sampling areas are confined to jurisdictional wetlands, and do not typically include upland portions. Furthermore, their wetland species lists often extend far beyond the project boundary. For example, the species list habitat from site 36 (Kenney et al. 2015) are made from areas that extend beyond the project area to include a large portion of mature “wet floodplain forest”. Because this habitat is a forest, and not a “*wet to mesic prairie or wetland communities including, but not limited to sedge meadow, fen, or marsh*”, as described by the USFWS EFPO guidelines, it was not deemed to be suitable EPFO habitat in the current report.

## Results and Discussion

### Rare, Threatened, and Endangered Plants

#### *Platanthera leucophaea* (EPFO)

Two EPFO individuals were found just outside of Site 9 (Appendix: Map 4) in an area that was previously known to harbor an EPFO population (INHD 2015). The associates for these two EPFO individuals are listed in the Appendix (EPFO Associates). Because the wetland that these plants grow in extends into the project corridor (Site 9), there is the potential to disrupt the hydrology throughout the habitat. Furthermore, one of the individuals (EPFO #1) was within ≈15ft of the corridor boundary growing within an area with evidence of herbicide drift damage on its associated vegetation; this area should receive special management and attention to prevent herbicide drift from impacting the EPFO population.

#### *Veronica scutellata*

One population of *Veronica scutellata* was found in a marsh/wet savanna habitat that was partially in the project boundary (Site 12, Map 5). This is a new location for this plant. It contained approximately 300 individuals. The wetland had a maximum water depth of approximately 1ft at that time of sampling and the plants tended to be located around the water’s edge. The habitat is described in further detail below (Site 12).

#### *Carex aurea*

One population of *Carex aurea* was found in a wet-mesic prairie habitat that was partially within the project boundary (Site 13, Map 5). The location had two small sub-populations of approximately 25 and 30 individuals each. This habitat is fairly disturbed and is being encroached by invasive shrubs (Appendix: Photos 10 & 11). This population is adjacent to a known location for this plant that extends to the east of the project boundary. The habitat is described in further detail below (Site 13).

### *Eryngium yuccifolium*

There were several individuals of rattlesnake-master (*Eryngium yuccifolium*) found in or near the project area. Although it is not a T & E, rattlesnake-master is the only known food plant for the *Eryngium* stem-borer (*Papaipema eryngii*), an insect listed by the Illinois Endangered Species Protection Board (IESPB 2015) as Endangered and proposed for listing as Federally Endangered or Threatened by the US Fish and Wildlife Service (USFWS 2013). We could not determine whether the borer was present on these plants.

### Botanical Inventory Sites

The Botanical Inventory Sites described below consist of areas that are remnant communities of high enough biological quality to at least be noteworthy, or because they harbor Threatened or Endangered species. As a rule, all habitats *directly abutting* the railroad were of low natural quality (e.g., Grades D & E). This is due to the frequent disturbances; for example, from broadleaf herbicide used to manage the railroad corridor. Because of this disturbance the highest quality vegetation occurs farthest from the track. The INAI Grade results reported for each Site reflects these higher-quality areas of the project corridor, and Grade D & E areas next to the tracks are not discussed or graded, although their species are included in Site Species Lists. Also, because many of the weedier plants present in Site Species Lists mainly occur along the highly disturbed RR ballast, this lowers the Floristic Quality scores of the natural communities described. The stratification of vegetation into community types and zones of natural quality due to disturbance near the rail lines is evident in Photo 1 in the Appendix. Not only are annual weeds common in the near-track/ballast vegetation zone, but with the exception of a few herbicide resistant plants (e.g., common milkweed [Wyrill and Burnside 1976]), it is comprised exclusively of monocots that are able to tolerate broadleaf herbicide spraying.

Even with direct herbicide application, herbicide drift, hydrologic alterations, and historic cattle grazing (Photos 3 a&b), affecting the plant communities, there were still several high-quality remnant plant communities of Grade B occurring within the project area. There were also several Grade C Sites present in the project area whose remnant plant communities were of noteworthy natural quality. The highest quality habitats were within the Middle Fork Savanna Nature Preserve section of the project corridor. This nature preserve receives considerable ecological management. This includes prescribed fire, spot spraying of invasive species, and control of native and non-native woody species. There are also areas where prairie species appear to have been planted, although with the exception of a few species present in Site 5, most of the remnant plant communities described below did not appear to be enhanced by seeding or planting. Flagging and other evidence of rare plant monitoring was also observed (see Appendix: Photo 7). The locations of the higher quality remnant plant communities and rare plants are found on the east side of the tracks in the Nature Preserve. The project corridor

is narrower on the west side, and only a small area of vegetation is lies within the project boundary there (see Maps). Furthermore, communities on the west side of the tracks were more often seeded habitat restorations as opposed to being high-quality remnant habitats.

Summary information for noteworthy Botanical Inventory Sites is provided in Table 1 below. Individual Sites are described in detail below that. Complete Site species lists can be found in the Appendix (Site Species Lists).

Table 1. Summary information Botanical Inventory Sites

Site #	Natural Communities Present	Grade	Native Species	Total Species	FQIn	Mean Cn	Potential EPFO Habitat?	EPFO Present?	Other T&E species historic	Other T&E species found
1	Mesic/dry-mesic prairie	D+	31	43	19	3.4	No	NA	None	None
2	Mesic/wet-mesic prairie	C	57	71	30.9	4.2	Yes	No	None	None
3	Marsh and wet-mesic upland forest (woodland)	C- to D+	110	135	40.1	3.8	Yes	No	None	None
4	Dry-mesic savanna/woodland/forest	C+ to C-	58	70	32.4	4.3	No	NA	None	None
5	Dry-mesic/mesic/wet-mesic/wet prairie and sedge meadow	C to B-	71	82	36.1	4.3	Yes	No	<i>Veronica scutellata</i>	None
6	Dry-mesic savanna	C+ to B-	110	134	42.3	4.07	No	NA	None	None
7	Mesic/(wet) mesic savanna	B-	63	85	33.5	4.2	Yes	No	None	None
8	Mesic savanna	B-	78	99	35	3.9	Yes	No	<i>Lathyrus ochroleucus</i> , <i>Veronica scutellata</i>	None
9	Sedge meadow, wet prairie/wet-mesic prairie	C to B	32	38	24.2	4	Yes	No (but nearby)	<i>Lathyrus ochroleucus</i> , <i>Veronica scutellata</i>	None
10	Mesic/(wet) mesic savanna	B+	73	86	37.6	4.4	Yes	No	<i>Lathyrus ochroleucus</i> , <i>Veronica scutellata</i>	None
11	Mesic/wet-mesic prairie, sedge meadow	B to C-	72	81	36.6	4.4	Yes	No	None	None
12	Marsh, (wet) mesic woodland	C to B-	26	28	22.9	4.5	Yes	No	None	<i>Veronica scutellata</i>
13	Wet-mesic prairie	C+ to D	55	73	25.3	3.4	Yes	No	<i>Carex aurea</i>	<i>Carex aurea</i>

### Site 1

Grade D+ mesic and dry-mesic prairie. This is a small prairie remnant surrounded by an exotic shrub thicket (Appendix: Maps 1 & 2). It is more disturbed and has less native plant quality than Site 2. It is however, similar in several ways. It is dominated by similar old-field perennials (Appendix: Site Species List 8) suggesting a long history of disturbance, perhaps by pasturing. But, it could also be a prairie remnant whose topsoil removed by railroad construction, as there is no A horizon in the soil. The Site is quickly being invaded by exotic shrubs. The native Floristic Quality of the Site is nonetheless noteworthy, although again, its high exotic species richness illustrates severe invasion by exotic species (Mean Cn 3.4, FQIn 19, 31 native species, 43 total species). Of particular note is the large population of *Comandra umbellata*, a remnant prairie indicator, which covers more than half of the area of the Site. This Site is not receiving ecological management as it is outside of the nature preserve. This habitat did not meet potential EPFO habitat criteria and was not surveyed for EPFO's.

### Site 2

Grade C mesic and wet-mesic prairie. This is a small prairie remnant surrounded by an exotic shrub thicket (Appendix: Map 2). There is no matrix of prairie grasses and sedges. Some species here such as tall fescue, common St. John's-wort, eastern red cedar, alfalfa, and red clover (Appendix: Site Species List 7) are typical old-field perennials suggesting a long history of disturbance, perhaps by pasturing. But it could also be a prairie remnant whose topsoil was removed as there is no A horizon in the soil. The Site is undergoing rapid invasion by European buckthorn. Note that the species list encompassed the entire habitat, which was mostly found outside of the project boundary. Nonetheless, a small portion of Site 2 enters the project area. The floristic quality levels and native diversity are very high for such a small area, but the high exotic species richness illustrates its severe invasion (Mean Cn 4.2, FQIn 30.9, 57 native species, 71 total species). This Site occurs outside of the nature preserve and no ecological management activities are currently being undertaken. With proper management, this habitat would likely be restored to a habitat of high natural quality. Field surveys at this Site did not find EPFO's.

### Site 3

Grade C- to D+ marsh and wet-mesic upland forest (woodland). This large, diverse depression likely resulted from the railroad construction (Appendix: Map 3). The core, wet portion is Grade C-. There is a prairie restoration directly abutting it to the east. There is evidence of ecological management as encroaching trees have recently been cut. Because its western boundary abuts an *unused* rail line spur, it is afforded some buffer from the herbicide spraying that occurs along the main rail line. For this reason, and because of the hydrologic gradient across this depression, and because of the prairie restoration planting to the east, this Site is quite diverse and although it was probably "created" by RR construction, it is of some importance as a natural area. High measured Floristic Quality and very high diversity values might suggest a

higher Grade, but these values are somewhat artificially inflated by the nearby restoration planting (Mean Cn 3.8, FQIn 40.1, 110 native species, 135 total species). Field surveys at this Site did not find EPFO's.

#### Site 4

Grade C+ dry-mesic savanna, Grade C dry-mesic woodland, Grade C- dry-mesic upland forest, moving from south to north (Appendix: Map 4). This is a woodland/savanna habitat that is dominated by *Quercus ellipsoidalis* and *Q. macrocarpa*, like most of the woodlands in the project area. Its trees, however, are denser than most others reported here, which may account for the lower quality plant communities, especially in the northern section of the Site. Ongoing restoration/management activities (fire & woody control), if continued, will improve the quality of this Site to the point that it could become a high-quality natural area. The trees at this Site seem to occur closer to the rail line than most other wooded areas in the project corridor, and it is likely this Site receives less herbicide damage, which helps to account for the Site's richness and natural quality. There are signs posted that may be reducing herbicide use. However, the signs here and elsewhere along the corridor are all currently fallen and in disrepair (Appendix: Photo 4). The Site Floristic Quality supports its characterization as a noteworthy natural area, and one that may approach high-quality in spots (Mean Cn 4.3, FQIn 32.4, 58 native species, 70 total species). This habitat continues to the east, beyond the project boundary, where it is of similar natural quality. This habitat did not meet potential EPFO habitat criteria and was not surveyed for EPFO's.

#### Site 5

Grade C wet prairie, wet-mesic prairie, and sedge meadow (central parcel). Grade C+ mesic prairie (northern parcel). Grade B- mesic and dry-mesic prairie (southern parcel) (Appendix: Map 4). There was evidence of an abandoned corral just to the north of this Site, indicating past livestock grazing. Measured Floristic Quality levels support the high-quality grade for parts of this Site (Mean Cn 4.3, FQIn 36.1). They illustrate a flora that is highly conservative, with a high amount of species richness and relatively few exotic species (71 native species, 82 total species). The wetter portions of this Site partially overlap with historic population locations of *Veronica scutellata*, but they have not been seen in this area since 1998 (INHD 2015). These habitats continues to the east, beyond the project boundary, where they are of similar natural quality. Field surveys at this Site did not find EPFO's.

#### Site 6

Grade C+ to B- dry-mesic savanna (Appendix: Map 4). This is a woodland/savanna habitat dominated by *Quercus ellipsoidalis* and *Q. macrocarpa*. The canopy density may approach that of mesic woodland in parts (Appendix: Photo 2). There are patches of pasture grasses here (e.g., orchard grass), suggesting a grazing history. But, portions of this Site are high-quality savanna, especially farther from the rail line. Ecological restoration/management activities are

occurring (e.g., prescribed fire), and with time it is likely that it will become a high-quality savanna throughout. Both this Site and Site 7 have *Q. macrocarpa* trees growing up the side of the RR ballast and relatively close to the RR line space (Appendix: Photo 5). There are signs posted in these wooded habitats that may be reducing herbicide damage from the railroad. However, the signs here and elsewhere along the corridor are all currently fallen and in disrepair (Appendix: Photo 4). The Site's Floristic Quality supports its characterization as an area that is high-quality in spots (Mean Cn 4.07, FQIn 42.3, 110 native species, 134 total species). This habitat continues to the east, beyond the project boundary, where it is of similar natural quality. This habitat did not meet potential EPFO habitat criteria and was not surveyed for EPFO's.

#### Site 7

Grade B- mesic and wet-mesic savanna (Appendix: Map 4). This Site is more open and wetter than the savanna/woodland to the north (Site 6). Most of the trees are *Q. macrocarpa*. There are less pasture grasses here, and the topography creates more hydrologic variability and diversity. Ecological restoration/management activities are occurring at this Site (e.g., prescribed fire). Both this Site and Site 6 have *Q. macrocarpa* trees growing up the side of the RR ballast (Appendix: Photo 5). There are signs posted in these wooded habitats that may be reducing herbicide damage from the railroad adjacent to them. However, the signs here and elsewhere along the corridor are all currently fallen and in disrepair (Appendix: Photo 4). The Site's Floristic Quality and high diversity within a small area supports its characterization as a high-quality natural area (Mean Cn 4.2, FQIn 33.5, 63 native species, 85 total species). Field surveys at this Site did not find EPFO's.

#### Site 8

Grade B- mesic savanna (Appendix: Map 4). This area is partially within an INAI habitat described as a high-quality mesic savanna (INHD 2015). There are occasional pasture grasses in spots, suggesting a history of grazing. The Site is undergoing ecological management/restoration (e.g., prescribed fire), and there is a near total absence of exotic species cover. The Site had "No Spraying & Mowing" signs posted along the rail road line, and these may have previously offered it some protection from herbicide damage, although the signs have now fallen (Appendix: Photo 4). This Site partially overlaps with historic population locations of *Lathyrus ochroleucus* and *Veronica scutellata*, but they have not been seen at the Site since 1993 (INHD 2015). This habitat continues to the east, beyond the project boundary, where it is of similar natural quality. The Site's high Floristic Quality levels, and high diversity within a small area, supports its characterization as a high-quality natural area (Mean Cn 3.9, FQIn 35, 78 native species, 99 total species). Field surveys at this Site did not find EPFO's.

### Site 9

Grade C to B, from west to east, sedge meadow, wet prairie, wet-mesic prairie (Appendix: Map 4). This wetland appears to be an old glacial feature, perhaps a kettle. Western sections of the Site have low diversity, because they are almost totally graminoid dominated with low forb diversity due to herbicide drift from railroad maintenance. But this area has a vegetation structure that is characteristic of higher quality habitats, including a matrix of conservative grasses and sedges. This area occurs partially within the boundaries of the same INAI Site that overlaps Sites 8 & 10 (INHD 2015). Although the diversity is relatively low, the FQA scores support its designated high-quality status (Mean Cn 4, FQIn 24.2, 32 native species, 38 total species). The Site may overlap with historic population locations of *Lathyrus ochroleucus* and *Veronica scutellata*, although our survey did not locate these plants and they have not been seen here since 1993 (INHD 2015). EPFO surveys were carried out at this Site. Two plants (Appendix: Photo 7), were found in this this habitat's sedge meadow/wet-mesic prairie zone outside of project boundary. The plant's associates are listed in the Appendix (EPFO Associates). EPFO populations are discussed further in Rare, Threatened, and Endangered Plants.

### Site 10

Grade B+ mesic and wet-mesic savanna (Appendix: Map 4). This area occurs partially within the boundaries of the same high-quality mesic savanna and INAI habitat that overlaps Sites 9 & 10 (INHD 2015). The Site is undergoing ecological restoration/management, and there is a near total absence of exotic species. The Site had "No Spraying & Mowing" signs posted along the rail road line, and these may have previously offered this Site some protection from herbicide damage, although the signs have now fallen (Appendix: Photo 4) This Site may also partially overlap with historic population locations of *Lathyrus ochroleucus* and *Veronica scutellata*, but they have not been seen there since 1993 (INHD 2015). The Site's Floristic Quality and high diversity supports its characterization as a high-quality natural area (Mean Cn 4.4, FQIn 37.6, 73 native species, 86 total species). Field surveys at this Site did not find EPFO's. This habitat continues to the east, beyond the project boundary, where it is of similar natural quality.

### Site 11

Grades B to C-, from north to south and east to west, mesic prairie, wet-mesic prairie, sedge meadow (Appendix: Map 4). Community types across this Site reflect a moisture gradient from upland to wet. Grade A- wet-mesic prairie abuts this Site just beyond its north-east boundary. There are considerable ecological restoration/management activities occurring at this Site, including evidence of prescribed fire, flagging, and brush and tree cutting. This Site's Floristic Quality and diversity supports its high-quality status (Mean Cn 4.4, FQIn 36.6, 72 native species, 81 total species). Field surveys at this Site did not find EPFO's.

### Site 12

Grade C marsh to B- wet-mesic woodland moving from west to east (Appendix: Map 5). Only half of this Site lies within the project boundary (mostly the marsh portion) (Appendix: Photo 9). The Site boundary outlines the *Veronica scutellata* population extent, of which there were approximately 300 individuals. Not only is this Site habitat for a State Threatened plant, but it is of considerable natural quality itself. Its Floristic Quality values support this characterization (Mean Cn 4.5, FQIn 22.9, 26 native species, 28 total species). But, like most wet habitats, it is not highly diverse compared to more mesic habitats (IDNR 2010). It is also notable for the near absence in exotic species. The Site had old flagging tape around its perimeter suggesting that it is receiving ecological management. Field surveys at this Site did not find EPFO's.

### Site 13

Grade C+ to D wet-mesic prairie. This Site is the farthest south botanical Site in the corridor (Appendix: Map 5). It is mostly a shrubby prairie remnant. East of this Site, the prairie becomes high-quality (Grade B), but in the RR corridor it is only Grade C+. The mapped polygon outlines the *Carex aurea* population (Appendix: Photo 6). The plants themselves are most often growing near wet depressions that appear to be old vehicle ruts (Appendix: Photo 11). A soil probe indicated that much of the population area is underlain by RR ballast (Appendix: Photo 10). There could be some groundwater influence here, which would not be unexpected given that *C. aurea* is often considered a species of calcium-rich habitats (Swink and Wilhelm 1994). A soil probe indicated that there was no A horizon in this prairie, which indicates historic soil scraping. There is also an old drain tile evident on the aerial photo. Areas along the fence row on the east edge of the Site have been degraded by invasive shrub encroachment and trash (or tire) dumping. Measured Floristic Quality levels support the grading of this as a moderate natural quality Site that is diverse, but heavily influenced by exotic species (Mean Cn 3.4, FQIn 25.3, 55 native species, 73 total species). The polygons on the map show two sub-populations; a northern one in which the plants completely exist within the project area (about 30 plants), and a more southerly population has about 25 plants within the project boundary but that also continues to the east beyond the project boundary, where there are probably over one hundred individuals. This easterly extension of the population is a known location for this plant (INHD 2015). Despite past disturbance, the prairie to the east of the project boundary appears to have recovered and much of it is a high-quality natural area of Grade B+. Field surveys at Site 13 did not find EPFO's.

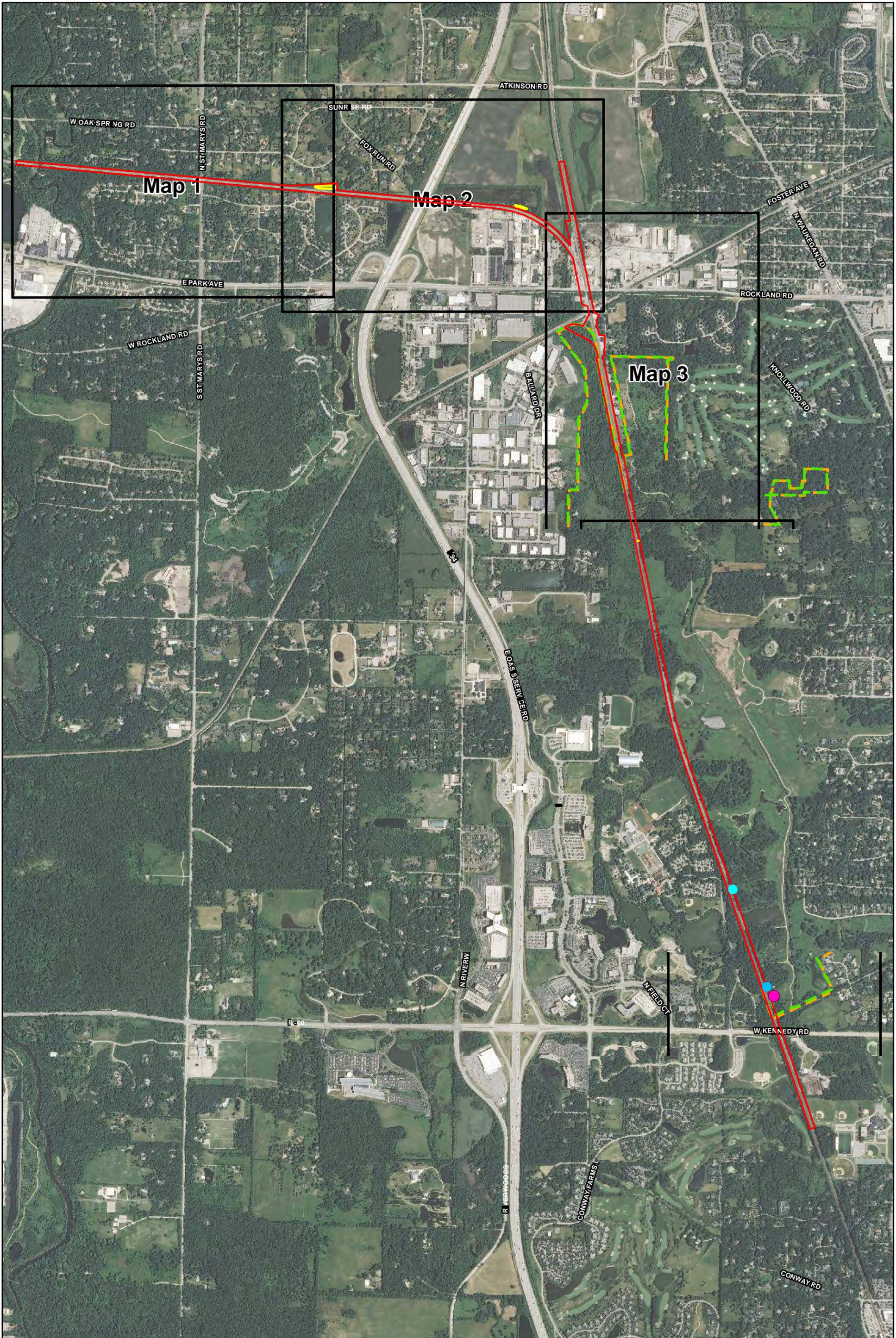
## Conclusions

There were several remnant plant communities of considerable natural quality (Grade B or C) found within the project corridor, and most of these were large and extended beyond the project boundary into Middle Fork Savanna Nature Preserve to the east. Populations of two state Threatened plant species, marsh speedwell (*Veronica scutellata*) and golden sedge (*Carex*

*aurea*), were found within the project boundary. The Veronica population was a new location for this plant, while the Carex was near a historic population location. Several other historic T & E populations were not re-located. Searches of potential EPFO habitats in the project corridor did not find populations. However, two EPFO individuals were found outside of the project area in a high-quality wetland habitat previously known to harbor an EPFO population. Although the EPFO plants themselves were outside of the project area, the wetland they occur in extends into the project area. One of the EPFO plants was only ~15 ft. east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation, which should be a concern for its persistence.

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Botanical survey areas at the Roundout Extension (Seq no. 19157), Lake County, Illinois.

- Project Boundary
- Botanical Sites
- INAI Sites
- Nature Preserves
- *Platanthera leucophaea*
- *Eryngium yuccifolium*
- *Carex aurea*
- *Veronica scutelata* Population
- Large *Eryngium yuccifolium* Population

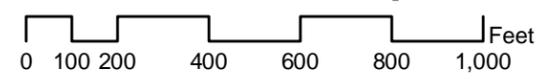
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Botanical survey areas at the Roundout Extension (Seq no. 19157), Lake County, Illinois.

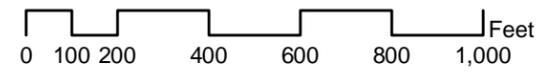
- Project Boundary
- Botanical Sites
- INAI Sites
- Large *Eryngium yuccifolium* Population
- Nature Preserves
- *Platanthera leucophaea*
- *Eryngium yuccifolium*

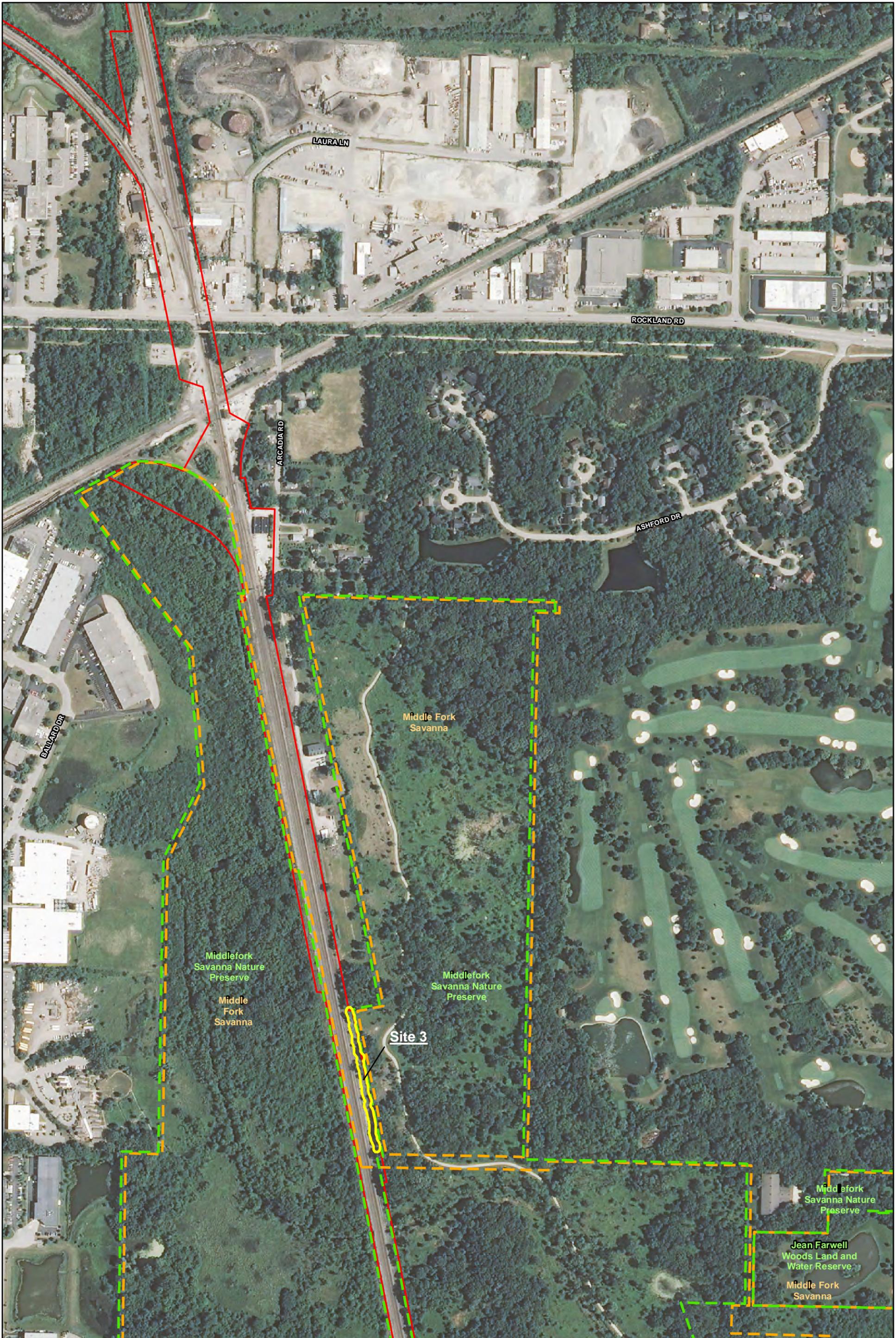




Botanical survey areas at the Roundout Extension (Seq no. 19157), Lake County, Illinois.

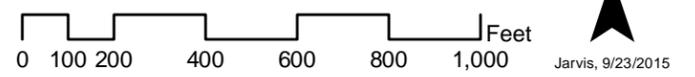
- Project Boundary
- Botanical Sites
- INAI Sites
- Large *Eryngium yuccifolium* Population
- Nature Preserves
- *Platanthera leucophaea*
- *Eryngium yuccifolium*

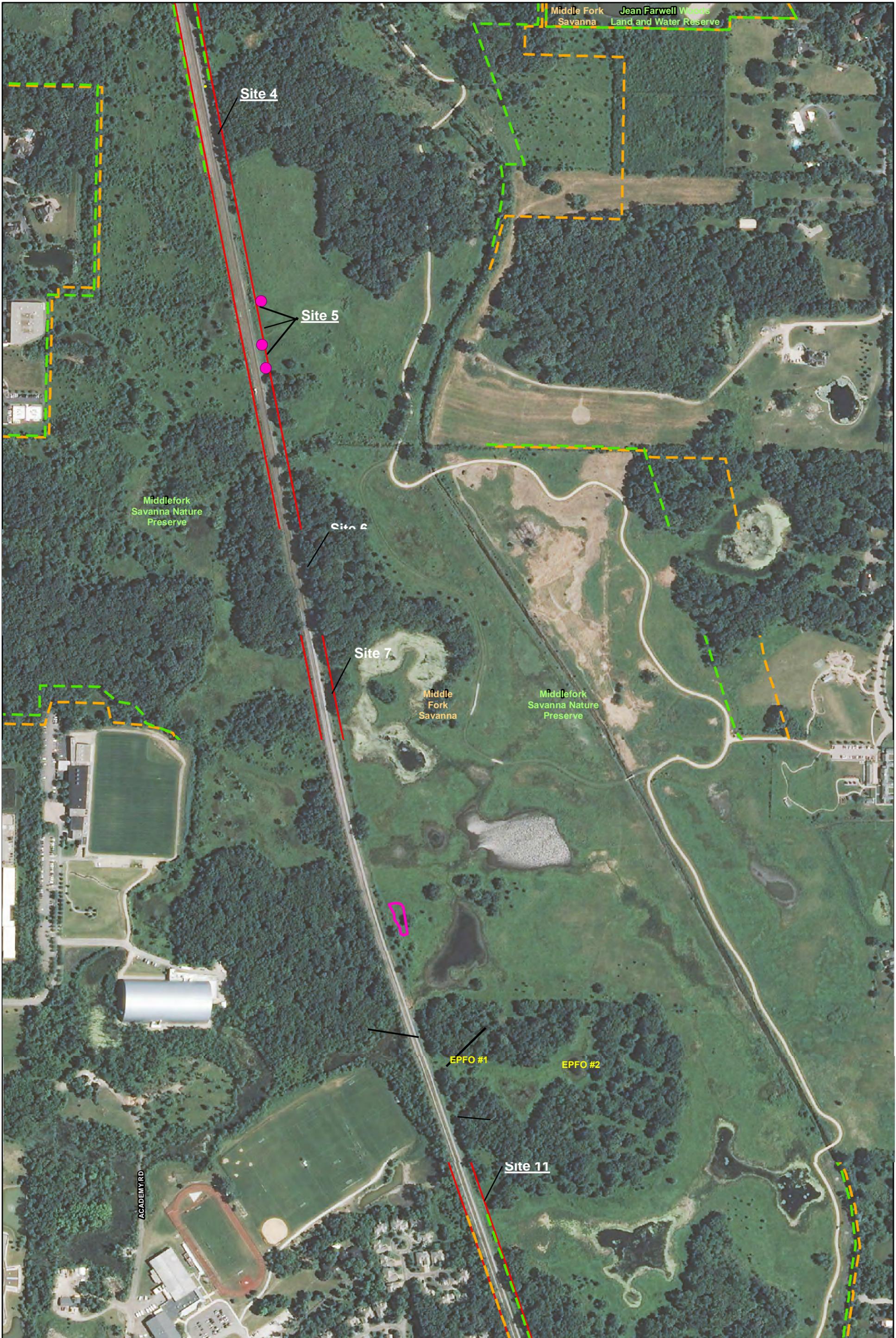




Botanical survey areas at the Roundout Extension (Seq no. 19157), Lake County, Illinois.

- ▭ Project Boundary
- ▭ INAI Sites
- ▭ Nature Preserves
- *Platanthera leucophaea*
- *Eryngium yuccifolium*
- ▭ Botanical Sites
- ▭ Large *Eryngium yuccifolium* Population





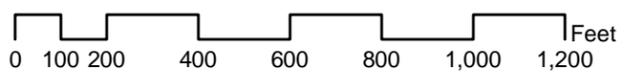
Botanical survey areas at the Roundout Extension (Seq no. 19157), Lake County, Illinois.

- ▭ Project Boundary
- *Platanthera leucophaea*
- ▭ INAI Sites
- *Eryngium yuccifolium*
- ▭ Botanical Sites
- ▭ Nature Preserves
- ▭ Large *Eryngium yuccifolium* Population



Botanical survey areas at the Roundout Extension (Seq no. 19157), Lake County, Illinois.

- |                  |                               |                             |
|------------------|-------------------------------|-----------------------------|
| Project Boundary | <i>Carex aurea</i>            | <i>Veronica scutellata</i>  |
| INAI Sites       | <i>Platanthera leucophaea</i> | <i>Eryngium yuccifolium</i> |
| Nature Preserves | Botanical Sites               |                             |



## Photographs



[Photo 1.](#) Zones of high-quality vegetation furthest from the railroad tracks, and of progressively lower quality nearer the tracks.



[Photo 2](#). View from Site 6 (Map 4) Grade B savanna facing west towards railroad.



[Photos 3 a&b](#). Examples of historic disturbances within Middle Fork Savanna Nature Preserve. Cattle grazing and containment area (a- top), and sewage installation and drainage (b- bottom; taken from southern extent of Site 11 facing north).



[Photo 4](#). Two images showing different signs intended to limit damage to higher quality woodland/savanna habitats near the railroad line. Several signs were found and they were all fallen and in disrepair at the time of surveying.



[Photo 5.](#) Oak tree very near the rail line with evident herbicide damage. This particular vegetation zone had higher quality vegetation particularly close to the track, probably due to the signage that has minimized past damage.



[Photo 6.](#) *Carex aurea* growing within project area and Middle Fork Savanna Nature Preserve at Site 13 (Map 5).



Photo 7. *Platanthera leucophaea* growing within Middle Fork Savanna Nature Preserve (Site 9, Map 4; top EPFO #2, EPFO #1 bottom). Note that EPFO #1 appears to be being monitored and has a nearby stake.



Photo 8. *Veronica scutellata* growing within Middle Fork Savanna Nature Preserve and project area at Site 12 (Map 5).



Photo 9. Site 12 (Map 5) taken from rail line facing east. Marshy habitat nearer the rail line and swampy wet savanna farther east provide habitat for a large *Veronica scutellata* population.



Photo 10. *Carex aurea* habitat Site 13 (Map 5) showing that it is growing on or near muck soil overlaying railroad ballast. Depressions are partially a product of old tire tracks and soils appear to be continually saturated.



[Photo 11.](#) A second view of *Carex aurea* habitat Site 13 (Map 5) showing old tire tracks. The habitat is wedged between a fenceline dominated by invasive European shrubs and the rail line ballast.

## Site Species Lists

Plant species observed in project Botanical Inventory Sites. Relative Abundance Values represent 1 = uncommon, 2 = occasional, 3 = common, 4 = abundant, 5 = dominant species within the community. Highlighted species are recognized EPFO associates.

### Site Species List 1

<b>Site 1</b>		<b>Mean Cn 3.4, FQIn 19</b>	
<b>31 native species, 43 total species</b>			
<b>Species Name</b>	<b>Common Name</b>	<b>Conservatism (C)</b>	<b>Abundance</b>
<i>Andropogon scoparius</i>	LITTLE BLUESTEM	5	3
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	1
<i>Aster sagittifolius</i>	ARROW-LEAVED ASTER	5	3
<i>Bromus inermis</i> *	HUNGARIAN BROME		2
<i>Bromus japonicus</i> *	JAPANESE CHESS		2
<i>Carex blanda</i>	COMMON WOOD SEDGE	1	3
<i>Carex cephalophora</i>	SHORT-HEADED BRACTED SEDGE	3	2
<i>Carex cristatella</i>	CRESTED OVAL SEDGE	4	2
<i>Carex granularis</i>	PALE SEDGE	4	4
<i>Carex pensylvanica</i>	PENNSYLVANIA OAK SEDGE	5	3
<i>Chrysanthemum leucanthemum var. pinnatifidum</i> *	OX-EYE DAISY		4
<i>Comandra umbellata</i>	BASTARD TOAD-FLAX	7	5
<i>Cornus obliqua</i>	PALE DOGWOOD	6	3
<i>Dactylis glomerata</i> *	ORCHARD GRASS		2
<i>Daucus carota</i> *	QUEEN ANNE'S LACE		3
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Euphorbia corollata</i>	FLOWERING SPURGE	2	2
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	4
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	2
<i>Hieracium gronovii</i>	HAIRY HAWKWEED	6	2
<i>Lathyrus palustris var. myrtifolius</i>	MARSH VETCHLING	6	2
<i>Medicago sativa</i> *	ALFALFA		2
<i>Melilotus alba</i> *	WHITE SWEET CLOVER		1
<i>Pinus sylvestris</i> *	SCOTCH PINE		3
<i>Poa compressa</i> *	CANADIAN BLUE GRASS		4
<i>Polygonatum canaliculatum</i>	GREAT SOLOMON SEAL	3	3
<i>Populus deltoides</i>	EASTERN COTTONWOOD	2	2

<i>Prunella vulgaris*</i>	LAWN PRUNELLA		1
<i>Quercus macrocarpa</i>	BURR OAK	5	1
<i>Ratibida pinnata</i>	YELLOW CONEFLOWER	4	2
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		5
<i>Rhus glabra</i>	SMOOTH SUMAC	1	4
<i>Rosa virginiana*</i>	VIRGINIA ROSE		3
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	2
<i>Rubus pensilvanicus</i>	YANKEE BLACKBERRY	3	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Scirpus pendulus</i>	RED BULRUSH	4	3
<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	1
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	2
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	2
<i>Solidago juncea</i>	EARLY GOLDENROD	5	3
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2

Site Species List 2

Site 2		Mean Cn 4.2, FQIn 30.9	
57 native species, 71 total species			
Species Name	Common Name	Conservatism (C)	Abundance
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	1
<i>Andropogon scoparius</i>	LITTLE BLUESTEM	5	3
<i>Anemone virginiana</i>	TALL ANEMONE	5	2
<i>Apocynum cannabinum</i>	DOGBANE	4	1
<i>Asclepias sullivantii</i>	PRAIRIE MILKWEED	8	1
<i>Aster ericoides</i>	HEATH ASTER	5	1
<i>Aster sagittifolius var. drummondii</i>	DRUMMOND'S ASTER	2	2
<i>Carex blanda</i>	COMMON WOOD SEDGE	1	2
<i>Carex granularis</i>	PALE SEDGE	4	2
<i>Chrysanthemum leucanthemum var. pinnatifidum*</i>	OX-EYE DAISY		3
<i>Comandra umbellata</i>	BASTARD TOAD-FLAX	7	2
<i>Coreopsis palmata</i>	PRAIRIE COREOPSIS	6	2
<i>Coreopsis tripteris</i>	TALL COREOPSIS	5	2
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	5
<i>Crataegus crus-galli</i>	COCK-SPUR HAWTHORN	2	2
<i>Crataegus mollis</i>	DOWNY HAWTHORN	2	3
<i>Danthonia spicata</i>	POVERTY OAT GRASS	3	2
<i>Daucus carota*</i>	QUEEN ANNE'S LACE		3
<i>Dodecatheon meadia</i>	SHOOTING STAR	6	1
<i>Elaeagnus umbellata*</i>	AUTUMN OLIVE		2
<i>Eleocharis compressa</i>	FLAT-STEMMED SPIKE RUSH	8	3
<i>Equisetum arvense</i>	COMMON HORSETAIL	0	1
<i>Eupatorium altissimum</i>	TALL BONESET	0	2
<i>Festuca elatior*</i>	TALL FESCUE		3
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	4
<i>Gentiana andrewsii</i>	CLOSED GENTIAN	8	1
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	4
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	1
<i>Hypericum perforatum*</i>	COMMON ST. JOHN'S-WORT		2
<i>Juniperus virginiana var. crebra</i>	EASTERN RED CEDAR	2	1
<i>Lespedeza capitata</i>	ROUND-HEADED BUSH CLOVER	4	2
<i>Liatris spicata</i>	MARSH BLAZING STAR	6	1
<i>Lilium michiganense</i>	MICHIGAN LILY	6	2

<i>Lobelia spicata</i>	PALE SPIKED LOBELIA	6	2
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5	1
<i>Lythrum salicaria*</i>	PURPLE LOOSESTRIFE		2
<i>Medicago sativa*</i>	ALFALFA		2
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	1
<i>Oenothera biennis</i>	COMMON EVENING PRIMROSE	0	2
<i>Panicum implicatum</i>	PANIC GRASS	2	3
<i>Panicum virgatum</i>	PRAIRIE SWITCH GRASS	5	2
<i>Penstemon digitalis</i>	FOXGLOVE BEARD TONGUE	4	2
<i>Phlox pilosa ssp. fulgida</i>	PRAIRIE PHLOX	7	1
<i>Poa compressa*</i>	CANADIAN BLUE GRASS		3
<i>Poa pratensis*</i>	KENTUCKY BLUE GRASS		3
<i>Populus deltoides</i>	EASTERN COTTONWOOD	2	2
<i>Potentilla norvegica</i>	ROUGH CINQUEFOIL	0	3
<i>Prunella vulgaris*</i>	LAWN PRUNELLA		2
<i>Ratibida pinnata</i>	YELLOW CONEFLOWER	4	2
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		5
<i>Rhamnus frangula*</i>	GLOSSY BUCKTHORN		3
<i>Rosa blanda</i>	EARLY WILD ROSE	5	3
<i>Rubus pensilvanicus</i>	YANKEE BLACKBERRY	3	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Scirpus pendulus</i>	RED BULRUSH	4	4
<i>Silphium integrifolium</i>	ROSIN WEED	5	1
<i>Silphium laciniatum</i>	COMPASS PLANT	5	3
<i>Silphium terebinthinaceum</i>	PRAIRIE DOCK	5	3
<i>Sisyrinchium albidum</i>	COMMON BLUE-EYED GRASS	7	3
<i>Smilax lasioneura</i>	COMMON CARRION FLOWER	5	1
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	2
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	2
<i>Solidago juncea</i>	EARLY GOLDENROD	5	2
<i>Solidago rigida</i>	RIGID GOLDENROD	4	5
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Trifolium pratense*</i>	RED CLOVER		3
<i>Viburnum opulus*</i>	EUROPEAN HIGH-BUSH CRANBERRY		2
<i>Vicia americana</i>	AMERICAN VETCH	7	2

<i>Viola pedatifida</i>	PRAIRIE VIOLET	9	1
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2
<i>Zizia aurea</i>	GOLDEN ALEXANDERS	7	2

Site Species List 3

Site 3		Mean Cn 3.8, FQIn 40.1 110 native species, 135 total species	
Species Name	Common Name	Conservation (C)	Abundance
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK		1
<i>Acer negundo</i>	BOX ELDER	0	2
<i>Agrimonia gryposepala</i>	TALL AGRIMONY	2	1
<i>Agrostis alba</i> *	RED TOP		1
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Allium cernuum</i>	NODDING WILD ONION	7	1
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	2
<i>Anemone virginiana</i>	TALL ANEMONE	5	1
<i>Apocynum cannabinum</i>	DOGBANE	4	2
<i>Aquilegia canadensis</i>	COLUMBINE	6	1
<i>Asclepias incarnata</i>	SWAMP MILKWEED	4	2
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	2
<i>Aster pilosus</i>	HAIRY ASTER	0	1
<i>Aster simplex</i>	PANICLED ASTER	3	2
<i>Bidens comosa</i>	SWAMP TICKSEED	5	1
<i>Bidens frondosa</i>	COMMON BEGGAR'S TICKS	1	2
<i>Blephilia hirsuta</i>	WOOD MINT	8	1
<i>Boltonia latisquama var. recognita</i>	FALSE ASTER	9	1
<i>Bromus ciliatus</i>	FRINGED BROME	10	1
<i>Cacalia atriplicifolia</i>	PALE INDIAN PLANTAIN	8	2
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	1
<i>Carex annectens</i>	LARGE YELLOW FOX SEDGE	5	2
<i>Carex cristatella</i>	CRESTED OVAL SEDGE	4	3
<i>Carex lupulina</i>	COMMON HOP SEDGE	7	2
<i>Carex normalis</i>	SPREADING OVAL SEDGE	5	1
<i>Carex pellita</i>	WOOLY SEDGE	4	1
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	2
<i>Carex tenera</i>	NARROW-LEAVED OVAL SEDGE	8	2
<i>Carex tribuloides</i>	AWL-FRUITED OVAL SEDGE	3	1
<i>Carya ovata</i>	SHAGBARK HICKORY	5	1
<i>Chrysanthemum leucanthemum var. pinnatifidum</i> *	OX-EYE DAISY		1
<i>Cinna arundinacea</i>	COMMON WOOD REED	5	1
<i>Circaea lutetiana var. canadensis</i>	ENCHANTER'S NIGHTSHADE	1	2
<i>Cirsium arvense</i> *	FIELD THISTLE		2

<i>Cirsium discolor</i>	PASTURE THISTLE	2	1
<i>Cirsium vulgare*</i>	BULL THISTLE		1
<i>Convolvulus sepium</i>	AMERICAN BINDWEED	1	2
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	2
<i>Daucus carota*</i>	QUEEN ANNE'S LACE		2
<i>Desmodium sp.</i>	TICK TREFOIL		2
<i>Eleocharis erythropoda</i>	RED-ROOTED SPIKE RUSH	2	1
<i>Elymus canadensis</i>	CANADA WILD RYE	4	1
<i>Elymus virginicus</i>	VIRGINIA WILD RYE	4	1
<i>Equisetum hyemale</i>	TALL SCOURING RUSH	3	1
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Erigeron canadensis</i>	HORSEWEED	0	1
<i>Eupatorium altissimum</i>	TALL BONESET	0	2
<i>Eupatorium perfoliatum</i>	COMMON BONESET	4	1
<i>Eupatorium purpureum</i>	PURPLE JOE PYE WEED	7	1
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	2
<i>Fraxinus pennsylvanica var. subintegerrima</i>	GREEN ASH	1	2
<i>Geum canadense</i>	WHITE AVENS	1	3
<i>Geum laciniatum</i>	ROUGH AVENS	5	1
<i>Gleditsia triacanthos</i>	HONEY LOCUST	2	1
<i>Glyceria septentrionalis</i>	FLOATING MANNA GRASS	8	2
<i>Helenium autumnale</i>	SNEEZEWEED	5	1
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	2
<i>Heliopsis helianthoides</i>	FALSE SUNFLOWER	5	1
<i>Hystrix patula</i>	BOTTLEBRUSH GRASS	5	1
<i>Juncus torreyi</i>	TORREY'S RUSH	4	1
<i>Lactuca canadensis</i>	WILD LETTUCE	2	2
<i>Lactuca saligna*</i>	WILLOW-LEAVED LETTUCE		2
<i>Leersia oryzoides</i>	RICE CUT GRASS	4	1
<i>Lilium michiganense</i>	MICHIGAN LILY	6	1
<i>Linaria vulgaris*</i>	BUTTER-AND-EGGS		1
<i>Lonicera x bella*</i>	SHOWY FLY HONEYSUCKLE		3
<i>Ludwigia alternifolia</i>	SEEDBOX	6	2
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5	2
<i>Lythrum salicaria*</i>	PURPLE LOOSESTRIFE		2
<i>Melilotus alba*</i>	WHITE SWEET CLOVER		2
<i>Mentha arvensis var. villosa</i>	WILD MINT	5	2
<i>Nepeta cataria*</i>	CATNIP		1

<i>Oenothera biennis</i>	COMMON EVENING PRIMROSE	0	1
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	1
<i>Panicum clandestinum</i>	DEER-TONGUE GRASS	6	2
<i>Panicum implicatum</i>	PANIC GRASS	2	1
<i>Panicum virgatum</i>	PRAIRIE SWITCH GRASS	5	2
<i>Penstemon digitalis</i>	FOXGLOVE BEARD TONGUE	4	1
<i>Penthorum sedoides</i>	DITCH STONECROP	5	2
<i>Phalaris arundinacea*</i>	REED CANARY GRASS		2
<i>Physostegia virginiana</i>	OBEDIENT PLANT	6	2
<i>Plantago rugelii</i>	RED-STALKED PLANTAIN	0	1
<i>Poa compressa*</i>	CANADIAN BLUE GRASS		2
<i>Poa palustris</i>	FOWL BLUE GRASS	9	1
<i>Poa pratensis*</i>	KENTUCKY BLUE GRASS		2
<i>Polygonum scandens</i>	CLIMBING FALSE BUCKWHEAT	1	1
<i>Polygonum virginianum</i>	VIRGINIA KNOTWEED	2	2
<i>Populus deltoides</i>	EASTERN COTTONWOOD	2	2
<i>Potentilla simplex</i>	COMMON CINQUEFOIL	4	1
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	2
<i>Quercus macrocarpa</i>	BURR OAK	5	2
<i>Ranunculus sp.</i>	BUTTERCUP		2
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		2
<i>Rhamnus frangula*</i>	GLOSSY BUCKTHORN		2
<i>Rhus glabra</i>	SMOOTH SUMAC	1	2
<i>Rhus radicans</i>	POISON IVY	2	2
<i>Ribes missouriense</i>	MISSOURI GOOSEBERRY	5	1
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	1
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Rudbeckia triloba</i>	BROWN-EYED SUSAN	3	2
<i>Rumex altissimus</i>	PALE DOCK	2	1
<i>Rumex orbiculatus</i>	GREAT WATER DOCK	8	1
<i>Salix amygdaloides</i>	PEACH-LEAVED WILLOW	5	1
<i>Salix interior</i>	SANDBAR WILLOW	1	2
<i>Sambucus canadensis</i>	COMMON ELDER	1	1
<i>Sanicula marilandica</i>	BLACK SNAKEROOT	6	2
<i>Scirpus atrovirens</i>	DARK GREEN RUSH	4	2
<i>Scirpus pendulus</i>	RED BULRUSH	4	2
<i>Scutellaria lateriflora</i>	MAD-DOG SKULLCAP	5	1
<i>Setaria faberi*</i>	GIANT FOXTAIL		2
<i>Silphium perfoliatum</i>	CUP PLANT	5	1

<i>Sium suave</i>	WATER PARSNIP	7	2
<i>Smilacina stellata</i>	STARRY FALSE SOLOMON	5	1
	SEAL		
<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	1
<i>Smilax lasioneura</i>	COMMON CARRION FLOWER	5	2
<i>Solanum dulcamara*</i>	BITTERSWEET NIGHTSHADE		2
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	3
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	3
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Thalictrum dasycarpum</i>	PURPLE MEADOW RUE	5	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	2
<i>Triodia flava*</i>	COMMON PURPLETOP		1
<i>Typha angustifolia</i>	NARROW-LEAVED CATTAIL	1	1
<i>Typha x glauca</i>	HYBRID CATTAIL	1	1
<i>Ulmus americana</i>	AMERICAN ELM	3	1
<i>Ulmus pumila*</i>	SIBERIAN ELM		1
<i>Verbascum thapsus*</i>	WOOLLY MULLEIN		2
<i>Verbena urticifolia</i>	WHITE VERVAIN	5	1
<i>Vernonia fasciculata</i>	COMMON IRONWEED	5	1
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	1
<i>Viburnum opulus*</i>	EUROPEAN HIGH-BUSH		1
	CRANBERRY		
<i>Vicia americana</i>	AMERICAN VETCH	7	1
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	3
<i>Zizia aurea</i>	GOLDEN ALEXANDERS	7	1

Site Species List 4

Site 4		Mean Cn 4.3, FQIn 32.4	
58 native species, 70 total species			
Species Name	Common Name	Conservation (C)	Abundance
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK	4	4
<i>Achillea millefolium*</i>	COMMON MILFOIL		1
<i>Agrostis alba*</i>	RED TOP		2
<i>Allium cernuum</i>	NODDING WILD ONION	7	2
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	3
<i>Anemone virginiana</i>	TALL ANEMONE	5	2
<i>Anemonella thalictroides</i>	RUE ANEMONE	7	2
<i>Apocynum androsaemifolium</i>	SPREADING DOGBANE	5	2
<i>Aquilegia canadensis</i>	COLUMBINE	6	2
<i>Aster praealtus</i>	WILLOW ASTER	9	2
<i>Aster sagittifolius var. drummondii</i>	DRUMMOND'S ASTER	2	2
<i>Blephilia hirsuta</i>	WOOD MINT	8	2
<i>Bromus inermis*</i>	HUNGARIAN BROME		2
<i>Cacalia atriplicifolia</i>	PALE INDIAN PLANTAIN	8	2
<i>Campanula americana</i>	AMERICAN BELLFLOWER	3	2
<i>Carex cephalophora</i>	SHORT-HEADED BRACTED SEDGE	3	2
<i>Carex pensylvanica</i>	PENNSYLVANIA OAK SEDGE	5	4
<i>Carya ovata</i>	SHAGBARK HICKORY	5	2
<i>Chrysanthemum leucanthemum var. pinnatifidum*</i>	OX-EYE DAISY		1
<i>Circaea lutetiana var. canadensis</i>	ENCHANTER'S NIGHTSHADE	1	2
<i>Crataegus sp.</i>	HAWTHORN		2
<i>Daucus carota*</i>	QUEEN ANNE'S LACE		3
<i>Desmodium glutinosum</i>	POINTED TICK TREFOIL	5	1
<i>Elymus villosus</i>	SILKY WILD RYE	5	3
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Eupatorium altissimum</i>	TALL BONESET	0	2
<i>Eupatorium purpureum</i>	PURPLE JOE PYE WEED	7	2
<i>Eupatorium rugosum</i>	WHITE SNAKEROOT	4	2
<i>Euphorbia corollata</i>	FLOWERING SPURGE	2	2
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	2
<i>Geranium maculatum</i>	WILD GERANIUM	4	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	4
<i>Hystrix patula</i>	BOTTLEBRUSH GRASS	5	3
<i>Lathyrus venosus</i>	VEINY PEA	9	2

<i>Melilotus officinalis*</i>	YELLOW SWEET CLOVER		2
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	2
<i>Oenothera biennis</i>	COMMON EVENING PRIMROSE	0	2
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	2	2
<i>Pedicularis canadensis</i>	WOOD BETONY	9	1
<i>Penstemon digitalis</i>	FOXGLOVE BEARD TONGUE	4	2
<i>Phalaris arundinacea*</i>	REED CANARY GRASS		2
<i>Poa compressa*</i>	CANADIAN BLUE GRASS		2
<i>Polemonium reptans</i>	JACOB'S LADDER	5	2
<i>Polygonatum canaliculatum</i>	GREAT SOLOMON SEAL	3	1
<i>Prunus serotina</i>	WILD BLACK CHERRY	1	2
<i>Prunus virginiana</i>	COMMON CHOKE CHERRY	3	2
<i>Quercus macrocarpa</i>	BURR OAK	5	4
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		2
<i>Rosa carolina</i>	PASTURE ROSE	5	2
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Rudbeckia triloba</i>	BROWN-EYED SUSAN	3	2
<i>Scrophularia marilandica</i>	LATE FIGWORT	4	1
<i>Silene stellata</i>	STARRY CAMPION	6	2
<i>Silphium terebinthinaceum</i>	PRAIRIE DOCK	5	1
<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	2
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	2
<i>Solidago flexicaulis</i>	BROAD-LEAVED GOLDENROD	7	2
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	2
<i>Solidago ulmifolia</i>	ELM-LEAVED GOLDENROD	5	3
<i>Taraxacum officinale*</i>	COMMON DANDELION		2
<i>Thalictrum revolutum</i>	WAXY MEADOW RUE	6	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	2
<i>Triosteum perfoliatum</i>	LATE HORSE GENTIAN	5	2
<i>Viburnum prunifolium</i>	BLACK HAW	5	2
<i>Vicia americana</i>	AMERICAN VETCH	7	2
<i>Viola sororia</i>	WOOLLY BLUE VIOLET	3	2
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2
<i>Zizia aurea</i>	GOLDEN ALEXANDERS	7	2

Site Species List 5

Site 5		Mean Cn 4.3, FQIn 36.1	
		71 native species 82 total species	
Species Name	Common Name	Conservatism (C)	Abundance
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK		2
<i>Alliaria petiolata*</i>	GARLIC MUSTARD		2
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	3
<i>Apocynum androsaemifolium</i>	SPREADING DOGBANE	5	2
<i>Apocynum cannabinum</i>	DOGBANE	4	2
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	2
<i>Aster ericoides</i>	HEATH ASTER	5	2
<i>Aster novae-angliae</i>	NEW ENGLAND ASTER	4	2
<i>Aster praealtus</i>	WILLOW ASTER	9	2
<i>Aster sagittifolius var. drummondii</i>	DRUMMOND'S ASTER	2	2
<i>Bromus inermis*</i>	HUNGARIAN BROME		2
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	3
<i>Carex buxbaumii</i>	DARK-SCALED SEDGE	9	2
<i>Carex lacustris</i>	COMMON LAKE SEDGE	6	1
<i>Carex pellita</i>	WOOLY SEDGE	4	2
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	3
<i>Carya ovata</i>	SHAGBARK HICKORY	5	2
<i>Circaea lutetiana var. canadensis</i>	ENCHANTER'S NIGHTSHADE	1	2
<i>Cirsium discolor</i>	PASTURE THISTLE	2	1
<i>Convolvulus sepium</i>	AMERICAN BINDWEED	1	2
<i>Cornus obliqua</i>	PALE DOGWOOD	6	2
<i>Corylus americana</i>	AMERICAN FILBERT	5	2
<i>Desmodium sp.</i>	TICK TREFOIL		2
<i>Eleocharis erythropoda</i>	RED-ROOTED SPIKE RUSH	2	4
<i>Elymus villosus</i>	SILKY WILD RYE	5	2
<i>Eryngium yuccifolium</i>	RATTLESNAKE MASTER	9	2
<i>Eupatorium maculatum</i>	SPOTTED JOE PYE WEED	4	1
<i>Euphorbia corollata</i>	HAIRY FLOWERING SPURGE	2	2
<i>Festuca obtusa</i>	NODDING FESCUE	5	2
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	2
<i>Fraxinus pennsylvanica var. subintegerrima</i>	GREEN ASH	1	2
<i>Galium obtusum</i>	WILD MADDER	5	2
<i>Geranium maculatum</i>	WILD GERANIUM	4	2
<i>Geum canadense</i>	WHITE AVENS	1	2

<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	2
<i>Hystrix patula</i>	BOTTLEBRUSH GRASS	5	2
<i>Iris virginica</i> var. <i>shrevei</i>	SOUTHERN BLUE FLAG	5	2
<i>Lathyrus venosus</i>	VEINY PEA	9	2
<i>Liatris spicata</i>	MARSH BLAZING STAR	6	2
<i>Lonicera tatarica</i> *	TARTARIAN HONEYSUCKLE		2
<i>Lycopus virginicus</i>	BUGLE WEED	9	2
<i>Lysimachia lanceolata</i>	LANCE-LEAVED LOOSESTRIFE	7	2
<i>Melilotus officinalis</i> *	YELLOW SWEET CLOVER		2
<i>Mentha arvensis</i> var. <i>villosa</i>	WILD MINT	5	3
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	2
<i>Oenothera biennis</i>	COMMON EVENING PRIMROSE	0	2
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Panicum clandestinum</i>	DEER-TONGUE GRASS	6	2
<i>Phalaris arundinacea</i> *	REED CANARY GRASS		3
<i>Poa pratensis</i> *	KENTUCKY BLUE GRASS		2
<i>Podophyllum peltatum</i>	MAY APPLE	4	2
<i>Polygonum amphibium</i> var. <i>stipulaceum</i>	WATER KNOTWEED	4	3
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	2
<i>Quercus macrocarpa</i>	BURR OAK	5	2
<i>Rhamnus cathartica</i> *	COMMON BUCKTHORN		2
<i>Rosa blanda</i>	EARLY WILD ROSE	5	2
<i>Rosa carolina</i>	PASTURE ROSE	5	2
<i>Rubus idaeus</i> var. <i>strigosus</i>	RED RASPBERRY	3	2
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	2
<i>Rubus pensilvanicus</i>	YANKEE BLACKBERRY	3	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Salix discolor</i>	PUSSY WILLOW	2	2
<i>Silene stellata</i>	STARRY CAMPION	6	2
<i>Silphium integrifolium</i>	ROSWAY WEED	5	2
<i>Silphium laciniatum</i>	COMPASS PLANT	5	2
<i>Silphium terebinthinaceum</i>	PRAIRIE DOCK	5	2
<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	2
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	4
<i>Solidago gigantea</i>	LATE GOLDENROD	4	3
<i>Solidago juncea</i>	EARLY GOLDENROD	5	3
<i>Solidago rigida</i>	RIGID GOLDENROD	4	3
<i>Sparganium eurycarpum</i>	COMMON BUR REED	6	3
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	3

<i>Stachys tenuifolia var. hispida</i>	MARSH HEDGE NETTLE	5	2
<i>Taenidia integerrima</i>	YELLOW PIMPERNEL	9	3
<i>Thalictrum dasycarpum</i>	PURPLE MEADOW RUE	5	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	3
<i>Verbascum thapsus*</i>	WOOLLY MULLEIN		2
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	2
<i>Vicia americana</i>	AMERICAN VETCH	7	2
<i>Viola sp.</i>	VIOLET		2

Site Species List 6

Site 6		Mean Cn 4.07, FQIn 42.3	
110 native species, 134 species total			
Species Name	Common Name	Conservatism (C)	Abundance
<i>(Luzula bulbosa)</i>	COMMON WOOD RUSH	7	1
<i>(Pteridium aquilinum)</i>	BRACKEN FERN	5	2
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK	4	4
<i>Acalypha rhomboidea</i>	THREE-SEEDED MERCURY	0	2
<i>Acer negundo</i>	BOX ELDER	0	2
<i>Agrimonia gryposepala</i>	TALL AGRIMONY	2	2
<i>Agrimonia pubescens</i>	SOFT AGRIMONY	5	2
<i>Agrostis alba*</i>	RED TOP		2
<i>Alliaria petiolata*</i>	GARLIC MUSTARD		2
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Allium tricoccum var. burdickii</i>	WILD LEEK	6	2
<i>Amphicarpaea bracteata</i>	HOG PEANUT	4	2
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	3
<i>Anemone cylindrica</i>	CANDLE ANEMONE	6	2
<i>Anemonella thalictroides</i>	RUE ANEMONE	7	2
<i>Apios americana</i>	GROUND NUT	7	2
<i>Apocynum androsaemifolium</i>	SPREADING DOGBANE	5	3
<i>Arenaria patula</i>	SLENDER SANDWORT	10	2
<i>Arisaema triphyllum</i>	JACK-IN-THE-PULPIT	4	2
<i>Asclepias exaltata</i>	POKE MILKWEED	9	1
<i>Asclepias purpurascens</i>	PURPLE MILKWEED	8	2
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	2
<i>Asparagus officinalis*</i>	GARDEN ASPARAGUS		2
<i>Aster lateriflorus</i>	SIDE-FLOWERING ASTER	4	2
<i>Aster praealtus</i>	WILLOW ASTER	9	2
<i>Aster sagittifolius var. drummondii</i>	DRUMMOND'S ASTER	2	3
<i>Aster simplex</i>	PANICLED ASTER	3	2
<i>Bromus inermis*</i>	HUNGARIAN BROME		2
<i>Carex blanda</i>	COMMON WOOD SEDGE	1	2
<i>Carex cephalophora</i>	SHORT-HEADED BRACKETED SEDGE	3	2
<i>Carex normalis</i>	SPREADING OVAL SEDGE	5	2
<i>Carex pensylvanica</i>	PENNSYLVANIA OAK SEDGE	5	3
<i>Carex radiata</i>	STAR SEDGE	6	2
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	2

<i>Carex tenera</i>	NARROW-LEAVED OVAL SEDGE	8	2
<i>Carya ovata</i>	SHAGBARK HICKORY	5	3
<i>Circaea lutetiana</i> var. <i>canadensis</i>	ENCHANTER'S NIGHTSHADE	1	3
<i>Cirsium arvense</i> *	FIELD THISTLE		2
<i>Convolvulus sepium</i>	AMERICAN BINDWEED	1	2
<i>Coreopsis tripteris</i>	TALL COREOPSIS	5	2
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	3
<i>Corylus americana</i>	AMERICAN FILBERT	5	1
<i>Cuscuta</i> sp.	DODDER		2
<i>Daucus carota</i> *	QUEEN ANNE'S LACE		2
<i>Desmodium glutinosum</i>	POINTED TICK TREFOIL	5	2
<i>Dioscorea villosa</i>	WILD YAM	7	2
<i>Elymus villosus</i>	SILKY WILD RYE	5	2
<i>Equisetum arvense</i>	COMMON HORSETAIL	0	2
<i>Erechtites hieracifolia</i>	FIREWEED	2	2
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Eupatorium purpureum</i>	PURPLE JOE PYE WEED	7	2
<i>Eupatorium rugosum</i>	WHITE SNAKEROOT	4	2
<i>Euphorbia corollata</i>	FLOWERING SPURGE	2	2
<i>Festuca elatior</i> *	TALL FESCUE		2
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	3
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	GREEN ASH	1	2
<i>Galium concinnum</i>	SHINING BEDSTRAW	5	2
<i>Galium mollugo</i> *	WHITE BEDSTRAW		2
<i>Geranium maculatum</i>	WILD GERANIUM	4	3
<i>Geum canadense</i>	WHITE AVENS	1	2
<i>Glyceria striata</i>	FOWL MANNA GRASS	4	2
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	3
<i>Heliopsis helianthoides</i>	FALSE SUNFLOWER	5	1
<i>Hydrophyllum virginianum</i>	VIRGINIA WATERLEAF	5	2
<i>Hystrix patula</i>	BOTTLEBRUSH GRASS	5	2
<i>Impatiens capensis</i>	SPOTTED TOUCH-ME-NOT	3	2
<i>Juncus tenuis</i>	PATH RUSH	0	2
<i>Lactuca canadensis</i>	WILD LETTUCE	2	2
<i>Lactuca saligna</i> *	WILLOW-LEAVED LETTUCE		2
<i>Leersia virginica</i>	WHITE GRASS	7	2
<i>Lonicera tatarica</i> *	TARTARIAN HONEYSUCKLE		2
<i>Lysimachia ciliata</i>	FRINGED LOOSESTRIFE	4	2

<i>Monarda fistulosa</i>	WILD BERGAMOT	4	2
<i>Nepeta cataria*</i>	CATNIP		2
<i>Oenothera biennis</i>	COMMON EVENING PRIMROSE	0	2
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Oxypolis rigidior</i>	COWBANE	7	2
<i>Panicum clandestinum</i>	DEER-TONGUE GRASS	6	2
<i>Panicum implicatum</i>	PANIC GRASS	2	2
<i>Panicum leibergii</i>	PRAIRIE PANIC GRASS	10	2
<i>Parthenium integrifolium</i>	WILD QUININE	8	2
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	2	2
<i>Phalaris arundinacea*</i>	REED CANARY GRASS		2
<i>Phleum pratense*</i>	TIMOTHY		2
<i>Poa pratensis*</i>	KENTUCKY BLUE GRASS		3
<i>Podophyllum peltatum</i>	MAY APPLE	4	2
<i>Polygonatum canaliculatum</i>	GREAT SOLOMON SEAL	3	2
<i>Polygonum scandens</i>	CLIMBING FALSE BUCKWHEAT	1	2
<i>Polygonum sp.</i>	SMARTWEED		2
<i>Populus tremuloides</i>	QUAKING ASPEN	4	1
<i>Potentilla simplex</i>	COMMON CINQUEFOIL	4	2
<i>Prenanthes alba</i>	LION'S FOOT	5	2
<i>Prunella vulgaris var. lanceolata</i>	SELF-HEAL	0	2
<i>Prunus americana</i>	AMERICAN PLUM	5	2
<i>Prunus serotina</i>	WILD BLACK CHERRY	1	2
<i>Prunus virginiana</i>	COMMON CHOKE CHERRY	3	2
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	2
<i>Quercus alba</i>	WHITE OAK	5	2
<i>Quercus macrocarpa</i>	BURR OAK	5	4
<i>Quercus rubra</i>	NORTHERN RED OAK	7	3
<i>Ranunculus septentrionalis</i>	SWAMP BUTTERCUP	5	2
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		2
<i>Rhamnus frangula*</i>	GLOSSY BUCKTHORN		2
<i>Ribes missouriense</i>	MISSOURI GOOSEBERRY	5	2
<i>Rosa carolina</i>	PASTURE ROSE	5	2
<i>Rosa multiflora*</i>	JAPANESE ROSE		1
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	3
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	1
<i>Rudbeckia triloba</i>	BROWN-EYED SUSAN	3	2
<i>Salix interior</i>	SANDBAR WILLOW	1	2
<i>Sanicula marilandica</i>	BLACK SNAKEROOT	6	2
<i>Scrophularia marilandica</i>	LATE FIGWORT	4	1

<i>Setaria faberi*</i>	GIANT FOXTAIL		2
<i>Smilacina racemosa</i>	FEATHERY FALSE SOLOMON SEAL	3	2
<i>Smilacina stellata</i>	STARRY FALSE SOLOMON SEAL	5	2
<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	2
<i>Smilax tamnoides var. hispida</i>	BRISTLY GREEN BRIER	5	2
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	3
<i>Solidago gigantea</i>	LATE GOLDENROD	4	2
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	2
<i>Solidago ulmifolia</i>	ELM-LEAVED GOLDENROD	5	2
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Stachys tenuifolia var. hispida</i>	MARSH HEDGE NETTLE	5	2
<i>Taenidia integerrima</i>	YELLOW PIMPERNEL	9	2
<i>Thalictrum dasycarpum</i>	PURPLE MEADOW RUE	5	1
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	3
<i>Verbascum thapsus*</i>	WOOLLY MULLEIN		2
<i>Verbena urticifolia</i>	WHITE VERVAIN	5	2
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	1
<i>Viola pubescens</i>	SMOOTH YELLOW VIOLET	5	2
<i>Viola sororia</i>	WOOLLY BLUE VIOLET	3	2
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2
<i>Zizia aurea</i>	GOLDEN ALEXANDERS	7	2

Site Species List 7

Site 7		Mean Cn 4.2, FQIn 33.5	
		63 native species, 85 species total	
Species Name	Common Name	Conservatism (C)	Abundance
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK	4	2
<i>Agrostis alba*</i>	RED TOP		2
<i>Alliaria petiolata*</i>	GARLIC MUSTARD		2
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Allium cernuum</i>	NODDING WILD ONION	7	2
<i>Anemone virginiana</i>	TALL ANEMONE	5	2
<i>Aquilegia canadensis</i>	COLUMBINE	6	2
<i>Aralia nudicaulis</i>	WILD SARSAPARILLA	8	2
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	2
<i>Asparagus officinalis*</i>	GARDEN ASPARAGUS		2
<i>Aster puniceus</i>	BRISTLY ASTER	8	2
<i>Bromus inermis*</i>	HUNGARIAN BROME		2
<i>Cacalia atriplicifolia</i>	PALE INDIAN PLANTAIN	8	2
<i>Carex pellita</i>	WOOLY SEDGE	4	2
<i>Carex pensylvanica</i>	PENNSYLVANIA OAK SEDGE	5	2
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	3
<i>Carex tenera</i>	NARROW-LEAVED OVAL SEDE	8	2
<i>Carya ovata</i>	SHAGBARK HICKORY	5	2
<i>Chrysanthemum leucanthemum var. pinnatifidum*</i>	OX-EYE DAISY		2
<i>Circaea lutetiana var. canadensis</i>	ENCHANTER'S NIGHTSHADE	1	2
<i>Cirsium arvense*</i>	FIELD THISTLE		2
<i>Coreopsis tripteris</i>	TALL COREOPSIS	5	1
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	2
<i>Dactylis glomerata*</i>	ORCHARD GRASS		2
<i>Daucus carota*</i>	QUEEN ANNE'S LACE		2
<i>Desmodium sp.</i>	TICK TREFOIL		1
<i>Erechtites hieracifolia</i>	FIREWEED	2	1
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Eupatorium maculatum</i>	SPOTTED JOE PYE WEED	4	3
<i>Eupatorium rugosum</i>	WHITE SNAKEROOT	4	2
<i>Festuca elatior*</i>	TALL FESCUE		2
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	2
<i>Fraxinus pennsylvanica var. subintegerrima</i>	GREEN ASH	1	2

<i>Galium concinnum</i>	SHINING BEDSTRAW	5	2
<i>Galium obtusum</i>	WILD MADDER	5	2
<i>Geranium maculatum</i>	WILD GERANIUM	4	2
<i>Geum canadense</i>	WHITE AVENS	1	2
<i>Geum laciniatum</i>	ROUGH AVENS	5	2
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	2
<i>Hystrix patula</i>	BOTTLEBRUSH GRASS	5	2
<i>Impatiens pallida</i>	PALE TOUCH-ME-NOT	6	2
<i>Lactuca sp.</i>	LETTUCE		1
<i>Lycopus americanus</i>	COMMON WATER	5	2
	HOREHOUND		
<i>Lythrum alatum</i>	WINGED LOOSESTRIFE	7	2
<i>Lythrum salicaria*</i>	PURPLE LOOSESTRIFE		2
<i>Melilotus officinalis*</i>	YELLOW SWEET CLOVER		2
<i>Muhlenbergia sp.</i>	SATIN GRASS		2
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Oxypolis rigidior</i>	COWBANE	7	2
<i>Panicum implicatum</i>	PANIC GRASS	2	1
<i>Panicum leibergii</i>	PRAIRIE PANIC GRASS	10	2
<i>Penstemon digitalis</i>	FOXGLOVE BEARD TONGUE	4	2
<i>Phalaris arundinacea*</i>	REED CANARY GRASS		2
<i>Poa pratensis*</i>	KENTUCKY BLUE GRASS		2
<i>Podophyllum peltatum</i>	MAY APPLE	4	2
<i>Populus tremuloides</i>	QUAKING ASPEN	4	2
<i>Potentilla simplex</i>	COMMON CINQUEFOIL	4	2
<i>Prunus virginiana</i>	COMMON CHOKE CHERRY	3	2
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN	5	2
	MINT		
<i>Quercus macrocarpa</i>	BURR OAK	5	2
<i>Ranunculus septentrionalis</i>	SWAMP BUTTERCUP	5	2
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		2
<i>Rhamnus frangula*</i>	GLOSSY BUCKTHORN		2
<i>Rhamnus frangula*</i>	GLOSSY BUCKTHORN		1
<i>Rosa multiflora*</i>	JAPANESE ROSE		2
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Rudbeckia triloba</i>	BROWN-EYED SUSAN	3	2
<i>Salix discolor</i>	PUSSY WILLOW	2	2
<i>Sanicula marilandica</i>	BLACK SNAKEROOT	6	2
<i>Silphium terebinthinaceum</i>	PRAIRIE DOCK	5	2

<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	2
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	2
<i>Solidago gigantea</i>	LATE GOLDENROD	4	3
<i>Solidago juncea</i>	EARLY GOLDENROD	5	3
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	3
<i>Spiraea alba</i>	MEADOWSWEET	7	3
<i>Stachys tenuifolia var. hispida</i>	MARSH HEDGE NETTLE	5	2
<i>Taraxacum officinale*</i>	COMMON DANDELION		2
<i>Thalictrum dasycarpum</i>	PURPLE MEADOW RUE	5	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	2
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	2
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2
<i>Zizia aurea</i>	GOLDEN ALEXANDERS	7	2

Site Species List 8

Site 8		Mean Cn 3.9, FQIn 35 78 native species, 99 species total	
Species Name	Common Name	Conservatism (C)	Abundance
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK	4	3
<i>Acer negundo</i>	BOX ELDER	0	2
<i>Achillea millefolium*</i>	COMMON MILFOIL		1
<i>Agrimonia gryposepala</i>	TALL AGRIMONY	2	2
<i>Agrostis alba*</i>	RED TOP		2
<i>Alliaria petiolata*</i>	GARLIC MUSTARD		1
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Allium cernuum</i>	NODDING WILD ONION	7	1
<i>Ambrosia artemisiifolia var. elatior</i>	COMMON RAGWEED	0	2
<i>Amphicarpaea bracteata</i>	HOG PEANUT	4	2
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	2
<i>Anemone virginiana</i>	TALL ANEMONE	5	2
<i>Apios americana</i>	GROUND NUT	7	2
<i>Apocynum cannabinum</i>	DOGBANE	4	2
<i>Aquilegia canadensis</i>	COLUMBINE	6	2
<i>Asclepias purpurascens</i>	PURPLE MILKWEED	8	1
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	1
<i>Aster praealtus</i>	WILLOW ASTER	9	3
<i>Aster sagittifolius var. drummondii</i>	DRUMMOND'S ASTER	2	2
<i>Bidens frondosa</i>	COMMON BEGGAR'S TICKS	1	1
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	2
<i>Carex blanda</i>	COMMON WOOD SEDGE	1	1
<i>Carex lacustris</i>	COMMON LAKE SEDGE	6	2
<i>Carex pennsylvanica</i>	PENNSYLVANIA OAK SEDGE	5	2
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	2
<i>Carya ovata</i>	SHAGBARK HICKORY	5	2
<i>Circaea lutetiana var. canadensis</i>	ENCHANTER'S NIGHTSHADE	1	3
<i>Cirsium arvense*</i>	FIELD THISTLE		1
<i>Cirsium vulgare*</i>	BULL THISTLE		1
<i>Comandra umbellata</i>	BASTARD TOAD-FLAX	7	1
<i>Convolvulus sepium</i>	AMERICAN BINDWEED	1	2
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	2
<i>Corylus americana</i>	AMERICAN FILBERT	5	1
<i>Dactylis glomerata*</i>	ORCHARD GRASS		2
<i>Daucus carota*</i>	QUEEN ANNE'S LACE		1
<i>Desmodium sp.</i>	TICK TREFOIL		1

<i>Dichanthelium implicatum</i>	PANIC GRASS	2	1
<i>Dodecatheon meadia</i>	SHOOTING STAR	6	1
<i>Elymus villosus</i>	SILKY WILD RYE	5	2
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Eupatorium altissimum</i>	TALL BONESET	0	2
<i>Eupatorium purpureum</i>	PURPLE JOE PYE WEED	7	2
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	GREEN ASH	1	1
<i>Galium concinnum</i>	SHINING BEDSTRAW	5	2
<i>Geranium maculatum</i>	WILD GERANIUM	4	1
<i>Geum canadense</i>	WHITE AVENS	1	2
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	4
<i>Lactuca saligna</i> *	WILLOW-LEAVED LETTUCE		1
<i>Lolium perenne</i> *	PERENNIAL RYE GRASS		1
<i>Lonicera tatarica</i> *	TARTARIAN HONEYSUCKLE		2
<i>Melilotus alba</i> *	WHITE SWEET CLOVER		1
<i>Melissa officinalis</i> *	COMMON BALM		1
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	2
<i>Nepeta cataria</i> *	CATNIP		1
<i>Oenothera biennis</i>	COMMON EVENING PRIMROSE	0	1
<i>Onoclea sensibilis</i>	SENSITIVE FERN	8	1
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Panicum clandestinum</i>	DEER TONGUE PANIC GRASS	6	1
<i>Panicum leibergii</i>	PRAIRIE PANIC GRASS	10	2
<i>Parthenium integrifolium</i>	WILD QUININE	8	1
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	2	2
<i>Phalaris arundinacea</i> *	REED CANARY GRASS		2
<i>Plantago rugelii</i>	RED-STALKED PLANTAIN	0	2
<i>Poa pratensis</i> *	KENTUCKY BLUE GRASS		2
<i>Polygonatum canaliculatum</i>	GREAT SOLOMON SEAL	3	1
<i>Polygonum scandens</i>	CLIMBING FALSE BUCKWHEAT	1	1
<i>Polygonum</i> sp.	SMARTWEED		1
<i>Potentilla simplex</i>	COMMON CINQUEFOIL	4	2
<i>Prenanthes alba</i>	LION'S FOOT	5	2
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	SELF-HEAL	0	1
<i>Prunus serotina</i>	WILD BLACK CHERRY	1	2
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	2
<i>Quercus macrocarpa</i>	BURR OAK	5	3

<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		1
<i>Rhus radicans</i>	POISON IVY	2	2
<i>Rosa carolina</i>	PASTURE ROSE	5	2
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	1
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Sanicula marilandica</i>	BLACK SNAKEROOT	6	3
<i>Scirpus pendulus</i>	RED BULRUSH	4	1
<i>Sium suave</i>	WATER PARSNIP	7	2
<i>Smilacina racemosa</i>	FEATHERY FALSE SOLOMON SEAL	3	2
<i>Smilax lasioneura</i>	COMMON CARRION FLOWER	5	2
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	3
<i>Solidago gigantea</i>	LATE GOLDENROD	4	2
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	2
<i>Solidago juncea</i>	EARLY GOLDENROD	5	1
<i>Solidago rigida</i>	RIGID GOLDENROD	4	2
<i>Solidago ulmifolia</i>	ELM-LEAVED GOLDENROD	5	2
<i>Sonchus arvensis*</i>	FIELD SOW THISTLE		1
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Sphenopholis obtusata</i>	PRAIRIE WEDGE GRASS	7	2
<i>Taenidia integerrima</i>	YELLOW PIMPERNEL	9	2
<i>Taraxacum officinale*</i>	COMMON DANDELION		2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	3
<i>Verbena urticifolia</i>	WHITE VERVAIN	5	1
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	1
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2

Site Species List 9

Site 9		Mean Cn 4.3, FQIn 24.2	
32 native species, 38 total species			
Species Name	Common Name	Conservatism (C)	Abundance
<i>Amphicarpaea bracteata</i>	HOG PEANUT	4	1
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	2
<i>Apocynum cannabinum</i>	DOGBANE	4	3
<i>Bidens frondosa</i>	COMMON BEGGAR'S TICKS	1	2
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	3
<i>Carex pellita</i>	WOOLY SEDGE	4	3
<i>Carex sartwellii</i>	RUNNING MARSH SEDGE	6	2
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	4
<i>Cirsium arvense*</i>	FIELD THISTLE		1
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	2
<i>Dactylis glomerata*</i>	ORCHARD GRASS		2
<i>Desmodium sp.</i>	TICK TREFOIL		1
<i>Eupatorium maculatum</i>	SPOTTED JOE PYE WEED	4	2
<i>Fraxinus pennsylvanica var. subintegerrima</i>	GREEN ASH	1	2
<i>Galium obtusum</i>	WILD MADDER	5	3
<i>Geranium maculatum</i>	WILD GERANIUM	4	1
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	3
<i>Ludwigia alternifolia</i>	SEEDBOX	6	3
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5	2
<i>Lycopus virginicus</i>	BUGLE WEED	9	2
<i>Lythrum salicaria*</i>	PURPLE LOOSESTRIFE		2
<i>Onoclea sensibilis</i>	SENSITIVE FERN	8	2
<i>Penthorum sedoides</i>	DITCH STONECROP	5	3
<i>Phalaris arundinacea*</i>	REED CANARY GRASS		3
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	3
<i>Ranunculus flabellaris</i>	YELLOW WATER BUTTERCUP	7	3
<i>Rhamnus frangula*</i>	GLOSSY BUCKTHORN		2
<i>Rosa blanda</i>	EARLY WILD ROSE	5	2
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	2
<i>Sium suave</i>	WATER PARSNIP	7	2
<i>Smilacina stellata</i>	STARRY FALSE SOLOMON SEAL	5	1
<i>Solidago gigantea</i>	LATE GOLDENROD	4	3

<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	2
<i>Verbena hastata</i>	BLUE VERVAIN	4	3
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	2
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2

Site Species List 10

**Site 10** **Mean Cn 4.4 , FQIn 37.6,**  
**73 native species, 86 species total**

Species Name	Common Name	Conservatism (C)	Abundance
<i>(Frangula alnus*)</i>	GLOSSY BUCKTHORN		1
<i>(Quercus ellipsoidalis)</i>	HILL'S OAK	4	4
<i>Achillea millefolium*</i>	COMMON MILFOIL		2
<i>Agrostis alba*</i>	RED TOP		2
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Allium cernuum</i>	NODDING WILD ONION	7	2
<i>Ambrosia trifida</i>	GIANT RAGWEED	0	1
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	3
<i>Apocynum cannabinum</i>	DOGBANE	4	2
<i>Aquilegia canadensis</i>	COLUMBINE	6	3
<i>Asclepias purpurascens</i>	PURPLE MILKWEED	8	2
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	1
<i>Aster praealtus</i>	WILLOW ASTER	9	2
<i>Bromus inermis*</i>	HUNGARIAN BROME		2
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	2
<i>Carex annectens</i>	LARGE YELLOW FOX SEDGE	5	2
<i>Carex cristatella</i>	CRESTED OVAL SEDGE	4	2
<i>Carex pennsylvanica</i>	PENNSYLVANIA OAK SEDGE	5	2
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5	3
<i>Carex tenera</i>	NARROW-LEAVED OVAL SEDGE	8	2
<i>Carex tribuloides</i>	AWL-FRUITED OVAL SEDGE	3	1
<i>Carya ovata</i>	SHAGBARK HICKORY	5	3
<i>Circaea lutetiana var. canadensis</i>	ENCHANTER'S NIGHTSHADE	1	2
<i>Cirsium arvense*</i>	FIELD THISTLE		2
<i>Comandra umbellata</i>	BASTARD TOAD-FLAX	7	2
<i>Convolvulus sepium</i>	AMERICAN BINDWEED	1	2
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	2
<i>Cuscuta sp.</i>	DODDER		1
<i>Daucus carota*</i>	QUEEN ANNE'S LACE		2
<i>Dodecatheon meadia</i>	SHOOTING STAR	6	2
<i>Elymus villosus</i>	SILKY WILD RYE	5	2
<i>Erechtites hieracifolia</i>	FIREWEED	2	1
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Eupatorium purpureum</i>	PURPLE JOE PYE WEED	7	2
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	2

<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	GREEN ASH	1	3
<i>Galium concinnum</i>	SHINING BEDSTRAW	5	2
<i>Galium obtusum</i>	WILD MADDER	5	2
<i>Geranium maculatum</i>	WILD GERANIUM	4	2
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	4
<i>Hystrix patula</i>	BOTTLEBRUSH GRASS	5	2
<i>Impatiens capensis</i>	SPOTTED TOUCH-ME-NOT	3	1
<i>Liatris spicata</i>	MARSH BLAZING STAR	6	2
<i>Lilium michiganense</i>	MICHIGAN LILY	6	2
<i>Lolium perenne</i> *	PERENNIAL RYE GRASS		2
<i>Lonicera tatarica</i> *	TARTARIAN HONEYSUCKLE		2
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5	2
<i>Lysimachia nummularia</i> *	MONEYWORT		1
<i>Lythrum alatum</i>	WINGED LOOSESTRIFE	7	2
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	2
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Oxypolis rigidior</i>	COWBANE	7	2
<i>Panicum implicatum</i>	PANIC GRASS	2	2
<i>Panicum leibergii</i>	PRAIRIE PANIC GRASS	10	2
<i>Parthenium integrifolium</i>	WILD QUININE	8	2
<i>Phalaris arundinacea</i> *	REED CANARY GRASS		3
<i>Podophyllum peltatum</i>	MAY APPLE	4	2
<i>Potentilla simplex</i>	COMMON CINQUEFOIL	4	2
<i>Prenanthes alba</i>	LION'S FOOT	5	2
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	2
<i>Quercus alba</i>	WHITE OAK	5	2
<i>Quercus macrocarpa</i>	BURR OAK	5	3
<i>Rosa blanda</i>	EARLY WILD ROSE	5	2
<i>Rosa carolina</i>	PASTURE ROSE	5	2
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	2
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	1
<i>Sanicula marilandica</i>	BLACK SNAKEROOT	6	3
<i>Silphium terebinthinaceum</i>	PRAIRIE DOCK	5	1
<i>Sium suave</i>	WATER PARSNIP	7	2
<i>Smilacina racemosa</i>	FEATHERY FALSE SOLOMON SEAL	3	2
<i>Smilacina stellata</i>	STARRY FALSE SOLOMON SEAL	5	2
<i>Smilax lasioneura</i>	COMMON CARRION FLOWER	5	2

<i>Solanum dulcamara*</i>	BITTERSWEET NIGHTSHADE		1
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	3
<i>Solidago gigantea</i>	LATE GOLDENROD	4	2
<i>Solidago juncea</i>	EARLY GOLDENROD	5	2
<i>Solidago rigida</i>	RIGID GOLDENROD	4	2
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Sphenopholis obtusata</i>	PRAIRIE WEDGE GRASS	7	2
<i>Stachys tenuifolia var. hispida</i>	MARSH HEDGE NETTLE	5	1
<i>Taenidia integerrima</i>	YELLOW PIMPERNEL	9	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	3
<i>Verbena stricta</i>	HOARY VERVAIN	4	1
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	2
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	3

Site Species List 11

Site 11		Mean Cn 4.4, FQIn 36.6	
70 native species, 81 total species			
Species Name	Common Name	Conservatism (C)	Abundance
<i>Acer negundo</i>	BOX ELDER	0	1
<i>Agrostis alba</i> *	RED TOP		2
<i>Alliaria petiolata</i> *	GARLIC MUSTARD		2
<i>Allium canadense</i>	WILD GARLIC	2	1
<i>Ambrosia artemisiifolia</i> var. <i>elatior</i>	COMMON RAGWEED	0	1
<i>Ambrosia trifida</i>	GIANT RAGWEED	0	2
<i>Andropogon scoparius</i>	LITTLE BLUESTEM	5	1
<i>Apocynum androsaemifolium</i>	SPREADING DOGBANE	5	2
<i>Apocynum cannabinum</i>	DOGBANE	4	2
<i>Asclepias incarnata</i>	SWAMP MILKWEED	4	1
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	2
<i>Aster novae-angliae</i>	NEW ENGLAND ASTER	4	1
<i>Aster praealtus</i>	WILLOW ASTER	9	2
<i>Bromus inermis</i> *	HUNGARIAN BROME		2
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	2
<i>Carex buxbaumii</i>	DARK-SCALED SEDGE	9	2
<i>Carex cristatella</i>	CRESTED OVAL SEDGE	4	1
<i>Carex stricta</i>	COMMON TUSSOCK SEDGE	5	3
<i>Carex tenera</i>	NARROW-LEAVED OVAL SEDGE	8	2
<i>Carex tribuloides</i>	AWL-FRUITED OVAL SEDGE	3	2
<i>Carya ovata</i>	SHAGBARK HICKORY	5	1
<i>Cicuta bulbifera</i>	BULBLET-BEARING WATER	8	1
	HEMLOCK		
<i>Cirsium arvense</i> *	FIELD THISTLE		2
<i>Convolvulus sepium</i>	AMERICAN BINDWEED	1	1
<i>Coreopsis tripteris</i>	TALL COREOPSIS	5	1
<i>Cornus racemosa</i>	GRAY DOGWOOD	1	2
<i>Cuscuta</i> sp.	DODDER		1
<i>Eleocharis erythropoda</i>	RED-ROOTED SPIKE RUSH	2	2
<i>Eleocharis obtusa</i>	BLUNT SPIKE RUSH	3	1
<i>Equisetum arvense</i>	COMMON HORSETAIL	0	3
<i>Equisetum hyemale</i>	TALL SCOURING RUSH	3	2
<i>Erigeron philadelphicus</i>	MARSH FLEABANE	4	1
<i>Eupatorium maculatum</i>	SPOTTED JOE PYE WEED	4	1
<i>Eupatorium perfoliatum</i>	COMMON BONESET	4	1

<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	GREEN ASH	1	1
<i>Galium obtusum</i>	WILD MADDER	5	1
<i>Gentiana andrewsii</i>	CLOSED GENTIAN	8	1
<i>Glyceria striata</i>	FOWL MANNA GRASS	4	2
<i>Helianthus grosseserratus</i>	SAWTOOTH SUNFLOWER	2	3
<i>Helianthus strumosus</i>	PALE-LEAVED SUNFLOWER	5	2
<i>Impatiens capensis</i>	SPOTTED TOUCH-ME-NOT	3	1
<i>Juncus dudleyi</i>	DUDLEY'S RUSH	4	2
<i>Lilium michiganense</i>	MICHIGAN LILY	6	1
<i>Lotus corniculatus</i> *	BIRDSFOOT TREFOIL		2
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5	1
<i>Lycopus virginicus</i>	BUGLE WEED	9	2
<i>Lysimachia lanceolata</i>	LANCE-LEAVED LOOSESTRIFE	7	1
<i>Lysimachia quadriflora</i>	NARROW-LEAVED LOOSESTRIFE	9	1
<i>Lysimachia thyrsoiflora</i>	TUFTED LOOSESTRIFE	9	1
<i>Lythrum alatum</i>	WINGED LOOSESTRIFE	7	1
<i>Lythrum salicaria</i> *	PURPLE LOOSESTRIFE		2
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	2
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	2
<i>Oxypolis rigidior</i>	COWBANE	7	1
<i>Phalaris arundinacea</i> *	REED CANARY GRASS		4
<i>Poa palustris</i>	FOWL BLUE GRASS	9	2
<i>Poa pratensis</i> *	KENTUCKY BLUE GRASS		3
<i>Polygonum amphibium</i> var. <i>stipulaceum</i>	WATER KNOTWEED	4	2
<i>Pycnanthemum tenuifolium</i>	SLENDER MOUNTAIN MINT	7	2
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5	2
<i>Quercus macrocarpa</i>	BURR OAK	5	1
<i>Rhamnus cathartica</i> *	COMMON BUCKTHORN		3
<i>Rhamnus frangula</i> *	GLOSSY BUCKTHORN		1
<i>Silphium terebinthinaceum</i>	PRAIRIE DOCK	5	1
<i>Sium suave</i>	WATER PARSNIP	7	2
<i>Smilacina stellata</i>	STARRY FALSE SOLOMON SEAL	5	2
<i>Smilax lasioneura</i>	COMMON CARRION FLOWER	5	1
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	2
<i>Solidago gigantea</i>	LATE GOLDENROD	4	2
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4	2
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	3
<i>Spiraea alba</i>	MEADOWSWEET	7	1
<i>Stachys tenuifolia</i> var. <i>hispida</i>	MARSH HEDGE NETTLE	5	1

<i>Thalictrum dasycarpum</i>	PURPLE MEADOW RUE	5	1
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	3
<i>Typha x glauca</i>	HYBRID CATTAIL	1	4
<i>Verbena hastata</i>	BLUE VERVAIN	4	1
<i>Verbena urticifolia</i>	WHITE VERVAIN	5	1
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	1
<i>Viola sororia</i>	WOOLLY BLUE VIOLET	3	3
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	1

Site Species List 12

**Site 12** **Mean Cn 4.5, FQIn 22.9**  
**26 native species, 28 total species**

Species Name	Common Name	Conservatism (C)	Abundance
<i>Alisma subcordatum</i>	COMMON WATER PLANTAIN	4	1
<i>Aster simplex</i>	PANICLED ASTER	3	3
<i>Bidens frondosa</i>	COMMON BEGGAR'S TICKS	1	2
<i>Boehmeria cylindrica</i>	FALSE NETTLE	2	2
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	2
<i>Carex lacustris</i>	COMMON LAKE SEDGE	6	2
<i>Carex lupulina</i>	COMMON HOP SEDGE	7	1
<i>Carex muskingumensis</i>	SWAMP OVAL SEDGE	8	3
<i>Cinna arundinacea</i>	COMMON WOOD REED	5	3
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	GREEN ASH	1	3
<i>Glyceria septentrionalis</i>	FLOATING MANNA GRASS	8	2
<i>Glyceria striata</i>	FOWL MANNA GRASS	4	4
<i>Leersia oryzoides</i>	RICE CUT GRASS	4	2
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5	2
<i>Lythrum salicaria</i> *	PURPLE LOOSESTRIFE		1
<i>Mentha arvensis</i> var. <i>villosa</i>	WILD MINT	5	2
<i>Penthorum sedoides</i>	DITCH STONECROP	5	3
<i>Phalaris arundinacea</i> *	REED CANARY GRASS		2
<i>Polygonum amphibium</i> var. <i>stipulaceum</i>	WATER KNOTWEED	4	2
<i>Quercus macrocarpa</i>	BURR OAK	5	3
<i>Ranunculus flabellaris</i>	YELLOW WATER BUTTERCUP	7	1
<i>Rorippa palustris</i> var. <i>fernaldiana</i>	MARSH YELLOW CRESS	4	2
<i>Scirpus fluviatilis</i>	RIVER BULRUSH	4	2
<i>Stachys tenuifolia</i> var. <i>hispida</i>	MARSH HEDGE NETTLE	5	2
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	2
<i>Ulmus americana</i>	AMERICAN ELM	3	2
<i>Veronica scutellata</i>	MARSH SPEEDWELL	10	3
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	3

Site Species List 13

**Site Species List 13** **Mean Cn 3.4, FQIn 25.3,**  
**55 native species, 73 total species**

Species Name	Common Name	Conserv atism (C)	Abunda nce
<i>Agrostis alba</i> *	RED TOP		2
<i>Alliaria petiolata</i> *	GARLIC MUSTARD		1
<i>Allium canadense</i>	WILD GARLIC	2	2
<i>Andropogon gerardii</i>	BIG BLUESTEM	5	2
<i>Andropogon scoparius</i>	LITTLE BLUESTEM	5	3
<i>Asclepias syriaca</i>	COMMON MILKWEED	0	2
<i>Aster praealtus</i>	WILLOW ASTER	9	2
<i>Aster puniceus</i>	BRISTLY ASTER	8	3
<i>Aster sagittifolius</i> var. <i>drummondii</i>	DRUMMOND'S ASTER	2	3
<i>Barbarea vulgaris</i> *	WINTER CRESS		1
<i>Bidens frondosa</i>	COMMON BEGGAR'S TICKS	1	1
<i>Brassica rapa</i> *	BIRD'S RAPE		1
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3	2
<i>Carex aurea</i>	GOLDEN SEDGE	9	2
<i>Carex cristatella</i>	CRESTED OVAL SEDGE	4	3
<i>Carex granularis</i>	PALE SEDGE	4	4
<i>Chrysanthemum leucanthemum</i> var. <i>pinnatifidum</i> *	OX-EYE DAISY		2
<i>Crataegus mollis</i>	DOWNY HAWTHORN	2	4
<i>Crataegus monogyna</i> *	ENGLISH HAWTHORN		4
<i>Crataegus</i> sp.	HAWTHORN		4
<i>Daucus carota</i> *	QUEEN ANNE'S LACE		2
<i>Eleocharis erythropoda</i>	RED-ROOTED SPIKE RUSH	2	2
<i>Erigeron annuus</i>	ANNUAL FLEABANE	0	2
<i>Erigeron divaricatus</i>	DWARF FLEABANE	1	2
<i>Eupatorium altissimum</i>	TALL BONESET	0	1
<i>Fragaria virginiana</i>	WILD STRAWBERRY	1	3
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	GREEN ASH	1	1
<i>Galium aparine</i>	ANNUAL BEDSTRAW	1	2
<i>Geum canadense</i>	WHITE AVENS	1	1
<i>Glechoma hederacea</i> *	GROUND IVY		1
<i>Glyceria striata</i>	FOWL MANNA GRASS	4	2
<i>Hesperis matronalis</i> *	DAME'S ROCKET		3
<i>Hypericum perforatum</i> *	COMMON ST. JOHN'S-WORT		3
<i>Impatiens capensis</i>	SPOTTED TOUCH-ME-NOT	3	2
<i>Juncus interior</i>	INLAND RUSH	6	3

<i>Lactuca canadensis</i>	WILD LETTUCE	2	1
<i>Leersia virginica</i>	WHITE GRASS	7	2
<i>Lepidium virginicum</i>	COMMON PEPPERGRASS	0	1
<i>Linaria vulgaris*</i>	BUTTER-AND-EGGS		1
<i>Lobelia spicata</i>	PALE SPIKED LOBELIA	6	1
<i>Lycopus virginicus</i>	BUGLE WEED	9	1
<i>Lythrum salicaria*</i>	PURPLE LOOSESTRIFE		2
<i>Monarda fistulosa</i>	WILD BERGAMOT	4	1
<i>Oxalis stricta</i>	COMMON WOOD SORREL	0	1
<i>Panicum implicatum</i>	PANIC GRASS	2	2
<i>Panicum virgatum</i>	PRAIRIE SWITCH GRASS	5	1
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	2	3
<i>Penstemon digitalis</i>	FOXGLOVE BEARD TONGUE	4	2
<i>Phalaris arundinacea*</i>	REED CANARY GRASS		2
<i>Poa pratensis*</i>	KENTUCKY BLUE GRASS		3
<i>Polygonatum canaliculatum</i>	GREAT SOLOMON SEAL	3	1
<i>Prunella vulgaris var. lanceolata</i>	SELF-HEAL	0	1
<i>Pycnanthemum tenuifolium</i>	SLENDER MOUNTAIN MINT	7	2
<i>Rhamnus cathartica*</i>	COMMON BUCKTHORN		4
<i>Rosa carolina</i>	PASTURE ROSE	5	1
<i>Rubus occidentalis</i>	BLACK RASPBERRY	2	1
<i>Rudbeckia hirta</i>	BLACK-EYED SUSAN	1	1
<i>Scirpus pendulus</i>	RED BULRUSH	4	2
<i>Sisyrinchium albidum</i>	COMMON BLUE-EYED GRASS	7	4
<i>Smilax ecirrhata</i>	UPRIGHT CARRION FLOWER	5	1
<i>Solidago canadensis</i>	CANADA GOLDENROD	1	2
<i>Solidago gigantea</i>	LATE GOLDENROD	4	2
<i>Spartina pectinata</i>	PRAIRIE CORD GRASS	4	2
<i>Sphenopholis obtusata</i>	PRAIRIE WEDGE GRASS	7	1
<i>Thalictrum dasycarpum</i>	PURPLE MEADOW RUE	5	1
<i>Thlaspi arvense*</i>	FIELD PENNY CRESS		1
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2	2
<i>Ulmus americana</i>	AMERICAN ELM	3	3
<i>Verbena stricta</i>	HOARY VERVAIN	4	1
<i>Veronica peregrina</i>	PURSLANE SPEEDWELL	0	1
<i>Veronicastrum virginicum</i>	CULVER'S ROOT	7	1
<i>Viburnum opulus*</i>	EUROPEAN HIGH-BUSH CRANBERRY		2
<i>Vitis riparia</i>	RIVERBANK GRAPE	2	2

## EPFO Associates

Plant species observed in close proximity to *Platanthera leucophaea* individuals.

### EPFO #1 associates

Species Name	Common Name	Coefficient of Conservatism (C)
<i>Apocynum cannabinum</i>	DOGBANE	4
<i>Aster praealtus</i>	WILLOW ASTER	9
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3
<i>Carex pellita</i>	WOOLY SEDGE	4
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5
<i>Cirsium arvense*</i>	FIELD THISTLE	
<i>Cornus racemosa</i>	GRAY DOGWOOD	1
<i>Galium obtusum</i>	WILD MADDER	5
<i>Lathyrus palustris</i>	MARSH VETCHLING	8
<i>Lythrum alatum</i>	WINGED LOOSESTRIFE	7
<i>Lythrum salicaria*</i>	PURPLE LOOSESTRIFE	
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5
<i>Solidago canadensis</i>	CANADA GOLDENROD	1
<i>Solidago graminifolia</i>	GRASS-LEAVED GOLDENROD	4
<i>Tradescantia ohiensis</i>	COMMON SPIDERWORT	2
<i>Verbena hastata</i>	BLUE VERVAIN	4

EPFO #2 associates

Species Name	Common Name	Coefficient of Conservatism (C)
<i>Agrostis alba</i> *	RED TOP	
<i>Aster praealtus</i>	WILLOW ASTER	9
<i>Calamagrostis canadensis</i>	BLUE JOINT GRASS	3
<i>Carex lacustris</i>	COMMON LAKE SEDGE	6
<i>Carex pellita</i>	WOOLY SEDGE	4
<i>Carex stricta</i>	COMMON TUSsock SEDGE	5
<i>Erigeron philadelphicus</i>	MARSH FLEABANE	4
<i>Eupatorium maculatum</i>	SPOTTED JOE PYE WEED	4
<i>Glyceria striata</i>	FOWL MANNA GRASS	4
<i>Lathyrus palustris</i>	MARSH VETCHLING	8
<i>Lycopus americanus</i>	COMMON WATER HOREHOUND	5
<i>Lythrum alatum</i>	WINGED LOOSESTRIFE	7
<i>Lythrum salicaria</i> *	PURPLE LOOSESTRIFE	
<i>Onoclea sensibilis</i>	SENSITIVE FERN	8
<i>Oxypolis rigidior</i>	COWBANE	7
<i>Pedicularis lanceolata</i>	FEN BETONY	9
<i>Phalaris arundinacea</i> *	REED CANARY GRASS	
<i>Poa pratensis</i> *	KENTUCKY BLUE GRASS	
<i>Polygonum amphibium</i> var. <i>stipulaceum</i>	WATER KNOTWEED	4
<i>Pycnanthemum virginianum</i>	COMMON MOUNTAIN MINT	5
<i>Salix discolor</i>	PUSSY WILLOW	2
<i>Scirpus atrovirens</i>	DARK GREEN RUSH	4
<i>Senecio pauperculus</i>	BALSAM RAGWORT	6
<i>Sium suave</i>	WATER PARSNIP	7
<i>Smilacina stellata</i>	STARRY FALSE SOLOMON SEAL	5
<i>Solidago canadensis</i>	CANADA GOLDENROD	1
<i>Solidago gigantea</i>	LATE GOLDENROD	4
<i>Tradescantia ohioensis</i>	COMMON SPIDERWORT	2
<i>Verbena hastata</i>	BLUE VERVAIN	4



## Bat Habitat Assessment at Rondout Extension/Metra Lake 2<sup>nd</sup> Track, Lake County, Illinois

IDOT Sequence Number: 19157



Prepared by:

Jean M. Mengelkoch, Joseph F. Merritt, and Synan Nicholson

**INHS/IDOT Statewide Biological Survey & Assessment Program**

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## Project Summary

IDOT requested the INHS assess the presence or absence of the Indiana bat (*Myotis sodalis*) and the northern long-eared bat (*Myotis septentrionalis*) and their habitat at the Rondout Extension/Metra Lake 2<sup>nd</sup> Track project corridor in Lake County, Illinois. The assessment of the site for potential mist netting sites and habitat was conducted on 3 and 4 August 2015. No suitable mist netting sites were found. Some potential roost trees were found in the project corridor. The habitat suitability of the site for Indiana bat and northern long-eared bat was low.

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## Table of Contents

Project Summary.....	2
Introduction .....	4
Records and Previous Surveys .....	4
Natural History of Indiana Bats and Northern Long-Eared Bats.....	4
Methods for Assessing Potential Mist Netting Sites.....	6
Waterways Assessed as Potential Mist Netting Sites .....	6
Mist Net Site Selection Conclusions.....	6
Methods for Habitat Assessment .....	6
Habitat Assessment Results.....	7
Table 1.....	8
Habitat Assessment Conclusions .....	8
Literature Cited .....	8
Figures .....	12-19
Appendix .....	20

**Cover Photo:** Metra train crossing the N. St. Mary's Road intersection.

## Introduction

On 4 March 2015 the Bureau of Design & Environment at the Illinois Department of Transportation (IDOT) submitted a request of the Illinois Natural History Survey (INHS) to assess the presence or absence of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) and their habitat in the Rondout Extension/Metra Fox Lake 2<sup>nd</sup> Track project corridor (Sequence Number: 19157) in Lake County, Illinois.

## Records and Previous Surveys

The Illinois Natural Heritage Database (INHD), which is maintained by the Illinois Department of Natural Resources (IDNR), has no record of Indiana bat and 2 records of northern long-eared bats in Lake County. The two records were from nearby Lake County forest preserves (MacArthur Woods and Ryerson); the bats were caught by INHS in 2006 (Hofmann et al. 2008).

## Natural History of Indiana Bats and Northern-Long Eared Bats

Indiana bats congregate in caves or abandoned mines for hibernation, but are more widely dispersed during the summer (Barbour and Davis 1969). Maternity colonies primarily roost beneath slabs of exfoliating bark on dead trees, but also have been found beneath the "shaggy" bark of certain live hickories (*Carya*) and oaks (*Quercus*), and in tree crevices (Cope et al. 1973; Humphrey et al. 1977; Gardner et al. 1991; Kurta et al. 1993a, b, 1996, 2002; Callahan et al. 1997; Carter 2003). Maternity colonies, however, recently have been found roosting in buildings (a church, house, and barn), artificial roosting structures (e.g., bat houses), and utility poles (Carter et al. 2001; Butchkoski and Hassinger 2002; Cheng 2003; Hendricks et al. 2005; Kurta 2005; Ritzi et al. 2005). Males and non-reproductive females use caves, mines, bridges, and artificial roosting structures as well as trees for diurnal roosts during summer (Mumford and Cope 1958; Gardner et al. 1991; Salyers et al. 1996; Ford et al. 2002; INHD).

Northern-long eared bats also congregate in caves or abandoned mines for hibernation and are more widely dispersed during the summer (Caceres and Barclay 2000). Their maternity colonies roost under exfoliating bark like the Indiana bat, however they are more likely than Indiana bats to roost in cracks, crevices, and cavities in trees (Foster and Kurta 1999; Carter and Feldhamer 2005; Lacki et al. 2009). They are also known to use artificial structures, such as barns and sheds, for roosts and are more likely to use them than Indiana bats (Krochmal and Sparks 2007; Henderson and Broders 2008; Timpone et al. 2010).

Roost trees housing maternity colonies of Indiana bats are relatively large, with a dbh (diameter at breast height) of at least 12 in (e.g., Gardner et al. 1991; Kurta et al. 1993a, 1996; Callahan et al. 1997; Whitaker and Brack 2002). Female and juvenile Indiana bats have been documented roosting in more than 30 species of trees (Kurta 2005). Tree species known to have been used by Indiana bat maternity colonies in Illinois are northern red oak (*Q. rubra*), white oak (*Q. alba*), post oak (*Q. stellata*), pin oak (*Q. palustris*), slippery elm (*Ulmus rubra*), American elm (*U. americana*), shagbark hickory (*C. ovata*), bitternut hickory (*C. cordiformis*), silver maple (*Acer saccharinum*), cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), green ash (*Fraxinus pennsylvanica*), and sweetgum (*Liquidambar styraciflua*) (Gardner et al. 1991; Kurta et al. 1993a; Carter 2003). A maternity colony uses more than one tree during the summer (e.g., Gardner et al. 1991; Kurta et al. 1996; Callahan et al. 1997), but the number of roost trees a colony requires is variable (Menzel et al. 2001). A colony in Michigan roosted in 23 trees (Kurta et al. 1996) and four Missouri colonies used 10-20 roost trees each (Callahan et al. 1997). In Michigan, members of a maternity colony occupied trees that were up to 5.1 mi apart during a summer and traveled as much as 3.6 mi between roost trees overnight (Kurta et al. 2002). Individual roost trees have a limited "lifespan," making them an ephemeral resource (Gardner et al. 1991).

Tree species used by northern long-eared bats are similar to those used by Indiana bats (U.S. FWS 2014). Northern long-eared bats use trees with a larger range of diameters than Indiana bats (Lacki et al 2009). In addition, as with Indiana bats, northern long-eared bats are known to switch roosts during the maternity season (Patriquin et al. 2010; Johnson et al. 2012).

Trees used by Indiana bats in Illinois have been located in upland and floodplain forests, a swamp, and pastures (Gardner et al. 1991; Kurta et al. 1993a; Carter 2003). There is a consensus that Indiana bat maternity colonies occupy primary roosts that are exposed to high levels of solar radiation (Menzel et al. 2001). The death of an overstory tree creates a light-gap in the forest canopy that exposes remaining trees to solar radiation. Dead trees along forest edges or in areas impacted by flooding also have high levels of exposure to sunlight. Some alternate maternity roosts, as well as roosts used by male Indiana bats, are in shaded locations (Gardner et al. 1991; Callahan et al. 1997). Most Indiana bat roost trees have been close to (or surrounded by) water (e.g., Humphrey et al. 1977; Gardner et al. 1991; Callahan et al. 1997; Kurta et al. 1996, 2002; Carter 2003), but some have been found more than 1.2 mi from a perennial stream (Gardner et al. 1991; Kurta et al. 1993a). Trees occupied by reproductively active female and juvenile Indiana bats in Illinois ( $n = 56$ ) were rarely within 1637 ft of a paved highway (Gardner et al. 1991). In contrast, a maternity colony in Indiana was found roosting in trees near a major highway (J.M. Mengelkoch, personal observation). Some adult male Indiana bats roosted less than 786 ft from a paved highway in Illinois (Gardner et al. 1991) and an adult male in West Virginia occupied a tree only 43 ft from a road (Ford et al. 2002).

Northern long-eared bat summer habitat includes a large assortment of wooded areas. They appear to tolerate more canopy cover than Indiana bats (U.S. FWS 2014).

Most Indiana bat maternity colonies in the Midwest have been found in landscapes that were a mosaic of forest and agricultural areas (Cope et al. 1973; Humphrey et al. 1977; Gardner et al. 1991; Kurta et al. 1993a, b, 2002; Callahan et al. 1997; Carter 2003). Despite the fact that they roost in trees, the presence of Indiana bats does not seem to be correlated with forest cover. In Missouri, for example, the amount of forest cover did not differ significantly between sites where Indiana bats were captured and not captured (Miller et al. 2002). In Illinois, Carter et al. (2002) found significantly fewer and smaller patches of urban development in the vicinity of Indiana bat roosts than at random sites. There also was less residential land around Indiana bat capture sites than unsuccessful netting sites in Missouri (Miller et al. 2002). Belwood (2002), however, documented a maternity colony occupying trees in a wooded subdivision in Ohio and a colony near the Indianapolis Airport occupies a rural area surrounded by urban/suburban development (Whitaker et al. 2004; Sparks et al. 2005).

Although more needs to be learned about habitat requirements of Indiana bat maternity colonies at the landscape level (Menzel et al. 2001; U.S. Fish and Wildlife Service 2007), it seems reasonable that sustainable habitat for Indiana bat would include a variety of snags, hickories, and numerous large, senescent trees that would provide future roost sites. Given the similarities between northern long-eared bats and Indiana bats, suitable summer habitat is likely very similar with the northern long-eared bat being slightly more flexible in its requirements (U.S. FWS 2014).

Requirements for foraging habitat are less restrictive; habitats used by foraging Indiana bats include riparian corridors, wetlands, upland forests, ponds, and fields (Menzel et al. 2001). Northern long-eared bats will forage in upland forests and forested hillsides (LaVal et al. 1977; Caceres and Pybus 1998; Brack and Whitaker 2001) and occasionally over water, roads, and clearings in the forest (van Zyll de Jong 1985).

The Indiana bat was listed as a federal endangered species in 1967 and the northern long-eared bat was proposed to be federally listed as endangered in October 2013. Recently, a rapidly spreading bat disease (white-nose syndrome, WNS) spread by the cold-adapted ascomycete fungus, *Pseudogymnoascus destructans* has become a leading cause of mortality of several species of North American hibernating bats (Blehert et al. 2009; Frick et al. 2010). WNS was confirmed in Illinois bats by

the Illinois Department of Natural Resources (IDNR) on 28 February 2013 (<http://whitenosesyndrome.org/partner/illinois-department-natural-resources>). Currently, 25 states, mostly in the eastern U.S. , and five Canadian Provinces have been confirmed to exhibit WNS- infected bats; seven species are affected, namely, little brown bat (*M. lucifugus*), big brown bat (*Eptesicus fuscus*), northern long-eared bat, tri-colored bat (*Perimyotis subflavus*), eastern small-footed bat (*M. leibii*), the endangered Indiana bat, and the endangered gray bat (*M. grisescens*). In Illinois, two species of bats, the little brown bat and northern long-eared bat have been confirmed to exhibit WNS; as of 3 May 2013, WNS was confirmed in four Illinois counties: LaSalle, Monroe, Hardin and Pope Counties (C. Butchkoski, PA Game Commission, pers. comm.). However, as of 28 February 2013, WNS has not been confirmed in Illinois for *M. sodalis*.

## Methods for Assessing Potential Mist Netting Sites

All waterways that crossed the railroad were assessed as potential mist netting locations. Ideal locations are wide enough to permit mist netting, shallow enough to walk across, and possess a complete tree canopy over the waterway.

## Waterways Assessed as Potential Mist Netting Sites

Four waterways were assessed as potential mist netting sites within the project corridor. A map of the sites can be found in the Appendix.

Site 1 was the Des Plaines River (Figure 1). The river was much too wide and deep for mist netting.

Site 2 was the North Branch of the Chicago River (Figure 2). It was narrow and lacked a canopy. In addition, the river had tall vegetation growing out of it, which would prevent bats from drinking from it.

Site 3 was a tributary to the North Branch of the Chicago River (Figure 3). It was narrow and too cluttered by trees and shrubs for mist netting.

Site 4 was a narrow unnamed waterway (Figure 4). It was much too narrow for mist netting.

## Mist Netting Site Selection Conclusions

None of the four waterways in the project corridor were suitable for mist netting bats. The Des Plaines River was much too large and the other three sites were too small. Mist netting was not conducted for this project.

## Methods for Habitat Assessment

All dead trees in the project corridor were noted. For the purpose of this survey, a potential roost tree was defined as any tree (live or dead) with exfoliating bark, or any tree (live or dead) with one or more cavities. For each potential roost tree, the status (live, dead, partial [part dead and part alive]), dbh (estimated), the relative amount of exfoliating bark (bark potential = low, medium, or high) on the trunk and limbs, and the presence of cavities was recorded. Exposure to solar radiation was also noted. Wooded areas were characterized by dominant tree species.

## Habitat Assessment Results

The entire project corridor was walked by Joseph Merritt, Jean Mengelkoch, and Synan Nicholson on 4 August 2015. The corridor was split into sections using obvious breaks, such as roads (Appendix). Thus, the corridor was split into 8 sites. Since the majority of the corridor only included a narrow line of trees that lined the railroad opening, all trees were considered to have high solar exposure. All dead trees and potential roost trees are listed in the text, but only potential roost trees are listed in Table 1.

Site A extended from the western edge of the corridor to the Des Plaines River (Figure 5). Tree species in the area included ash and silver maples. There were two dead trees with no peeling bark within the corridor; these trees are not considered potential roost trees. No potential roost trees were seen in this site.

Site B went from the Des Plaines River to N. St. Mary's Road (Figure 6). Tree species in this segment included boxelder (*Acer negundo*), silver maple, black walnut (*Juglans nigra*), oak, and cottonwood. The majority of the trees had a dbh <12 in. There were two trees that had no bark but they possessed cavities that could be used by bats. In addition, there were four dead trees with no peeling bark and one dead tree with no bark; these are not considered potential roost trees.

Site C was from N. St. Mary's Road to I-94 (Figure 7). Tree species seen in this area included boxelder, silver maple, black cherry (*Prunus serotina*), black walnut, ash, cottonwood, willow (*Salix*), and elm. There were many shrubs in this section of the corridor. The dbh of the trees was mostly <12 in, but there were a few larger trees. There was a dead 8 in dbh tree with a low amount of peeling bark. There was a 14 in dbh live cottonwood with low-medium peeling bark. There was a partially dead cottonwood (dbh >24 in) that had a low amount of peeling bark. And there was a live cottonwood with a dbh of about 24 in with a large cavity near the base.

Site D extended from I-94 to IL 176 (Figure 8). This section of the corridor was dominated by shrubs. No potential roost trees were seen.

Site E was the spur of the corridor by Site D (Figure 9). Trees in this area included cottonwood, willow, and boxelder. The area was successional with small trees and shrubs. One dead tree without peeling bark was seen; this is not considered a potential roost tree. No potential roost trees were seen.

Site F was from IL 176 south to IL 60 and bordered the Middlefork Savannah Nature Preserve and Middlefork Savannah Forest Preserve of Lake County (Figure 10). Trees in this area included oak, cottonwood, boxelder, willow, and hickory. This site was extremely large and variable. There were some very large oaks (>24 in dbh) and some small trees (<5 in dbh). This site had two partially dead trees; one had a low amount of peeling bark and the other had cavities. There were three trees with a low amount of peeling bark and at least one cavity. There were two dead trees with a low amount of peeling bark. All of these trees are potential roosts. In addition, there were 16 dead trees with no peeling bark and one dead tree without bark; these trees are not potential roosts.

Site G extended from IL 60 to the southern end of the project corridor (Figure 11). Some of the trees in the area included boxelder, pine (*Pinus*), and cottonwood. There was one dead tree that did not possess peeling bark; this tree is not a potential roost tree. No potential roost trees were seen.

Table 1. Potential bat roost trees in the Rondout Extension/Metra Fox Lake 2<sup>nd</sup> Track project corridor (Sequence Number: 19157) in Lake County, Illinois. No potential roost trees were seen in Sites A, D, E, or G.

Site	Species	Dead/Alive <sup>1</sup>	Peeling Bark <sup>2</sup>	Cavities	Solar Exp <sup>3</sup>	DBH (in) <sup>4</sup>
B	unknown	dead	none	multiple	high	-
B	unknown	dead	none	multiple	high	-
C	unknown	dead	low	none	high	8
C	cottonwood	dead	low/med	none	high	14
C	cottonwood	partial	low	none	high	>24
C	cottonwood	live	none	one	high	24
F	cottonwood	partial	low	none	high	-
F	oak	partial	none	multiple	high	24
F	cottonwood	dead	low	multiple	high	-
F	oak	dead	low	none	high	15
F	unknown	dead	low	none	high	10
F	oak	dead	low	multiple	high	-
F	unknown	dead	low	one	high	14

<sup>1</sup> Trees were characterized as dead, alive or partial. Partial means that part of the tree, such as a limb, was dead while part of it was still alive.

<sup>2</sup> Peeling bark was rated as being a low, medium, or high amount.

<sup>3</sup> Solar exposure was rated as low, medium, or high.

<sup>4</sup> DBH (diameter at breast height) was recorded in inches and numbers are estimates.

## Habitat Assessment Conclusions

Thirteen potential roost trees were located within the project corridor. Of these trees, six possessed one or more cavities and had high solar exposure. Eight trees has a low amount of peeling bark and high exposure. One tree had a low-medium amount of peeling bark and high solar exposure. Two of the aforementioned trees possessed a low amount of peeling bark and multiple cavities.

Site F possessed the largest number of potential roost trees, but it was also the longest section in the corridor. Also, the majority of Site F was within the Middlefork Savannah Nature Preserve and Middlefork Savannah Forest Preserve, which had many trees.

Given the large number of large trees in the nature preserve and forest preserve, it is possible that Indiana bats or northern long-eared bats use the area. Indiana bats are less likely, especially since they have not been documented in the county. However, there are few trees within the project corridor that are suitable for use by either species of bat. There is better quality habitat available outside of the project corridor. Thus, it is our professional opinion that the habitat suitability of the Rondout Extension/Metra Lake 2<sup>nd</sup> Track project corridor for Indiana bats and northern long-eared bats is low.

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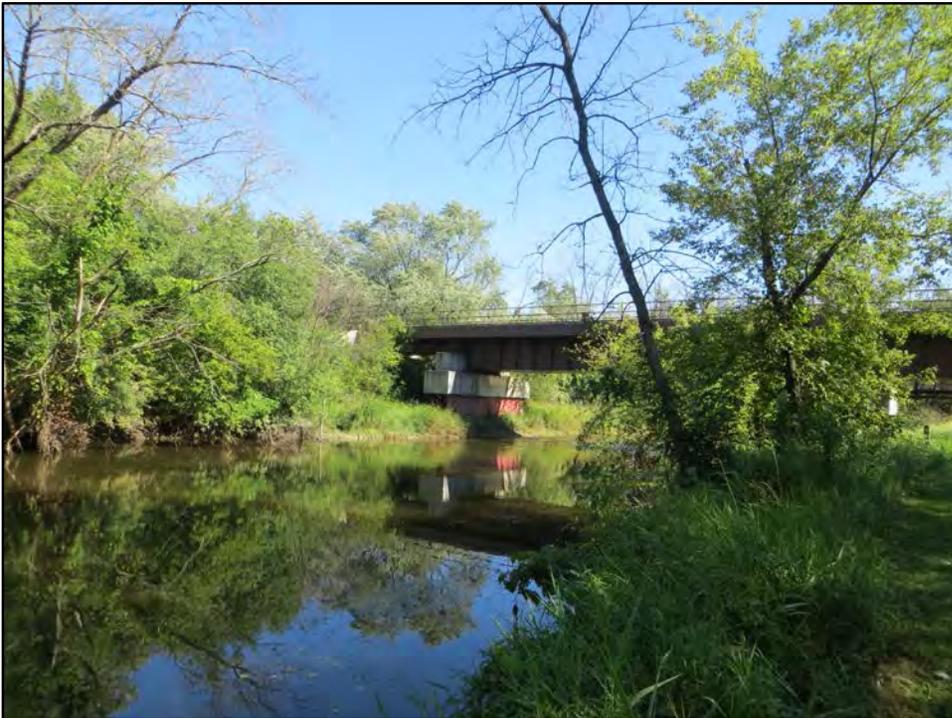


Figure 1. Des Plaines River is Site 1. The first picture is a view of the railroad bridge crossing looking north. The second picture is a view of the railroad bridge crossing looking south from the pedestrian bridge. Photos were taken on 3 August 2015.

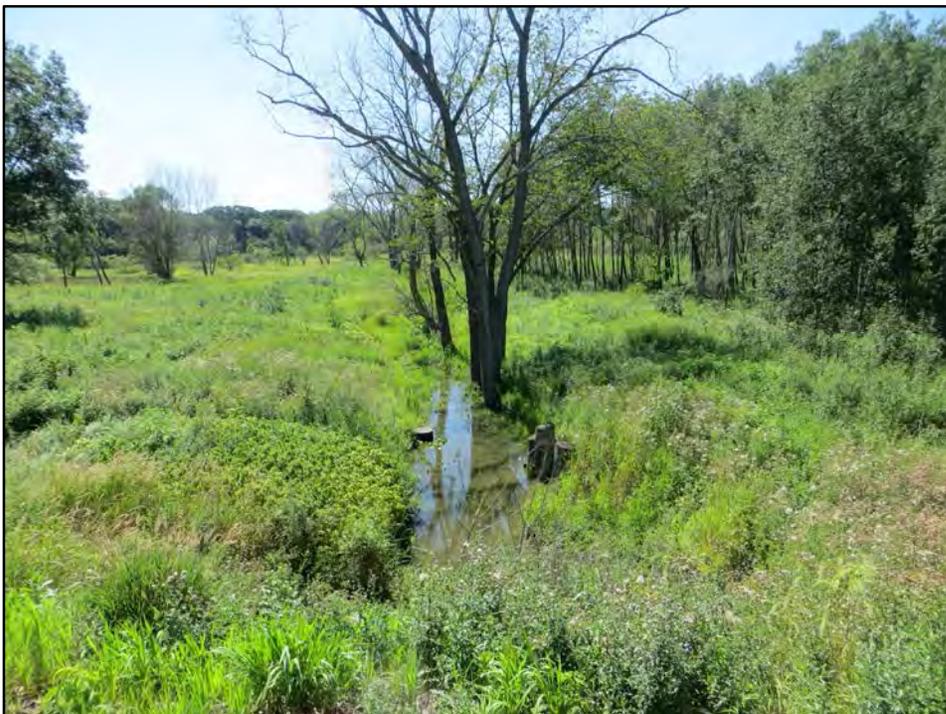


Figure 2. The North Branch of the Chicago River is Site 2. The first photo is looking east from the railroad tracks. The second photo is looking west from the railroad tracks. Photos were taken on 3 August 2015.



Figure 3. An unnamed tributary to the North Branch of the Chicago River is Site 3. This first photo is looking east from the railroad tracks and the second is looking west. The photos were taken on 3 August 2015.



Figure 4. An unnamed waterway is Site 4. The first photo is looking east from the railroad tracks. The second photo is looking west. The photos were taken 4 August 2015.



Figure 5. Looking west at Site A. Assessed for bat habitat on 4 August 2014.



Figure 6. Looking west at Site B. Assessed for bat habitat on 4 August 2015.



Figure 7. Looking east at Site C. Assessed for bat habitat on 4 August 2015.



Figure 8. Looking west at Site D. Assessed for bat habitat on 4 August 2015.



Figure 9. Looking north at Site E. Assessed for bat habitat on 4 August 2015.

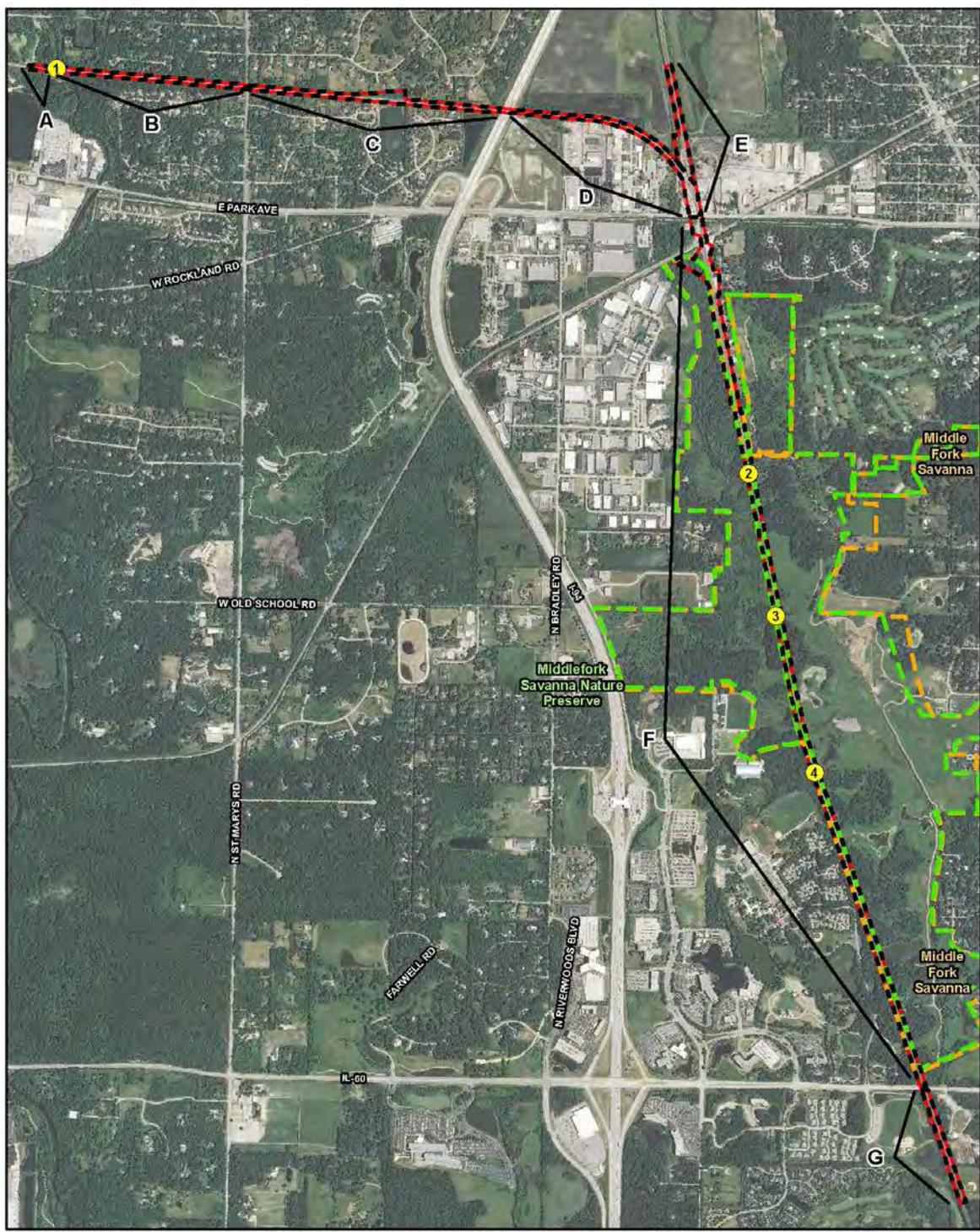


Figure 10. Looking south at Site F. Assessed for bat habitat on 4 August 2015.



Figure 11. Looking south at Site G. Assessed for bat habitat on 4 August 2015.

**Appendix:** Map of the potential mist netting sites and habitat assessment sites for the Indiana bat (*Myotis sodalis*) and the northern long-eared bat (*Myotis septentrionalis*) in the Rondout Extension/Metra Lake 2<sup>nd</sup> Track project corridor (Sequence Number: 19157) in Lake County, Illinois. Field work occurred on 3-4 August 2015. The yellow dots labeled 1-4 are the potential mist netting sites that were evaluated. The letters (A-G) refer to the habitat assessment sites.



Potential bat habitat and mist net sites at Roundout Extension (Seq no. 19157), Lake County, Illinois.

Project Boundary	INAI Sites	Potential Bat Habitat		
Nature Preserves	Potential Mist Net Sites			

Jarvis, 8/13/2015



## Breeding bird survey for the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> track rail project in Lake County, Illinois



IDOT Sequence Numbers:  
19157

Prepared by:  
Kirk Stodola

**INHS/IDOT Statewide Biological Survey & Assessment Program**  
2015(35)

August 2015



## Project Summary

The Division of Public and Intermodal Transportation (DPIT) requested a survey for breeding threatened and endangered species in and around a proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track Rail project near Lake Forest and Libertyville in Lake County, IL. The proposed project (IDOT seq. 19157) will replace a bridge over the North Branch Chicago River, replacing track, and installing new track and signals between Canadian Pacific Milepost 31.16 to Metra Milepost 33.85. The project will occur along existing railroad track and ROW that currently runs through the Middlefork Savanna Preserve. Nearly 200 species of birds have been recorded at Middlefork Savanna, with Wilson's Phalarope (Illinois Endangered) and King Rail (Illinois Endangered) being reported in the Illinois Natural Heritage database as recently as 2008. Consequently, the Illinois Natural History Survey (INHS) was tasked with surveying for breeding birds along the length of the proposed project. Steve Bailey, ornithologist INHS, conducted bird surveys on 7 June, 16 June, and 15 July. He identified sixty-one species adjacent, but within 100 yards of the proposed project. Least Bittern, an Illinois Threatened species, was the only threatened and endangered species detected during surveys. It is highly likely the Least Bittern is breeding at the Middlefork Savanna, given the date of the season and the habitat in which it was observed. Breeding Least Bitterns have home ranges averaging 25 acres, but may be as large as 90 acres. Furthermore, newly fledged chicks will stay near their nest, moving on average 95 feet within the first month. Consequently, it is likely Least Bittern would enter the proposed project area during the breeding season. However, the majority of the proposed rail expansion project will take place on the edge of the Middlefork Savanna Preserve and would therefore be unlikely to have long-term detrimental effects. Finally, in addition to the Least Bittern, nine species listed as Species in Greatest Need of Conservation in the state of Illinois were observed, Great Egret, Sandhill Crane, Yellow-billed Cuckoo, Chimney Swift, Red-headed Woodpecker, Northern Flicker, Willow Flycatcher, Marsh Wren, and Blue-winged Warbler. Red-headed Woodpecker, Willow Flycatcher, and Blue-winged Warbler are also on the Partners in Flight watch list.

**Surveys Conducted By:** Steve Bailey, Associate Ornithologist, INHS

**GIS Layers:** Janet Jarvis, Remote Sensing Specialist

**Cover Photo:** Least Bittern: Andy Reago and Chrissy McClarren, Wikimedia.org

## Table of Contents

<b>Project Summary</b> .....	ii
<b>Introduction</b> .....	1
<b>Project Area</b> .....	1
<b>Records and Potential Habitat for Threatened or Endangered Species</b> .....	1
<b>Methods</b> .....	2
Table 1. Description of census points along the proposed project .....	2
Figure 1. Location of census points, natural areas, and location of Least Bittern sighting at the proposed project .....	4
<b>Results</b> .....	5
Table 2. Species detected during site visits to the proposed project. ....	6
Table 3. Species and number of individuals detected during point counts.....	12
<b>Discussion</b> .....	15
<b>Literature Cited</b> .....	17

## Introduction

The Division of Public and Intermodal Transportation (DPIT) requested a survey for breeding King Rail (*Rallus elegans*) and Wilson's Phalarope (*Phalaropus tricolor*) in and around a proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track Rail project between Lake Forest and Libertyville in Lake County, IL. The proposed project (IDOT seq. 19157) will replace a bridge over the North Branch Chicago River, replacing track, and installing new track and signals between Canadian Pacific Milepost 31.16 to Metra Milepost 33.85. The biological survey was requested because of the proposed project will occur along existing railroad track and ROW that currently runs through the Middlefork Savanna County Forest Preserve, a local birding hotspot where King Rail and Wilson's Phalarope had previously been detected.

## Project Area

The proposed project (IDOT seq. 19157) will take place along a 4.4 mile section of railroad right-of-way from Canadian Pacific Milepost 31.16 near Kennedy Road, Lake Forest, IL to Metra Milepost 33.85 near St. Mary's Road, Libertyville, IL. The project is expected to remain within the current right-of-way and runs through the center of the Middlefork Savanna County Forest Preserve. The Middle Fork Savanna Nature Preserve is an Illinois Natural Areas Inventory site, habitat identified by the Illinois Department of Natural Resources that likely supports threatened or endangered species. Encompassing 592 acres, the Middlefork Savanna preserve is made up of some of the best remaining mesic soil savanna in Illinois. In addition, the preserve offers diverse habitats for birds, such as other mesic and wet prairie, sedge meadow, marshes, and oak savannas. The area represents high quality habitat for numerous plant and animal species, with over 1,000 species being identified in a 24 hour period in 2008 (Lake Forest Open Lands Association 2015).

## Records and Potential Habitat for Threatened or Endangered Species

Nearly 200 bird species have been reported at Middlefork Savanna preserve, including many state listed Threatened and Endangered (T&E) species. The area contains high quality habitat for numerous migratory and breeding bird species and is considered a birding hotspot in northern Illinois (ebird.org database, Sullivan et al. 2009). King Rail and Wilson's Phalarope have been reported during the breeding season at the preserve as recently as 2008 in the Natural Heritage Database. The two species have also been reported in the ebird database, during the breeding season and during migration. Specifically, King Rail was observed in 2009, 2010, 2012, and 2013 and Wilson's Phalarope in 2002, 2003, 2005, 2008, and 2010. There have been numerous sightings of other species of conservation concern over the past 20 years at Middlefork Savanna preserve. Least Bittern, Little Blue Heron, Black-crowned Night-heron, Osprey, Northern Harrier, Bald Eagle, Common Gallinule, Black-billed Cuckoo, Short-eared Owl, and even Whooping Crane have been observed on

site, most of these species with observations during the breeding season.

## Methods

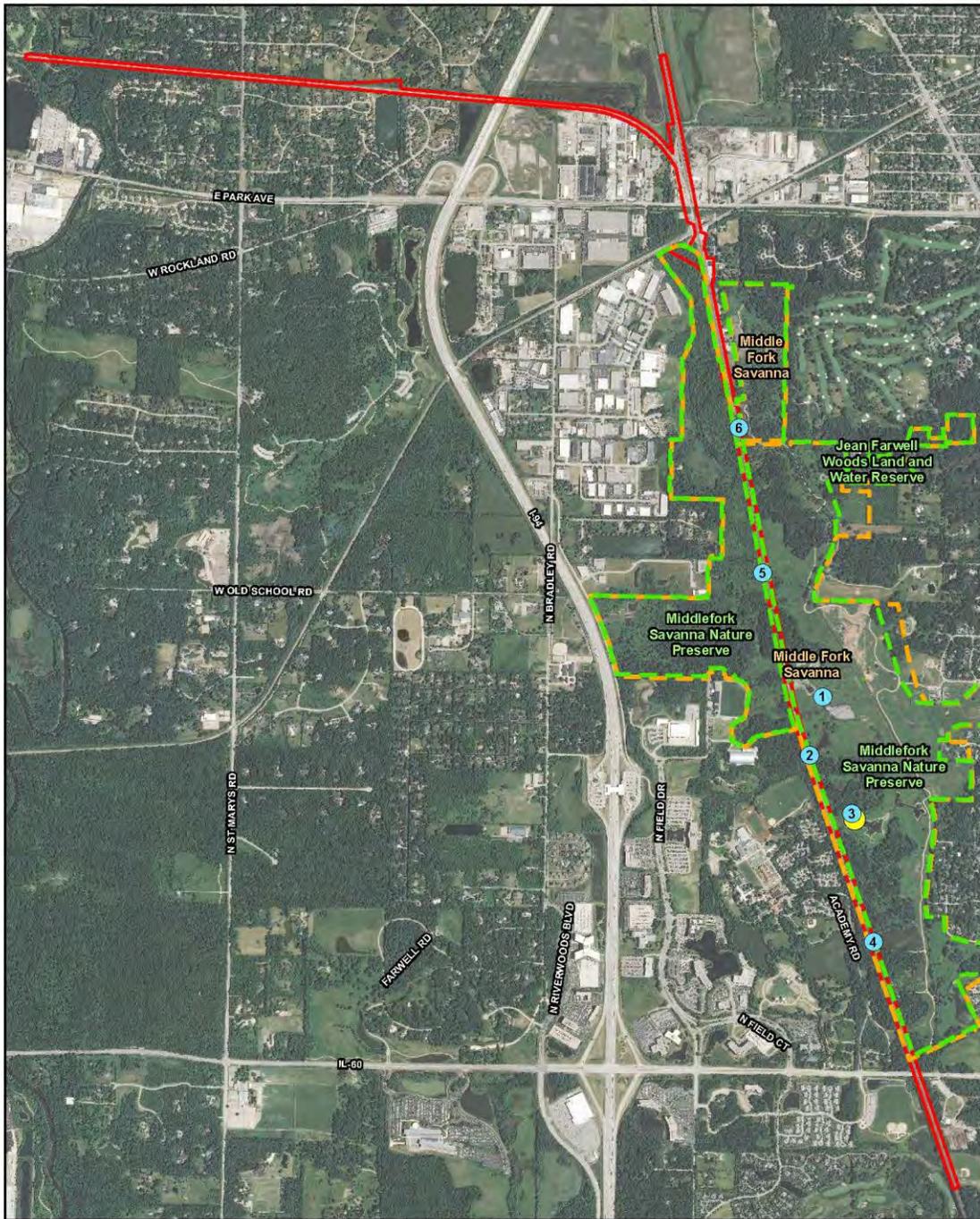
I assessed suitable habitat along the proposed project corridor (IDOT seq. 19157) using aerial photography. Considering the linear nature of the proposed project and the objective to survey the habitat for breeding T&E species, I decided that surveying the existing railway within Middlefork Savanna Preserve (Figure 1) would be most appropriate, as the remaining areas within the proposed project consist of poor habitat for breeding birds. In addition, I included six census points spaced along 1.7 miles of the transect (Table 1). Census points were added to facilitate future comparisons of the bird community at the proposed project with other locations or with other times, if deemed necessary. Each of the six census points were separated by >1000 feet (Figure 1).

Steve Bailey, Ornithologist, Illinois Natural History Survey (INHS), visited the proposed project area during the mid-to-late breeding season 2015 to conduct the bird surveys. He made three visits to the site, 7 June, 16 June, and 15 July, sampling the bird community and conducting point counts between the hours of 05:35 and 11:00. Each point count lasted 10 minutes and all birds seen or heard within a 100 yard radius were recorded. In addition, one 16 minute wetland survey was conducted at each of the census points. Wetland surveys consisted of songs and calls from eight wetland obligate nesting species broadcast for one minute, followed by a one minute passive listening period. The order of the eight wetland species were Black Rail (*Laterallus jamaicensis*), Sora (*Porzana carolina*), Virginia Rail (*Rallus limicola*), King Rail (*Rallus elegans*), Least Bittern (*Ixobrychus exilis*), American Bittern (*Botaurus lentiginosus*), Pied-billed Grebe (*Podilymbus podiceps*), and Common Gallinule (*Gallinula galeata*).

Table 1. Description of the six census points at or near the proposed Metra Fox Lake 2<sup>nd</sup> track rail project (IDOT seq. 19157). MSP = Middlefork Savanna Preserve

Census Point	Habitat	Physiographic Features	Latitude	Longitude
1	Wetland	Main Marsh of MSP	42.257363°	-87.888460°
2	Wetland	Along RR tracks	42.254667°	-87.889242°
3	Wetland	380 feet east of RR tracks – Marsh and forest	42.251979°	-87.886594°
4	Wetland	Along RR tracks – dried up marsh	42.246067°	-87.885173°
5	Grassland	Along RR tracks – old field	42.263047°	-87.892286°
6	Forest	Along RR tracks – middle of	42.269714°	-87.893840°

		young forest		
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Avian census locations at the Rondout Extension Project (IDOT Seq no. 19157), Lake County, Illinois.

 Project Boundary	 Avian Census Location
 Nature Preserves	 Least Bittern Sighting
 INAI Sites	

0 1,000 2,000 4,000 Feet

Janvis, 8/11/2015

Figure 1. Proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track Rail project in Lake County, IL, IDOT sequence 19157 (red solid line), Illinois Nature Preserves (green broken line), Illinois Natural Inventory Sites (yellow broken line), avian census points (blue dots), and Least Bittern sighting (yellow dot).

## Results

A total of 61 species were detected along the proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> track rail project (IDOT seq. 19157) during survey times (Table 2). The lone Sandhill Crane sighted was deceased and found next to the railroad tracks, indicating that the species was probably breeding in the area. Least Bittern was the only state listed species (threatened), with nine other species listed as Species in Greatest Need of Conservation in the state of Illinois, Great Egret (*Ardea alba*), Sandhill Crane (*Grus canadensis*), Yellow-billed Cuckoo (*Coccyzus americanus*), Chimney Swift (*Chaetura pelagica*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Northern Flicker (*Colaptes auratus*), Willow Flycatcher (*Empidonax traillii*), Marsh Wren (*Cistothorus palustris*), and Blue-winged Warbler (*Vermivora cyanoptera*). Red-headed Woodpecker, Willow Flycatcher, and Blue-winged Warbler are also on the Partners in Flight watch list. Fifty-five species, from 19 different families, were detected during point counts (Table 3). Red-winged Blackbird was the most common species detected, followed by American Goldfinch. Nineteen species were only detected one time (Table 3). Finally, Sora (*Porzana carolina*) and Virginia Rail (*Rallus limicola*) were the only wetland species detected during wetland surveys.

Table 2. List of species detected in and around the proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> track rail project (IDOT seq. 19157); including migratory status [Neo=Neotropical (National Migratory Bird Center, Washington, D.C.), NM=North American, and R=resident (Birds of North America, Cornell, Ithaca, N.Y.)]; and designations as Species in Greatest need of Conservation by IDNR, PIF Watch List, and IUCN Redlist status.

<b>Table 2</b>							
<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Migratory Status</b>	<b>Illinois Threatened / Endangered</b>	<b>Illinois Species in Greatest need of Conservation</b>	<b>Partners in Flight Watch List</b>	<b>IUCN REDLIST Status</b>
Canada Goose	<i>Branta canadensis</i>	W	Neo				Least Concern
Wood Duck	<i>Aix sponsa</i>	W, F	Neo				Least Concern
Mallard	<i>Anas platyrhynchos</i>	W	Neo				Least Concern
Blue-winged Teal	<i>Anas discors</i>	W	Neo				Least Concern
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	W	Neo				Least Concern
Least Bittern	<i>Ixobrychus exilis</i>	W	Neo	Threatened	Yes		Least Concern
Great Blue Heron	<i>Ardea herodias</i>	W	Neo				Least Concern
Great Egret	<i>Ardea alba</i>	W	Neo		Yes		Least Concern

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Migratory Status</b>	<b>Illinois Threatened / Endangered</b>	<b>Illinois Species in Greatest need of Conservation</b>	<b>Partners in Flight Watch List</b>	<b>IUCN REDLIST Status</b>
Green Heron	<i>Butorides virescens</i>	W	Neo				Least Concern
Turkey Vulture	<i>Cathartes aura</i>	F, R, O	Neo				Least Concern
Cooper's Hawk	<i>Accipiter cooperii</i>	F, R, U	Neo				Least Concern
Red-tailed Hawk	<i>Buteo jamaicensis</i>	G, R, O	Neo				Least Concern
Virginia Rail	<i>Rallus limicola</i>	W	Neo				Least Concern
Sora	<i>Porzana carolina</i>	W	Neo				Least Concern
Sandhill Crane <sup>1</sup>	<i>Grus canadensis</i>	W	Neo		Yes		Least Concern
Spotted Sandpiper	<i>Actitis macularia</i>	w	Neo				Least Concern
Solitary Sandpiper	<i>Tringa solitaria</i>	W	Neo				Least Concern
Ring-billed Gull	<i>Larus delawarensis</i>	W	Neo				Least Concern
Caspian Tern	<i>Hydroprogne caspia</i>	W	Neo				Least Concern
Mourning Dove	<i>Zenaida macroura</i>	F, U, R, O	Neo				Least Concern

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Migratory Status</b>	<b>Illinois Threatened / Endangered</b>	<b>Illinois Species in Greatest need of Conservation</b>	<b>Partners in Flight Watch List</b>	<b>IUCN REDLIST Status</b>
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	F, S	Neo		Yes		Least Concern
Chimney Swift	<i>Chaetura pelagica</i>	F, O	Neo		Yes		Near Threatened
Belted Kingfisher	<i>Megaceryle alcyon</i>	W, F	Neo				Least Concern
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	F, S, O	R		Yes	Yes	Near Threatened
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	F	R				Least Concern
Downy Woodpecker	<i>Picoides pubescens</i>	F	R				Least Concern
Hairy Woodpecker	<i>Picoides villosus</i>	F	R				Least Concern
Northern Flicker	<i>Colaptes auratus</i>	F, O	Neo		Yes		Least Concern
Willow Flycatcher	<i>Empidonax traillii</i>	S	Neo		Yes	Yes	Least Concern
Eastern Phoebe	<i>Sayornis phoebe</i>	F, S, R	Neo				Least Concern
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	W, F, U, R	Neo				Least Concern
Eastern Kingbird	<i>Tyrannus tyrannus</i>	G, S, R, O	Neo				Least Concern

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Migratory Status</b>	<b>Illinois Threatened / Endangered</b>	<b>Illinois Species in Greatest need of Conservation</b>	<b>Partners in Flight Watch List</b>	<b>IUCN REDLIST Status</b>
Warbling Vireo	<i>Vireo gilvus</i>	W, F, R	Neo				Least Concern
Blue Jay	<i>Cyanocitta cristata</i>	F, R, U, O	R				Least Concern
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	O	Neo				Least Concern
Barn Swallow	<i>Hirundo rustica</i>	R, O	Neo				Least Concern
Black-capped Chickadee	<i>Poecile atricapillus</i>	F	R				Least Concern
White-breasted Nuthatch	<i>Sitta carolinensis</i>	F	R				Least Concern
House Wren	<i>Troglodytes aedon</i>	F, S, R, U	Neo				Least Concern
Marsh Wren	<i>Cistothorus palustris</i>	W	Neo		Yes		Least Concern
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	F	Neo				Least Concern
Eastern Bluebird	<i>Sialia sialis</i>	All	Neo				Least Concern
American Robin	<i>Turdus migratorius</i>	F, S, R, U, O	Neo				Least Concern
Gray Catbird	<i>Dumetella carolinensis</i>	F, S, R, U	Neo				Least Concern

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Migratory Status</b>	<b>Illinois Threatened / Endangered</b>	<b>Illinois Species in Greatest need of Conservation</b>	<b>Partners in Flight Watch List</b>	<b>IUCN REDLIST Status</b>
European Starling	<i>Sturnus vulgaris</i>	R, U, O	R/Introduced				Least Concern
Cedar Waxwing	<i>Bombycilla cedrorum</i>	F, G, S, R, U	Neo				Least Concern
Blue-winged Warbler	<i>Vermivora pinus</i>		Neo		Yes	Yes	Least Concern
Common Yellowthroat	<i>Geothlypis trichas</i>	F, S, R	Neo				Least Concern
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	G, S, F, R	NM				Least Concern
Song Sparrow	<i>Melospiza melodia</i>	G, S, R, U	Neo				Least Concern
Swamp Sparrow	<i>Melospiza georgiana</i>	W	Neo				Least Concern
Northern Cardinal	<i>Cardinalis cardinalis</i>	F, S, R, U	R				Least Concern
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	F, S, R, U, W	Neo				Least Concern
Indigo Bunting	<i>Passerina cyanea</i>	F, S, R	Neo				Least Concern
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	W, S, R	Neo				Least Concern
Common Grackle	<i>Quiscalus quiscula</i>	All	R/NM				Least Concern

**Table 2**

Common Name	Scientific Name	Habitat	Migratory Status	Illinois Threatened / Endangered	Illinois Species in Greatest need of Conservation	Partners in Flight Watch List	IUCN REDLIST Status
Brown-headed Cowbird	<i>Molothrus ater</i>	All	Neo				Least Concern
Orchard Oriole	<i>Icterus spurius</i>	F, S, O	Neo				Least Concern
Baltimore Oriole	<i>Icterus galbula</i>	S, F	Neo				Least Concern
House Finch	<i>Carpodacus mexicanus</i>	R, U	R/NM				Least Concern
American Goldfinch	<i>Spinus tristis</i>	G, S, R, O	Neo				Least Concern

<sup>1</sup>One Individual found deceased next to railroad tracks

Table 3. Species, number of individuals, and average number of individuals detected within 100 yards of the census point during each 10 minute point count. Census locations are described in Table 1 and viewed in Figure 1. Each census point was surveyed twice. Census points 1 and 2 were first surveyed on 7 June 2015 while points 3 through 6 were first surveyed on 16 June 2015. All census points were re-surveyed on 15 July 2015. Species list is sorted from most to least abundant.

**Table 3**

Common Name	Census Points												Average
	1		2		3		4		5		6		
	1	2	1	2	1	2	1	2	1	2	1	2	
Red-winged Blackbird	11	9	4	4	15	5	3	2	5	6	0	0	5.3
American Goldfinch	3	3	2	4	7	7	3	6	3	10	0	2	4.2
Common Yellowthroat	3	5	2	4	3	4	0	2	2	2	0	0	2.3
Song Sparrow	0	3	1	4	2	1	1	3	2	2	1	2	1.8
Indigo Bunting	1	0	1	1	2	3	2	2	1	3	2	3	1.8
Marsh Wren	3	10	0	3	1	1	0	0	0	0	0	0	1.5
White-breasted Nuthatch	0	0	0	2	1	4	1	2	0	0	0	6	1.3
Cedar Waxwing	0	1	3	3	1	2	2	1	1	2	0	0	1.3
Blue Jay	0	0	2	3	0	3	0	5	0	0	1	1	1.3
American Robin	1	1	5	3	3	1	0	1	0	0	0	0	1.3
Barn Swallow	0	2	0	2	1	2	0	1	1	1	2	0	1.0
Black-capped Chickadee	0	0	1	3	2	2	0	1	0	2	0	1	1.0
Common Grackle	3	0	4	1	1	0	2	0	0	0	0	0	0.9
Great Egret	2	0	1	0	2	1	2	2	0	0	0	0	0.8
Downy Woodpecker	0	0	0	1	2	2	1	1	0	0	1	0	0.7
Mallard	4	0	1	1	1	0	0	0	0	0	0	0	0.6
Great Blue Heron	3	0	3	0	0	0	1	0	0	0	0	0	0.6
Brown-headed Cowbird	1	0	1	0	0	0	2	0	1	1	1	0	0.6
Eastern Kingbird	0	1	3	1	0	0	1	0	0	0	0	0	0.5
Double-crested Cormorant	0	1	0	1	0	0	1	1	0	0	1	0	0.4
Northern Flicker§	0	0	0	0	1	2	0	1	0	0	1	0	0.4
European Starling	0	0	1	0	0	0	4	0	0	0	0	0	0.4

**Table 3**

Common Name	Census Points												Average
	1		2		3		4		5		6		
	1	2	1	2	1	2	1	2	1	2	1	2	
Chimney Swift	1	0	1	0	0	1	1	0	0	0	0	0	0.3
Warbling Vireo	1	0	1	0	0	0	1	0	0	1	0	0	0.3
House Wren	0	0	0	0	0	0	1	3	0	0	0	0	0.3
Northern Cardinal	1	0	1	0	0	1	0	0	0	0	0	1	0.3
Red-tailed Hawk	0	0	0	0	0	0	1	2	0	0	0	0	0.3
Northern Rough-winged Swallow	0	2	0	0	0	0	0	0	0	0	1	0	0.3
Gray Catbird	0	0	0	0	0	0	0	1	0	1	1	0	0.3
Orchard Oriole	1	0	0	0	1	0	0	0	1	0	0	0	0.3
Baltimore Oriole	0	0	0	0	1	0	1	0	0	0	1	0	0.3
Spotted Sandpiper	1	0	0	0	0	0	1	0	0	0	0	0	0.2
Ring-billed Gull	2	0	0	0	0	0	0	0	0	0	0	0	0.2
Red-bellied Woodpecker	0	1	0	0	0	0	0	0	0	0	1	0	0.2
Willow Flycatcher	0	0	1	0	0	0	0	0	1	0	0	0	0.2
Eastern Phoebe	0	0	0	0	0	0	0	0	0	0	1	1	0.2
Swamp Sparrow	0	2	0	0	0	0	0	0	0	0	0	0	0.2
Wood Duck	0	0	0	1	0	0	0	0	0	0	0	0	0.1
Blue-winged Teal	0	0	0	0	1	0	0	0	0	0	0	0	0.1
Least Bittern	0	0	0	0	1	0	0	0	0	0	0	0	0.1
Cooper's Hawk	0	0	0	1	0	0	0	0	0	0	0	0	0.1
Sora	0	1	0	0	0	0	0	0	0	0	0	0	0.1
Caspian Tern	0	0	0	1	0	0	0	0	0	0	0	0	0.1
Mourning Dove	0	0	0	0	1	0	0	0	0	0	0	0	0.1
Yellow-billed Cuckoo§	0	0	0	0	0	0	0	1	0	0	0	0	0.1
Belted Kingfisher	0	0	0	0	0	0	0	1	0	0	0	0	0.1
Red-headed Woodpecker	0	0	0	0	0	0	0	1	0	0	0	0	0.1
Hairy Woodpecker	0	0	0	0	0	1	0	0	0	0	0	0	0.1

**Table 3**

Common Name	Census Points												Average	
	1		2		3		4		5		6			
	1	2	1	2	1	2	1	2	1	2	1	2		
Great Crested Flycatcher	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1
Blue-gray Gnatcatcher	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1
Eastern Bluebird	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1
Blue-winged Warbler	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1
Eastern Towhee	0	0	0	0	0	0	0	0	0	1	0	0	0	0.1
Rose-breasted Grosbeak	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1
House Finch	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1

## Discussion

The proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> track rail project (IDOT seq. 19157) runs through high quality wetland breeding habitat for numerous bird species. While approximately half of the proposed project runs through developed residential and commercial areas offering little breeding habitat for Illinois T&E species, the section running north of Illinois Highway 60 to the Rondout Rail crossing cuts through Middlefork Savanna Preserve. Middlefork Savanna Preserve is an often visited birding hotspot in northern Illinois. Nearly 200 bird species have been observed during the breeding season at the preserve, including many threatened and endangered species. The Illinois Natural Heritage Database listed both the King Rail and Wilson's Phalarope as breeding in the preserve. Numerous other species, including a Whooping Crane, have been spotted at various times during the year according to the ebird.org database. Consequently, the Illinois Natural History Survey (INHS) was tasked with a breeding bird survey at the site focusing specifically on the presence of any T&E species.

Steve Bailey, ornithologist with INHS, conducted a walking survey of the proposed project area and detected 61 bird species in total and 56 bird species during 10-minute 100 yard fixed radius point counts. All counts were in habitat adjacent to or within the project limits. One Illinois Threatened species, the Least Bittern, was detected breeding at the Middlefork Savanna Preserve in habitat adjacent to the project area (Figure 1). Given the location and the time during the season, it is highly likely the Least Bittern was breeding at the site. Least Bittern have been frequently found at the site in previous breeding seasons and it is likely 1-3 breeding pairs can be found there annually. Nine other species listed as Species in Greatest Need of Conservation in the state of Illinois were also observed, Great Egret, Sandhill Crane, Yellow-billed Cuckoo, Chimney Swift, Red-headed Woodpecker, Northern Flicker, Willow Flycatcher, Marsh Wren, and Blue-winged Warbler. Red-headed Woodpecker, Willow Flycatcher, and Blue-winged Warbler are also on the Partner's in Flight watch list.

Middlefork Savanna Preserve is composed of high quality wetland and forest habitat that could be home to other Illinois T&E species in future years. King Rail (Illinois Endangered) and Wilson's phalarope (Illinois Endangered) are both associated with the site in the Illinois Natural Heritage database. King Rail breeds in marshy habitat, preferring sedges and grasses in wet seasons and cattail marshes in dry seasons (Bradely and Meanley 2015). As a result, King Rail is likely to be a frequent breeder at the site and was most recently observed on 17 May 2014 by Steve Bailey. Wilson's Phalarope breeds in marshy-grassy habitats (Colwell and Jehl 1994) and was last observed on site in 2005 with young. American Bittern (Illinois Endangered) is found regularly during migration and the habitat would facilitate 1-2 pairs breeding on site. Common Gallinule (Illinois Endangered) are also frequently observed during migration and 1-2 pairs could be supported by the excellent

habitat available. However, the gallinule's breeding population has declined substantially in northeastern Illinois, which lowers the probability of the species breeding on site. Finally, Black Rail (Illinois Endangered), Northern Harrier (Illinois Endangered), Yellow-headed Blackbirds (Illinois Endangered), and Black-billed Cuckoos (Illinois Threatened) could be expected to breed at Middlefork Savanna Preserve, given the quality of the wetland and forest habitat.

Least Bitterns were the only Illinois T&E species observed in the high quality wetland habitat at the Middlefork Savanna Preserve. The Least Bittern is the smallest member of the Heron family. It is a very secretive species inhabiting marshes with dense vegetation. It was once very common in Illinois, but numbers declined precipitously throughout the 1900s, as wetland habitat was lost or degraded (Kleen et al. 2004). Consequently, the species was listed as endangered in the state of Illinois in 1989, but was later downgraded to threatened in 1999. Range-wide and within the central United States, populations of Least Bittern appear to be relatively stable over the past 45 years (Sauer et al. 2014). Habitat loss continues to be the primary threat to the species, along with habitat degradation due to the encroachment of invasive species such as purple loosestrife (*Lythrum salicaria*) and phragmites (*Phragmites australis*) (Poole et al. 2009).

The breeding season for the Least Bittern starts in May and runs through late July in Illinois (Poole et al. 2009). Pair formation and nest building occurs in early May, with first broods laid from late May to late June, peaking in early June in Illinois (Graber et al. 1978). Incubation lasts 19-20 days after which semi-altricial young begin to hatch. Young leave the nest after four to five days, remaining in the vicinity for the next few weeks. Mean age at first flight is 29 days post-hatching. Breeding Least Bitterns have home ranges averaging 25 acres, but may be as large as 90 acres. Furthermore, newly fledged chicks will stay near their nest, moving on average 95 feet within the first month.

Aside from the Least Bittern, other species may have been present but were not detected. Wetland species are notoriously difficult to detect and effective means of monitoring at large spatial scales have been lacking (Conway and Gibbs 2005). This may be especially true later in the breeding season as reproductive activities wind down and the birds get more secretive. Yellow-headed Blackbird, Least Bittern, Common Gallinule, and King Rail all complete their nesting activities in early to mid-July here in Illinois. Consequently, it is possible that a species was present but went undetected given the high quality habitat present at Middlefork Savanna Preserve. However, call-playbacks can be an effective means of identify the presence of a species in a given area (Conway and Gibbs 2005, Soehren et al. 2009) and we failed to detect any wetland T&E species using this method. Given that most of the proposed Rondout Extension / Metra Fox Lake 2<sup>nd</sup> track rail project is located along the edge of the Middlefork Savanna Preserve, it is unlikely work conducted within the existing right-of-way will have much impact on T&E species, even if the species were present.

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## Surveys for Fishes and Freshwater Mussels for the Rondout Extension / Metra Fox Lake Second Track project in Lake County, Illinois

IDOT Seq. No.: 19157



Prepared by:  
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**INHS/IDOT Statewide Biological Survey & Assessment Program**  
Program Report 2015 (18)

9 November 2015



## PROJECT SUMMARY

This report is submitted in response to a request from IDOT for INHS personnel to conduct fish and freshwater mussels surveys for the Rondout Extension / Metra Fox Lake Second Track project (IDOT Sequence No. 19157) in Lake County, Illinois. We conducted surveys for fishes and freshwater mussels at four sites in this project area on 17-18 June 2015.

Fishes were collected from 100 foot<sup>2</sup> plots at each site by kicking the substrate 10 feet upstream from a stationary 10 foot wide, ¼"-mesh seine. The fish surveys yielded 382 individuals representing 11 species, including the state-threatened Iowa Darter. The darter was collected at the unnamed tributary to North Branch Chicago River in Middlefork Savannah County Forest Preserve (N = 2 individuals; density = 0.11 individuals per 100 feet<sup>2</sup>), the North Branch Chicago River in Middlefork Savannah County Forest Preserve (N = 42 individuals; density = 2.10 individuals per 100 feet<sup>2</sup>), and the North Branch Chicago River in Rondout (N = 11 individuals; density = 1.57 individuals per 100 feet<sup>2</sup>). No other fishes collected are listed at the state or federal level.

Freshwater mussels were sampled by either visually scanning the streambed and/or tactile searches. The freshwater mussel surveys did not yield any evidence of shell material.



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## TABLE OF CONTENTS

<b>Project summary</b> .....	2
<b>Introduction</b> .....	5
<b>Project Location / Habitat characterization</b> .....	5
<b>Background – Fishes</b> .....	6
<b>Methods – Fishes</b> .....	7
<b>Results and Discussion – Fishes</b> .....	7
<b>Background – Freshwater mussels</b> .....	8
<b>Methods – Freshwater mussels</b> .....	9
<b>Results and Discussion – Freshwater mussels</b> .....	9
<b>Acknowledgements</b> .....	9
<b>Literature Cited</b> .....	9
<b>Tables</b>	
<b>Table 1</b> – List of fishes known from the North Branch Chicago River basin (Des Plaines River drainage) based upon historical records (INHS Fish Collection database, Champaign) and those collected during the Rondout Extension / Metra Fox Lake Second Track project, Lake County, Illinois, by INHS personnel on 17-18 June 2015 .....	12
<b>Table 2</b> – List of freshwater mussels known from the North Branch Chicago River basin (Des Plaines River drainage) based upon historical records (INHS Mollusk Collection database, Champaign) .....	14
<b>Figures</b>	
<b>Figure 1</b> – Map of the Rondout Extension / Metra Fox Lake Second Track project area near Lake Forest and Green Oaks, Lake County, Illinois, where surveys for fishes and freshwater mussels were conducted by INHS personnel on 17-18 June 2015.....	15
<b>Figure 2</b> – Unnamed tributary to wetland, Middlefork Savannah County Forest Preserve, Lake Forest, Lake County, Illinois (Latitude 42.25445°N, Longitude 87.88933°W).....	16
<b>Figure 3</b> – Unnamed tributary to North Branch Chicago River, Middlefork Savannah County Forest Preserve, Lake Forest, Lake County, Illinois (Latitude 42.26163°N, Longitude 87.89172°W) .....	17
<b>Figure 4</b> – North Branch Chicago River, Rondout, Lake County, Illinois (Latitude 42.28225°N, Longitude 87.89827°W) .....	18
<b>Figure 5</b> – Iowa Darter <i>Etheostoma exile</i> .....	19

## TABLE OF CONTENTS (CONT.)

### Appendices

<b>Appendix 1.</b> A cover page referencing < 19157_Lake_Co_Fish_Mussel_Survey.zip >, an ArcGIS shapefile which includes sampling point information on Map of the Rondout Extension / Metra Fox Lake Second Track project area near Lake Forest and Green Oaks, Lake County, Illinois, where surveys for fishes and freshwater mussels were conducted by INHS personnel on 17-18 June 2015 .....	20
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**Cover photo:** North Branch Chicago River, Middlefork Savannah County Forest Preserve at the railroad crossing, Lake Forest, Lake County, Illinois (Latitude 42.26815°N, Longitude 87.89355°W). Photo is facing upstream in a westerly direction on 17 June 2015 (Jeremy S. Tiemann photo).

## INTRODUCTION

This report is submitted in response to a request made by Susan Hargrove (Illinois Department of Transportation, Springfield – IDOT) to Wendy Schelsky (Illinois Natural History Survey, Champaign – INHS) dated 4 March 2015 for fish and freshwater mussel surveys along a 2.7 mile rail project from Canadian Pacific Milepost 31.16 to Metra Milepost 33.85 (IDOT Sequence No. 19157; INHS Project No. FS-751) near Lake Forest and Green Oaks, Lake County, Illinois. The Rondout Extension/Metra Fox Lake Second Track project will be constructed to mitigate significant delays to passenger and freight rail in the corridor. IDOT proposes to replace a bridge over the North Branch Chicago River, replace track, and install new track and signals.

In this report, we summarize the results of fish and freshwater mussel surveys in this area conducted by INHS personnel on 17-18 June 2015. Nomenclature used for fishes discussed in this report follows Page and Burr (2011), and for freshwater mussels follows Graf and Cummings (2007) with slight modifications. The current status of threatened and endangered species of fishes and freshwater mussels discussed in this report are taken from U.S. Department of Interior, Fish and Wildlife Service (USDI, FWS) (1996, 1997) and the Illinois Endangered Species Protection Board (IESPB) (2015).

## PROJECT LOCATION / HABITAT CHARACTERIZATION

The Rondout Extension / Metra Fox Lake Second Track project area lies entirely within the North Branch Chicago River basin, and consisted of four stream crossings (**Figure 1**):

- 1) Unnamed tributary to wetland, Middlefork Savannah County Forest Preserve at railroad crossing, Lake Forest, Lake County, Illinois; Latitude 42.25445°N, Longitude 87.88933°W (**Figure 2**). The stream was sampled from 30 yards downstream of the railroad crossing to the edge of the culvert (no sampling occurred in the culvert under the railroad crossing). The stream was approximately 3 feet wide and <1 foot deep, and had a flow rate of <1 foot/second. Stream substrates were gravel/pebble with pockets of woody debris, and the riparian area was prairie. The unnamed tributary flows in a northeasterly direction at this location.
- 2) Unnamed tributary to North Branch Chicago River, Middlefork Savannah County Forest Preserve at railroad crossing, Lake Forest, Lake County, Illinois; Latitude 42.26163°N, Longitude 87.89172°W (**Figure 3**). The stream was sampled from 50 yards downstream of the railroad crossing to 10 yards upstream of the crossing (no sampling occurred in the culvert under the railroad crossing). The stream was 10 feet wide and <2 feet deep, and had a flow rate of <0.5 feet/second. Stream substrates were silt and aquatic vegetation with pockets of woody debris, and the riparian area was prairie. The stream flows in an easterly direction at this location.
- 3) North Branch Chicago River, Middlefork Savannah County Forest Preserve at railroad crossing, Lake Forest, Lake County, Illinois; Latitude 42.26815°N, Longitude 87.89355°W (**cover photo**). The stream was sampled from 30 yards downstream of the railroad crossing to 5 yards upstream of the crossing, including the area under the railroad

bridge. The stream was 20 feet wide and <2.5 feet deep, and had a flow rate of <1 foot/second. Stream substrates were silt and aquatic vegetation with pockets of woody debris, and the riparian area was tree-lined. The stream flows in an east-northeasterly direction at this location.

- 4) North Branch Chicago River, Rondout at railroad crossing, Lake County, Illinois; Latitude 42.28225°N, Longitude 87.89827°W (**Figure 4**). The stream was sampled from 5 yards downstream of the railroad crossing to 30 yards upstream of the crossing, including the area under the railroad bridge. The stream was 10 feet wide and <3 feet deep, and had a flow rate of <2 feet/second. Stream substrates were silt and aquatic vegetation with pockets of woody debris upstream of the crossing, and rip-rap under and downstream of the crossing, and the riparian area was lined with trees, grasses, and the railroad switchyard. The stream flows in a southerly direction at this location.

Because the Chicago River was modified to flow westward rather than eastward into Lake Michigan, the stream is now essentially a Des Plaines River tributary (Price et al. 2012). The Chicago River and tributaries are 95% urban (Price et al., 2012). However, within the project area, three sites are within the Middlefork Savannah County Forest Preserve, which is a mix of oak savanna and woodlands, wet and mesic prairies, sedge meadows, marshes and wetlands, and is bisected by the North Branch Chicago River.

**Appendix 1** references a shapefile with sampling point information for the Rondout Extension / Metra Fox Lake Second Track project, as discussed in this report.

## BACKGROUND – FISHES

Nearly 30 species of fishes have been reported from the North Branch Chicago River basin in Illinois, including the state-threatened Iowa Darter *Etheostoma exile* (Pescitelli and Rung, 2012; INHS Fish Collection database, Champaign; **Table 1**). All other species are either common inhabitants of northern Illinois streams that are not listed as endangered or threatened at the state or federal level (Smith, 1979; IESPB, 2015) or are nonnative species that have sustaining populations in northeastern Illinois (Smith, 1979; Laird and Page, 1996).

A literature review and a search of the INHS Fish Collection's database were conducted for historical and recent records of fishes in the North Branch Chicago River basin. No known fish surveys had previously been conducted in the Rondout Extension / Metra Fox Lake Second Track project area.

On 15 October 1987, Wetzel and Ceas (1987) conducted a survey for fishes in the North Branch of the Chicago River, at the Illinois Route 176 (IDOT FAU 1238) bridge (~850 feet downstream / south of site 4, above). No fishes, however, were collected after repeated seine hauls. The habitat in the stream during this 1987 survey was quite degraded; substrate was composed of sand and gravel, with some deposition of silt and detritus. In their habitat characterization, Wetzel and Ceas noted that the reach of the stream near this bridge had been degraded by periodic dumping of trash, and a strong odor of anaerobic decomposition and partially treated domestic and industrial sewage was noted; large areas with sheens from petroleum products

were observed floating on the stream's surface, and a milky discharge was observed flowing into the stream just downstream/south of the bridge.

The Iowa Darter (**Figure 5**) is commonly found in glacial lakes and quiet pools of clear low-gradient streams of northeastern Illinois over a mud or clay bottom with detritus and woody debris (Smith, 1979). The range of the darter has diminished in Illinois as a result of the drainage of marshes, sloughs, and natural lakes, increased turbidity in streams, habitat degradation, introduced non-native species, and continued urbanization of northeastern Illinois (Smith, 1971; Smith, 1979). One record exists for the Iowa Darter in the North Branch Chicago River basin. Pescitelli and Rung (2012) reported collecting one individual in the Middle Fork North Branch Chicago River, Deerfield at the Deerfield High School (Latitude 42.1879°N, Longitude 87.8512°W) in 2011.

## METHODS – FISHES

Fish surveys were conducted at the four Rondout Extension / Metra Fox Lake Second Track project area stream crossings on 17-18 June 2015 by INHS personnel J.S. Tiemann and A.R. Kuhns. Fishes were collected from 100 foot<sup>2</sup> plots at each site by kicking the substrate 10 feet upstream from a stationary 10 foot wide, ¼"-mesh seine and proceeding downstream to the seine in a back and forth path covering the width of the seine. To minimize disturbance, plots were sampled near shore to far shore and were sampled from downstream to upstream. This kick-seining method has been shown to be an appropriate quantitative method for sampling benthic fishes, including darters (Tiemann, 2008). The effort by site is as follows:

- 1) Unnamed tributary to wetland in Middlefork Savannah County Forest Preserve (Latitude 42.25445°N, Longitude 87.88933°W) – kick-seined eight 10-foot x 10-foot plots.
- 2) Unnamed tributary to North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26163°N, Longitude 87.89172°W) – kick-seined eighteen 10-foot x 10-foot plots.
- 3) North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26815°N, Longitude 87.89355°W) – kick-seined twenty 10-foot x 10-foot plots.
- 4) North Branch Chicago River in Rondout (Latitude 42.28225°N, Longitude 87.89827°W) – kick-seined seven 10-foot x 10-foot plots.

Most fishes were identified and released on site. A small subsample of fishes were preserved in the field in 10% formalin and returned to INHS for deposition in the INHS Fish Collection.

## RESULTS AND DISCUSSION – FISHES

The fish surveys at these four sites yielded 382 individuals representing 11 species (**Table 1**). Included in this total were 55 individuals of the state-threatened Iowa Darter, which was collected at Site 2, the unnamed tributary to North Branch Chicago River in Middlefork Savannah County Forest Preserve (N = 2 individuals); Site 3, the North Branch Chicago River in

Middlefork Savannah County Forest Preserve (N = 42 individuals); and Site 4, the North Branch Chicago River in Rondout (N = 11 individuals).

At Site 2, the unnamed tributary to North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26163°N, Longitude 87.89172°W), one individual was collected upstream of the railroad crossing, and the other was collected downstream. Based upon my kick-seining methods, density estimates were calculated as 0.11 Iowa Darters per 100 feet<sup>2</sup> at this site. Suitable habitat (e.g., pools of clear low-gradient streams with mud/sand substrate with detritus and brush) was present throughout the entire stream reach sampled.

At Site 3, the North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26815°N, Longitude 87.89355°W), the 42 individuals were collected both upstream and downstream of the railroad crossing, as well as under the bridge. Based upon my kick-seining methods, density estimates were calculated as 2.10 Iowa Darters per 100 feet<sup>2</sup> at this site. Suitable habitat was present both upstream and downstream of the crossing.

At Site 4, the North Branch Chicago River in Rondout (Latitude 42.28225°N, Longitude 87.89827°W), all 11 individuals were collected upstream of the railroad crossing. Based upon my kick-seining methods, density estimates were calculated as 1.57 Iowa Darters per 100 feet<sup>2</sup> at this site. Suitable habitat was present upstream of the crossing, but not under the bridge or downstream, which consisted almost exclusively of rip-rap.

Site 1, the unnamed tributary to wetland in Middlefork Savannah County Forest Preserve (Latitude 42.25445°N, Longitude 87.88933°W) did not appear to contain suitable habitat for the Iowa Darter. The unnamed tributary appeared to be an intermittent stream and was flowing only because of recent rains.

The remaining ten species collected are widespread and locally abundant in central Illinois streams (Smith, 1979). Five of these species, Golden Shiner (*Notemigonus crysoleucas*), Bluntnose Minnow (*Pimephales notatus*), Fathead Minnow (*Pimephales promelas*), Yellow Bullhead (*Ameiurus natalis*), and Green Sunfish (*Lepomis cyanellus*), are listed as “tolerant” by Smogor (2000). These tolerant species adapt well to changing environmental conditions.

## **BACKGROUND – FRESHWATER MUSSELS**

Nine species of freshwater mussels have been reported from the North Branch Chicago River basin in Illinois (Price et al., 2012; INHS Mollusk Collection database, Champaign; **Table 1**). All species are common inhabitants of northern Illinois streams (Cummings and Mayer, 1997; Tiemann et al. 2007), and none are listed as endangered or threatened at the state or federal level (IESPB, 2015).

A literature review and a search of the INHS Mollusk Collection’s database were conducted for historical and recent records of freshwater mussels in the North Branch Chicago River basin. Baker (1898) noted the presence of six species that had been collected from the North Branch of the Chicago River. However, no known freshwater mussel surveys had previously been conducted in the Rondout Extension / Metra Fox Lake Second Track project area. No live, dead, or subfossil mussels were observed by Wetzel and Ceas during their 15 October 1987 survey of

the North Branch of the Chicago River at the Illinois Route 176 (IDOT FAU 1238) bridge (~850 feet downstream / south of site 4, above).

## METHODS – FRESHWATER MUSSELS

Freshwater mussel surveys were conducted at the four Rondout Extension / Metra Fox Lake Second Track project area stream crossings on 17-18 June 2015 by INHS personnel J.S. Tiemann and A.R. Kuhns. Freshwater mussels were sampled either by visually scanning the streambed and/or tactile searches (e.g., hand picking or feeling the surface with one's feet). The effort by site is as follows:

- 1) Unnamed tributary to wetland in Middlefork Savannah County Forest Preserve (Latitude 42.25445°N, Longitude 87.88933°W) – visual for 5 minutes.
- 2) Unnamed tributary to North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26163°N, Longitude 87.89172°W) – visual for 15 minutes.
- 3) North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26815°N, Longitude 87.89355°W) – tactile for 30 minutes.
- 4) North Branch Chicago River in Rondout (Latitude 42.28225°N, Longitude 87.89827°W) – visual for 5 minutes and tactile for 15 min.

Additionally, both banks and dried areas associated with these four stream crossings were visually searched for the presence of shells.

## RESULTS AND DISCUSSION – FRESHWATER MUSSELS

The freshwater mussel surveys at these four sites did not yield any evidence of shell material. None of the streams appeared to be suitable for freshwater mussels. As referenced above, the unnamed tributary to wetland in Middlefork Savannah County Forest Preserve appears to be an intermittent stream, whereas the others were somewhat silted. Price et al. (2012) reported only three species, White Heelsplitter (*Lasmigona complanata*), Giant Floater (*Pyganodon grandis*), and Lilliput (*Toxolasma parvum*), during their surveys of the North Branch Chicago River basin (three sites total sampled), and had a mean of 2.25 individuals per hour sampling at those sites.

## ACKNOWLEDGMENTS

A.R. Kuhns (INHS) assisted in the field, J.L. Jarvis (INHS) prepared the map in **Figure 1** and the associated shape file referenced in **Appendix 1**, and M.J. Wetzel edited early drafts of the report.

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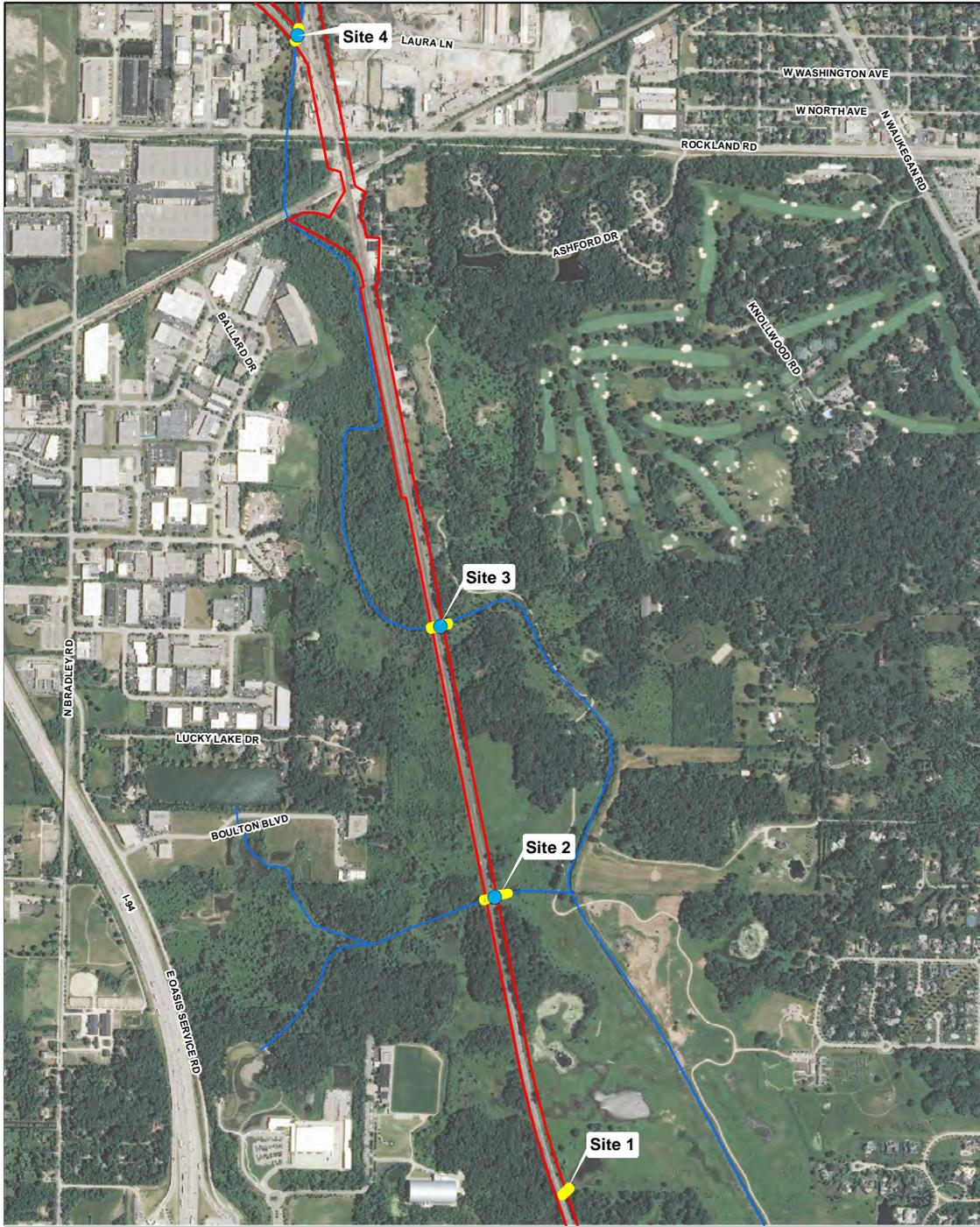
**Table 1.** List of fishes known from the North Branch Chicago River basin (Des Plaines River drainage) in Illinois based upon historical records (INHS Fish Collection database, Champaign), literature (e.g., Pescitelli and Rung, 2012), and those collected from an unnamed tributary to wetland in Middlefork Savannah County Forest Preserve (Latitude 42.25445°N, Longitude 87.88933°W), an unnamed tributary to North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26163°N, Longitude 87.89172°W), the North Branch Chicago River in Middlefork Savannah County Forest Preserve (Latitude 42.26815°N, Longitude 87.89355°W), and the North Branch Chicago River in Rondout (Latitude 42.28225°N, Longitude 87.89827°W). All sites are in Lake County, Illinois, and were sampled by INHS personnel on 17-18 June 2015. Data from these 2015 surveys include the number of individuals collected (far right column). Special status includes <sup>ST</sup> – state-threatened and <sup>I</sup> – introduced (non-native / exotic).

Family	Scientific name	Common name	Unnamed tributary to wetland	Unnamed tributary to Br Chi Riv	Br Chi Riv Mid Fk Sav CFP	Br Chi Riv Rondout	Total
Clupeidae	<i>Dorosoma cepedianum</i>	Gizzard Shad					
Cyprinidae	<i>Carassius auratus</i> <sup>I</sup>	Goldfish					
	<i>Cyprinella spiloptera</i>	Spotfin Shiner					
	<i>Cyprinus carpio</i> <sup>I</sup>	Common Carp					
	<i>Notemigonus crysoleucas</i>	Golden Shiner		5			5
	<i>Notropis atherinoides</i>	Emerald Shiner					
	<i>Pimephales notatus</i>	Bluntnose Minnow	2	2	1		5
	<i>Pimephales promelas</i>	Fathead Minnow			4	1	5
	Catostomidae	<i>Catostomus commersoni</i>	White Sucker				
Cobitidae	<i>Misgurnus anguillicaudatus</i> <sup>I</sup>	Oriental Weatherfish					
Ictaluridae	<i>Ameiurus melas</i>	Black Bullhead					
	<i>Ameiurus natalis</i>	Yellow Bullhead		1	4	1	6
	<i>Ictalurus punctatus</i>	Channel Catfish					
Umbridae	<i>Umbra limi</i>	Central Mudminnow	4	83	17	21	125

Osmeridae	<i>Osmerus mordax</i> <sup>1</sup>	Rainbow Smelt					
Fundulidae	<i>Fundulus notatus</i>	Blackstripe Topminnow		3			3
Poecillidae	<i>Gambusia affinis</i>	Western Mosquitofish					
Gasterosteidae	<i>Culaea inconstans</i>	Brook Stickleback	104	2			106
Centrarchidae	<i>Ambloplites rupestris</i>	Rock Bass					
	<i>Lepomis cyanellus</i>	Green Sunfish	9	20	11		40
	<i>Lepomis gibbosus</i>	Pumpkinseed					
	<i>Lepomis humilis</i>	Orangespotted Sunfish					
	<i>Lepomis macrochirus</i>	Bluegill		12	4	7	23
	<i>Micropterus salmoides</i>	Largemouth Bass		3	1	5	9
	<i>Pomoxis nigromaculatus</i>	Black Crappie					
Percidae	<i>Etheostoma exile</i> <sup>ST</sup>	Iowa Darter		2	42	11	55
	<i>Perca flavescens</i>	Yellow Perch					
Gobiidae	<i>Neogobius melanostomus</i> <sup>1</sup>	Roun Goby					
<b>Total number of species by site</b>			<b>4</b>	<b>10</b>	<b>8</b>	<b>6</b>	

**Table 2.** List of freshwater mussels known from the North Branch Chicago River basin (Des Plaines River drainage) in Illinois based upon historical records (INHS Mollusk Collection database, Champaign) and literature (e.g., Baker, 1898).

	Scientific name	Common name
Anodontinae	<i>Anodontoides ferussacianus</i>	Cylindrical Papershell
	<i>Lasmigona complanata</i>	White Heelsplitter
	<i>Pyganodon grandis</i>	Giant Floater
	<i>Strophitus undulatus</i>	Creeper
	<i>Utterbackia imbecillis</i>	Paper Pondshell
Ambleminae	<i>Fusconaia flava</i>	Wabash Pigtoe
Lampsilinae	<i>Actinonaias ligamentina</i>	Mucket
	<i>Lampsilis siliquoidea</i>	Fatmucket
	<i>Toxolasma parvum</i>	Lilliput



Fish and mussel survey location near the Rondout Extension (Seq no. 19157), Lake County, Illinois.

▭ Project Boundary     ● Fish and Mussel Survey Sites  
— Streams     ● Iowa Darter Collected

0 500 1,000 2,000 Feet  
 Jarvis, 11/6/2015

**Figure 1.** Map of the Rondout Extension / Metra Fox Lake Second Track project area near Lake Forest and Green Oaks, Lake County, Illinois, where surveys for fishes and freshwater mussels were conducted by INHS personnel on 17-18 June 2015 (map created by Janet L. Jarvis).



**Figure 2.** Unnamed tributary to wetland, Middlefork Savannah County Forest Preserve, Lake Forest, Lake County, Illinois (Latitude 42.25445°N, Longitude 87.88933°W). Photo is facing downstream in an easterly direction on 17 June 2015 (Jeremy S. Tiemann photo).



**Figure 3.** Unnamed tributary to North Branch Chicago River, Middlefork Savannah County Forest Preserve, Lake Forest, Lake County, Illinois (Latitude 42.26163°N, Longitude 87.89172°W). Photo is facing downstream in an easterly direction on 17 June 2015 (Jeremy S. Tiemann photo).



**Figure 4.** North Branch Chicago River, Rondout, Lake County, Illinois (Latitude 42.28225°N, Longitude 87.89827°W). Photo is facing upstream in a northerly direction on 17 June 2015 (Jeremy S. Tiemann photo).



**Figure 5.** Iowa Darter *Etheostoma exile* (Josh L. Sherwood photo).

## **Appendix 1**

This **Appendix 1** cover page references < **19157\_Lake\_Co\_Fish\_Mussel\_Survey.zip**>, an ArcGIS shapefile which includes sampling point information on the tributary to the Rondout Extension / Metra Fox Lake Second Track project area near Lake Forest and Green Oaks, Lake County, Illinois, where surveys for fishes and freshwater mussels were conducted by INHS personnel on 17-18 June 2015.

The ArcGIS shapefile and this report were both submitted to IDOT via the IDOT Site Assessment Tracking System extranet website (Frostycap) on 6 July 2015.



**Survey and Habitat Assessment for Blanding's Turtle,  
*Emydoidea blandingii* for the Rondout Extension / Metra Fox  
Lake 2<sup>nd</sup> Track Rail Project in Lake County, Illinois**

IDOT Sequence No. 19157



Prepared by:  
Andrew R. Kuhns

**INHS/IDOT Statewide Biological Survey & Assessment Program**

**2015: 21**

03 August 2015



## PROJECT SUMMARY

This report details results of herpetological surveys for the Blanding's Turtle, *Emydoidea blandingii* along 2.7 miles of the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County Illinois. The project entails replacing a bridge over the North Branch Chicago River, replacing track, and installing new track and signals along the right of way from Canadian Pacific Mile Post 31.16 to Metra Milepost 33.85. Information on the natural history and ecology of the Blanding's Turtle, the only known threatened or endangered herpetile known from project area, can be found in **Appendix A**. Surveys were conducted by INHS Further Studies personnel A.R. Kuhns and J.S. Tiemann on 16, 17, and 18 June 2015 under IDNR State Threatened and Endangered Species Permit 05-11S, a 2015 Illinois Nature Preserves Permit for Middlefork Savanna Nature Preserve, and Lake County Forest Preserve District Permit 2015-37. Survey methods are detailed in **Appendix B** and are approved under University of Illinois IACUC protocol 11-224. The project corridor and locations of surveys can be seen in **Appendix C** and images from some sampled locations are included in **Appendix D**. The spatial data shown in **Appendix C** were digitally uploaded to the Further Studies Illinois Site Assessment Tracking System ([http://frostycap.isgs.uiuc.edu/idot\\_extranet/further\\_studies](http://frostycap.isgs.uiuc.edu/idot_extranet/further_studies)) on 03 August 2015, and are herein referenced as **Appendix E**. Preferred habitat for the species does occur along the right of way but no Threatened or endangered herpetofauna were encountered.



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## TABLE OF CONTENTS

<b>Project Summary</b> .....	2
<b>Table of Contents</b> .....	3
<b>Introduction</b> .....	4
<b>Project Area</b> .....	4
<b>Methods</b> .....	4
<b>Results</b> .....	5
<b>Table 1.</b> Trap locations, effort (Trap Nights), and turtle captures for the Rondout Extension / Metra Fox Lake 2 <sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois.....	5
<b>Discussion</b> .....	6
<b>Literature Cited</b> .....	6
<b>Appendix A.</b> Natural history of the Blanding’s Turtle, <i>Emydoidea blandingii</i> .....	7
<b>Appendix B.</b> Sampling methods appropriate for the detection of amphibians and reptiles listed as endangered or threatened in the state of Illinois .....	12
<b>Table B.1.</b> Species listed as threatened or endangered in Illinois and potential sampling methods for their detection. ....	13
<b>Appendix C.</b> Figures relevant to the Rondout Extension / Metra Fox Lake 2 <sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois .....	17
<b>Figure C.1.</b> Element Occurrence Record (EO) locations for Blanding’s Turtles and locations of turtle traps set from 16 through 18 June 2015 to sample for Blanding’s Turtles for the Rondout Extension / Metra Fox Lake 2 <sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois. ....	18
<b>Appendix D.</b> Photographs taken of the suitable habitat found the Rondout Extension / Metra Fox Lake 2 <sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois.....	19
<b>Appendix E.</b> ArcGIS shapefile <19157_Herp_GIS> .....	21
 <b>Cover Photo:</b> Painted Turtle, <i>Chrysemys picta</i> capture from the Rondout Extension / Metra Fox Lake 2 <sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois. Photo by A.R. Kuhns, INHS.	

## INTRODUCTION

In a transmittal dated 04 March 2015, Susan Dees Hargrove of the Illinois Department of Transportation (IDOT) Bureau of Design and Environment tasked the Illinois Natural History Survey (INHS) to conduct herpetological surveys for the presence of the Blanding's Turtle at along the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois. Work scheduled to occur within the right of way (ROW) is to consist of replacing a bridge over the North Branch Chicago River, replacement of track, and installation of new track and signals. Information on the natural history and ecology of the Blanding's Turtle can be found in **Appendix A**.

## PROJECT AREA

The project will occur along 4.4 miles of railroad ROW from Canadian Pacific Mile Post 31.16 near Kennedy Road, Lake Forest, IL (42.240410, -87.882598) to Metra Milepost 33.85 near St Mary's Road, Libertyville, IL (42.285681, -87.924866). The project is anticipated to remain within the current right of way. The Middlefork Savanna County Forest Preserve borders one or both sides of the project area for approximately 2.7 miles (**Appendix C: Figure C.1**). Middlefork Savanna is one of the best remaining mesic savanna habitats in Illinois and the site also contains wet prairie, sedge meadows, and marshes. The east-west spur travels through light industrial and residential areas. The waterbodies found near the spur are man-made or man-altered retention ponds.

## METHODS

### Database Review

The Illinois Natural Heritage Database maintained by the Illinois Department of Natural Resources (IDNR) was queried for Element Occurrence Records (EOR) of threatened and endangered amphibians and reptiles within a mile of the project boundary. Each EOR may be subdivided into multiple Element of Occurrence Identification numbers (EOID) to record separate identification events or sub-locations. Additionally, searches of both vouchered and un-vouchered specimens in the Illinois Natural History Survey (INHS) Amphibian and Reptile collection, the University Of Illinois Museum of Natural History (UIMNH), and non-INHS Illinois Amphibian and Reptile databases maintained by the Illinois Natural History Survey were conducted. Together these databases are merged and accessed through the All\_IL\_Herps database at INHS and are updated semi-annually. The locations of any results were plotted onto aerial photographs of the ESR corridor and examined to search for suitable habitat for the species.

### Field Methods

On 16 June 2015, INHS Further Studies Ecologists A.R. Kuhns and J.S. Tiemann set double throated turtle traps along the ROW in Middlefork Savanna County Forest Preserve (**Appendix C. Figure C.1**). Traps were baited with canned sardines in oil and traps were checked daily.

Coordinates for all traps were recorded and plotted (**Appendix C. Figure C.1**). Two additional traps were set on 17 June 2015. We recorded the species of all turtles captured and released them at their capture location. Traps were removed the morning of 18 June 2015.

## RESULTS

### Database Review

There are two records for the Blanding’s Turtle in the vicinity of the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project area in Lake County, Illinois. In 1994, K. Mierzwa observed an adult Blanding’s Turtle basking on a log in a ditch in successional woodlands to the east of the ROW just north of the I94/I294 Illinois Toll Highway Oasis (EO 4738). In 2007, an observation of an adult Blanding’s Turtle was made on a path within Middlefork Savanna County Nature Preserve (G. Glowacki, LCFPD, pers. comm.).

### Field Surveys

Thirteen traps were placed in all water that was deep enough to trap that occurred within the project boundary within Middlefork Savana County Nature Preserve. Aerial photographs and ground truthing indicated that waterbodies outside of the preserve where the spur heads towards Libertyville, IL were man-made impoundments and were not appropriate habitat for Blanding’s Turtle. In 24 trap nights we captured 4 Snapping Turtles and 7 Painted Turtles which results in Catch per Unit Effort (CPUE) values of 0.17 for Snapping Turtles and 0.26 for Painted Turtles. No Blanding’s Turtles were captured in 24 trap nights of sampling (**Table 1**).

**Table 1.** Trap locations, effort (Trap Nights), and turtle captures for the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois.

Trap	Latitude	Longitude	Date Set	Date Pulled	Trap Nights	<i>Chelydra serpentina</i>	<i>Chrysemys picta</i>
1	42.24562	-87.88491	06/16/15	06/18/15	2	2	5
2	42.24580	-87.88505	06/16/15	06/18/15	2	2	0
3	42.24600	-87.88510	06/16/15	06/18/15	2	0	0
4	42.24621	-87.88523	06/16/15	06/18/15	2	0	1
5	42.26807	-87.89369	06/16/15	06/18/15	2	0	0
6	42.26815	-87.89343	06/16/15	06/18/15	2	0	0
7	42.26149	-87.89229	06/16/15	06/18/15	2	0	0
8	42.26156	-87.89200	06/16/15	06/18/15	2	0	0
9	42.26160	-87.89156	06/16/15	06/18/15	2	0	0
10	42.26167	-87.89156	06/16/15	06/18/15	2	0	0
11	42.25798	-87.89053	06/17/15	06/18/15	1	0	1
12	42.25790	-87.89051	06/17/15	06/18/15	1	0	0
13	42.25782	-87.89048	06/17/15	06/18/15	2	0	0
<b>Totals</b>					24	4	7
<b>Captures per trap night</b>						0.17	0.26

## DISCUSSION

No Blanding's Turtles were encountered during this survey. Despite an abundance of suitable habitat and observations of the species in 1994 and 2007, Blanding's Turtles are unlikely to inhabit Middlefork Savanna Nature Preserve. The site has only recently undergone restoration, and prior to the 1980's it was farmland that was tilled and tilled (Ueltzen 2012) and the North Branch Chicago River that flows under the tracks has been channelized.

Repeated sampling of the area around the project boundary over the past decade has failed to document Blanding's Turtles. From 2004 to 2007, 441 total trap nights in and around Middlefork Savanna Nature Preserve failed to document the species (Kuhns et al. 2004, Kuhns et al. 2006, Kuhns et al. 2007). Additionally a 24 hour 'Bioblitz' of Middlefork Savanna Nature Preserve on 27-28 June 2008 documented 14 species of reptiles but no Blanding's Turtle were encountered. Lake County Forest Preserve District (LCFPD) personnel have also repeatedly sampled the site as part of their long term wildlife monitoring program. On 06 & 07 May 2015 they captured 49 Painted Turtles, 8 Snapping Turtles, and 4 Red-eared Sliders but no Blanding's Turtles (Gary Glowacki, pers. com.; unpubl. data). The disparity in captures in this report and the one conducted by LCFPD is likely due to seasonal and sampling differences. LCFPDs sampling occurs throughout their preserve and focuses on larger wetlands and wetlands more suitable to turtles whereas trapping for this study was relegated to near the boundary of the project area.

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## **Appendix A.**

### **Natural History of the Blanding's Turtle, *Emydoidea blandingii*, Listed as Endangered in the State of Illinois.**

#### **SYNOPSIS**

This appendix contains information on the Blanding's Turtle, *Emydoidea blandingii*, listed as an endangered species in the State of Illinois and a species that may occur within the IDOT Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project area in Lake County, Illinois. The species account includes: diagnostic characters, range in Illinois, habitat requirements, spatial ecology and activity, reproduction, and the suitable sampling season in Illinois. Standard and scientific names follow Crother (2012).

Species range maps were created by Ethan J. Kessler. Maps were based upon data in the Illinois Natural History Survey's All\_IL\_Herps Database which contains records of vouchered and un-vouchered specimens in the Illinois Natural History Survey (INHS), University of Illinois Museum of Natural History (UIMNH), and amphibian and reptile specimens from ~30 other scientific museums. The database is maintained by INHS/UIMNH Amphibian and Reptile Curator, Christopher A. Phillips, with records from other institutions updated annually.

#### **LITERATURE CITED**

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## BLANDING'S TURTLE, *EMYDOIDEA BLANDINGII*



**General Description for Identification:** The Blanding's Turtle is distinguishable from other North American turtle species by the presence of a hinged plastron coupled with a bright yellow chin and throat (Ernst et al. 1994).

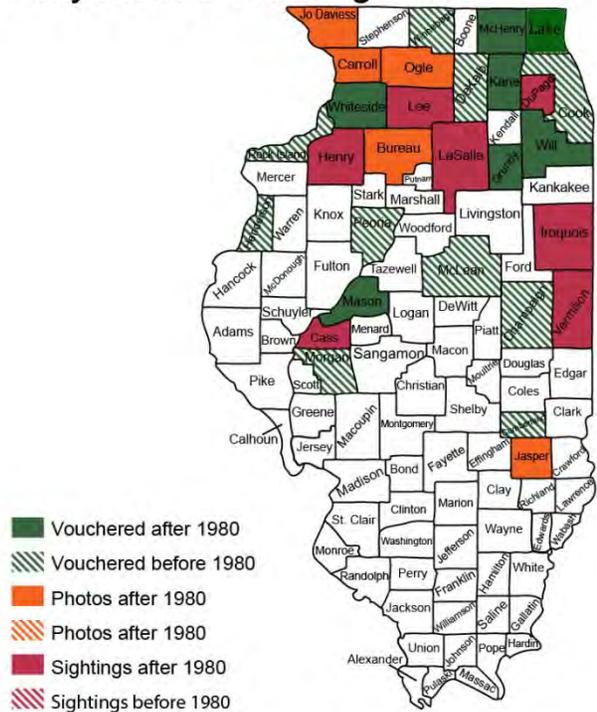
### Range:

Within Illinois, *E. blandingii* was historically present in the extensive marsh systems of the northern half of the state (Kennicott 1855).

**Suitable Habitat:** Throughout their range, *E. blandingii* occupy eutrophic habitats with clear water and abundant aquatic vegetation with adjacent uplands available for nesting (Ernst et al. 1994). Typical Blanding's Turtle sites in northeastern Illinois are a mosaic of multiple wetland types interspersed in a prairie or savanna landscape (Kuhns et al. 2007). Blanding's Turtles are not great swimmers and typically prefer shallow wetlands with little to no discernable water flow.

**Reproduction:** Blanding's Turtles are long lived, with wild-caught individuals over 77 years of age having been documented in the field (Congdon et al. 2001). Females typically mature

### Blanding's Turtle *Emydoidea blandingii*



between 14 and 20 years of age (Congdon et al. 1983; Ross 1989). Mature females lay only one clutch of eggs per year but may not nest annually. Nests of up to 19 eggs are laid in sand or sandy loam soils with good drainage and low canopy cover (Ross and Anderson 1990; Kuhns et al. 2007).

**Spatial ecology and activity:** Blanding's turtles in northern Illinois are active from late March through October (Rowe and Moll 1991; Kuhns et al. 2007). Females can travel considerable distances (up to 1 mi.) from their activity areas to nest (Congdon et al. 1983; Ross and Anderson 1990; Joyal et al. 2001; Kuhns et al. 2007). Radio-telemetry data from northeastern Illinois indicate that Blanding's Turtles moved an average straight line distance of 60 to 75 feet/day (Kuhns et al 2007). Annual home range size is highly variable depending on individuals but in northern Illinois averaged 123,000 sq. ft. to 150000 sq. ft. (Kuhns et al 2007)

**Suitable Sampling Seasons:** The greatest trapping success in northern Illinois occurs from May through mid-July (Benda et al. 2007, Kuhns et al. 2007).

**Illinois Status:** The Blanding's Turtle is considered endangered in Illinois (Illinois Endangered Species Protection Board 2015; Mankowski 2012).

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## **APPENDIX B**

Sampling methods appropriate for the detection of amphibians and reptiles listed as endangered or threatened in the state of Illinois.

**Table B.1.** Species of amphibians and reptiles listed as threatened or endangered in Illinois and potential sampling methods for their detection.

		Threatened	Endangered	Dip-Net	Minnow Trap	Call Survey	Visual Encounter	Hoop Trap	Fyke Net	Seine	Drift Fence	Coverboard	
<b>State Listed Herptiles</b>													
<b>AMPHIBIANS</b>	<b>SALIENTIA</b>	<i>Ambystoma jeffersonianum</i>	X										
		<i>Ambystoma platineum</i>		X									
		<i>Cryptobranchus alleganiensis</i>		X									
		<i>Desmognathus conanti</i>		X									
		<i>Hemidactylium scutatum</i>	X										
		<i>Necturus maculosus</i>	X										
	<b>ANURA</b>	<i>Hyla avivoca</i>		X									
		<i>Pseudacris streckerii</i>		X									
		<i>Gastrophryne carolinensis</i>	X										
<b>REPTILES</b>	<b>TESTUDINES</b>	<i>Apalone mutica</i>		X									
		<i>Clemmys guttata</i>		X									
		<i>Emydoidea blandingii</i>		X									
		<i>Kinosternon flavescens</i>		X									
		<i>Macrochelys temminckii</i>		X									
		<i>Pseudemys concinna</i>		X									
		<i>Terrapene ornata</i>	X										
	<b>SERPENTES</b>	<i>Clonophis kirtlandii</i>	X										
		<i>Crotalus horridus</i>	X										
		<i>Pantherophis emoryi</i>		X									
		<i>Heterodon nasicus</i>	X										
		<i>Masticophis flagellum</i>		X									
		<i>Nerodia fasciata</i>		X									
		<i>Nerodia cyclopion</i>	X										
		<i>Sistrurus catenatus</i>		X									
		<i>Tantilla gracilis</i>	X										
<i>Thamnophis sauritus</i>	X												
<i>Tropidoclonion lineatum</i>	X												

# Sampling Methods for the Detection of State Listed Amphibians and Reptiles

## ACTIVE SAMPLING METHODS

Call Survey. This method is only effective for anurans during the breeding season. The researcher either visits wetlands in the evening hours to listen to the frog chorus, or places an audio recording device at the wetland during the day and returns the following morning to retrieve the recording. In either case, the researcher must be familiar with the calls of frogs and toads in the area in order to identify the species based only upon the calls in the chorus. To be effective, the researcher must also be familiar with the ecology of the target species and sample during its breeding season in habitats where it is likely to reside.

Dip Netting. A dip net is useful for sampling aquatic animals and can be used to capture individuals observed or as a means of blindly sampling for aquatic organisms in vegetation choked or turbid water. Typically, a researcher will pull the net along the substrate and through the water column for approximately 3 feet, and then finish the net sweep by pulling the net up and out of the water with the net opening facing upward. The researcher can then remove any substrate or detritus from the net and search for captured animals.

Seine. A seine is a fishing net that hangs vertically in the water column suspended by floats with the bottom edge held down by weights. The net is dragged along the bottom of aquatic habitats and captures aquatic amphibians and reptiles when it is drawn onto shore or scooped out of the water. In many ways, it functions much like a large dip net when used for amphibian and reptile sampling.

Visual Encounter Survey (VES). Visual encounter surveys involve searching appropriate habitat (mainly turning cover items such as logs, rocks and miscellaneous debris and also visually scanning open habitats) and recording all species encountered. Surveys can be regimented such as by walking pre-defined grid patterns and time limits, or in a more haphazard wandering pattern. This method is most effective if the researcher is familiar with the target species ecology and can focus on habitat areas where the species is most likely to be encountered, as well as time of day and seasons when the species is most active. A thorough explanation of this technique can be found in Heyer et al. (1994).

## PASSIVE SAMPLING METHODS

Drift Fence. A drift fence is any object that is placed perpendicular to the ground surface as a way to intercept animals that may be passing through. It is often constructed of hardware cloth or silt fencing buried a few inches into the ground to prevent burrowing; but natural cover items such as large logs or rock formations may also function as a drift fence. Animals are captured by travelling parallel to the fence until they fall into a receptacle, such as a bucket or coffee can,

which has been buried flush with the substrate. Similarly, funnel traps can be placed along the drift fence to capture animals that are walking along the fence. This technique is covered in Heyer et al. (1994) and McDairmid et al. (2012).

Coverboards. Coverboards are essentially any item sitting flush with the substrate under which an amphibian or reptile may seek refuge. Artificial coverboards are often made of plywood or corrugated tin and are placed in areas likely to harbor the species of interest. Coverboards often attract small mammals and invertebrates as well which may enhance their ability to attract amphibians and reptiles. Well-seasoned artificial cover objects with little vegetation underneath them seem to work better in attracting herptiles, therefore their use most effective for long term projects when they can be set out many months in advance of surveys.

Minnow Trap. Traps may be constructed of rope, monofilament, or steel and may have funnels or throats, at one or both ends which allow the animal to enter into the trap body but prevent them from easily exiting the trap. Minnow traps may be cylindrical or rectangular and can be baited or not depending on the target species. If baited, the bait is refreshed every 2 to 4 days. Traps are usually placed so that a portion of the trap placed in water is emergent so that captured animals have access to air and will not drown. However, in riverine environments, where there is little to no probability of capturing non-gilled species, the traps may be fully submerged. Effort is recorded in trap hours (i.e., number of traps multiplied by the number of hours the traps were deployed). Results are reported as the numbers of each species captured.

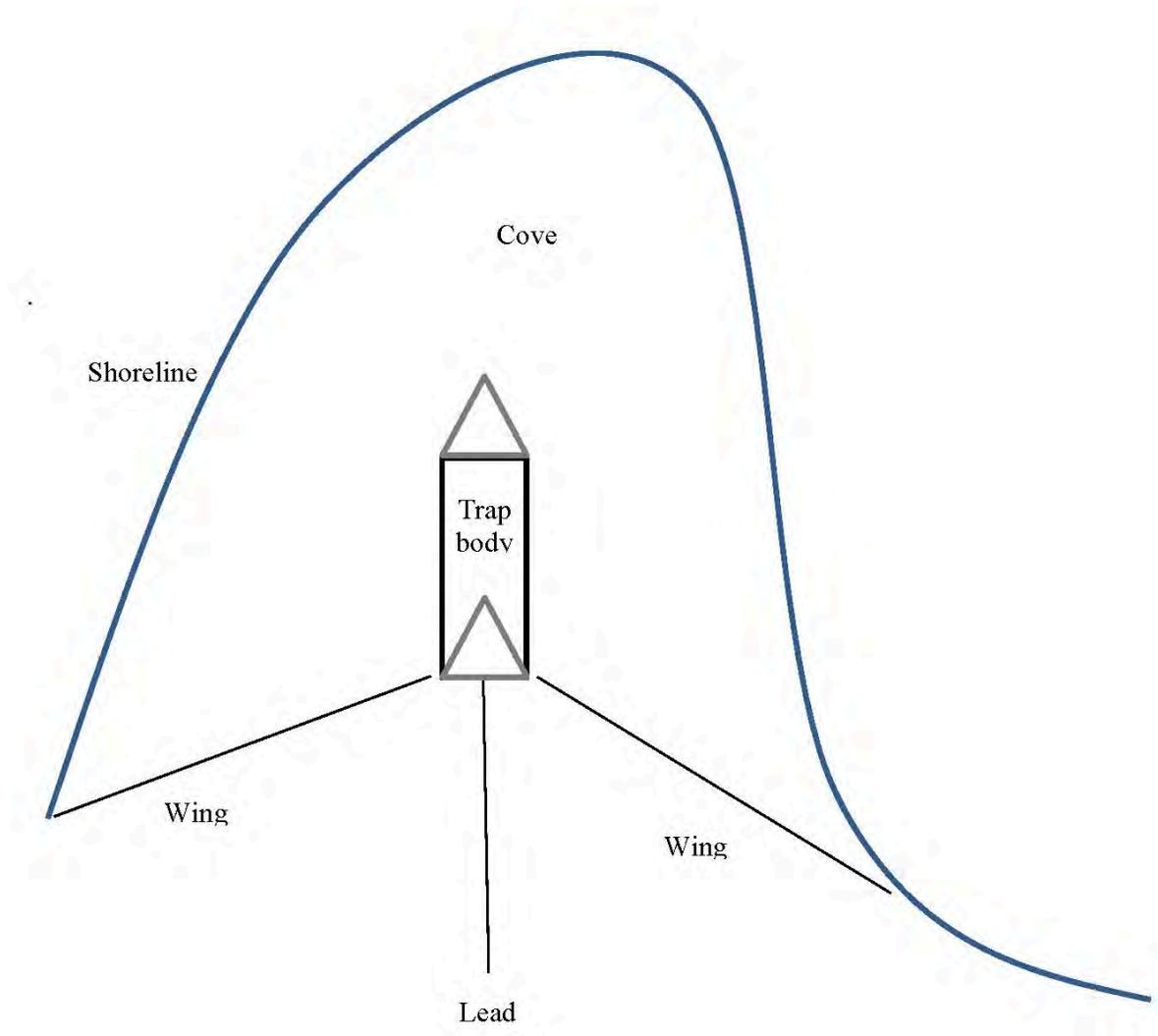
Hoop Trap. These traps work on the same principal as minnow traps but are larger in diameter and have larger throats to allow for the capture of larger animals such as turtles (Legler 1960). All hoop traps are placed such that at least 5cm of the trap is above the surface of the water to ensure captured turtles have access to air. Traps are tied via string or rope to surrounding vegetation to ensure that captured turtles do not roll traps into deeper water and drown. Traps are placed parallel to either the shoreline or potential basking sites. Traps are baited (usually with sardines canned in spring water or oil). Traps are checked daily and bait is changed every 2 to 4 days. Effort is recorded in trap hours (ie. number of traps multiplied by the number of hours the traps were deployed). Results are reported as the numbers of each species captured.

Fyke Net. This trapping method is essentially a combination of a Drift Fence and a Hoop Trap. It consists of a hoop trap body with a single throat, and long wings and a lead that extend out from the throat in a double V formation (**Figure B.1**). Wings and leads have a lead-line that makes them hang vertically in the water column. This essentially extends the reach of the throat and works well for turtle species that are not attracted to readily available baits. It can be used to intercept turtles entering a cove or attempting to access a popular basking site, by funneling them into the trap body where the throat prevents them from escaping. A description of Fyke Nets can be found in Vogt (1980).

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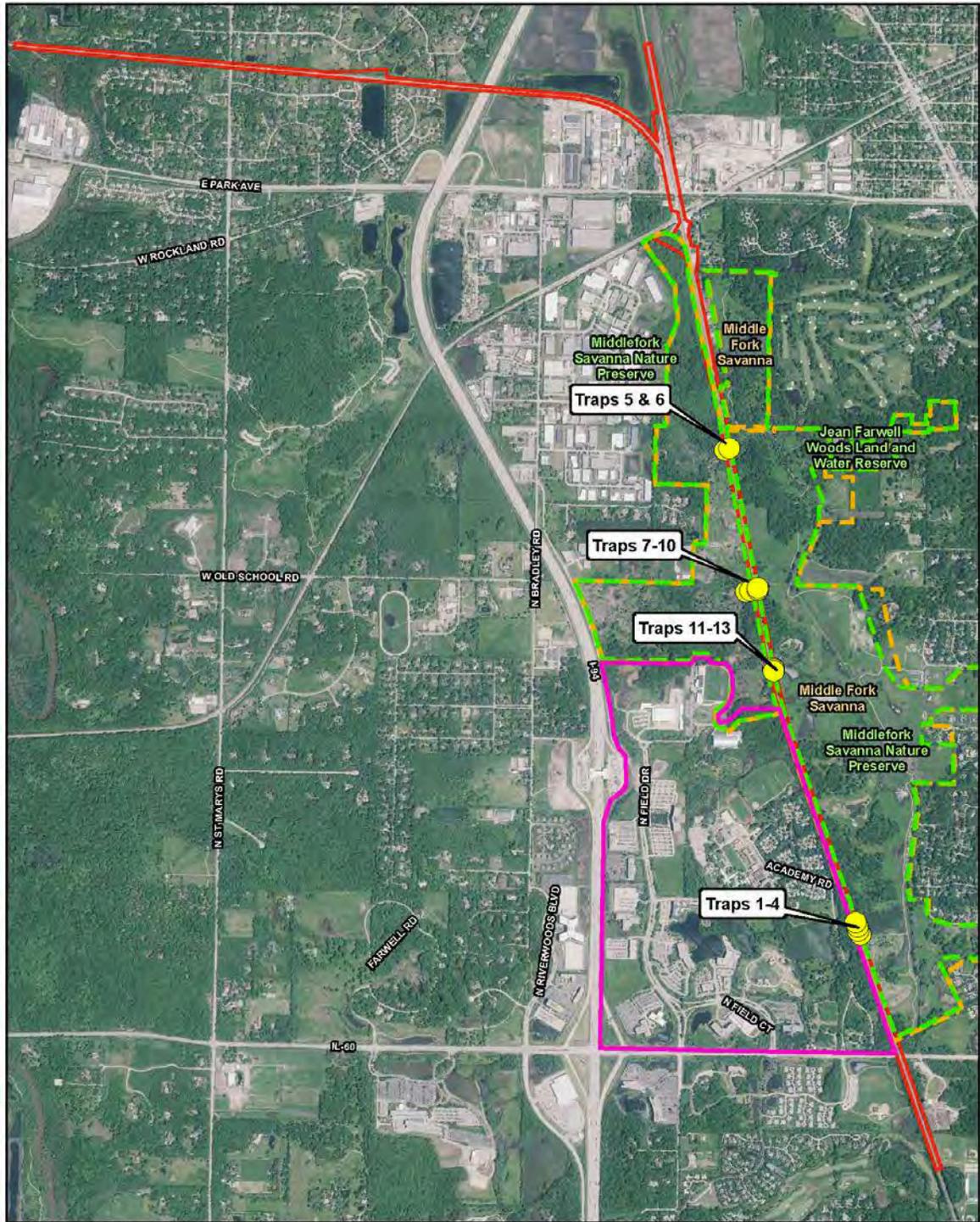
**Figure B.1.** Fyke Net set to capture turtles attempting to enter a cove (as viewed from above).



## **APPENDIX C**

Figures relevant to Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois

**Figure C.1.** Element Occurrence Record (EO) locations for Blanding's Turtles and locations of turtle traps set from 16 through 18 June 2015 to sample for Blanding's Turtles in the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project (IDOT Sequence No. 19157) in Lake County, Illinois.



Blanding's Turtle survey locations near the Rondout Extension (Seq no. 19157), Lake County, Illinois. N

▭ Project Boundary    
 ● Turtle Traps    
   Nature Preserves    
   INAI Sites  
  Blanding's Turtle EOR Location

0 1,000 2,000 Feet     Jarvis, 7/14/2015

## **APPENDIX D**

Photographs taken of the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track rail project area (IDOT Sequence No. 19157) in Lake County, Illinois

**Plate 1** Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track (Sequence No. 19157) in Lake County, Illinois.



**Plate 2.** Creek flowing from the Rondout Extension / Metra Fox Lake 2<sup>nd</sup> Track Right of Way (IDOT Sequence No. 19157) into a wetland in Middlefork Savanna County Nature Preserve in Lake County, Illinois. The wetland is typical of the wetlands in the Nature Preserve.



## **APPENDIX E**

### **Arc-GIS Shapefiles**

An ArcGIS folder <19157\_Herp\_GIS> containing an Arc-GIS shapefile of the sampled area constitutes this appendix. The ArcGIS shapefile and this report were both submitted to IDOT via the IDOT Site Assessment Tracking System extranet website [Frostycap] on 03 August 2015.



## **Habitat Assessment, Benthic Macro invertebrates and Water Quality in the Middle Fork of the North Branch of the Chicago River, in Middle Fork Savanna Forest Preserve (Lake County, IL)**



IDOT Sequence Number 19157

Prepared by:  
Jason L. Robinson

**INHS/IDOT Statewide Biological Survey & Assessment Program**  
2015:55

3 Dec 2015



## Project Summary

This report is submitted in response to a request from IDOT for INHS personnel to assess stream habitat, water quality and benthic macroinvertebrate condition in the region of potentially sensitive streams and wetlands along the Middle Branch of the North Fork of the Chicago River (MFNBCR), within Middle Fork Savanna Forest Preserve, in Lake County, Illinois (IDOT Sequence Number 19157). Preliminary site investigations and reconnaissance in the wetlands, streams and seeps throughout the forest preserve and along the rail corridor was conducted 23-24 April 2015. Habitat surveys and chemical/biological water quality sampling were conducted on 13m 14 August 2015. Stream habitat metrics ranked on the low end of the **“Good”** range, with some metrics scoring very poor and others ranking excellent. Metrics ranking benthic macroinvertebrate assemblage conditions scored **“Fair”**, relative to other streams in IL. 342 individual specimens comprising twentytwo macroinvertebrate taxa, in fourteen taxonomic orders, were recorded from the benthic assemblage at this site. The benthic assemblage was dominated by the amphipod *Hyaella* sp. None of the taxa collected during this survey are listed as endangered or threatened at either the state or federal level, nor was suitable habitat for any such species observed

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Surveys Conducted By: Jason L. Robinson, Aquatic Entomologist  
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## TABLE OF CONTENTS

<b>Project Summary</b> .....	2
<b>Table of Contents</b> .....	3
<b>Introduction</b> .....	5
<b>Project Area</b> .....	5
<b>Figure 1.</b> Map delineating the Middle Fork of the North Branch of the Chicago River, railway and Middle Fork Savanna Forest Preserve boundaries (MFSFP), Lake County Illinois, along with study sites .....	6
<b>Figure 2.</b> Upstream reach of MFNBCR just downstream of rail crossing, demonstrating fine sediments and channelization(latitude 42.26851° N, longitude 87.89076° W).....	7
<b>Figure 3.</b> MFNBCR at <b>Site FS751</b> , Kennedy Road bridge, facing upstream. Middle Fork Savanna Forest Preserve, Lake County, Illinois... ..	8
<b>Figure 4.</b> MFNBCR ( <b>Site FS751</b> ) under and downstream of the Kennedy Road (IL-60) bridge, after exiting the Middle Fork Savanna Forest Preserve in Lake County, Illinois. ....	9
<b>Figure 5.</b> Representative stream cross sections of MFNBCR at <b>Site FS751</b> , just upstream of Kennedy Road (IL-60) at the southern boundary of Middle Fork Savanna Forest Preserve, in Lake County, Illinois. ....	10
<b>Table 1.</b> Habitat metrics and habitat quality categories for the qualitative Stream Habitat Assessment Procedure (SHAP).....	11
<b>Methods</b> .....	12
<b>Table 2.</b> Habitat metrics and habitat quality categories for the qualitative Stream Habitat Assessment Procedure (SHAP).... ..	13
<b>Table 3.</b> Stream habitat percent similarity categories for site comparability assessments... ..	14
<b>Table 4.</b> Seven metrics calculated for aquatic macroinvertebrates with response of metric to perturbation and best value .....	15
<b>Table 5.</b> Macroinvertebrate IBI quality categorie .....	15
<b>Results and Discussion</b> .....	16
<b>Figure 6.</b> Fifteen summary metrics used to calculate the habitat assessment score, adjusted to standardized metric values, as scored for <b>Site FS751</b> (MFNBCR at Kennedy Road (IL-60)) by INHS personnel on 14 Aug 2015. ....	16
<b>Figure 7.</b> Aquatic macroinvertebrate summary metrics resulting from specimens identified from a sample collected from at <b>Site FS751</b> MFNBCR at Kennedy Road Lake County, Illinois on 14 August 2015 .....	17

<b>Table 6.</b> List of aquatic macroinvertebrates identified from the sample collected from <b>Site FS751</b> MFNBCR at Kennedy Road, Lake County, IL on 13 August 2015.....	18
<b>Figure 8.</b> Functional feeding groups (FFG) of aquatic macroinvertebrates identified from a sample collected from <b>Site FS751</b> MFNBCR at Kennedy Road Lake County, Illinois on 14 August 2015 .....	19
<b>Table 7.</b> Values for field water quality parameters measured by INHS personnel on 14 August 2015 at <b>Site FS751</b> , MFNBCR, downstream of Kennedy Road, and <b>Site FS751</b> upstream, MFNBCR, at rail crossing, Middle Fork Savanna Forest Preserve, Lake County, Illinois. ....	20
<b>Additional Sampling</b> .....	20
<b>Acknowledgements</b> .....	20
<b>Literature Cited</b> .....	21
<b>Appendix 1.</b> An appendix cover page referencing an ArcGIS shapefile entitled <19157_MFNBCR_MFSFP_WQ_shapefile.zip> with sampling points referenced in <b>Figure 1</b> of this report for the Middle Fork Savanna Forest Preserve rail corridor, (Lake County, Illinois).....	23
<b>Appendix 2.</b> Values for water quality parameters resulting from analyses of raw water samples collected by INHS personnel on 13 August 2015 from the MFNBCR at Kennedy Road, (Lake County, Illinois) .....	24

**Cover Photo:** Wetland complex in Middle Fork Savanna Forest Preserve, alongside rail and 200 meters west of MFNBCR, **Specimen Collection Site 4 (Figure 1)**, Lake County, Illinois. Photo by J.L. Robinson, INHS (24 April 2015).

## INTRODUCTION

This report is submitted as a part of a response to a Further Studies Transmittal from Sue Hargrove, Illinois Department of Transportation, Springfield (IDOT) to Illinois Natural History Survey (INHS) dated 4 March 2015, requesting that surveys for three parameter (biological, chemical and physical) water quality surveys be conducted in the Middle Fork Savanna Forest Preserve, in the vicinity of the proposed IDOT project along the proposed improvements to the rail in Lake County, Illinois (IDOT Sequence Number 19157).

The Middle Fork of the North Branch of the Chicago River (MFNBCR) drains a mostly residential area, but also includes industrial sites, interstate and other transportation corridors and limited agriculture. There are several forest preserves along the length of the stream, but our task was to perform field water quality monitoring, the collection of water samples for laboratory analyses and characterization of the benthic community of the stream in the affected reaches within the MFSFP.

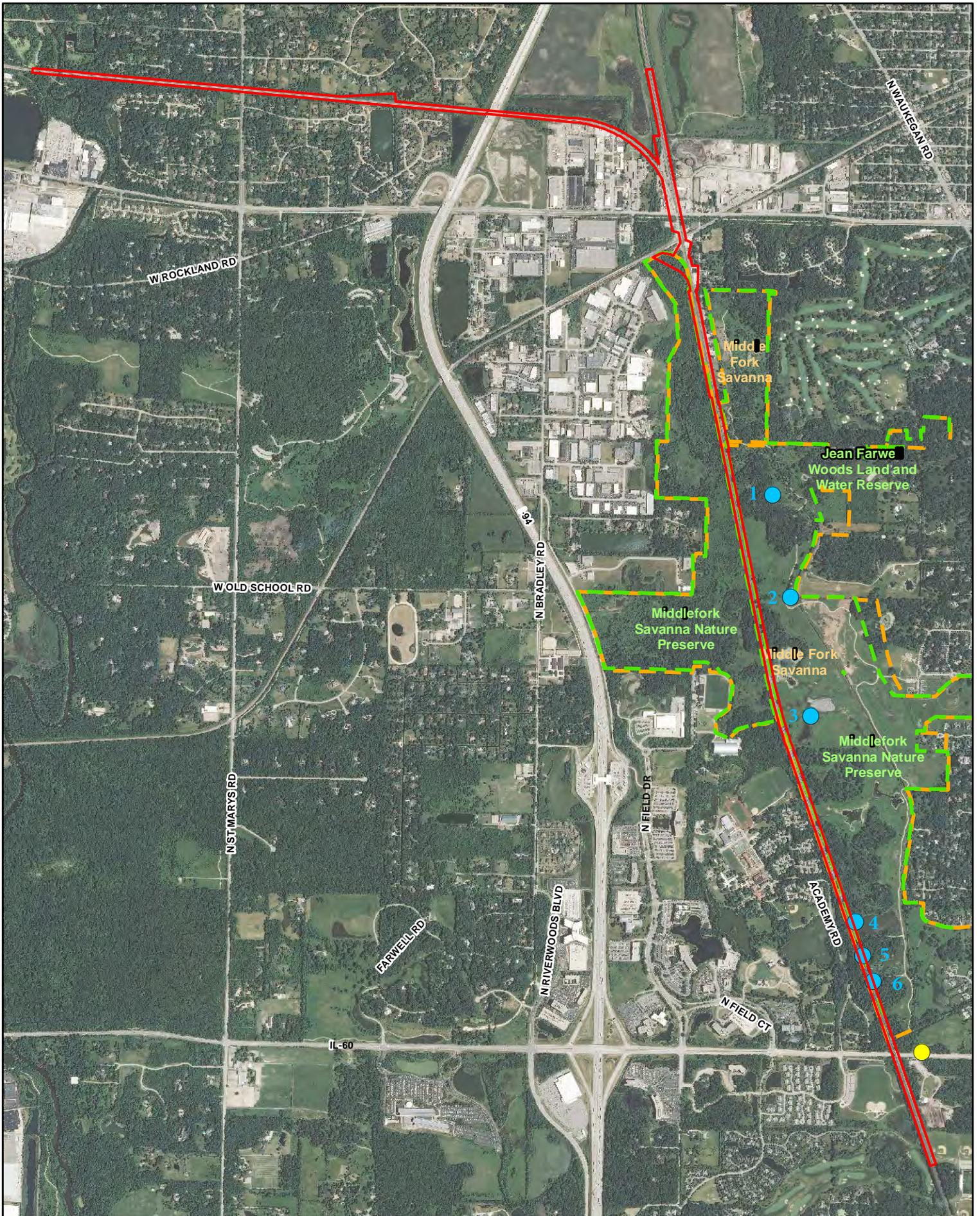
INHS personnel Jason L. Robinson performed site reconnaissance from aerial photography, GIS layers and a field visit during April 2015. Robinson and INHS graduate student research assistant Dan R. Swanson visited the project area 13-14 August 2015 to characterize the stream, complete field water quality monitoring and collect water samples for laboratory analyses (Figure 1). Information collected during site visits, from stream characterization within the segment of interest, results from field and laboratory water quality estimation, and additional specimen data from the MFSFP is included in this report.

Processing and identification of aquatic macro invertebrates collected from MFNBCR and laboratory analysis of water samples collected at that site has been completed. Those results are presented below.

## PROJECT AREA

The entire footprint of the rail corridor extends beyond the boundaries of this sequence, which corresponds to the specific tasking received by INHS. Initial site visits and macroinvertebrate collections were performed during 23-24 April 2015. Structured sampling for benthic macro invertebrate IBIs, water quality parameters and stream habitat characterization was conducted 13-14 August 2015 in the Middle Branch of the North Fork of the Chicago River just immediately upstream of the crossing at Kennedy Road, 3.7 km ENE of Mettawa, 3.8 km SSE of Rondout in Lake County, Illinois (**Figure 1**).

The information in **Appendix 1** references a GIS shapefile with sampling point information for the Middle Fork Savanna Forest Preserve project site, as discussed in this report.



**Figure 1.** Macroinvertebrate survey locations near the Roundout Extension (Seq no. 19157), Lake County, Illinois.



**Site selection.** Reconnaissance of potential sites was performed on 23- 24 April 2015 and evaluated access and habitats available throughout the preserve. When revisiting these sites during summer sampling, poor habitat (extremely fine benthic substrates, negligible current velocities) and straightened channel segments (**Figure 2**) prompted us to select the most downstream reach in the preserve to assure that these seasonal influences on habitat quality did not bias our assessment. This site and others were sampled for fishes and mussels in Tiemann (2015).



**Figure 2.** An upstream reach of MFNBCR (**Specimen Collection Site 2, Figure 1**) facing downstream, just downstream of rail crossing in the MFSFP (Site 3 Tiemann (2015)), demonstrating fine sediments and channelization (latitude 42.26851°N, longitude 87.89076°W).

Field visits and drainage basin statistics identified one site, the Middle Fork of the North Branch of the Chicago River at Kennedy Road (at the exit of the protected forest preserve) as suitable for habitat and water quality characterization and biological sampling. The most downstream point, on the mainstem of the Middle Fork of the North Branch of the Chicago River, had a watershed area of approximately 11.1 mi<sup>2</sup> (as measured by the USGS Stream Stats tool).

Additionally, more detailed invertebrate inventory collection methods were applied in other aquatic habitats throughout the project area (see **Figure 1**).

**Site FS751 (Middle Fork of the North Branch of the Chicago River at Kennedy Road, at exit of Middle Fork Savanna Forest Preserve) Figures 3 and 4**

MFNBC, just upstream of the Kennedy Road bridge, 3.8 km ENE of Mettawa and 4.6 km SSE of Rondout in Lake County, Illinois; 42.24013 N, 87.88064 W; 204 meters asl



**Figure 3.** MFNBCR at Site FS751, Kennedy Road bridge, facing upstream. Middle Fork Savanna Forest Preserve, Lake County, Illinois. Photo by Jason L. Robinson, 14 August 2015.



**Figure 4.** MFNBCR (Site FS751) under and downstream of the Kennedy Road Bridge, after exiting the Middle Fork Savanna Forest Preserve in Lake County, Illinois. Photo by Jason L. Robinson, 14 August 2015.

#### **PHYSICAL CHARACTERIZATION OF THIS STREAM**

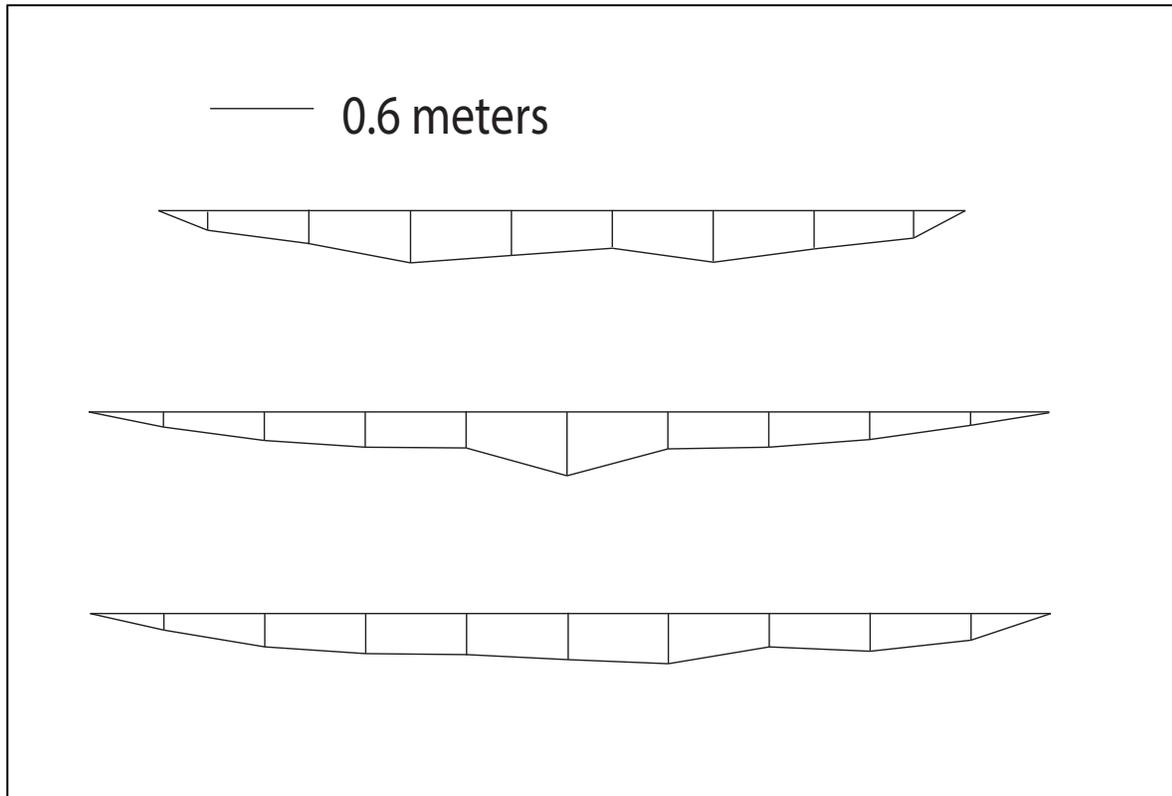
**Stream basin-** The headwaters of the Middle Fork of the North Branch of the Chicago River forms approximately a kilometer north of the stream crossing on IL 176 (at Rondout), heading up from stormwater retention ponds along I-94. From that stream crossing, the MFNBCR drains southerly through the Middle Fork Savanna Forest Preserve, then to join the Skokie River (East Branch Chicago River), ultimately flowing into the Des Plaines River via the Cal-Sag Channel. The upland sections of this watershed are in residential and industrial land uses, with many altered straightened channels and perched wetlands. In the Middle Fork Savanna Forest Preserve, the MFNBCR is straightened and runs adjacent to the CN railway. At Kennedy Road, The Middle Fork of the North Branch of the Chicago River, at Kennedy Road (IL-60), drains a watershed area of about 11.1 square miles.

**Site description-** The stream at **Site 751 (Figures 2 & 3)** was characterized as follows during the 14 August 2015 visit by INHS personnel.

**Stream measurements-** Width, depth and flow were measured along three transects across the

stream on 14 August 2015. **Width** ranged between 5 and 6 meters, among the three transects, while **depth** ranged from 8-38 centimeters. Current velocities in the thalweg averaged 0.2 meters per second.

Three cross-sections of the stream, indicating widths and depths measured during stream characterizations completed on 14 August 2015 – representative of stream morphology within the stream segment at this site—are presented in Figure 5.



**Figure 5.** Representative stream cross sections of MFNBCR at **Site FS751**, just upstream of Kennedy Road at the southern boundary of Middle Fork Savanna Forest Preserve, in Lake County, Illinois. (0.6 meters ~ 2 feet)

**Substrates.** Substrates observed in this segment of MFNBCR during our visit to **Site FS751** consisted primarily (75%) of silt and fine particle organics (25%). Large masses of submerged vegetation, composed primarily of exotic invasive plants (water milfoil, hydrilla), dominate the water column in the thalweg.

**Riparian vegetation.** The riparian zone at **Site FS751** was heavily wooded, both upstream and downstream of the Kennedy Road bridge. Much of the riparian vegetation was exotic invasive bush honeysuckle, but hawthorn, elms and willows were also observed along the stream.

A summary of the physical and biological parameters at **Site FS751** is presented in **Table 1**.

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Table 1. List of aquatic macroinvertebrates identified from samples collected by INHS personnel on 23-24 August 2015 from the Middle Fork of the North Branch of the Chicago River at Kennedy Road, in Middle Fork Savanna Forest Preserve in Lake County, Illinois. Taxa denoted with \* are taxa which are not assigned tolerance values by the ILEPA.

Water Resource Site	Surrounding Land Use	Riparian Vegetation	Stream Substrates	Stream width (m)	Stream depth (cm)	Aquatic Habitat Quality	Flow Characteristics
Middle Fork of the North Branch of the Chicago River at Kennedy Road (MFNBCR)	shrubs and forest woodland, road crossing	Japanese honeysuckle, hawthorn, hackberry, elms	Silt and fine organics (75%), Sand (25%)	5.5 m	8- 3 cm	<b>Fair</b> 37.0/59	lotic, perennial
Middle Fork of the North Branch of the Chicago River at rail line crossing in interior of Middle Fork Savanna Forest Preserve (MFNBCR upstream)	riparian vegetation, mesic prairie, rail crossing	Japanese honeysuckle, hawthorn, hackberry, elms	Silt and fine organics (no habitat assessment at this site)	4.0 m	<b>not measured</b>	<b>not measured</b>	lotic, perennial, limited by seasonal low flows

# HABITAT ASSESSMENTS, STREAM CHARACTERIZATIONS, AND SURVEYS FOR AQUATIC MACROINVERTEBRATES

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## METHODS

On 13-14 August 2014, INHS personnel J.L. Robinson and D.R. Swanson visited the project area to complete habitat assessments, stream characterizations, take photographs, and conduct surveys for aquatic macroinvertebrates and adult aquatic insects in the IDOT high speed rail project corridor in Middle Fork Savanna Forest Preserve (Lake County, Illinois). See **Table 1** for work conducted at each site and specific site locality information. Habitat assessments, water quality collections and macroinvertebrate sampling were conducted at a single site (**FS751**, MFNBCR at Kennedy Road).

### SITE ASSESSMENT

Site assessment is used to select, based upon habitation conditions, sites suitable for sampling fishes, freshwater mussels, aquatic macroinvertebrates, and conducting water quality monitoring. These assessments are primarily useful for larger projects where numerous possible sampling locations are possible, allowing for site selection, as well as assessment of the relationship between habitat quality and biotic integrity. For small projects with one to few sites, site assessments serve to characterize the habitat quality, and sites may be sampled in spite of scoring poorly in site assessment.

Site assessment utilizes the *Qualitative Stream Habitat Assessment Procedure (SHAP)* in Appendix E-9 of the Illinois Environmental Protection Agency (ILEPA) DWPC Field QA Manual (DWPC-ILEPA 1994). This approach is described in detail in the section *5.0 Qualitative Stream Habitat Assessment Procedures (SHAP)* of the DWPC Field QA Manual (DWPC-ILEPA 1994, Appendix E-5.1). Based on the assessment of 15 parameters, this assessment results in a total score, providing an overall habitat quality rating for the stream reach. The total score could, theoretically, range from 15 to 208 (**Table 2**), but because different metrics may be better or worse, extreme values for the total score are unlikely. Overall score cutoff points for "poor", "fair", "good" and "excellent" are not provided by ILEPA, but guidance based on relative percent similarity among sites is provided (**Table 3**). The scores and metrics differ from the U.S. EPA Habitat Assessment approach (Plafkin et al. 1989, Barbour et al. 1999), though the general approach is similar. To allow evaluation of habitat assessments in cases where there is only a single site (with no comparisons among sites possible), and to allow more detailed understanding of individual sites, we first report the overall habitat assessment score then plot the individual metrics after adjusting them to a standardized scale to allow comparisons. The standardized scale ranges from 0 to 100 for each metric, and the value is calculated as

$$X_s = (X - 1) / (X_{\max} - 1) \times 100$$

where  $X_s$  is the standardized metric value,  $X$  is the metric value, and  $X_{\max}$  is the maximum possible value for the metric.

**Table 2.** Habitat metrics and habitat quality categories for the qualitative Stream Habitat Assessment Procedure (SHAP). Minimum and maximum values for metrics from DWPC-ILEPA (1994: Table 5.1). The maximum value for "Excellent" is used as  $X_{max}$  in calculation of the standardized metric value (see methods).

Metric	Habitat Quality Categories							
	Poor		Fair		Good		Excellent	
	Min	Max	Min	Max	Min	Max	Min	Max
<b>Substrate and In-stream Cover</b>								
1 Bottom Substrate	1	5	6	10	11	15	16	20
2 Deposition	1	3	4	6	7	9	10	12
3 Substrate Stability	1	4	5	8	9	12	13	16
4 In-stream Cover	1	3	4	6	7	9	10	12
5 Pool Substrate	1	5	6	10	11	15	16	20
<b>Channel Morphology and Hydrology</b>								
6 Pool Quality	1	4	5	8	9	12	13	16
7 Pool Variability	1	4	5	8	9	12	13	16
8 Channel Alteration	1	2	3	4	5	6	7	8
9 Channel Sinuosity	1	3	4	6	7	9	10	12
10 Width/Depth	1	4	5	8	9	12	13	16
11 Hydrologic Diversity	1	3	4	6	7	9	10	12
<b>Riparian and Bank Features</b>								
12 Canopy Cover	1	3	4	6	7	9	10	12
13 Bank Vegetation	1	4	5	8	9	12	13	16
14 Immediate Land Use	1	2	3	4	5	6	7	8
15 Flow Related Refugia	1	3	4	6	7	9	10	12

**Table 3.** Stream habitat percent similarity categories for site comparability assessments from Michigan Department of Natural Resources (1991), as given in the DWPC Field QA Manual [DWPC-ILEPA 1994: Table 5.2]).

<b>Habitat Quality Category</b>		<b>Percent Similarity</b>
Excellent	Very Similar to Reference	>= 90
Good	Slightly Different	75-89%
Fair	Moderately Different	60-74%
Poor	Substantially Different	<=59

**TYPES AND AMOUNTS OF PERTINENT MACROINVERTEBRATE HABITATS**

Aquatic macroinvertebrate sampling using the ILEPA 20-Jab Allocation method (ILEPA 2011a), which we use in the present study, requires that the types and amounts of pertinent habitats be determined in advance. We follow the methods given in ILEPA (2011b) to allocate the 20 jabs to appropriate bank and bottom habitats across a 300-foot long stream reach, which constitutes a sampling site. When suitably qualified, trained, and experienced personnel are conducting the sampling, we use the *Non-Transect habitat characterization method* (ILEPA 2011b); otherwise, the *11-transect habitat characterization method* (ILEPA 2011b), is used. Regardless, at each site we create three stream profiles and measure average flow (ft/sec).

**SAMPLING AQUATIC MACROINVERTEBRATES**

Site sampling of aquatic macroinvertebrates utilizes the 20-jab allocation method (ILEPA 2011a) with jabs allocated based on methods described above. Sample collection and preservation follows the standard operating procedures given by ILEPA (2011a). The 20 jabs are combined in the field to produce a single sample, preserved with 95% ethanol, and then taken to the laboratory for processing.

**LABORATORY PROCESSING, IDENTIFICATION, ANALYSES, AND CALCULATION OF mIBI**

In the laboratory, samples are sorted, subsampled, counted and identified following ILEPA methodology (ILEPA 2011c). Laboratory subsampling results in a random subsample comprised of ~300 (+/- 60) aquatic macroinvertebrate specimens. For each taxon, a tolerance value and functional feeding group is assigned based on values from ILEPA (2010). Using the identifications, counts, tolerance values, and functional feeding groups for the taxa present in the sample, we calculate site-level scores for seven metrics (**Table 6**). Note that Coleoptera Taxa, Intolerant Taxa, and Total Taxa metrics do not include taxa which are not considered aquatic by IL EPA – that is, these metrics do not include taxa for which there is no taxon tolerance value (ILEPA 2010).

**Table 4.** Seven metrics calculated for aquatic macroinvertebrates with response of metric to perturbation and best values (ILEPA 2011c: Table 1).

<b>Metric</b>	<b>Response to Perturbation</b>	<b>Best Value</b>
Coleoptera Taxa	Decrease	5
Ephemeroptera Taxa	Decrease	10.2
Total Taxa	Decrease	46
Intolerant Taxa	Decrease	9
MBI	Increase	4.9
Percent Scraper	Decrease	29.6
Percent EPT	Decrease	74

After calculation of metrics in **Table 4**, metrics are standardized and then averaged to produce the final macroinvertebrate Index of Biotic Integrity (mIBI), as described in ILEPA (2011c). The mIBI provides a basis for categorizing sites into mIBI quality categories based upon analyses of the aquatic macroinvertebrate fauna (**Table 5**).

Calculation of the seven metrics and the mIBI is carried out in the R statistical analysis software (R Core Team 2012), reading in a reference file of tolerance values and functional feeding groups for all Illinois aquatic macroinvertebrates based on ILEPA (2010). Project aquatic macroinvertebrate identifications and counts are read in as a second file, with a code for each taxon allowing matching of the two files and assignment of functional feeding groups and tolerance values. Within R, packages *plyr* (Wickham 2011) and *reshape* (Wickham 2007) are called to facilitate completion of analyses.

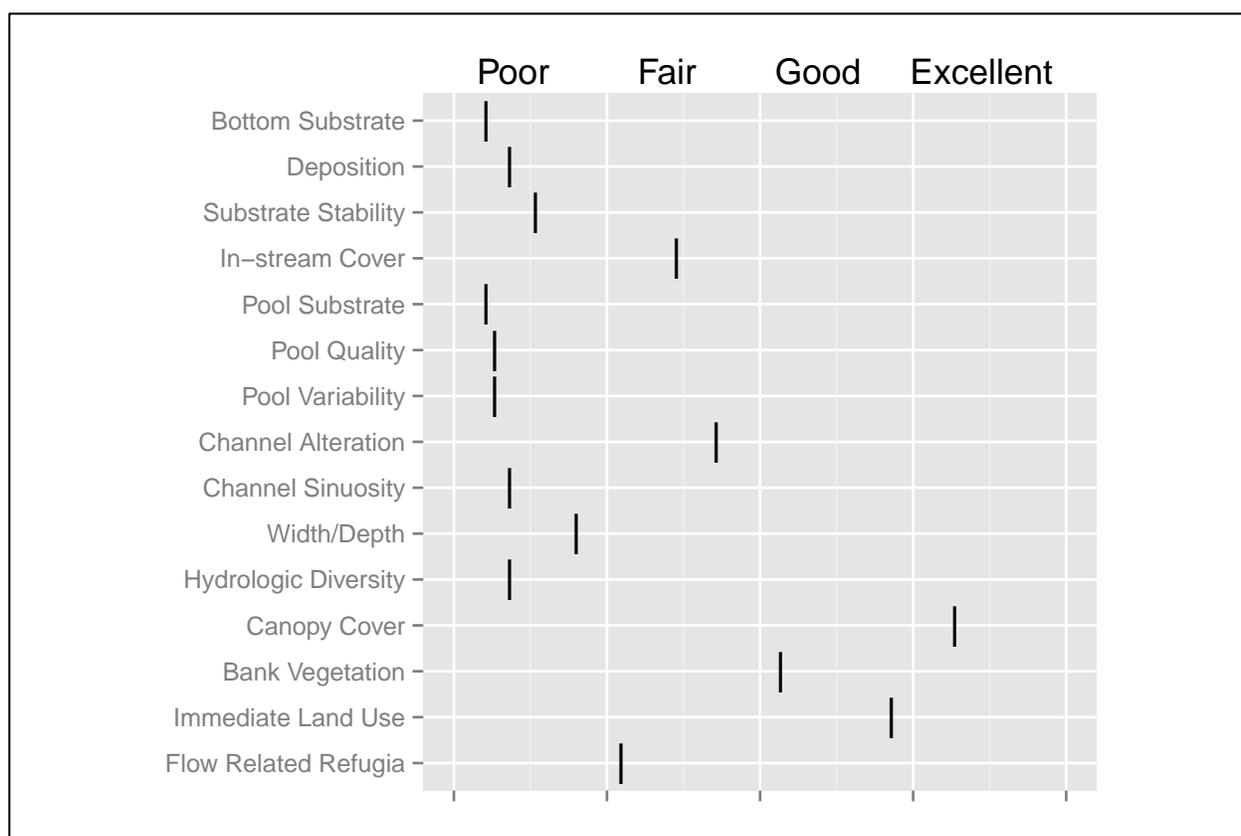
**Table 5.** Macroinvertebrate IBI quality categories (ILEPA 2011c: Table 2).

<b>mIBI Index Score</b>		<b>Comparison to Reference</b>	<b>Narrative Description</b>
<b>Lower Boundary</b>	<b>Upper Boundary</b>		
73.0	100.0	>75th percentile	Exceptional
41.8	72.9	>10th percentile	Good
20.9	41.8	bisect 10th percentile (upper)	Fair
0.0	20.8	bisect 10th percentile (lower)	Poor

## RESULTS AND DISCUSSION

### HABITAT ASSESSMENT

Physical habitat assessment of MFNBCR in Middle Fork Savanna Forest Preserve (Lake County, Illinois), scored **59** on the **IEPA SHAP** scale, a raw score associated with the lower range of **Fair** values (**Table 2**). When individual site metrics are plotted against the standardized range of values it is apparent that benthic habitats in this stream section are limited by the availability of pools, sediment deposition, extensive historic channel alteration and small particle substrates. However, the individual immediate land use, bank vegetation and stream canopy cover metrics ranked in the Good-Excellent range (**Figure 6**).



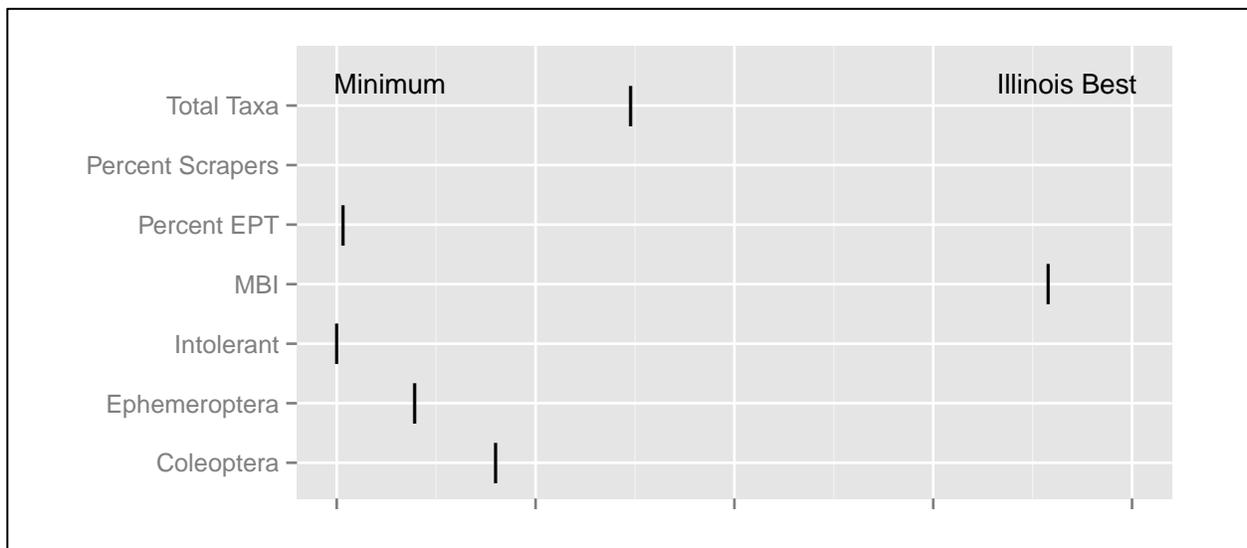
**Figure 6.** The fifteen metrics used to calculate the habitat assessment score, adjusted to standardized metric values, as scored for **Site FS751** on MFNBCR INHS personnel on 14 Aug 2015.

### AQUATIC MACRO INVERTEBRATES

A total of 342 macroinvertebrates were identified from the sample on the Middle Fork of the North Branch of the Chicago River (MFNBCR) at Kennedy Road, where the stream exits the Middlefork Savanna Forest Preserve. 17 aquatic (22 total) macroinvertebrate taxa were

recorded from this sample, representing 3 phyla, 5 classes, 14 orders and 20 families. Some taxa have not been assigned tolerance values by ILEPA (**Table 6**), so for the purpose of this report we have eliminated these records from the assemblage before calculating mIBI scores. The macroinvertebrate assemblage at our sampling site was dominated by amphipods (*Hyalella* sp.), which were approximately 3 times as abundant as the next most abundant taxon.

This site (**FS751**; MFBNCR) scored a **5.54** on the **MBI metric**, indicating that the assemblage is not overly dominated by individuals of tolerant taxa, relative to the range of values observed in other IL streams (**Figure 7**). However, intolerant taxa are less frequent in this stream than in comparable streams in IL. Several beetle taxa were observed in the assemblage, but very few EPT were sampled. The **mIBI** composite metric for this site scored a **37.0**, which is **“Fair”** in the narrative description (**Figure 5**).

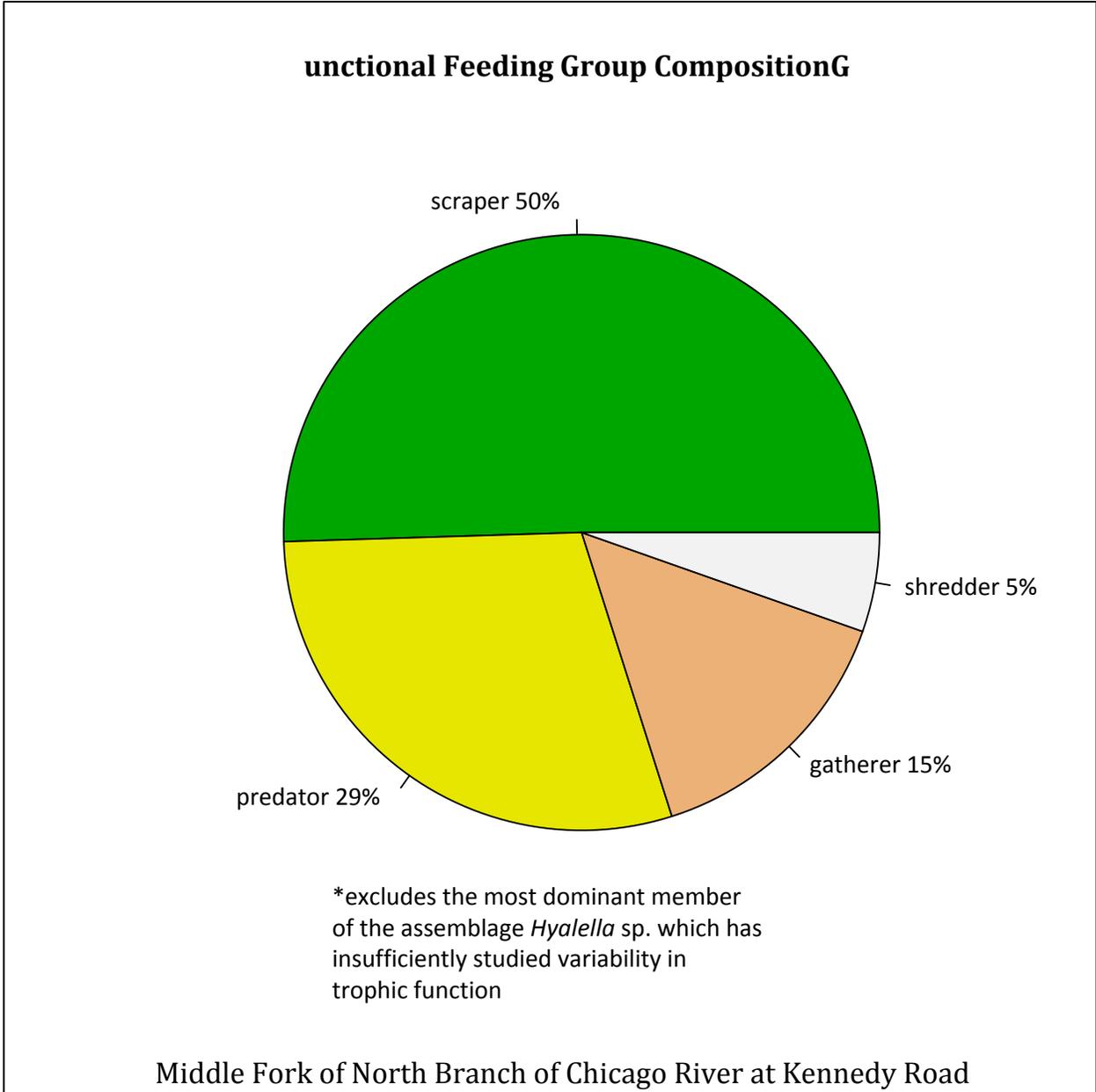


**Figure 7.** Aquatic macroinvertebrate summary metrics resulting from specimens identified from a sample collected from **Site FS751** MFBNCR at Kennedy Road Lake County, Illinois on 13 August 2015.

The analysis of functional feeding groups here is influenced by the elimination of the most numerically dominant taxon (amphipod *Hyalella* sp.), with a great deal of variation in the trophic ecology of populations which is not well described by the categories given by ILEPA and therefore excluded by our algorithm. After noting these limitations to the assessment, the remaining assemblage was dominated by primarily by scrapers (mostly snails), then by a variety of predator taxa.

**Table 6.** List of aquatic macroinvertebrates identified from the sample collected from **FS751** MFNBCR at Kennedy Road, Lake County, IL on 13 August 2015. Taxa denoted by \* have not been assigned tolerance values by ILEPA.

<b>Phylum</b>	<b>Order: Family</b>	<b>Taxon</b>	<b>-MFNBCR- Count</b>
Annelida	NA	Annelida*	2
Arthropoda:Crustacea			
	Amphipoda: Hyalellidae	Hyalellidae	114
	Decapoda: Cambaridae	Orconectes sp.	1
	Isopoda: Asellidae	Caecidotea sp.	9
Arthropoda:Insecta			
	Coleoptera: Elmidae	Dubiraphia sp.	1
	Coleoptera: Haliplidae	Peltodytes sp.*	10
	Coleoptera: Hydrophilidae	Hydrochus sp.*	1
	Coleoptera: Hydrophilidae	Tropisternus sp.*	1
	Diptera: Chironomidae	Chironomidae	1
	Ephemeroptera: Caenidae	Caenis sp.	17
	Hemiptera: Belostomatidae	Belostomatidae*	1
	Hemiptera: Mesoveliidae	Mesoveliidae*	1
	Odonata: Aeshnidae	Anax junius	2
	Odonata: Libellulidae	Libellulidae	1
	Odonata: Coenagrionidae	Coenagrionidae	38
	Odonata: Coenagrionidae	Enallagma sp.	15
	Trichoptera: Leptoceridae	Oecetis sp.	1
Mollusca: Gastropoda			
	Basommatophora: Lymnaeidae	Fossaria sp.	20
	Basommatophora: Lymnaeidae	Stagnicola sp.	2
	Basommatophora: Planorbidae	Planorbella sp.	12
	Mesogastropoda: Physidae	Physa sp.	33
	Mesogastropoda: Viviparidae	Viviparidae	36
Mollusca: Pelecypoda			
	Veneroida: Sphaeriidae	Sphaeriidae	23



**Figure 8.** Functional feeding groups (FFG) of aquatic macro invertebrates collected by INHS personnel on 14 Aug 2015 from **Site FS751** (MFNBCR), upstream of Kennedy Road at downstream exit of MFNBCR from Middle Fork Savanna Forest Preserve.

**Table 7.** Values for field water quality parameters measured by INHS personnel on 14 August 2015 at site **FS751**, MFNBCR, downstream of Kennedy Road, and site **FS751** upstream, MFNBCR, at rail crossing, Middle Fork Savanna Forest Preserve, Lake County, Illinois.

Parameter	Site	Site
	FS751	FS751 upstream
Barometric Pressure	774.2 mmHg	779.6 mmHg
Air Temperature	67.1° F/ 19.5°C	68.1° F/ 20°C
Water Temperature	75°F/ 23.9°C	72.3°F/ 22.4°C
Dissolved Oxygen	11.15 mg/L	7.9 mg/L
Saturation, Dissolved Oxygen	131.20%	91.50%
Hydrogen Ion Concentration, as pH:	NA	NA
Salinity	0.59 ppt	0.47 ppt
Specific Conductivity @ 77 F/ 25 C	1.195 mSiemens	0.961 mSiemens
Total Dissolved Solids (TDS)	0.777 mg/L	0.623 mg/L

**Additional Sampling--** Adult and benthic invertebrate sampling, incident to site selection and inventory, yielded specimen occurrence records of many taxa not observed in the benthic assemblage at the assessment site. A fully detailed list of these taxa will be provided in a supplement to this report, but some confirmed records are included here. There were obvious differences in the hydrology of wetlands within the preserve: during spring conditions several EPT taxa (Leptophlebiid mayflies, Limnephilid caddisfly *Limnephilus indivisus*) were collected from the extremely shallow sheet-like flow across the savanna areas adjacent to the stream near **Specimen Collection Site 3 (Figure 1)**, but these habitats were dry during summer sampling. Larvae and pupae of the regionally restricted Phryganeid caddisfly *Agrypnia vestita* were collected from temporary wetlands immediately adjacent to the railroad tracks at **Specimen Collection Site 4 (Figure 1)**, including a puddle that was dry during the summer visit. Adults of *A. vestita* were collected with blacklight traps during August at both the assessment site on the MFNBCR but also a wetland site in the preserve (**Specimen Collection Site 5, Figure 1**), along with other Phryganeids *Phryganea sayi*, *Phryganea cinerea*, and *Ptilostomis semifasciata*. Records of many more species of aquatic insects will be obtained from further identifications of these additional collections and will be included in a supplement to the report and specimens deposited at INHS, but are not relevant to IBI considerations and have been omitted here.

## ACKNOWLEDGEMENTS

We thank K. Potter (Prairie Analytical Systems, Inc., Springfield, Illinois) for providing laboratory analyses of water samples collected in the field. We also thank INHS personnel D.R. Swanson for field assistance and J.L. Jarvis for assistance in preparing the map in **Figure 1** and the associated shapefile referenced in **Appendix 1**. Finally, Gary Glowacki and other MFSFP personnel assisted with access and advice for locating potential sampling sites.

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## Appendix 1

This appendix cover page references <**19157\_MFNBCR\_MFSFP\_WQ\_shapefile**> m an ArcGIS shapefile with sampling point information for site FS751 on the Middle Fork of the North Branch of the Chicago River downstream of Kennedy Road (ILm 60) in Middle Fork Savanna Forest Preserve, Lake County, Illinois, where surveys for aquatic macroinvertebrates, a habitat assessment, stream characterization and water quality sampling were conducted by INHS personnel on 13m 14 August 2015. The ArcGIS shapefile and this report were both submitted to IDOT (via the IDOT Site Assessment Tracking System extranet website]

## Appendix 2

Values for water quality parameters resulting from analyses of raw water samples collected by INHS personnel on 13 August 2015 from **Site FS751**, MFNBCR at Kennedy Road, (Lake County, Illinois).

## LABORATORY RESULTS

**Client:** Illinois Natural History Survey  
**Project:** FS 751 Lake Forest / Libertyville, IL  
**Client Sample ID:** MFNBCR  
**Collection Date:** 8/13/15 12:50

**Lab Order:** 15H0292  
**Lab ID:** 15H0292-01  
**Matrix:** Water

Analyses	Result	Limit	Qual	Units	F	Date Prepared	Date Analyzed	ethod	Analyst
<b>Metals by ICP-MS</b>									
*Arsenic	U	0.00500		mg/L	1	/17/15 9:54	/18/15 13:53	PA200.8	CD
*Cadmium		0.0010		mg/L		/17/15 9:5	/18/15 13:53	PA200.	CD
*Selenium	U	0.00500		mg/	1	/17/15 9:54	/18/15 13:53	PA200.8	CD
*Silver	U	0.00300		mg/L	1	/17/15 9:54	/18/15 13:53	PA200.8	CD
<b>Metals by ICP</b>									
<b>Total Hardness (as CaCO3)</b>	<b>269</b>	66.2		mg/L	00	8/17/15 9:54	/19/15 11:04	PA 200.7	CD
*Barium	<b>0.0519</b>	0.00500		mg/L	1	8/17/15 9:54	/18/15 16:32	PA200.7	CD
*Calcium	<b>60.5</b>	10.0		mg/L	00	8/17/15 9:5	/19/15 11:04	PA200.	CD
*Chromium		0.00500		mg/L	1	/17/15 9:54	/18/15 16:32	PA200.7	CD
*Copper	U	0.00500		mg/L	1	/17/15 9:54	/18/15 16:32	PA200.7	CD
*Iron	<b>0.376</b>	0.050		mg/		8/17/15 9:5	/18/15 16:32	PA200.	CD
*Lead		0.0050		mg/		/17/15 9:5	/18/15 16:32	PA200.	CD
*Magnesium	<b>28.6</b>	10.0		mg/L	00	8/17/15 9:54	/19/15 11:04	PA200.7	CD
*Manganese	<b>0.0329</b>	0.0050		mg/		8/17/15 9:5	/18/15 16:32	PA200.	CD
*Nickel		0.00500		mg/L	1	/17/15 9:54	/18/15 16:32	PA200.7	CD
*Zinc		0.010		mg/		/17/15 9:5	/18/15 16:32	PA200.	CD
<b>Dissolved Metals by ICP</b>									
*Iron	<b>0.365</b>	0.0500		mg/L	1	8/17/15 9:54	/18/15 16:38	PA200.7	CD
<b>Anions by Ion Chromatography</b>									
*Chloride	<b>519</b>	50.0		mg/L	000	8/18/15 14:00	/19/15 3:30	PA300.0	KK
*Fluoride	<b>0.236</b>	0.10		mg/		8/14/15 16:0	/15/15 6:34	PA300.	KK
*Nitrate (as N)		0.12		mg/		/14/15 16:0	/15/15 3:43	PA300.	KK
*Nitrite (as N)		0.12		mg/		/14/15 16:0	/15/15 3:43	PA300.	KK
*Sulfate	<b>34.7</b>	15.0		mg/L	00	8/14/15 16:00	/15/15 3:43	PA300.0	KK
<b>Conventional Chemistry Parameters</b>									
<b>Total Nitrogen</b>	<b>1.42</b>	0.75		mg/		8/20/15 9:37	/20/15 18:34	EPA300.0/SM	DMS
*Ammonia (as N)		0.100		mg/L	1	/24/15 10:00	/24/15 10:29	SM4500NH3-	KSH
*Hexavalent Chromium	U	0.0100		mg/L	1	/21/15 11:20	/21/15 12:00	SM3500-Cr D	DMS
*Cyanide		0.0050		mg/		/17/15 12:00	/17/15 17:30	SM4500-CN I	DMS
Weak Acid Dissociable Cyanide	U	0.005		mg/L	1	/24/15 10:09	/24/15 15:54	SM4500-CN I	DMS
*Total Kjeldahl Nitrogen	<b>1.42</b>	0.50		mg/		8/20/15 9:37	/20/15 18:34	SM4500NH3-	DMS
*Oil and Grease		1.04		mg/L	1	/19/15 14:41	/20/15 16:11	PA1664	MM
*Phenolics		0.0050		mg/		/25/15 10:00	/25/15 14:03	PA420.	CD
*Phosphorus	<b>0.0982</b>	0.0500		mg/L	2	8/20/15 6:1	/20/15 13:12	M4500P-E	MS
*Total Suspended Solids	<b>5.50</b>	4.00		mg/L	1	8/18/15 12:07	/19/15 15:46	M2540D	SH

## Subcontractor: Mercury One

## Low Level Metals Analysis

Mercury	<b>3.48</b>	0.5		ng/L	1	8/19/15 0:00	/20/15 14:21	PA 1631E	UB
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**LABORATORY RESULTS**

**Client:** Illinois Natural History Survey

**Project:** FS 751 Lake Forest / Libertyville, IL

**Lab Order:** 15H0292

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**Notes and Definitions**

- S Spike recovery outside acceptance limits.
- R RPD outside acceptance limits.
- E Result above quantitation range.
- \* NELAC certified compound.
- U Analyte not detected (i.e. less than RL or MDL).





## Rondout Siding Extension Lake County, Illinois

IDOT Sequence Number: 19157



Prepared by:

Ian Kenney, Ben Beas, Susan McIntyre, Andy Olnas,  
Brad Zercher, and Diane Szafoni

**INHS/IDOT Wetland Science Program**

August 2015



## Project Summary

A wetland survey was conducted for proposed work on the Rondout Siding Extension in Lake County, Illinois. All potential wetlands within the specified project area were examined. Eighteen sites met the three criteria of a wetland established in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* [U.S. Army Corps of Engineers (USACE) 2010] and were, therefore, determined to be wetlands. Summary information regarding the wetland determination sites is presented in the wetland project report. Wetland determination forms are found in Appendix A and wetland plant species lists are included in Appendix B. Wetland boundaries were recorded using a Trimble Global Navigation Satellite System (GNSS). The spatial data have been digitally uploaded to the Illinois Site Assessment Tracking System ([http://frostycap.isgs.uiuc.edu/idot\\_extranet](http://frostycap.isgs.uiuc.edu/idot_extranet)). Locations of determination sites were overlaid on a digital aerial orthophoto using ArcGIS; the resulting figure is included in Appendix C. Additional maps and figures are also included in Appendix C. Appendix D contains photographs of each wetland and Water of the United States. Preliminary bat and cliff swallow habitat and assessment and survey information is presented in Appendix E.

Signed:  Date: August 14, 2015  
 Scott M. Wiesbrook  
 Wetland Science Program  
 Assistant Project Leader for Soils

**Conducted By:** Ian Kenney (Soils, Hydrology, GNSS)  
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## **Table of Contents**

Project Summary.....	2
Introduction .....	4
Methods.....	4
Wetland Determination Site Summaries.....	6
Wetland Site Summary Table .....	18
Waters of the United States .....	19
Threatened/Endangered Species and Natural Communities of Special Interest.....	23
Preliminary Bat and Swallow Habitat Assessment and Survey .....	23
Literature Cited.....	25
APPENDIX A.....	27
Wetland Determination Forms.....	28
APPENDIX B.....	136
Wetland Plant Species Lists .....	137
APPENDIX C.....	152
Figure 1 – Project Location Map.....	153
Figure 2 – National Wetlands Inventory Map.....	154
Figure 3 – ADID and County Wetland Inventory Map .....	155
Figure 4 – Soil Survey Map.....	156
Figure 5 – Wetland Determination Overview Map .....	157
Figure 6 – Wetland Determination Maps .....	158
APPENDIX D.....	163
Photographs of Wetlands and Waters of the United States .....	164
APPENDIX E .....	169
Preliminary Bat and Swallow Habitat Assessment and Survey .....	170

*Cover Photo: Facing east overlooking wetland site 10.*

# Rondout Siding Extension

## Lake County, Illinois

### **Introduction**

A wetland survey was conducted on June 15-16, July 6-7 and 15-16, and August 1, 2015 for proposed work on the Rondout Siding Extension in Lake County, Illinois. Construction work is to include removal and replacement of a small bridge over the Middle Fork of the North Branch of the Chicago River, replacing track, and installing new track and signals.

### **Methods**

All potential wetlands within the specified study area were examined. Characteristics of vegetation, soils, hydrology, and topography were evaluated during field investigation and on-site wetland determination. Locations of observation points for wetland determinations were selected based on plant community borders and topographic changes. The following sources were examined while surveying the project corridor to determine wetland locations and boundaries: aerial photographs; U.S. Geological Survey topographic maps (Wheeling and Libertyville 7.5 minute quadrangles); National Wetlands Inventory (NWI) maps (Wheeling and Libertyville 7.5 minute quadrangles) (U.S. Fish and Wildlife Service); Lake County Wetland Inventory (LCWI) maps (Lake County Stormwater Management Commission 2000), Lake County Advanced Identification (ADID) wetland maps (Northeastern Illinois Planning Commission, U.S. Environmental Protection Agency, Lake County Stormwater Management Commission 1992), Illinois Wetlands Inventory (U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, Illinois Natural History Survey 1996); the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE 2010); the USDA-NRCS *Official Series Descriptions*; and the USDA-NRCS *Web Soil Survey*. Positional inaccuracies are known to occur with downloaded sources of digital data listed above. As presented on maps and figures in this report, data can be shifted from their actual position when compared to modern aerial photography.

Wetland determinations were conducted using definitions and guidelines established in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE 2010). Data from these determinations were recorded on U.S. Army Corps of Engineers' Wetland Determination Data Forms – Midwest Region (Appendix A); a data form was completed for each wetland sampling point. All potential wetlands, including all areas mapped as wetlands by the NWI, were described using at least one sampling point. Results of these determinations are summarized in the following text. Adjacent upland areas were also investigated; forms were also completed for these areas. Comprehensive plant species lists were compiled for each wetland site and are presented in Appendix B.

Wetland and water boundaries were recorded using a Trimble Global Navigation Satellite System (model GeoExplorer 6000 Series GeoXT), with a presumed accuracy of +/- 0.5 m under optimal field conditions. Occasionally, conditions prohibit field-delineation of boundaries using GNSS equipment, and these boundaries are digitized in the office using aerial photography. Typically this is done when one of three issues prevents field personnel from conducting a normal field delineation:

- Site cannot be accessed due to fence, lack of permission, hostile landowner, or other reason.
- Current conditions make delineation impossible (for example, delineating a stream or other water during a major flood when boundaries cannot be seen in the field).
- Current conditions make field delineation dangerous to our personnel. This often occurs with very steep-sided banks on creeks that have a great deal of vegetation obscuring the drop-off.

When a site is delineated using aerial photography, the site boundary must be readily visible from the aerial photo, and not obscured by overhanging vegetation or other features on the photo.

Spatial data were digitally uploaded to the Illinois Site Assessment Tracking System ([http://frostycap.isgs.uiuc.edu/idot\\_extranet](http://frostycap.isgs.uiuc.edu/idot_extranet)). Locations of determination sites were overlaid on a digital aerial orthophoto and approximate area was determined for each wetland site using ArcGIS 10.3 software (ESRI 2014). Resulting areas are calculated in acres, reported to two decimal places. Area of streams and ditches is given for the open channel and omits any portion enclosed in a pipe or culvert. Length of streams and ditches is given for the entire length within the project corridor; this includes pipes and culverts where visual observation can locate both ends. Site location, with respect to the nearest road (or railroad), was measured from the edge of the pavement (or track) and is reported to the nearest foot.

Each native plant species was assigned a “coefficient of conservatism” (C) (Swink and Wilhelm 1994), a subjective rating of species fidelity to undegraded natural communities, ranging from zero to ten. Conservative species - those more likely to be found in “pristine” natural areas - were assigned high numbers, whereas non-conservative species - those that occur in anthropogenically disturbed areas - were given lower numbers. Non-native species and those not identifiable to species level were not assigned a rating. The Floristic Quality Index (FQI) is computed as  $FQI = (\text{mean } C) \times (\sqrt{N})$ , where mean C is the mean coefficient of conservatism for all native plant species at a site and N is the total number of native plant species at the site. In very general terms, higher FQI values for plant communities indicate more similarity to “pristine” natural areas, as compared to those communities with lower FQI values. Botanical nomenclature follows *Plants of the Chicago Region (ibid.)*, while wetland indicator status for each species follows *National Wetland Plant List, version 3.2 (USACE 2014)*.

A photograph of each wetland and Water of the United States (WOUS) was taken from each sampling point; these photographs are presented in Appendix D.

### Wetland Determination Site Summaries

#### **Site Number: 1**

Community type: **Wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,254 ft. east of W Broadland Ln.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.15 ac**

Total site area: **0.16 ac**

Is this a county wetlands inventory site? **No**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.3**

Floristic Quality Index (FQI): **7.3**

#### **Site Number: 2**

Community type: **Wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,034 ft. east of W Broadland Ln.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.10 ac**

Total site area: **0.10 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.2**

Floristic Quality Index (FQI): **4.9**

#### **Site Number: 3**

Community type: **Wet shrubland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 140 ft. south of IL 60.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.09 ac**

Total site area: **0.10 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.2**

Floristic Quality Index (FQI): **8.5**

#### **Site Number: 4**

Community type: **Upland forest**

National Wetlands Inventory code: **PFO1C (seasonally flooded, broad-leaved deciduous, forested, palustrine wetland)**

Site location: **Approximately 325 ft. east of Faculty Cir.**

Hydrophytic Vegetation? **Yes**

Hydric Soils? **No**

Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

#### **Site Number: 5**

Community type: **Wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 360 ft. east of Academy Rd.**

Hydrophytic Vegetation? **Yes**

Hydric Soils? **Yes**

Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.24 ac**

Total site area: **0.24 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.4**

Floristic Quality Index (FQI): **9.5**

#### **Site Number: 6**

Community type: **Wetland pond**

National Wetlands Inventory code: **PFO1C/PSS1C (seasonally flooded, broad-leaved deciduous, forested, palustrine wetland/seasonally flooded, broad-leaved deciduous, scrub-shrub, palustrine wetland)**

Site location: **Approximately 320 ft. east of Academy Rd.**

Hydrophytic Vegetation? **Yes**                      Hydric Soils? **Yes**                      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.23 ac**

Total site area: **Undetermined**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **3.3**

Floristic Quality Index (FQI): **11.3**

#### **Site Number: 7**

Community type: **Wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 180 ft. east of Academy Rd.**

Hydrophytic Vegetation? **Yes**                      Hydric Soils? **Yes**                      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.10 ac**

Total site area: **0.19 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site has a mean C-value of 3.5 or greater (Swink and Wilhelm 1994).**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **4.0**

Floristic Quality Index (FQI): **5.7**

#### **Site Number: 8**

Community type: **Marsh**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 190 ft. east of Academy Rd.**

Hydrophytic Vegetation? **Yes**                      Hydric Soils? **Yes**                      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.21 ac**

Total site area: **0.33 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**  
 Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**  
 Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**  
 HGM type: **Depressional**  
 Mean Coefficient of Conservatism (mean C): **3.1** Floristic Quality Index (FQI): **15.1**

**Site Number: 9**

Community type: **Wet meadow**  
 National Wetlands Inventory code: **PEMC (seasonally flooded, emergent, palustrine wetland)**  
 Site location: **Approximately 250 ft. east of Marquette Ct.**  
 Hydrophytic Vegetation? **Yes** Hydric Soils? **Yes** Wetland Hydrology? **Yes**  
 Is this site a wetland? **Yes**  
 Area of site occurring within the project corridor: **0.16 ac**  
 Total site area: **Undetermined**  
 Is this a county wetlands inventory site? **Yes**  
 Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 146)**  
 Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**  
 Rationale: **This site is an Advanced Identification (ADID) Site (Site 146).**  
 Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**  
 Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**  
 HGM type: **Depressional**  
 Mean Coefficient of Conservatism (mean C): **2.9** Floristic Quality Index (FQI): **14.1**

**Site Number: 10**

Community type: **Sedge meadow**  
 National Wetlands Inventory code: **PEMC (seasonally flooded, emergent, palustrine wetland)**  
 Site location: **Approximately 800 ft. NE of Marquette Ct.**  
 Hydrophytic Vegetation? **Yes** Hydric Soils? **Yes** Wetland Hydrology? **Yes**  
 Is this site a wetland? **Yes**  
 Area of site occurring within the project corridor: **0.05 ac**  
 Total site area: **0.11 ac**  
 Is this a county wetlands inventory site? **No**  
 Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**  
 Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**  
 Rationale: **This site has a mean C-value of 3.5 or greater (Swink and Wilhelm 1994) and is a Sedge Meadow.**  
 Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **Yes**  
 Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **4.1**

Floristic Quality Index (FQI): **12.3**

Additional Remarks: ***Platanthera leucophaea* (Eastern prairie fringed orchid) was found near this site by INHS Biotic Surveys; for more information see Spyreas, forthcoming.**

**Site Number: 11**

Community type: **Non-native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 840 ft. east of Football Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 145)**

**Site Number: 12**

Community type: **Marsh**

National Wetlands Inventory code: **PEMC (seasonally flooded, emergent, palustrine wetland)**

Site location: **Approximately 1,450 ft. east of Academy Rd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.07 ac**

Total site area: **Undetermined**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 132)**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site is an Advanced Identification (ADID) Site (Site 132).**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.9**

Floristic Quality Index (FQI): **11.9**

**Site Number: 13**

Community type: **Mesic floodplain forest**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 730 ft. east of Football Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 128)**

**Site Number: 14**

Community type: **Marsh**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,150 ft. east of Football Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.07 ac**

Total site area: **Undetermined**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 130)**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site is an Advanced Identification (ADID) Site (Site 130).**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **3.4**

Floristic Quality Index (FQI): **10.3**

#### **Site Number: 15**

Community type: **Native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1.278 ft east of Football Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 128)**

#### **Site Number: 16**

Community type: **Sedge meadow**

National Wetlands Inventory code: **PEMC (seasonally flooded, emergent, palustrine wetland)**

Site location: **Approximately 1,355 ft east of Football Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.27 ac**

Total site area: **Undetermined**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 129)**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site has a mean C-value of 3.5 or greater and an FQI over 20 (Swink and Wilhelm 1994), is a Sedge Meadow, and is an ADID site (Site 129).**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **Yes**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **4.8**

Floristic Quality Index (FQI): **27.7**

**Site Number: 17**

Community type: **Non-native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,397 ft east of W Boulton Blvd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 128)**

**Site Number: 18**

Community type: **Non-native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,154 ft east of W Boulton Blvd.**

Hydrophytic Vegetation? **No**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **Yes (Site 128)**

**Site Number: 19**

Community type: **Shrubland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,699 ft east of W Polo Trail Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 20**

Community type: **Non-native grassland**

National Wetlands Inventory code: **PSS1A (temporarily flooded, broad-leaved deciduous, scrub-shrub, palustrine wetland)**

Site location: **Approximately 1,603 ft east of W Polo Trail Dr**

Hydrophytic Vegetation? **No**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **No**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 21**

Community type: **Wet forbland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1,699 ft east of W Polo Trail Dr.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.24 ac**

Total site area: **0.24 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site has a mean C-value of 3.5 or greater (Swink and Wilhelm 1994) and a FQI over 20.**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **Yes**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to Traditional Navigable Waters (TNWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **4.2**

Floristic Quality Index (FQI): **35.0**

Additional Remarks: **This site has a particularly high FQI and therefore can be considered a botanical asset.**

#### **Site Number: 22**

Community type: **Non-native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 782 ft south of Arcadia Rd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

#### **Site Number: 23**

Community type: **Mesic floodplain forest**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 368 ft west of Arcadia Rd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

#### **Site Number: 24**

Community type: **Developed land**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 800 ft east of Baker Rd.**

Hydrophytic Vegetation? **No**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 25**Community type: **Forbland**National Wetlands Inventory code: **U (upland)**Site location: **Approximately 800 ft east of Baker Rd.**Hydrophytic Vegetation? **No**          Hydric Soils? **No**          Wetland Hydrology? **No**Is this site a wetland? **No**Is this a county wetlands inventory site? **Yes**Is this site an Advanced Identification (ADID) High Functional Value wetland? **No****Site Number: 26**Community type: **Shrubland**National Wetlands Inventory code: **POWGx (excavated, intermittently exposed, open water, palustrine wetland)**Site location: **Approximately 464 ft. east of Baker Rd.**Hydrophytic Vegetation? **Yes**          Hydric Soils? **No**          Wetland Hydrology? **No**Is this site a wetland? **No**Is this a county wetlands inventory site? **Yes**Is this site an Advanced Identification (ADID) High Functional Value wetland? **No****Site Number: 27**Community type: **Mesic floodplain forest**National Wetlands Inventory code: **U (upland)**Site location: **Approximately 120 ft. north of Baker Rd.**Hydrophytic Vegetation? **Yes**          Hydric Soils? **No**          Wetland Hydrology? **No**Is this site a wetland? **No**Is this a county wetlands inventory site? **Yes**Is this site an Advanced Identification (ADID) High Functional Value wetland? **No****Site Number: 28**Community type: **Forested wetland**National Wetlands Inventory code: **U (upland)**Site location: **Approximately 530 ft. east of I94.**Hydrophytic Vegetation? **Yes**          Hydric Soils? **Yes**          Wetland Hydrology? **Yes**Is this site a wetland? **Yes**Area of site occurring within the project corridor: **0.02 ac**Total site area: **0.21 ac**Is this a county wetlands inventory site? **Yes**Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.7**

Floristic Quality Index (FQI): **8.0**

**Site Number: 29**

Community type: **Shrubland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 583 ft. east of I-94.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 30**

Community type: **Upland forest**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 187 ft. east of I-94.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 31**

Community type: **Wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 65 ft. west of I94.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.03 ac**

Total site area: **0.03 ac**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **2.5**

Floristic Quality Index (FQI): **10.2**

**Site Number: 32**

Community type: **Marsh/wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 215 ft. north of Greenfield Ct.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.08 ac**

Total site area: **0.08 ac**

Is this a county wetlands inventory site? **No**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site has a mean C-value of 3.5 or greater (Swink and Wilhelm 1994) and a FQI over 20.**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **Yes**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **3.5**

Floristic Quality Index (FQI): **20.2**

**Site Number: 33**

Community type: **Shrubland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 380 ft. NW of Old Rockland Rd.**

Hydrophytic Vegetation? **No**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 34**

Community type: **Wet meadow**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 444 ft. east of N Saint Marys Rd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.04 ac**

Total site area: **0.04 ac**

Is this a county wetlands inventory site? **No**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **No**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to non-RPWs that flow directly or indirectly into Traditional Navigable Waters (NRPWW)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **3.3**

Floristic Quality Index (FQI): **10.9**

**Site Number: 35**

Community type: **Non-native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 244 ft. east of N Saint Marys Rd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 36**

Community type: **Wet floodplain forest**

National Wetlands Inventory code: **PFO1A (temporarily flooded, broad-leaved deciduous, forested, palustrine wetland)**

Site location: **Approximately 1,030 ft. NE of Camelot Ln.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **Yes**      Wetland Hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **<0.01 ac**

Total site area: **Undetermined**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **Yes**

Rationale: **This site has a mean C-value of 3.5 or greater (Swink and Wilhelm 1994).**

Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? **Yes**

Waters type (USACE and USEPA 2007): **Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into Traditional Navigable Waters (RPWWN)**

HGM type: **Depressional**

Mean Coefficient of Conservatism (mean C): **3.7**

Floristic Quality Index (FQI): **18.6**

**Site Number: 37**

Community type: **Shrubland**

National Wetlands Inventory code: **PFO1A (temporarily flooded, broad-leaved deciduous, forested, palustrine wetland)**

Site location: **Approximately 830 ft. south of W Oak Spring Rd.**

Hydrophytic Vegetation? **Yes**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

**Site Number: 38**

Community type: **Non-native grassland**

National Wetlands Inventory code: **U (upland)**

Site location: **Approximately 1 ft. south of railroad.**

Hydrophytic Vegetation? **No**      Hydric Soils? **No**      Wetland Hydrology? **No**

Is this site a wetland? **No**

Is this a county wetlands inventory site? **Yes**

Is this site an Advanced Identification (ADID) High Functional Value wetland? **No**

### Wetland Site Summary Table

Site no.	NWI code	Community type	Area (ac.) <sup>1</sup>	>50% <sup>2</sup>	FQI	Mean C	ADID/CWI <sup>3</sup>	HQAR <sup>4</sup>	Waters type
1	U	Wet meadow	0.15	Yes	7.3	2.3	None	No	NRPWW
2	U	Wet meadow	0.10	Yes	4.9	2.2	CWI	No	NRPWW
3	U	Wet shrubland	0.09	Yes	8.5	2.2	CWI	No	NRPWW
5	U	Wet meadow	0.24	Yes	9.5	2.4	CWI	No	TNWW
6	PFO1C /PSS1C	Wetland pond	0.23	No	11.3	3.3	CWI	No	TNWW
7	U	Wet meadow	0.10	Yes	5.7	4.0	CWI	Yes	NRPWW
8	U	Marsh	0.21	Yes	15.1	3.1	CWI	No	TNWW
9	PEMC	Wet meadow	0.16	No	14.1	2.9	HFV,CWI	Yes	TNWW
10	PEMC	Sedge meadow	0.05	No	12.3	4.1	None	Yes	NRPWW
12	PEMC	Marsh	0.07	No	11.9	2.9	HFV,CWI	Yes	TNWW
14	U	Marsh	0.07	No	10.3	3.4	HFV,CWI	Yes	TNWW
16	PEMC	Sedge meadow	0.27	No	27.7	4.8	HFV,CWI	Yes	TNWW
21	U	Wet forbland	0.24	Yes	35.0	4.2	CWI	Yes	NRPWW
28	U	Forested wetland	0.02	No	8.0	2.7	CWI	No	NRPWW
31	U	Wet meadow	0.03	Yes	10.2	2.5	CWI	No	NRPWW
32	U	Marsh/wet meadow	0.08	Yes	20.2	3.5	None	Yes	NRPWW
34	U	Wet meadow	0.04	Yes	10.9	3.3	None	No	NRPWW
36	PFO1A	Wet floodplain forest	<0.01	No	18.6	3.7	CWI	Yes	RPWWN

<sup>1</sup> Area within the ESR project limits. <sup>2</sup> In our best professional judgment is more than 50% of the total site area within the ESR project limits? <sup>3</sup> Is this site an Advanced Identification High Habitat Value wetland (HHV), a High Functional Value wetland (HFV) or a Lake County Wetland Inventory (CWI) site? <sup>4</sup> Is this site a High Quality Aquatic Resource?

**Waters of the United States****Site Number: W1**Site Name: **Ditch**Site Location: **Approximately 10 ft. east of railroad**Latitude: **42.23730** Longitude: **-87.88123**Community type: **Ditch**National Wetlands Inventory code: **U (upland)**Area of site occurring within the project corridor: **0.01 ac**Linear feet: **22 ft**Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**Watershed area: **<1 mi<sup>2</sup>**Riffles observed? **No** Pools observed? **No**Mussel shell material observed? **No**Is the stream or body of water permanent? **No**Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**Stream Integrity Rating: **Not Rated** Stream Diversity Rating: **Not Rated****Site Number: W2**Site Name: **Ditch**Site Location: **Approximately 6 ft. west of railroad**Latitude: **42.23838** Longitude: **-87.88171**Community type: **Ditch**National Wetlands Inventory code: **U (upland)**Area of site occurring within the project corridor: **0.01 ac**Linear feet: **20 ft**Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**Watershed area: **<1 mi<sup>2</sup>**Riffles observed? **No** Pools observed? **No**Mussel shell material observed? **No**Is the stream or body of water permanent? **No**Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**Stream Integrity Rating: **Not Rated** Stream Diversity Rating: **Not Rated****Site Number: W3**Site Name: **Ditch**Site Location: **Approximately 1 ft. west of railroad**Latitude: **42.25443** Longitude: **-87.88940**Community type: **Ditch**

National Wetlands Inventory code: **U (upland)**

Area of site occurring within the project corridor: **0.01 ac**

Linear feet: **21 ft**

Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**

USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**

Watershed area: **<1 mi<sup>2</sup>**

Riffles observed? **No**

Pools observed? **No**

Mussel shell material observed? **No**

Is the stream or body of water permanent? **No**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**

Stream Integrity Rating: **Not Rated**

Stream Diversity Rating: **Not Rated**

#### **Site Number: W4**

Site Name: **Lake Forest Oasis Tributary**

Site Location: **Approximately 1 ft east of railroad**

Latitude: **42.26164**

Longitude: **- 87.89171**

Community type: **Stream**

National Wetlands Inventory code: **U (upland)**

Area of site occurring within the project corridor: **0.01 ac**

Linear feet: **100 ft**

Waters type (USACE 2007): **RPW (Relatively Permanent Waters that flow directly or indirectly into Traditional Navigable Waters)**

USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**

Watershed area: **<1 mi<sup>2</sup>**

Riffles observed? **No**

Pools observed? **No**

Mussel shell material observed? **No**

Is the stream or body of water permanent? **Yes**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**

Stream Integrity Rating: **Not Rated**

Stream Diversity Rating: **Not Rated**

#### **Site Number: W5**

Site Name: **Middle Fork North Branch of Chicago River**

Site Location: **Approximately 1 ft and 35 ft west of railroad**

Latitude: **42.26814**

Longitude: **- 87.89352**

Community type: **River**

National Wetlands Inventory code: **U (upland)**

Area of site occurring within the project corridor: **0.22 ac**

Linear feet: **1,063 ft**

Waters type (USACE 2007): **TNW (Traditional Navigable Waters)**

USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**

Watershed area: **7.4 mi<sup>2</sup> (USGS 2015)**

Riffles observed? **No**                      Pools observed? **No**  
 Mussel shell material observed? **No**  
 Is the stream or body of water permanent? **Yes**  
 Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**  
 Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**  
 Stream Integrity Rating: **D**                      Stream Diversity Rating: **D**

**Site Number: W6**

Site Name: **Ditch**  
 Site Location: **Approximately 1 ft south of railroad**  
 Latitude: **42.28305**                      Longitude: - **87.89936**  
 Community type: **Ditch**  
 National Wetlands Inventory code: **U (upland)**  
 Area of site occurring within the project corridor: **0.47 ac**  
 Linear feet: **5,456 ft**  
 Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**  
 USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**  
 Watershed area: **<1 mi<sup>2</sup>**

Riffles observed? **No**                      Pools observed? **No**  
 Mussel shell material observed? **No**  
 Is the stream or body of water permanent? **No**  
 Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**  
 Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**  
 Stream Integrity Rating: **Not Rated**                      Stream Diversity Rating: **Not Rated**

**Site Number: W7**

Site Name: **Ditch**  
 Site Location: **Approximately 1 ft north of railroad**  
 Latitude: **42.28473**                      Longitude: - **87.90787**  
 Community type: **Ditch**  
 National Wetlands Inventory code: **U (upland)**  
 Area of site occurring within the project corridor: **0.28 ac**  
 Linear feet: **3,529 ft**  
 Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**  
 USGS 8-Digit Hydrologic Unit Code (HUC): **07120003 (Chicago River)**  
 Watershed area: **<1 mi<sup>2</sup>**

Riffles observed? **No**                      Pools observed? **No**  
 Mussel shell material observed? **No**  
 Is the stream or body of water permanent? **No**  
 Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**  
 Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**  
 Stream Integrity Rating: **Not Rated**                      Stream Diversity Rating: **Not Rated**

**Site Number: W8**Site Name: **Ditch**Site Location: **Approximately 1 ft south of railroad**Latitude: **42.28595** Longitude: - **87.92972**Community type: **Ditch**National Wetlands Inventory code: **U (upland)**Area of site occurring within the project corridor: **0.15 ac**Linear feet: **2,240 ft**Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**USGS 8-Digit Hydrologic Unit Code (HUC): **07120004 (Des Plaines River)**Watershed area: **<1 mi<sup>2</sup>**Riffles observed? **No** Pools observed? **No**Mussel shell material observed? **No**Is the stream or body of water permanent? **No**Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**Stream Integrity Rating: **Not Rated** Stream Diversity Rating: **Not Rated****Site Number: W9**Site Name: **Ditch**Site Location: **Approximately 1 ft north of railroad**Latitude: **42.28601** Longitude: - **87.92859**Community type: **Ditch**National Wetlands Inventory code: **U (upland)**Area of site occurring within the project corridor: **0.13 ac**Linear feet: **1,382 ft**Waters type (USACE 2007): **NRPW (Non-RPWs that flow directly or indirectly into Traditional Navigable Waters)**USGS 8-Digit Hydrologic Unit Code (HUC): **07120004 (Des Plaines River)**Watershed area: **<1 mi<sup>2</sup>**Riffles observed? **No** Pools observed? **No**Mussel shell material observed? **No**Is the stream or body of water permanent? **No**Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**Stream Integrity Rating: **Not Rated** Stream Diversity Rating: **Not Rated****Site Number: W10**Site Name: **Des Plaines River**Site Location: **Approximately 1 ft east of railroad**Latitude: **42.28637** Longitude: - **87.93671**Community type: **River**

National Wetlands Inventory code: **R2OWH (permanently flooded, open water, lower perennial, riverine wetland)**

Area of site occurring within the project corridor: **0.14 ac**

Linear feet: **81 ft**

Waters type (USACE 2007): **RPW (Relatively Permanent Waters)**

USGS 8-Digit Hydrologic Unit Code (HUC): **07120004 (Des Plaines River)**

Watershed area: **259.6 mi<sup>2</sup> (USGS 2015)**

Riffles observed? **Yes** Pools observed? **Yes**

Mussel shell material observed? **Yes**

Is the stream or body of water permanent? **Yes**

Is this site a High Quality Aquatic Resource (HQAR) (USACE-CD 2012)? **No**

Is the stream identified by the IDNR (2008) as a biologically significant stream? **No**

Stream Integrity Rating: **D** Stream Diversity Rating: **D**

### **Threatened/Endangered Species and Natural Communities of Special Interest**

All wetland determination sites were assessed for potential habitat suitability of *Platanthera leucophaea* (Eastern Prairie Fringed Orchid or EPFO). EPFO is a federal threatened and Illinois endangered plant species. Our assessment of suitable habitat follows the guidelines established in S7 Technical Assistance: Eastern prairie fringed orchid (*Platanthera leucophaea*) (USFWS 2014). INHS Biotic Surveys are conducting an in-depth study of the project corridor (Spyreas, forthcoming), and have found EPFO near the wetland that is labeled site 10 in this report.

INHS Biotic Surveys are also conducting surveys for Blanding's turtles (*Survey and Habitat Assessment for Blanding's Turtle, Emydoidea blandingii, for the Rondout Extension/Metra Fox Lake Second Track Rail Project in Lake County, Illinois* (Kuhns, forthcoming)) and three-parameter water quality [biological (i.e. fish, aquatic macroinvertebrates); chemical (i.e., water quality); and physical (i.e., description of the stream) (Robinson, forthcoming)]. A survey for fishes and mussels was conducted and information can be found in *Surveys for Fishes and Freshwater Mussels for the Rondout Extension/Metra Fox Lake Second Track project in Lake County, Illinois* (Tiemann 2015).

Additionally, wetland sites 7, 9, 10, 12, 14, 16, 21, 32, and 36 have been designated as High Quality Aquatic Resources (HQAR).

### **Preliminary Bat and Swallow Habitat Assessment and Survey**

A preliminary tree assessment for presence of suitable summer roosting sites for the Indiana bat and the northern long-eared bat was conducted using the definitions and guidelines established in *User's Guide for the Range-wide Programmatic Informal Consultation for Indiana Bat and Northern Long-eared Bat (Version 1.1)* (USFWS 2015) and *Range-wide Biological Assessment for Transportation Projects for Indiana Bat and Northern Long-eared Bat* (Federal Highway Administration and Federal Railroad Administration 2015). For the purpose of this survey, a potential roost tree was defined as any tree (alive or dead) with exfoliating bark

and/or possessing one or more cavities. When possible the species identity, GNSS location, and status (alive or dead) were recorded.

There were numerous trees (>3 in DBH) found within the construction limits inside the project corridor with cavities or loose or peeling bark. In addition, no bats were observed during a visual search of the underside of the bridge decks at the time of the site visit. INHS Biotic Surveys and Assessment Program conducted a survey of the bats occurring in this area, and results can be viewed in *Bat Habitat Assessment at Rondout Extension/Metra Second Track, Lake County, Illinois* (Mengelkoch et al., 2015).

Federal Structure ID (or location):	Bat Indicators: Indicate Yes/No. Presence of one or more indicators is evidence that bats may be using the structure.				
	Visual	Sound	Droppings	Staining	Notes: (e.g., number & species of bats, if known)
Bridge over Lake Forest Oasis Trib	No	No	No	No	
Bridge over Middle Fk N Br Chicago River	No	No	No	No	
Bridge over I94 overpass	No	No	No	No	
Bridge over Des Plaines River	No	No	No	No	

A preliminary assessment for presence of cliff or barn swallows was also conducted. A few swallow nests and swallows were observed on the underside of the I-94 overpass at the time of the site visit (see photo in Appendix E). Additionally, a report on the bird habitat of this area is being completed by the INHS Biotic Surveys and Assessment Program. More information will be presented in *Breeding Bird Survey for the Rondout Extension/Metra Fox Lake Second Track Rail Project in Lake County, Illinois* (Stodola, forthcoming).

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**APPENDIX A**

**Wetland Determination Forms**

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 1A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 6, T43N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 42.23495 Long: -87.87985 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Zurich SiL, 2-4% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet meadow.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Carex lacustris</u>	75	Yes	OBL		
2. <u>Tradescantia ohiensis</u>	2	No	FACU		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					SIL	
3-11	10YR 4/1	95	7.5YR 5/6	5	C	M	SICL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---	---

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
--	---

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	---	---

<p><b>Field Observations:</b>                  Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;6</u>                  Water Table Present? <u>Yes</u> Depth (inches): <u>0</u>                  Saturation Present? <u>Yes</u> Depth (inches): <u>0</u>                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 1B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 6, T43N, R12E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 15 Lat: 42.23592 Long: -87.88026 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Wauconda and Frankfort SiL, 0-2% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is forbland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Tradescantia ohioensis</i>	80	Yes	FACU		
2. <i>Phalaris arundinacea</i>	10	No	FACW		
3. <i>Carex lacustris</i>	5	No	OBL		
4. <i>Allium vineale</i>	3	No	FACU		
5. <i>Galium aparine</i>	1	No	FACU		
6. <i>Oxalis stricta</i>	1	No	FACU		
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-11	10YR 4/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
---	--	---

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
---	---------------------------------------

Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 2A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 6, T43N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 42.23686 Long: -87.88076 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Wauconda and Frankfort SiL, 0-2% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet meadow.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Carex lacustris</u>	40	Yes	OBL		
2. <u>Phragmites australis</u>	10	No	FACW		
3. <u>Phalaris arundinacea</u>	5	No	FACW		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1	100					SIL	
4-10	2.5Y 5/2	95	7.5YR 4/6	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>Yes</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;6</u> Water Table Present? <u>Yes</u> Depth (inches): <u>0</u> Saturation Present? <u>Yes</u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>Yes</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 2B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 6, T43N, R12E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 15 Lat: 42.23688 Long: -87.88104 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Houghton muck, ponded, 0-2% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>80%</u> (A/B)
1. <u><i>Ailanthus altissima</i></u>	5	Yes	FACU	
2. <u><i>Salix amygdaloides</i></u>	5	Yes	FACW	
3. _____				
4. _____				
<u>10</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				
1. <u><i>Rhamnus cathartica</i></u>	20	Yes	FAC	
2. _____				
3. _____				
<u>20</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: 5 ft radius)				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u><i>Phalaris arundinacea</i></u>	40	Yes	FACW	
2. <u><i>Alliaria petiolata</i></u>	20	Yes	FAC	
3. <u><i>Allium vineale</i></u>	5	No	FACU	
4. <u><i>Vitis riparia</i></u>	5	No	FACW	
5. <u><i>Geum canadense</i></u>	2	No	FAC	
6. <u><i>Convolvulus sepium</i></u>	1	No	FAC	
7. <u><i>Rubus sp.</i></u>	1	No	-	
8. _____				
9. _____				
<u>74</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
1. _____				
2. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/1	100					SIL	
5-10	2.5Y 6/3	95	7.5YR 4/6	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>No</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>No</u> Depth (inches): _____                  Water Table Present? <u>No</u> Depth (inches): _____                  Saturation Present? <u>No</u> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>No</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 3A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 6, T43N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 42.23851 Long: -87.88152 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet shrubland.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>        </u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	25	Yes	FAC		
2. <u>Acer negundo</u>	10	Yes	FAC		
3. _____					
4. _____					
5. _____					
<u>35</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Carex lacustris</u>	80	Yes	OBL		
2. <u>Tradescantia ohioensis</u>	5	No	FACU		
3. <u>Phalaris arundinacea</u>	3	No	FACW		
4. <u>Typha angustifolia</u>	3	No	OBL		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
<u>91</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
<u>        </u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/1	100					SIL	
6-12	10YR 6/2	90	7.5YR 4/6	10	C	M	SICL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>          Type: _____          Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
--	---

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>  <u>Primary Indicators (minimum of one is required: check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two is required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>          Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;6</u>          Water Table Present? <u>Yes</u> Depth (inches): <u>0</u>          Saturation Present? <u>Yes</u> Depth (inches): <u>0</u>          (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 3B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 6, T43N, R12E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 15 Lat: 42.23982 Long: -87.88223 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>        </u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	20	Yes	FAC		
2. _____					
3. _____					
4. _____					
5. _____					
<u>20</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Carex lacustris</u>	50	Yes	OBL		
2. <u>Asclepias syriaca</u>	2	No	FACU		
3. <u>Rhamnus cathartica</u>	1	No	FAC		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
<u>53</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
<u>        </u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 4A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: 42.24152 Long: -87.88288 Datum: NAD 83  
 Soil Map Unit Name: Pella SiCL, 0-2% slopes NWI classification: PFO1C  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is upland forest.	

### VEGETATION - Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. <i>Fraxinus pennsylvanica var. subintegerrima</i>	8	Yes	FACW	Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____				
5. _____				
	<u>8</u> = Total Cover			<b>Prevalence Index worksheet:</b>
<u>Sapling/Shrub Stratum</u> (Plot size: 15 ft radius)				<u>      </u> Total % Cover of: <u>      </u> Multiply by: <u>      </u>
1. <i>Rhamnus cathartica</i>	5	Yes	FAC	OBL species <u>      </u> x 1 = <u>      </u>
2. <i>Fraxinus pennsylvanica var. subintegerrima</i>	2	Yes	FACW	FACW species <u>      </u> x 2 = <u>      </u>
3. _____				FAC species <u>      </u> x 3 = <u>      </u>
4. _____				FACU species <u>      </u> x 4 = <u>      </u>
5. _____				UPL species <u>      </u> x 5 = <u>      </u>
	<u>7</u> = Total Cover			Column Totals <u>      </u> (A) <u>      </u> (B)
<u>Herb Stratum</u> (Plot size: 5 ft radius)				Prevalence Index = B/A = <u>      </u>
1. <i>Solidago canadensis</i>	95	Yes	FACU	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Parthenocissus quinquefolia</i>	5	No	FACU	
3. <i>Ambrosia trifida</i>	1	No	FAC	
4. <i>Aster simplex</i>	1	No	FAC	
5. <i>Rhamnus cathartica</i>	1	No	FAC	
6. <i>Teucrium canadense</i>	1	No	FACW	
7. <i>Urtica procera</i>	1	No	FACW	
8. <i>Vitis riparia</i>	1	No	FACW	
9. _____				
10. _____				
<u>Woody Vine Stratum</u> (Plot size: 30 ft radius)				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
1. _____				
2. _____				
	<u>106</u> = Total Cover			
	<u>      </u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 5A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 42.24211 Long: -87.88327 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Orthents, loamy, undulating; revised to Aquoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is marsh.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Scirpus pendulus</i>	55	Yes	OBL		
2. <i>Carex sp.</i>	5	No	-		
3. <i>Eleocharis erythropoda</i>	5	No	OBL		
4. <i>Juncus tenuis</i>	5	No	FAC		
5. <i>Poa pratensis</i>	3	No	FAC		
6. ( <i>Allium ampeloprasum var. atrovioleaceum</i> )	1	No	UPL		
7. <i>Allium vineale</i>	1	No	FACU		
8. <i>Carex granularis</i>	1	No	FACW		
9. <i>Iris pseudacorus</i>	1	No	OBL		
10. <i>Lycopus americanus</i>	1	No	OBL		
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 5A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	90	10YR 4/6	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>Yes</u>
---	--

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators
Primary Indicators (minimum of one is required: check all that apply)	(minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>Yes</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 5B/6B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 15 Lat: 42.24487 Long: -87.88458 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Zurich and Nappanee SiL, 2-4% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Phalaris arundinacea</i>	95	Yes	FACW	<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <i>Tradescantia ohiensis</i>	2	No	FACU		
3. <i>Alliaria petiolata</i>	1	No	FAC		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 5B/6B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					SIL	
3-10	10YR 5/3	95	7.5YR 5/6	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>    <u>No</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present?    <u>No</u>    Depth (inches): _____                  Water Table Present?       <u>No</u>    Depth (inches): _____                  Saturation Present?         <u>No</u>    Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>    <u>No</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 6A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-3 Lat: 42.24594 Long: -87.88511 Datum: NAD 83  
 Soil Map Unit Name: Pella SiCL, 0-2% slopes NWI classification: PFO1C  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is wetland pond.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Impatiens capensis</i>	20	Yes	FACW		
2. <i>Iris virginica var. shrevei</i>	10	Yes	OBL		
3. <i>Phalaris arundinacea</i>	10	Yes	FACW		
4. <i>Polygonum amphibium var. stipulaceum</i>	10	Yes	OBL		
5. <i>Sparganium eurycarpum</i>	10	Yes	OBL		
6. <i>Potamogeton nodosus</i>	5	No	OBL		
7. <i>Carex lacustris</i>	2	No	OBL		
8. <i>Tradescantia ohioensis</i>	2	No	FACU		
9. <i>Alliaria petiolata</i>	1	No	FAC		
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 6A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 2/1	90	5YR 4/6	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
--	---

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;72</u>                  Water Table Present? <u>Yes</u> Depth (inches): <u>0</u>                  Saturation Present? <u>Yes</u> Depth (inches): <u>0</u>                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 7A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.24689 Long: -87.88581 Datum: NAD 83  
 Soil Map Unit Name: Pella SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is wet meadow.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Lemna minor</u>	90	Yes	OBL		
2. <u>Phalaris arundinacea</u>	20	No	FACW		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**Sampling Point: 7A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	95	7.5YR 4/6	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>Yes</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b> Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;12</u> Water Table Present? <u>Yes</u> Depth (inches): <u>0</u> Saturation Present? <u>Yes</u> Depth (inches): <u>0</u> (includes capillary fringe)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Wetland Hydrology Present?</b> <u>Yes</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 7B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 20 Lat: 42.24687 Long: -87.88578 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Pella SiCL, 0-2% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <i>Phalaris arundinacea</i>	30	Yes	FACW		
2. <i>Alliaria petiolata</i>	20	Yes	FAC		
3. <i>Erechtites hieracifolia</i>	1	No	FAC		
4. <i>Oxalis stricta</i>	1	No	FACU		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**Sampling Point: 7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
Remarks:	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 8A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 31, T44N, R12E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-1 Lat: 42.24761 Long: -87.88590 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Pella SiCL, 0-2% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is marsh.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. <i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	4	No	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Scirpus fluviatilis</i>	80	Yes	OBL		
2. <i>Polygonum amphibium</i> var. <i>stipulaceum</i>	1	No	OBL		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**Sampling Point: 8A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 2/1	100					SIL	
6-12	2.5Y 4/1	90	10YR 5/6	10	C	M	SICL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>Yes</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;12</u> Water Table Present? <u>Yes</u> Depth (inches): <u>0</u> Saturation Present? <u>Yes</u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>Yes</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/22/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 8B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 36, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 5 Lat: 42.24885 Long: -87.88652 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Zurich SiL, 2-4% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <i>Phalaris arundinacea</i>	95	Yes	FACW		
2. <i>Tradescantia ohiensis</i>	2	No	FACU		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-11	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 9A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 36, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.25149 Long: -87.88767 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Peotone SiCL, 0-2% slopes; revised to Aquent NWI classification: PEMC  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet meadow.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
<u>        </u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1. <u>Quercus palustris</u>	<u>4</u>	Yes	FACW	<b>Prevalence Index worksheet:</b> <u>        </u> Total % Cover of: <u>        </u> Multiply by: <u>        </u> OBL species <u>        </u> x 1 = <u>        </u> FACW species <u>        </u> x 2 = <u>        </u> FAC species <u>        </u> x 3 = <u>        </u> FACU species <u>        </u> x 4 = <u>        </u> UPL species <u>        </u> x 5 = <u>        </u> Column Totals <u>        </u> (A) <u>        </u> (B) Prevalence Index =B/A = <u>        </u>
2. <u>Fraxinus pennsylvanica var. subintegerrima</u>	<u>1</u>	Yes	FACW	
3. _____				
4. _____				
5. _____				
<u>        </u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1. <u>Carex lacustris</u>	<u>70</u>	Yes	OBL	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Solidago canadensis</u>	<u>25</u>	Yes	FACU	
3. <u>Tradescantia ohiensis</u>	<u>3</u>	No	FACU	
4. <u>Polygonum amphibium var. stipulaceum</u>	<u>2</u>	No	OBL	
5. <u>Eupatorium maculatum</u>	<u>1</u>	No	OBL	
6. <u>Oxalis stricta</u>	<u>1</u>	No	FACU	
7. _____				
8. _____				
9. _____				
10. _____				
<u>        </u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
2. _____				
<u>        </u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 9A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 5/2	50	10YR 5/6	12	C	M	SICL	
0-12	10YR 3/1	38						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
--	---

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>No</u> Depth (inches): _____                  Water Table Present? <u>No</u> Depth (inches): _____                  Saturation Present? <u>No</u> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 9B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 36, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None  
 Slope (%): 0-2 Lat: 42.25199 Long: -87.88797 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Peotone SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Calamagrostis canadensis</u>	100	Yes	OBL		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 10A  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 36, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.25368 Long: -87.88882 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Wauconda and Frankfort SiL, 2-4% slopes; revised to Aquoll NWI classification: PEMC  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is sedge meadow.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Carex haydenii</u>	80	Yes	OBL		
2. <u>Carex lacustris</u>	15	No	OBL		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 10A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/1	100					SIL	
5-11	10YR 3/1	65	10YR 5/2	15	D	M	SICL	
5-11			7.5YR 4/6	20	C	M		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>Yes</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>Yes</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 10B  
 Investigator(s): Beas, Kenney Section, Township, Range: Sec. 36, T44N, R11E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None  
 Slope (%): 0 Lat: 42.25406 Long: -87.88901 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Wauconda and Frankfort SiL, 2-4% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Panicum clandestinum</i>	95	Yes	FACW		
2. <i>Tradescantia ohiensis</i>	1	No	FACU		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1	100					SIL	
4-11	10YR 5/3	90	7.5YR 5/6	10	C	M	SIL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Dark Surface (S7)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>No</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>No</u>	
Surface Water Present? <u>No</u> Depth (inches): _____					
Water Table Present? <u>No</u> Depth (inches): _____					
Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 11A  
 Investigator(s): Beas, Kenney, Zercher Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 10 Lat: 42.25447 Long: -87.88945 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Bromus inermis</i>	20	Yes	FACU		
2. <i>Poa pratensis</i>	20	Yes	FAC		
3. <i>Panicum virgatum</i>	15	Yes	FAC		
4. <i>Alliaria petiolata</i>	1	No	FAC		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 11A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/1	100					L	
3-10	10YR 4/3	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
---	---------------------------------------

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 12A  
 Investigator(s): Beas, Kenney, Zercher Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.25455 Long: -87.88922 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Frankfort SiL, 2-4% slopes; revised to Aquoll NWI classification: PEMC  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is marsh.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Polygonum longistylum</i>	15	Yes	FACW		
2. <i>Bidens cernua</i>	10	Yes	OBL		
3. <i>Phalaris arundinacea</i>	10	Yes	FACW		
4. <i>Typha angustifolia</i>	10	Yes	OBL		
5. <i>Lythrum salicaria</i>	7	No	OBL		
6. <i>Aster simplex</i>	5	No	FAC		
7. <i>Rorippa palustris var. fernaldiana</i>	3	No	OBL		
8. <i>Eupatorium serotinum</i>	1	No	FAC		
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 12A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 2/1	100					SIL	
7-13	10YR 2/1	90	10YR 5/4	10	C	M	SIL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Dark Surface (S7)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>Yes</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input checked="" type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)			<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>Yes</u>	
Surface Water Present?	<u>Yes</u>	Depth (inches):	<u>&lt;72</u>		
Water Table Present?	<u>Yes</u>	Depth (inches):	<u>0</u>		
Saturation Present? (includes capillary fringe)	<u>Yes</u>	Depth (inches):	<u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 12B  
 Investigator(s): Beas, Kenney, Zercher Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 0-2 Lat: 42.25488 Long: -87.88943 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Sorghastrum nutans</u>	40	Yes	FACU		
2. <u>Agropyron repens</u>	20	Yes	FACU		
3. <u>Tradescantia ohioensis</u>	5	No	FACU		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 12B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					SIL	
3-12	10YR 2/2	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
---	---------------------------------------

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 13A  
 Investigator(s): Beas, Kenney, Zercher Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None  
 Slope (%): 0-2 Lat: 42.25588 Long: -87.89014 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Nappanee SiL, 2-4% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is mesic floodplain forest.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Quercus palustris</u>	30	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)	
2. <u>Juglans nigra</u>	5	No	FACU		
3. <u>Prunus serotina</u>	5	No	FACU		
4. _____					
5. _____					
<u>40</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	40	Yes	FAC		
2. _____					
3. _____					
<u>40</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	50	Yes	FAC	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Carex pensylvanica</u>	30	Yes	UPL		
3. <u>Fraxinus pennsylvanica var. subintegerrima</u>	1	No	FACW		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
<u>81</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 13A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-6	10YR 2/1	100				SIL		
6-12	10YR 6/3	100				SIL		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)					<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)					<input type="checkbox"/> Dark Surface (S7)		
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)					<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)					<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)					<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)					<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)							
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)							
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)							
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>No</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)			<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)			<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)			<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>No</u>	
Surface Water Present? <u>No</u>		Depth (inches): _____			
Water Table Present? <u>No</u>		Depth (inches): _____			
Saturation Present? <u>No</u>		Depth (inches): _____			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 14A  
 Investigator(s): Beas, Kenney, Zercher Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.25644 Long: -87.89003 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is marsh.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Sparganium eurycarpum</i>	60	Yes	OBL		
2. <i>Carex stricta</i>	15	No	OBL		
3. <i>Phalaris arundinacea</i>	1	No	FACW		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 14A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1	100					SIL	
4-11	10YR 3/1	90	10YR 4/6	10	C	M	SIL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Dark Surface (S7)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>Yes</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input checked="" type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)			<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>Yes</u>	
Surface Water Present?	<u>Yes</u>	Depth (inches):	<u>&lt;48</u>		
Water Table Present?	<u>Yes</u>	Depth (inches):	<u>0</u>		
Saturation Present? (includes capillary fringe)	<u>Yes</u>	Depth (inches):	<u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 6/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 14B  
 Investigator(s): Beas, Kenney, Zercher Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 5 Lat: 42.25656 Long: -87.89014 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>50%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Sorghastrum nutans</i>	35	Yes	FACU		
2. <i>Phalaris arundinacea</i>	15	Yes	FACW		
3. <i>Tradescantia ohioensis</i>	10	No	FACU		
4. <i>Poa pratensis</i>	5	No	FAC		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 14B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 2/1	100					L	
6-12	10YR 3/1	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 15A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 25 Lat: 42.25701 Long: -87.89051 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Wauconda and Frankfort SiL, 2-4% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is native grassland. Community is restricted to narrow band along base of railroad bed.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				<b>Dominance Test worksheet:</b>
1. _____				Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____				
5. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b>
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				<u>    </u> Total % Cover of: <u>    </u> Multiply by: <u>    </u>
1. _____				OBL species <u>    </u> x 1 = <u>    </u>
2. _____				FACW species <u>    </u> x 2 = <u>    </u>
3. _____				FAC species <u>    </u> x 3 = <u>    </u>
4. _____				FACU species <u>    </u> x 4 = <u>    </u>
5. _____				UPL species <u>    </u> x 5 = <u>    </u>
<u>0</u> = Total Cover				Column Totals <u>    </u> (A) <u>    </u> (B)
<b>Herb Stratum</b> (Plot size: 5 ft radius)				Prevalence Index = B/A = <u>    </u>
1. <i>Calamagrostis canadensis</i>	20	Yes	OBL	<b>Hydrophytic Vegetation Indicators</b>
2. <i>Alliaria petiolata</i>	5	Yes	FAC	<input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation
3. <i>Rhamnus cathartica</i>	5	Yes	FAC	<input checked="" type="checkbox"/> 2-Dominance Test is >50%
4. <i>Bromus inermis</i>	3	No	FACU	<input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup>
5. <i>Elymus virginicus</i>	3	No	FACW	<input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
6. <i>Poa compressa</i>	3	No	FACU	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7. <i>Erechtites hieracifolia</i>	2	No	FAC	
8. <i>Equisetum arvense</i>	1	No	FAC	
9. <i>Oxalis stricta</i>	1	No	FACU	
10. <i>Vitis riparia</i>	1	No	FACW	
<u>44</u> = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
1. _____				
2. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 15A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10YR 3/1	100				L		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
---	---------------------------------------

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 16A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.25792 Long: -87.89048 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Aquent NWI classification: PEMC  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is sedge meadow.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. <i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	5	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Carex stricta</i>	40	Yes	OBL		
2. <i>Carex pellita</i>	7	No	OBL		
3. <i>Spartina pectinata</i>	5	No	FACW		
4. <i>Calamagrostis canadensis</i>	2	No	OBL		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 16A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1	100					SIL	
4-12	10YR 5/2	90	10YR 4/6	10	C	M	SIL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Dark Surface (S7)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>Yes</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input checked="" type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)			<input checked="" type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>Yes</u>	
Surface Water Present?	<u>Yes</u>	Depth (inches):	<u>&lt;72</u>		
Water Table Present?	<u>Yes</u>	Depth (inches):	<u>0</u>		
Saturation Present? (includes capillary fringe)	<u>Yes</u>	Depth (inches):	<u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 16B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex  
 Slope (%): 1-3 Lat: 42.25849 Long: -87.89068 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				
1. _____				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: 5 ft radius)				
1. <u>Calamagrostis canadensis</u>	60	Yes	OBL	<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Agrostis alba</u>	5	No	FACW	
3. <u>Phalaris arundinacea</u>	5	No	FACW	
4. <u>Erechtites hieracifolia</u>	3	No	FAC	
5. <u>Impatiens capensis</u>	3	No	FACW	
6. <u>Rhamnus cathartica</u>	3	No	FAC	
7. <u>Asclepias syriaca</u>	2	No	FACU	
8. <u>Daucus carota</u>	1	No	UPL	
9. <u>Hystrix patula</u>	1	No	FACU	
10. <u>Lysimachia quadriflora</u>	1	No	OBL	
<u>86</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
2. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 16B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10YR 3/1	100				SIL		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)					
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)					
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)					
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>No</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**HYDROLOGY**

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)			<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)			<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)			<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>No</u>	
Surface Water Present? <u>No</u>		Depth (inches): _____			
Water Table Present? <u>No</u>		Depth (inches): _____			
Saturation Present? <u>No</u>		Depth (inches): _____			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 17A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 2-5 Lat: 42.26148 Long: -87.89157 Datum: NAD 83  
 Soil Map Unit Name: Zurich SiL, 2-4% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Populus deltoides</u>	25	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>25</u> = Total Cover				<b>Prevalence Index worksheet:</b> <u>    </u> Total % Cover of: <u>    </u> Multiply by: <u>    </u> OBL species <u>    </u> x 1 = <u>    </u> FACW species <u>    </u> x 2 = <u>    </u> FAC species <u>    </u> x 3 = <u>    </u> FACU species <u>    </u> x 4 = <u>    </u> UPL species <u>    </u> x 5 = <u>    </u> Column Totals <u>    </u> (A) <u>    </u> (B) Prevalence Index = B/A = <u>    </u>	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Lolium perenne</u>	60	Yes	FACU		
2. <u>Spartina pectinata</u>	40	Yes	FACW		
3. <u>Poa pratensis</u>	30	Yes	FAC		
4. <u>Alliaria petiolata</u>	2	No	FAC		
5. <u>Rhamnus cathartica</u>	2	No	FAC		
6. <u>Rudbeckia laciniata</u>	2	No	FACW		
7. _____					
8. _____					
9. _____					
10. _____					
<u>136</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Vitis riparia</u>	1	No	FACW		
2. _____					
<u>1</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) Community Type is non-native grassland.					

**SOIL**

Sampling Point: 17A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/1	100					SIL	
4-12	10YR 4/3	95	10YR 5/6	5	C	M	SIL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)					
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)					
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)					
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>								
Type: _____						Hydric Soil Present? <u>No</u>		
Depth (inches): _____								
Remarks:								

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**HYDROLOGY**

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)			<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)			<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)			<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				
<b>Field Observations:</b>					
Surface Water Present? <u>No</u>		Depth (inches): _____		<b>Wetland Hydrology Present?</b> <u>No</u>	
Water Table Present? <u>No</u>		Depth (inches): _____			
Saturation Present? <u>No</u>		Depth (inches): _____ (includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 18A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 20 Lat: 42.26313 Long: -87.89227 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>50%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>0</u> = Total Cover					
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. <u>Lonicera tatarica</u>	20	Yes	FACU	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
2. <u>Rhamnus cathartica</u>	15	Yes	FAC		
3. _____					
4. _____					
5. _____					
<u>35</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <u>Lolium perenne</u>	50	Yes	FACU		
2. <u>Andropogon gerardii</u>	40	Yes	FAC		
3. <u>Phalaris arundinacea</u>	5	No	FACW		
4. <u>Rhamnus cathartica</u>	4	No	FAC		
5. <u>Asclepias syriaca</u>	2	No	FACU		
6. <u>Melilotus alba</u>	1	No	FACU		
7. _____					
8. _____					
9. _____					
10. _____					
<u>102</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
<u>0</u> = Total Cover					
				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 18A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	100					L	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)					
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)					
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)					
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
						<input type="checkbox"/> Coast Prairie Redox (A16)		
						<input type="checkbox"/> Dark Surface (S7)		
						<input type="checkbox"/> Iron-Manganese Masses (F12)		
						<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
						<input type="checkbox"/> Other (Explain in Remarks)		
						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>No</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>				Secondary Indicators (minimum of two is required)	
Primary Indicators (minimum of one is required: check all that apply)					
<input type="checkbox"/> Surface Water (A1)			<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)			<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)			<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)			<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)			<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)			<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)			<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)			<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			<input type="checkbox"/> Other (Explain in Remarks)		
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>No</u>	
Surface Water Present? <u>No</u>		Depth (inches): _____			
Water Table Present? <u>No</u>		Depth (inches): _____			
Saturation Present? <u>No</u>		Depth (inches): _____			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 19A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 5 Lat: 42.26800 Long: -87.89328 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Acer negundo</u>	10	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>10</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	40	Yes	FAC		
2. <u>Rosa multiflora</u>	3	No	FACU		
3. <u>Rubus occidentalis</u>	2	No	UPL		
4. _____					
5. _____					
<u>45</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Solidago canadensis</u>	50	Yes	FACU		
2. <u>Pilea pumila</u>	15	No	FACW		
3. <u>Arctium minus</u>	10	No	FACU		
4. <u>Sanicula gregaria</u>	5	No	FAC		
5. <u>Polygonum virginianum</u>	3	No	FAC		
6. <u>Aster sagittifolius var. drummondii</u>	2	No	UPL		
7. <u>Ambrosia trifida</u>	1	No	FAC		
8. <u>Bidens frondosa</u>	1	No	FACW		
9. <u>Circaea lutetiana var. canadensis</u>	1	No	FACU		
10. <u>Cirsium arvense</u>	1	No	FACU		
<u>94</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 19A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 2/1	100					SIL	
5-13	10YR 3/1	100					SIL	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix			
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Dark Surface (S7)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> 2 cm Muck (A10)			<input type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)								
<b>Restrictive Layer (if observed):</b>						<b>Hydric Soil Present?</b> <u>No</u>		
Type: _____								
Depth (inches): _____								
Remarks:								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>				<b>Secondary Indicators (minimum of two is required)</b>	
Primary Indicators (minimum of one is required: check all that apply)					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)			<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)			<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)			<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)			<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)			<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)			<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				
<b>Field Observations:</b>				<b>Wetland Hydrology Present?</b> <u>No</u>	
Surface Water Present? <u>No</u>		Depth (inches): _____			
Water Table Present? <u>No</u>		Depth (inches): _____			
Saturation Present? <u>No</u>		Depth (inches): _____			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 20A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 25, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 20 Lat: 42.26869 Long: -87.89383 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Frankfort SiL, 0-2% slopes; revised to Udoll NWI classification: PSS1A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				
1. <i>Rhamnus cathartica</i>	5	Yes	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: 5 ft radius)				
1. <i>Festuca rubra</i>	70	Yes	FACU	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Panicum capillare</i>	7	No	FAC	
3. <i>Equisetum arvense</i>	5	No	FAC	
4. <i>Tradescantia ohiensis</i>	2	No	FACU	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>No</u>
2. _____				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 20A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
---	---------------------------------------

Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 21A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 24, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.26964 Long: -87.89373 Datum: NAD 83  
 Soil Map Unit Name: Frankfort SiL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet forbland.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus frangula</u>	1	No	FACW		
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Carex lupuliformis</u>	45	Yes	OBL		
2. <u>Lycopus americanus</u>	7	Yes	OBL		
3. <u>Rhamnus frangula</u>	4	No	FACW		
4. <u>Juncus dudleyi</u>	3	No	FACW		
5. <u>Lythrum salicaria</u>	3	No	OBL		
6. <u>Asclepias incarnata</u>	2	No	OBL		
7. <u>Carex annectens var. xanthocarpa</u>	2	No	FACW		
8. <u>Carex cristatella</u>	2	No	FACW		
9. <u>Carex pellita</u>	2	No	OBL		
10. <u>Eupatorium perfoliatum</u>	2	No	OBL		
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) An additional 12 species were present, each with 1-2% cover; all were FAC, FACW, or OBL.					

**SOIL**

Sampling Point: 21A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1	100					SIL	
4-12	10YR 5/1	85	7.5YR 4/6	15	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>No</u> Depth (inches): _____                  Water Table Present? <u>No</u> Depth (inches): _____                  Saturation Present? <u>No</u> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 21B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 24, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 40 Lat: 42.26994 Long: -87.89385 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Frankfort SiL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus macrocarpa</u>	10	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. <u>(Quercus ellipsoidalis)</u>	8	Yes	UPL	
3. _____				
4. _____				
5. _____				
<u>18</u> = Total Cover				<b>Prevalence Index worksheet:</b> <u>    </u> Total % Cover of: <u>    </u> Multiply by: <u>    </u> OBL species <u>    </u> x 1 = <u>    </u> FACW species <u>    </u> x 2 = <u>    </u> FAC species <u>    </u> x 3 = <u>    </u> FACU species <u>    </u> x 4 = <u>    </u> UPL species <u>    </u> x 5 = <u>    </u> Column Totals <u>    </u> (A) <u>    </u> (B) Prevalence Index =B/A = <u>    </u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft radius</u> )				
1. <u>Rhamnus cathartica</u>	50	Yes	FAC	
2. <u>Lonicera maackii</u>	20	Yes	UPL	
3. _____				
4. _____				
5. _____				
<u>70</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Herb Stratum</u> (Plot size: <u>5 ft radius</u> )				
1. <u>Poa pratensis</u>	8	Yes	FAC	
2. <u>Cirsium arvense</u>	6	Yes	FACU	
3. <u>Rhamnus cathartica</u>	5	Yes	FAC	
4. <u>Tradescantia virginiana</u>	5	Yes	UPL	
5. <u>Oenothera biennis</u>	4	No	FACU	
6. <u>Aster pilosus</u>	2	No	FACU	
7. <u>Erigeron annuus</u>	2	No	FACU	
8. <u>Oxalis stricta</u>	2	No	FACU	
9. <u>Acer negundo</u>	1	No	FAC	
10. <u>Eupatorium rugosum</u>	1	No	FACU	
<u>36</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>No</u>
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft radius</u> )				
1. <u>Vitis riparia</u>	1	No	FACW	<b>Hydrophytic Vegetation Present?</b> <u>No</u>
2. _____				
<u>1</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 21B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/1	100					SIL	
8-12	10YR 3/3	92	10YR 4/6	8	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>          Type: _____          Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>No</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>  <u>Primary Indicators (minimum of one is required: check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two is required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>          Surface Water Present? <u>No</u> Depth (inches): _____          Water Table Present? <u>No</u> Depth (inches): _____          Saturation Present? <u>No</u> Depth (inches): _____          (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>No</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/16/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 22A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 24, T44N, R11E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex  
 Slope (%): 1-3 Lat: 42.27171 Long: -87.89434 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. <i>Acer negundo</i>	8	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
2. <i>Pinus strobus</i>	3	Yes	FACU		
3. _____					
4. _____					
5. _____					
<u>11</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. <i>Rubus occidentalis</i>	3	No	UPL		
2. _____					
3. _____					
4. _____					
5. _____					
<u>3</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Poa pratensis</i>	95	Yes	FAC		
2. <i>Festuca elatior</i>	15	No	FACU		
3. <i>Convolvulus arvensis</i>	5	No	UPL		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
<u>115</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 22A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 23A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 24, T44N, R11E  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None  
 Slope (%): 0 Lat: 42.27748 Long: -87.89685 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is mesic floodplain forest.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Acer negundo</u>	60	Yes	FAC	
2. <u>Rhamnus cathartica</u>	15	Yes	FAC	
3. _____				
4. _____				
<u>75</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				
1. <u>Rhamnus cathartica</u>	10	Yes	FAC	
2. _____				
3. _____				
<u>10</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: 5 ft radius)				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Impatiens capensis</u>	15	Yes	FACW	
2. <u>Sanicula gregaria</u>	15	Yes	FAC	
3. <u>Circaea lutetiana var. canadensis</u>	10	No	FACU	
4. <u>Alliaria petiolata</u>	5	No	FAC	
5. <u>Pilea pumila</u>	5	No	FACW	
6. <u>Rhamnus cathartica</u>	2	No	FAC	
7. <u>Vitis riparia</u>	2	No	FACW	
8. _____				
9. _____				
<u>54</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
1. _____				
2. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 23A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-6	10YR 2/1	100				SIL		
6-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 24A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 24, T44N, R11E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex  
 Slope (%): 1 Lat: 42.27796 Long: -87.89682 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to 'Developed' NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is developed land. This site abuts the railway and has been developed into a hardpacked gravel lot with neither soil nor vegetation present	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (Plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
	_____ = Total Cover			<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
	_____ = Total Cover			
<u>Herb Stratum</u> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
	_____ = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> <u>No</u>
1. _____				
2. _____				
	_____ = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 24A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0+								Disturbed Site; gravel

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators
Primary Indicators (minimum of one is required: check all that apply)	(minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 25A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 13, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 10 Lat: 42.28359 Long: -87.89808 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: <u>Community type is forbland.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>29%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1. <u>Rhamnus cathartica</u>	15	Yes	FAC	
2. _____				
3. _____				
4. _____				
<u>15</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				
1. <u>Arctium minus</u>	7	Yes	FACU	
2. <u>Cornus racemosa</u>	5	Yes	FAC	
3. <u>Daucus carota</u>	5	Yes	UPL	
4. <u>Centaurea maculosa</u>	3	Yes	UPL	
5. <u>Cirsium arvense</u>	3	Yes	FACU	
6. <u>Parthenocissus quinquefolia</u>	3	Yes	FACU	
7. <u>Barbarea vulgaris</u>	2	No	FAC	
8. <u>Convolvulus sepium</u>	2	No	FAC	
9. <u>Erigeron canadensis</u>	2	No	FACU	
10. <u>Vitis riparia</u>	2	No	FACW	
<u>34</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1. _____				
2. _____				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> <u>No</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 25A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/1	100				L		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/15/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 26A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 24, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 25 Lat: 42.28292 Long: -87.89921 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: POWGx  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. <i>Rhamnus cathartica</i>	5	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>5</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. <i>Rhamnus cathartica</i>	20	Yes	FAC		
2. _____					
3. _____					
4. _____					
5. _____					
<u>20</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Poa pratensis</i>	50	Yes	FAC	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <i>Agrostis alba</i>	15	No	FACW		
3. <i>Daucus carota</i>	3	No	UPL		
4. <i>Cornus racemosa</i>	2	No	FAC		
5. <i>Phalaris arundinacea</i>	2	No	FACW		
6. <i>Tradescantia ohiensis</i>	2	No	FACU		
7. <i>Acer negundo</i>	1	No	FAC		
8. <i>Equisetum arvense</i>	1	No	FAC		
9. <i>Rhamnus cathartica</i>	1	No	FAC		
10. _____					
<u>77</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 26A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-4	10YR 2/1	100				SIL		
4-12	10YR 3/1	100				SICL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/7/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 27A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 13, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 8 Lat: 42.28383 Long: -87.90048 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is mesic floodplain forest.	

### VEGETATION - Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. <u><i>Acer saccharinum</i></u>	20	Yes	FACW	Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)
2. <u><i>Populus deltoides</i></u>	15	Yes	FAC	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. <u><i>Rhamnus cathartica</i></u>	8	No	FAC	Percent of Dominant Species That are OBL, FACW, or FAC: <u>83%</u> (A/B)
4. _____				
5. _____				
	<u>43</u> = Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15 ft radius</u> )			<b>Prevalence Index worksheet:</b>
1. <u><i>Rhamnus cathartica</i></u>	25	Yes	FAC	<u>        </u> Total % Cover of: <u>        </u> Multiply by: <u>        </u>
2. <u><i>Rhamnus frangula</i></u>	5	No	FACW	OBL species <u>        </u> x 1 = <u>        </u>
3. <u><i>Acer saccharinum</i></u>	2	No	FACW	FACW species <u>        </u> x 2 = <u>        </u>
4. _____				FAC species <u>        </u> x 3 = <u>        </u>
5. _____				FACU species <u>        </u> x 4 = <u>        </u>
	<u>32</u> = Total Cover			UPL species <u>        </u> x 5 = <u>        </u>
Herb Stratum	(Plot size: <u>5 ft radius</u> )			Column Totals <u>        </u> (A) <u>        </u> (B)
1. <u><i>Rhamnus cathartica</i></u>	10	Yes	FAC	Prevalence Index =B/A = <u>        </u>
2. <u><i>Setaria faberi</i></u>	6	Yes	FACU	
3. <u><i>Carex molesta</i></u>	5	Yes	FAC	
4. <u><i>Typha angustifolia</i></u>	3	No	OBL	<b>Hydrophytic Vegetation Indicators</b>
5. <u><i>Lythrum salicaria</i></u>	2	No	OBL	<input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation
6. <u><i>Oxalis stricta</i></u>	2	No	FACU	<input checked="" type="checkbox"/> 2-Dominance Test is >50%
7. <u><i>Taraxacum officinale</i></u>	2	No	FACU	<input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup>
8. <u><i>Vitis riparia</i></u>	2	No	FACW	<input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9. <u><i>Acer saccharinum</i></u>	1	No	FACW	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum	(Plot size: <u>30 ft radius</u> )			<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
1. <u><i>Vitis riparia</i></u>	4	No	FACW	
2. _____				
	<u>4</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 27A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/1	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/7/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 28A  
 Investigator(s): Kenney, Olnas, and McIntyre Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.28463 Long: -87.90580 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is forested wetland.</u>	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Populus deltoides</u>	50	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. <u>Rhamnus cathartica</u>	5	No	FAC		
3. _____					
4. _____					
5. _____					
<u>55</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Phalaris arundinacea</u>	1	No	FACW		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
<u>1</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 28A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 2/1	100					SIL	
7-13	10YR 4/2	90	10YR 5/6	10	C	M	SICL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
--	---

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;12</u>                  Water Table Present? <u>Yes</u> Depth (inches): <u>0</u>                  Saturation Present? <u>Yes</u> Depth (inches): <u>0</u>                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/7/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 28B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 13, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 20 Lat: 42.28458 Long: -87.90533 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Rhamnus cathartica</u>	30	Yes	FAC	
2. <u>Populus deltoides</u>	15	Yes	FAC	
3. _____				
4. _____				
<u>45</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )				
1. <u>Rhamnus cathartica</u>	65	Yes	FAC	
2. _____				
3. _____				
<u>65</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex pellita</u>	80	Yes	OBL	
2. <u>Rhamnus cathartica</u>	2	No	FAC	
3. <u>Tradescantia ohiensis</u>	2	No	FACU	
4. <u>Alliaria petiolata</u>	1	No	FAC	
5. <u>Setaria glauca</u>	1	No	FAC	
6. _____				
7. _____				
8. _____				
9. _____				
<u>86</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )				
1. <u>Vitis riparia</u>	1	No	FACW	
2. _____				
<u>1</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 28B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date \_\_\_\_\_  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 29A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex  
 Slope (%): 1-3 Lat: 42.28448 Long: -87.90648 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. <i>Rhamnus cathartica</i>	85	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>85</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. <i>Rhamnus cathartica</i>	65	Yes	FAC		
2. <i>Lonicera tatarica</i>	5	No	FACU		
3. _____					
4. _____					
5. _____					
<u>70</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Rhamnus cathartica</i>	20	Yes	FAC		
2. <i>Lonicera maackii</i>	3	No	UPL		
3. <i>Ulmus americana</i>	2	No	FACW		
4. <i>Geum canadense</i>	1	No	FAC		
5. <i>Rhamnus frangula</i>	1	No	FACW		
6. <i>Solanum dulcamara</i>	1	No	FAC		
7. _____					
8. _____					
9. _____					
10. _____					
<u>28</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. <i>Vitis riparia</i>	1	No	FACW		
2. _____					
<u>1</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 29A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks: Layer of 'ashen' material above original soil surface

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/7/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 30A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 15 Lat: 42.28477 Long: -87.90783 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: <u>Community type is upland forest.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Quercus macrocarpa</u>	60	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>80%</u> (A/B)	
2. <u>Rhamnus cathartica</u>	20	Yes	FAC		
3. _____					
4. _____					
5. _____					
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	60	Yes	FAC		
2. <u>Lonicera tatarica</u>	2	No	FACU		
3. _____					
4. _____					
5. _____					
<u>62</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	10	Yes	FAC		
2. <u>Prunus serotina</u>	5	Yes	FACU		
3. <u>Alliaria petiolata</u>	1	No	FAC		
4. <u>Parthenocissus quinquefolia</u>	1	No	FACU		
5. <u>Solanum dulcamara</u>	1	No	FAC		
6. <u>Vitis riparia</u>	1	No	FACW		
7. _____					
8. _____					
9. _____					
10. _____					
<u>19</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Vitis riparia</u>	3	No	FACW		
2. _____					
<u>3</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 30A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/2	100					SIL	
4-12	10YR 3/2	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>          Type: _____          Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>No</u></p>
--	--

Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>  <u>Primary Indicators (minimum of one is required: check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two is required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>          Surface Water Present? <u>No</u> Depth (inches): _____          Water Table Present? <u>No</u> Depth (inches): _____          Saturation Present? <u>No</u> Depth (inches): _____          (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>No</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/7/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 31A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.28484 Long: -87.90940 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet meadow.</u>	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Acer negundo</u>	4	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. <u>Rhamnus cathartica</u>	3	Yes	FAC		
3. _____					
4. _____					
5. _____					
<u>7</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	5	Yes	FAC		
2. <u>Salix interior</u>	5	Yes	FACW		
3. <u>Fraxinus pennsylvanica var. subintegerrima</u>	1	No	FACW		
4. _____					
5. _____					
<u>11</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Lemna minor</u>	80	Yes	OBL		
2. <u>Echinochloa crusgalli</u>	20	No	OBL		
3. <u>Phalaris arundinacea</u>	7	No	FACW		
4. <u>Ranunculus sceleratus</u>	5	No	OBL		
5. <u>Erechtites hieracifolia</u>	4	No	FAC		
6. <u>Carex lacustris</u>	2	No	OBL		
7. <u>Dipsacus laciniatus</u>	2	No	UPL		
8. <u>Lythrum salicaria</u>	2	No	OBL		
9. <u>Solidago sempervirens</u>	1	No	FACW		
10. _____					
<u>123</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 31A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	94	10YR 5/6	6	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>Yes</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>Yes</u> Depth (inches): <u>&lt;12</u> Water Table Present? <u>Yes</u> Depth (inches): <u>0</u> Saturation Present? <u>Yes</u> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>Yes</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/7/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 31B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): Convex  
 Slope (%): 20 Lat: 42.28484 Long: -87.90928 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is forbland.	

**VEGETATION -Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <u>Lotus corniculatus</u>	45	Yes	FACU		
2. <u>Lactuca canadensis</u>	12	Yes	FACU		
3. <u>Cirsium arvense</u>	8	No	FACU		
4. <u>Coronilla varia</u>	8	No	UPL		
5. <u>Daucus carota</u>	6	No	UPL		
6. <u>Asclepias syriaca</u>	5	No	FACU		
7. <u>Aster pilosus</u>	5	No	FACU		
8. <u>Solidago canadensis</u>	5	No	FACU		
9. <u>Rumex crispus</u>	3	No	FAC		
10. <u>Sonchus arvensis</u>	3	No	FACU		
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 31B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-12	10YR 3/3	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 32A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.28484 Long: -87.91143 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet meadow.</u>	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Leersia oryzoides</u>	40	Yes	OBL		
2. <u>Erechtites hieracifolia</u>	10	Yes	FAC		
3. <u>Phalaris arundinacea</u>	10	Yes	FACW		
4. <u>Equisetum arvense</u>	8	No	FAC		
5. <u>Lemna minor</u>	5	No	OBL		
6. <u>Alisma subcordatum</u>	4	No	OBL		
7. <u>Lythrum salicaria</u>	3	No	OBL		
8. <u>Typha angustifolia</u>	3	No	OBL		
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 32A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					SIL	
3-10	10YR 5/1	85	10YR 5/6	15	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>No</u> Depth (inches): _____                  Water Table Present? <u>No</u> Depth (inches): _____                  Saturation Present? <u>No</u> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 32B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 5 Lat: 42.28483 Long: -87.91143 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is forbland.	

**VEGETATION -Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Equisetum arvense</i>	60	Yes	FAC		
2. <i>Erechtites hieracifolia</i>	40	Yes	FAC		
3. <i>Phragmites australis</i>	8	No	FACW		
4. <i>Lythrum salicaria</i>	3	No	OBL		
5. <i>Solidago canadensis</i>	3	No	FACU		
6. <i>Juncus dudleyi</i>	2	No	FACW		
7. <i>Lonicera tatarica</i>	2	No	FACU		
8. <i>Cirsium arvense</i>	1	No	FACU		
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 32B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 2/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 33A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 30 Lat: 42.28520 Long: -87.91524 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Udoll NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. <i>Prunus serotina</i>	12	Yes	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>43%</u> (A/B)	
2. <i>Rhamnus cathartica</i>	4	Yes	FAC		
3. <i>Fraxinus sp.</i>	2	No	-		
4. _____					
5. _____					
<u>18</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. <i>Cornus racemosa</i>	15	Yes	FAC		
2. <i>Rubus allegheniensis</i>	10	Yes	FACU		
3. <i>Rhus glabra</i>	8	Yes	UPL		
4. <i>Rhamnus cathartica</i>	3	No	FAC		
5. _____					
<u>36</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Poa pratensis</i>	80	Yes	FAC	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <i>Bromus inermis</i>	40	Yes	FACU		
3. <i>Cornus racemosa</i>	8	No	FAC		
4. <i>Rubus allegheniensis</i>	2	No	FACU		
5. <i>Erigeron annuus</i>	1	No	FACU		
6. <i>Polygonatum canaliculatum</i>	1	No	FACU		
7. <i>Smilax tamnoides var. hispida</i>	1	No	FAC		
8. <i>Solidago canadensis</i>	1	No	FACU		
9. _____					
10. _____					
<u>134</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
2. _____					
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 33A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 2/2	100					L	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 34A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave  
 Slope (%): 0-2 Lat: 42.28571 Long: -87.92387 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Montgomery SiCL, 0-2% slopes; revised to Aquent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: <u>Community type is wet meadow.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u><i>Typha angustifolia</i></u>	15	Yes	OBL		
2. <u><i>Leersia oryzoides</i></u>	8	Yes	OBL		
3. <u><i>Ranunculus flabellaris</i></u>	5	No	OBL		
4. <u><i>Echinochloa crusgalli</i></u>	2	No	OBL		
5. <u><i>Acer saccharinum</i></u>	1	No	FACW		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 34A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					SIL	
3-10	10YR 4/1	90	10YR 4/6	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>No</u> Depth (inches): _____                  Water Table Present? <u>No</u> Depth (inches): _____                  Saturation Present? <u>No</u> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 35A/34B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 3 Lat: 42.28564 Long: -87.92317 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Nappanee SiL, 2-4% slopes; revised to Orthent NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				
1. <u>Rhamnus cathartica</u>	20	Yes	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
<u>20</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: 5 ft radius)				
1. <u>Phalaris arundinacea</u>	60	Yes	FACW	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Cirsium arvense</u>	8	No	FACU	
3. <u>Erechtites hieracifolia</u>	8	No	FAC	
4. <u>Thlaspi arvense</u>	6	No	FACU	
5. <u>Hesperis matronalis</u>	3	No	FACU	
6. <u>Setaria faberi</u>	3	No	FACU	
7. <u>Barbarea vulgaris</u>	2	No	FAC	
8. <u>Rudbeckia hirta</u>	2	No	FACU	
9. <u>Eupatorium altissimum</u>	1	No	UPL	
10. <u>Lepidium campestre</u>	1	No	UPL	
<u>94</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
2. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 35A/34B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					SIL	
3-10	10YR 4/3	90	10YR 4/6	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>No</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>                  Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>                  Surface Water Present? <u>No</u> Depth (inches): _____                  Water Table Present? <u>No</u> Depth (inches): _____                  Saturation Present? <u>No</u> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>No</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 36A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 15, T44N, R11E  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None  
 Slope (%): 0 Lat: 42.28625 Long: -87.93631 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Sawmill SiCL, 0-2% slopes; revised to Aquent NWI classification: PFO1A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	<b>Is the Sampled Area within a Wetland?</b> <u>Yes</u>
Remarks: Community type is wet floodplain forest.	

**VEGETATION - Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharinum</u>	80	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: 15 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Rhamnus cathartica</u>	20	Yes	FAC		
2. <u>Fraxinus pennsylvanica var. subintegerrima</u>	4	No	FACW		
3. _____					
4. _____					
5. _____					
<u>24</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: 5 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Aster simplex</u>	60	Yes	FAC		
2. <u>Rhus radicans</u>	8	No	FAC		
3. <u>Laportea canadensis</u>	5	No	FACW		
4. <u>Lycopus uniflorus</u>	5	No	OBL		
5. <u>Phalaris arundinacea</u>	5	No	FACW		
6. <u>Ulmus americana</u>	3	No	FACW		
7. <u>Fraxinus pennsylvanica var. subintegerrima</u>	2	No	FACW		
8. <u>Lysimachia nummularia</u>	2	No	FACW		
9. <u>Vitis riparia</u>	2	No	FACW		
10. _____					
<u>92</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<u>Woody Vine Stratum</u> (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Vitis riparia</u>	2	No	FACW		
2. _____					
<u>2</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 36A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/1	100					SIL	
6-12	10YR 5/2	90	10YR 5/6	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b>          Type: _____          Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b> <u>Yes</u></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b>  <u>Primary Indicators (minimum of one is required: check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (minimum of two is required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p><b>Field Observations:</b>          Surface Water Present? <u>Yes</u> Depth (inches): <u>2</u>          Water Table Present? <u>Yes</u> Depth (inches): <u>0</u>          Saturation Present? <u>Yes</u> Depth (inches): <u>0</u>          (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 36B  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 15, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 25 Lat: 42.28627 Long: -87.93617 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Sawmill SiCL, 0-2% slopes; revised to Orthent NWI classification: PFO1A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: <u>Community type is upland forest.</u>	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. <u>Celtis occidentalis</u>	8	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. <u>Acer saccharinum</u>	7	Yes	FACW		
3. _____					
4. _____					
5. _____					
<u>15</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft radius</u> )					
1. <u>Rhamnus cathartica</u>	50	Yes	FAC		
2. _____					
3. _____					
4. _____					
5. _____					
<u>50</u> = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5 ft radius</u> )					
1. <u>Alliaria petiolata</u>	10	Yes	FAC		
2. <u>Fraxinus pennsylvanica var. subintegerrima</u>	10	Yes	FACW		
3. <u>Hystrix patula</u>	4	No	FACU		
4. <u>Sonchus arvensis</u>	2	No	FACU		
5. <u>Vitis riparia</u>	1	No	FACW		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
<u>27</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>	
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft radius</u> )					
1. _____					
2. _____					
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 36B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/1	100					SIL	
4-12	10YR 4/2	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)		<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	
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<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required: check all that apply)		Secondary Indicators (minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 7/6/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 37A  
 Investigator(s): Kenney, McIntyre, and Olnas Section, Township, Range: Sec. 15, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 35 Lat: 42.28648 Long: -87.93629 Datum: NAD 83  
 Soil Map Unit Name: NRCS mapped Sawmill SiCL, 0-2% slopes; revised to Udoll NWI classification: PFO1A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is shrubland.	

**VEGETATION - Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)				
1. <i>Rhamnus cathartica</i>	30	Yes	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
<u>30</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: 5 ft radius)				
1. <i>Poa pratensis</i>	20	Yes	FAC	<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Brassica nigra</i>	10	Yes	UPL	
3. <i>Oxalis stricta</i>	6	No	FACU	
4. <i>Alliaria petiolata</i>	5	No	FAC	
5. <i>Setaria glauca</i>	3	No	FAC	
6. <i>Fraxinus pennsylvanica var. subintegerrima</i>	2	No	FACW	
7. <i>Erechtites hieracifolia</i>	1	No	FAC	
8. <i>Sonchus arvensis</i>	1	No	FACU	
9. _____				
10. _____				
<u>48</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)				
1. _____				<b>Hydrophytic Vegetation Present?</b> <u>Yes</u>
2. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: 37A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-11	10YR 3/1	100				L		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Rondout Siding Extension City/County: Lake Sampling Date 8/1/2015  
 Applicant/Owner: IDOT District 1 State: IL Sampling Point 38A  
 Investigator(s): Kenney, Olnas Section, Township, Range: Sec. 14, T44N, R11E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex  
 Slope (%): 30 Lat: 42.28529 Long: -87.91915 Datum: NAD 83  
 Soil Map Unit Name: Montgomery SiCL, 0-2% slopes NWI classification: U  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes (If no explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>No</u> Hydric Soil Present? <u>No</u> Wetland Hydrology Present? <u>No</u>	<b>Is the Sampled Area within a Wetland?</b> <u>No</u>
Remarks: Community type is non-native grassland.	

### VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30 ft radius)					
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: 15 ft radius)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators</b> <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 <sup>1</sup> <input type="checkbox"/> 4-Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: 5 ft radius)					
1. <i>Bromus inermis</i>	50	Yes	FACU		
2. <i>Poa compressa</i>	40	Yes	FACU		
3. <i>Festuca elatior</i>	10	No	FACU		
4. <i>Dactylis glomerata</i>	3	No	FACU		
5. <i>Rhamnus cathartica</i>	1	No	FAC		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> <u>No</u>	
<b>Woody Vine Stratum</b> (Plot size: 30 ft radius)					
1. _____					
2. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: 38A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-12	10YR 3/2	100				SIL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> <u>No</u>
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Remarks:

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two is required)
<b>Primary Indicators (minimum of one is required: check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**APPENDIX B**

**Wetland Plant Species Lists**

Project Title: Rondout Siding Extension  
Site 1 - Wet meadow

Sequence No: 19157

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex lacustris</i></b>	<b>common lake sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<i>Tradescantia ohiensis</i>	common spiderwort	H	FACU	2
<i>Allium sp.</i>	wild onion	H	-	-
<i>Ambrosia trifida</i>	giant ragweed	H	FAC	0
<i>Aster simplex</i>	panicked aster	H	FAC	3
<i>Barbarea vulgaris</i> *	winter cress	H	FAC	-
<i>Cicuta maculata</i>	water hemlock	H	OBL	6
<i>Cirsium arvense</i> *	field thistle	H	FACU	-
<i>Daucus carota</i> *	Queen Anne's lace	H	UPL	-
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Erechtites hieracifolia</i>	fireweed	H	FAC	2
<i>Geum canadense</i>	white avens	H	FAC	1
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Rhamnus cathartica</i> *	common buckthorn	S	FAC	-
<i>Rubus allegheniensis</i>	common blackberry	H	FACU	3
*Non-native species <b>Bolded species is dominant in the denoted stratum</b>			Mean C =	2.3
H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine			FQI =	7.3

## Site 2 - Wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex lacustris</i></b>	<b>common lake sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<b><i>Phragmites australis</i></b>	<b>common reed</b>	<b>H</b>	<b>FACW</b>	<b>1</b>
<i>Alliaria petiolata</i> *	garlic mustard	H	FAC	-
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Erechtites hieracifolia</i>	fireweed	H	FAC	2
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Poa pratensis</i> *	Kentucky blue grass	H	FAC	-
<i>Rhamnus cathartica</i> *	common buckthorn	S	FAC	-
<i>Tradescantia ohiensis</i>	common spiderwort	H	FACU	2
*Non-native species <b>Bolded species is dominant in the denoted stratum</b>			Mean C =	2.2
H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine			FQI =	4.9

## Site 3 - Wet shrubland

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex lacustris</i></b>	<b>common lake sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<b><i>Rhamnus cathartica</i>*</b>	<b>common buckthorn</b>	<b>S</b>	<b>FAC</b>	-
<i>Acer negundo</i>	box elder	S	FAC	0
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Alliaria petiolata</i> *	garlic mustard	H	FAC	-
<i>Barbarea vulgaris</i> *	winter cress	H	FAC	-
<i>Cirsium arvense</i> *	field thistle	H	FACU	-
<i>Convolvulus sepium</i>	American bindweed	H	FAC	1
<i>Dipsacus laciniatus</i> *	cut-leaved teasel	H	UPL	-
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	S	FACW	1
<i>Geum canadense</i>	white avens	H	FAC	1
<i>Laportea canadensis</i>	Canada wood nettle	H	FACW	3
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Ribes americanum</i>	wild black currant	H	FACW	7
<i>Tradescantia ohioensis</i>	common spiderwort	H	FACU	2
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1
<i>Veronica peregrina</i>	purslane speedwell	H	FACW	0
<i>Vitis riparia</i>	riverbank grape	W	FACW	2

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 2.2

FQI = 8.5

## Site 5 - Wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Eleocharis erythropoda</i></b>	<b>red-rooted spike rush</b>	H	<b>OBL</b>	<b>2</b>
<b><i>Scirpus pendulus</i></b>	<b>red bulrush</b>	H	<b>OBL</b>	<b>4</b>
<i>Allium vineale</i>	wild onion	H	UPL	-
<i>Alliaria petiolata</i> *	garlic mustard	H	FAC	-
<i>Allium vineale</i> *	field garlic	H	FACU	-
<i>Aster pilosus</i>	hairy aster	H	FACU	0
<i>Barbarea vulgaris</i> *	winter cress	H	FAC	-
<i>Calamagrostis canadensis</i>	blue joint grass	H	OBL	3
<i>Carex granularis</i>	pale sedge	H	FACW	4
<i>Carex molesta</i>	field oval sedge	H	FAC	2
<i>Carex sp.</i>	sedge	H	-	-
<i>Cirsium arvense</i> *	field thistle	H	FACU	-
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Fraxinus pennsylvanica var. subintegerrima</i>	green ash	H	FACW	1
<i>Impatiens capensis</i>	spotted touch-me-not	H	FACW	3
<i>Iris pseudacorus</i>	iris	H	-	-
<i>Juncus tenuis</i>	path rush	H	FAC	0
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Poa pratensis</i> *	Kentucky blue grass	H	FAC	-
<i>Smilax tamnoides var. hispida</i>	bristly green brier	H	FAC	5
<i>Spartina pectinata</i>	prairie cord grass	H	FACW	4
<i>Teucrium canadense</i>	germander	H	FACW	3
<i>Tradescantia ohimensis</i>	common spiderwort	H	FACU	2

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 2.4

FQI = 9.5

### Site 6 - Wetland pond

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Impatiens capensis</i></b>	<b>spotted touch-me-not</b>	H	<b>FACW</b>	<b>3</b>
<b><i>Iris virginica var. shrevei</i></b>	<b>southern blue flag</b>	H	<b>OBL</b>	<b>5</b>
<b><i>Sparganium eurycarpum</i></b>	<b>common bur reed</b>	H	<b>OBL</b>	<b>6</b>
<i>Alliaria petiolata*</i>	garlic mustard	H	FAC	-
<i>Ambrosia artemisiifolia var. elatior</i>	common ragweed	H	FACU	0
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Carex lacustris</i>	common lake sedge	H	OBL	6
<i>Fraxinus pennsylvanica var. subintegerrima</i>	green ash	HS	FACW	1
<i>Iris pseudacorus</i>	tall yellow iris	H	UPL	-
<i>Phalaris arundinacea*</i>	reed canary grass	H	FACW	-
<i>Polygonum amphibium var. stipulaceum</i>	water knotweed	H	OBL	4
<i>Potamogeton nodosus</i>	American pondweed	H	OBL	7
<i>Tradescantia ohiensis</i>	common spiderwort	H	FACU	2
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1
<i>Ulmus americana</i>	American elm	S	FACW	3

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 3.3

FQI = 11.3

### Site 7 – Wet Meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Lemna minor</i></b>	<b>small duckweed</b>	H	<b>OBL</b>	<b>5</b>
<b><i>Phalaris arundinacea*</i></b>	<b>reed canary grass</b>	H	<b>FACW</b>	-
<i>Alliaria petiolata*</i>	garlic mustard	H	FAC	-
<i>Impatiens capensis</i>	spotted touch-me-not	H	FACW	3
<i>Lythrum salicaria*</i>	purple loosestrife	H	OBL	-
<i>Rhamnus cathartica*</i>	common buckthorn	S	FAC	-

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 4.0

FQI = 5.7

## Site 8 - Marsh

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex lacustris</i></b>	<b>common lake sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<b><i>Scirpus fluviatilis</i></b>	<b>river bulrush</b>	<b>H</b>	<b>OBL</b>	<b>4</b>
<i>Acer negundo</i>	box elder	S	FAC	0
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Alliaria petiolata</i> *	garlic mustard	H	FAC	-
<i>Allium vineale</i> *	field garlic	H	FACU	-
<i>Aster simplex</i>	panicked aster	H	FAC	3
<i>Barbarea vulgaris</i> *	winter cress	H	FAC	-
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Calamagrostis canadensis</i>	blue joint grass	H	OBL	3
<i>Carex cristatella</i>	crested oval sedge	H	FACW	4
<i>Carex grayi</i>	common bur sedge	H	FACW	7
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	ST	FACW	1
<i>Galium aparine</i>	annual bedstraw	H	FACU	1
<i>Gleditsia triacanthos</i>	honey locust	H	FACU	2
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Panicum virgatum</i>	prairie switch grass	H	FAC	5
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Polygonum amphibium</i> var. <i>stipulaceum</i>	water knotweed	H	OBL	4
<i>Quercus macrocarpa</i>	burr oak	H	FAC	5
<i>Rhamnus cathartica</i> *	common buckthorn	H	FAC	-
<i>Rhus radicans</i>	poison ivy	H	FAC	2
<i>Rumex crispus</i> *	curly dock	H	FAC	-
<i>Solidago altissima</i>	tall goldenrod	H	FACU	1
<i>Solidago canadensis</i>	Canada goldenrod	H	FACU	1
<i>Teucrium canadense</i>	germander	H	FACW	3
<i>Tradescantia ohiensis</i>	common spiderwort	H	FACU	2
<i>Trillium recurvatum</i>	red trillium	H	FACU	5
<i>Ulmus americana</i>	American elm	HST	FACW	3
<i>Verbena hastata</i>	Perry's vervain	H	UPL	-
<i>Vitis riparia</i>	riverbank grape	W	FACW	2

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 3.1

FQI = 15.1

## Site 9 - Wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex lacustris</i></b>	<b>common lake sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<i>Acer negundo</i>	box elder	S	FAC	0
<i>Ambrosia trifida</i>	giant ragweed	H	FAC	0
<i>Apocynum cannabinum</i>	dogbane	H	FAC	4
<i>Aster praealtus</i>	willow aster	H	FACW	9
<i>Aster simplex</i>	panicked aster	H	FAC	3
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Calamagrostis canadensis</i>	blue joint grass	H	OBL	3
<i>Cirsium vulgare*</i>	bull thistle	H	FACU	-
<i>Convolvulus sepium</i>	American bindweed	H	FAC	1
<i>Cuscuta sp.</i>	dodder	H	UPL	-
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Eupatorium altissimum</i>	tall boneset	H	UPL	0
<i>Eupatorium maculatum</i>	spotted Joe Pye weed	H	OBL	4
<i>Fraxinus pennsylvanica var. subintegerrima</i>	green ash	ST	FACW	1
<i>Helianthus annuus*</i>	common sunflower	H	FACU	-
<i>Impatiens capensis</i>	spotted touch-me-not	H	FACW	3
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Phalaris arundinacea*</i>	reed canary grass	H	FACW	-
<i>Polygonum amphibium var. stipulaceum</i>	water knotweed	H	OBL	4
<i>Pycnanthemum virginianum</i>	common mountain mint	H	FACW	5
<i>Quercus palustris</i>	pin oak	S	FACW	8
<i>Rhamnus cathartica*</i>	common buckthorn	S	FAC	-
<i>Scirpus fluviatilis</i>	river bulrush	H	OBL	4
<i>Sium suave</i>	water parsnip	H	OBL	7
<i>Solidago canadensis</i>	Canada goldenrod	H	FACU	1
<i>Tradescantia ohiensis</i>	common spiderwort	H	FACU	2
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1
<i>Urtica procera</i>	stinging nettle	H	FACW	2

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 2.9

FQI = 14.1

### Site 10 - Sedge meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex haydenii</i></b>	<b>long-scaled tussock sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<b><i>Carex lacustris</i></b>	<b>common lake sedge</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Calamagrostis canadensis</i>	blue joint grass	H	OBL	3
<i>Carex sartwellii</i>	running marsh sedge	H	FACW	6
<i>Eupatorium maculatum</i>	spotted Joe Pye weed	H	OBL	4
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	H	FACW	1
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Onoclea sensibilis</i>	sensitive fern	H	FACW	8
<i>Tradescantia ohioensis</i>	common spiderwort	H	FACU	2
*Non-native species <b>Bolded species is dominant in the denoted stratum</b>			Mean C =	4.1
H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine			FQI =	12.3

### Site 12 - Marsh

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Polygonum longistylum</i>*</b>	<b>long-styled knotweed</b>	<b>H</b>	<b>FACW</b>	-
<b><i>Typha angustifolia</i></b>	<b>narrow-leaved cattail</b>	<b>H</b>	<b>OBL</b>	<b>1</b>
<i>Acer negundo</i>	box elder	H	FAC	0
<i>Ambrosia artemisiifolia</i> var. <i>elatior</i>	common ragweed	H	FACU	0
<i>Aster praealtus</i>	willow aster	H	FACW	9
<i>Aster simplex</i>	panicked aster	H	FAC	3
<i>Bidens cernua</i>	nodding bur marigold	H	OBL	5
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Cirsium arvense</i> *	field thistle	H	FACU	-
<i>Eupatorium serotinum</i>	late boneset	H	FAC	0
<i>Geum canadense</i>	white avens	H	FAC	1
<i>Impatiens capensis</i>	spotted touch-me-not	H	FACW	3
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Melilotus alba</i> *	white sweet clover	H	FACU	-
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Ranunculus sceleratus</i>	cursed crowfoot	H	OBL	6
<i>Rorippa palustris</i> var. <i>fernaldiana</i>	marsh yellow cress	H	OBL	4
<i>Scirpus atrovirens</i>	dark green rush	H	OBL	4
<i>Solidago canadensis</i>	Canada goldenrod	H	FACU	1
<i>Solidago gigantea</i>	late goldenrod	H	FACW	4
<i>Tradescantia ohioensis</i>	common spiderwort	H	FACU	2
<i>Verbena hastata</i>	Perry's vervain	H	UPL	-
*Non-native species <b>Bolded species is dominant in the denoted stratum</b>			Mean C =	2.9
H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine			FQI =	11.9

## Site 14 - Marsh

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex stricta</i></b>	<b>common tussock sedge</b>	<b>H</b>	<b>OBL</b>	<b>5</b>
<b><i>Sparganium eurycarpum</i></b>	<b>common bur reed</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Calamagrostis canadensis</i>	blue joint grass	H	OBL	3
<i>Eleocharis erythropoda</i>	red-rooted spike rush	H	OBL	2
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Sagittaria latifolia</i>	common arrowhead	H	OBL	4
<i>Solidago altissima</i>	tall goldenrod	H	FACU	1
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 3.4

FQI = 10.3

## Site 16 - Sedge meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Carex stricta</i></b>	<b>common tussock sedge</b>	<b>H</b>	<b>OBL</b>	<b>5</b>
<b><i>Scirpus validus</i> var. <i>creber</i></b>	<b>soft-stem bulrush</b>	<b>H</b>	<b>OBL</b>	<b>5</b>
<b><i>Sparganium eurycarpum</i></b>	<b>common bur reed</b>	<b>H</b>	<b>OBL</b>	<b>6</b>
<i>Acorus calamus</i>	sweet flag	H	OBL	7
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Apios americana</i>	ground nut	H	FACW	7
<i>Asclepias incarnata</i>	swamp milkweed	H	OBL	4
<i>Calamagrostis canadensis</i>	blue joint grass	H	OBL	3
<i>Carex pellita</i>	wooly sedge	H	OBL	4
<i>Eleocharis erythropoda</i>	red-rooted spike rush	H	OBL	2
<i>Eupatorium maculatum</i>	spotted Joe Pye weed	H	OBL	4
<i>Eupatorium perfoliatum</i>	common boneset	H	OBL	4
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	ST	FACW	1
<i>Helianthus grosseserratus</i>	sawtooth sunflower	H	FACW	2
<i>Impatiens capensis</i>	spotted touch-me-not	H	FACW	3
<i>Juncus dudleyi</i>	Dudley's rush	H	FACW	4
<i>Juncus torreyi</i>	Torrey's rush	H	FACW	4
<i>Lemna minor</i>	small duckweed	H	OBL	5
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lycopus virginicus</i>	bugle weed	H	OBL	9
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Mimulus ringens</i>	monkey flower	H	OBL	6
<i>Oxypolis rigidior</i>	cowbane	H	OBL	7
<i>Polygonum amphibium</i> var. <i>stipulaceum</i>	water knotweed	H	OBL	4
<i>Pontederia cordata</i>	pickerel weed	H	OBL	10
<i>Populus tremuloides</i>	quaking aspen	S	FAC	4
<i>Rumex orbiculatus</i>	great water dock	H	OBL	8
<i>Sagittaria latifolia</i>	common arrowhead	H	OBL	4
<i>Scirpus atrovirens</i>	dark green rush	H	OBL	4
<i>Sium suave</i>	water parsnip	H	OBL	7
<i>Solidago gigantea</i>	late goldenrod	H	FACW	4
<i>Spartina pectinata</i>	prairie cord grass	H	FACW	4
<i>Spiraea alba</i>	meadowsweet	H	FACW	7
<i>Tradescantia ohimensis</i>	common spiderwort	H	FACU	2

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 4.8

FQI = 27.7

## Site 21 - Wet forbland (Species continued on next page)

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Boltonia latisquama</i> var. <i>recognita</i></b>	<b>false aster</b>	<b>H</b>	<b>OBL</b>	<b>9</b>
<i>Agrostis alba</i> *	red top	H	FACW	-
<i>Allium</i> sp.	wild onion	H	-	-
<i>Apocynum cannabinum</i>	dogbane	H	FAC	4
<i>Asclepias incarnata</i>	swamp milkweed	H	OBL	4
<i>Aster lateriflorus</i>	side-flowering aster	H	FACW	4
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Bromus tectorum</i> *	cheat grass	H	UPL	-
<i>Carex annectens</i> var. <i>xanthocarpa</i>	small yellow fox sedge	H	FACW	7
<i>Carex cristatella</i>	crested oval sedge	H	FACW	4
<i>Carex lupuliformis</i>	knobbed hop sedge	H	OBL	10
<i>Carex molesta</i>	field oval sedge	H	FAC	2
<i>Carex normalis</i>	spreading oval sedge	H	FACW	5
<i>Carex pellita</i>	wooly sedge	H	OBL	4
<i>Carex projecta</i>	loose-headed oval sedge	H	FACW	4
<i>Carya ovata</i>	shagbark hickory	S	FACU	5
<i>Cirsium arvense</i> *	field thistle	H	FACU	-
<i>Commelina communis</i> *	common day flower	H	FACU	-
<i>Convolvulus sepium</i>	American bindweed	H	FAC	1
<i>Cornus racemosa</i>	gray dogwood	H	FAC	1
<i>Daucus carota</i> *	Queen Anne's lace	H	UPL	-
<i>Desmodium</i> sp.	tick trefoil	H	D	-
<i>Eleocharis erythropoda</i>	red-rooted spike rush	H	OBL	2
<i>Elymus virginicus</i>	Virginia wild rye	H	FACW	4
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Erigeron annuus</i>	annual fleabane	H	FACU	0
<i>Eupatorium perfoliatum</i>	common boneset	H	OBL	4
<i>Fragaria virginiana</i>	wild strawberry	H	FACU	1
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	HS	FACW	1
<i>Glyceria striata</i>	fowl manna grass	H	OBL	4
<i>Helenium autumnale</i>	sneezeweed	H	FACW	5
<i>Helianthus grosseserratus</i>	sawtooth sunflower	H	FACW	2
<i>Hystrix patula</i>	bottlebrush grass	H	FACU	5
<i>Juncus acuminatus</i>	sharp-fruited rush	H	OBL	6
<i>Juncus dudleyi</i>	Dudley's rush	H	FACW	4
<i>Juncus torreyi</i>	Torrey's rush	H	FACW	4
<i>Leersia oryzoides</i>	rice cut grass	H	OBL	4
<i>Lilium michiganense</i>	Michigan lily	H	FACW	6
<i>Ludwigia polycarpa</i>	false loosestrife	H	OBL	6
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Mentha arvensis</i> var. <i>villosa</i>	wild mint	H	FACW	5
<i>Mimulus ringens</i>	monkey flower	H	OBL	6
<i>Monarda fistulosa</i>	wild bergamot	H	FACU	4
<i>Panicum implicatum</i>	panic grass	H	FAC	2
<i>Penstemon digitalis</i>	foxglove beard tongue	H	FAC	4

## Site 21 - Wet forbland (continued)

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<i>Penthorum sedoides</i>	ditch stonecrop	H	OBL	5
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Phragmites australis</i>	common reed	H	FACW	1
<i>Physostegia virginiana</i>	obedient plant	H	FACW	6
<i>Poa compressa</i> *	Canadian blue grass	H	FACU	-
<i>Poa palustris</i>	fowl blue grass	H	FACW	9
<i>Populus deltoides</i>	eastern cottonwood	HS	FAC	2
<i>Prunella vulgaris var. lanceolata</i>	self-heal	H	FAC	0
<i>Pycnanthemum virginianum</i>	common mountain mint	H	FACW	5
<i>Quercus macrocarpa</i>	burr oak	S	FAC	5
<i>Ranunculus flabellaris</i>	yellow water buttercup	H	OBL	7
<i>Rhamnus cathartica</i> *	common buckthorn	HS	FAC	-
<i>Rhamnus frangula</i> *	glossy buckthorn	HS	FACW	-
<i>Rhus radicans</i>	poison ivy	H	FAC	2
<i>Rudbeckia hirta</i>	black-eyed Susan	H	FACU	1
<i>Rudbeckia subtomentosa</i>	sweet black-eyed Susan	H	FACU	9
<i>Rumex altissimus</i>	pale dock	H	FACW	2
<i>Rumex crispus</i> *	curly dock	H	FAC	-
<i>Rumex orbiculatus</i>	great water dock	H	OBL	8
<i>Salix amygdaloides</i>	peach-leaved willow	HST	FACW	5
<i>Salix nigra</i>	black willow	T	OBL	4
<i>Scirpus atrovirens</i>	dark green rush	H	OBL	4
<i>Scirpus pendulus</i>	red bulrush	H	OBL	4
<i>Scutellaria lateriflora</i>	mad-dog skullcap	H	OBL	5
<i>Silphium perfoliatum</i>	cup plant	H	FACW	5
<i>Sium suave</i>	water parsnip	H	OBL	7
<i>Smilacina stellata</i>	starry false Solomon seal	H	FAC	5
<i>Solanum dulcamara</i> *	bittersweet nightshade	H	FAC	-
<i>Solidago canadensis</i>	Canada goldenrod	H	FACU	1
<i>Solidago graminifolia</i>	grass-leaved goldenrod	H	FACW	4
<i>Spartina pectinata</i>	prairie cord grass	H	FACW	4
<i>Sphenopholis obtusata</i>	prairie wedge grass	H	FAC	7
<i>Thalictrum dasycarpum</i>	purple meadow rue	H	FACW	5
<i>Tradescantia ohiensis</i>	common spiderwort	H	FACU	2
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1
<i>Vernonia fasciculata</i>	common ironweed	H	FACW	5
<i>Veronicastrum virginicum</i>	culver's root	H	FAC	7
<i>Vitis riparia</i>	riverbank grape	HW	FACW	2
<i>Zizia aurea</i>	golden Alexanders	H	FAC	7

\*Non-native species      **Bolded species is dominant in the denoted stratum**

Mean C = 4.2

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

FQI = 35.0

When possible, the wetland indicator status has been determined for taxa identified only to the genus level (D = non-hydrophytic; H = hydrophytic).

## Site 28 - Forested wetland

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Populus deltoides</i></b>	<b>eastern cottonwood</b>	<b>T</b>	<b>FAC</b>	<b>2</b>
<b><i>Typha angustifolia</i></b>	<b>narrow-leaved cattail</b>	<b>H</b>	<b>OBL</b>	<b>1</b>
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Apocynum cannabinum</i>	dogbane	H	FAC	4
<i>Asclepias incarnata</i>	swamp milkweed	H	OBL	4
<i>Eleocharis erythropoda</i>	red-rooted spike rush	H	OBL	2
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Lemna minor</i>	small duckweed	H	OBL	5
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Rhamnus cathartica</i> *	common buckthorn	HST	FAC	-
<i>Vitis riparia</i>	riverbank grape	H	FACW	2
*Non-native species <b>Bolded species is dominant in the denoted stratum</b>			Mean C =	2.7
H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine			FQI =	8.0

## Site 31 – Wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Lemna minor</i></b>	<b>small duckweed</b>	<b>H</b>	<b>OBL</b>	<b>5</b>
<b><i>Phalaris arundinacea</i>*</b>	<b>reed canary grass</b>	<b>H</b>	<b>FACW</b>	-
<i>Acer negundo</i>	box elder	T	FAC	0
<i>Alliaria petiolata</i> *	garlic mustard	H	FAC	-
<i>Barbarea vulgaris</i> *	winter cress	H	FAC	-
<i>Carex lacustris</i>	common lake sedge	H	OBL	6
<i>Cirsium arvense</i> *	field thistle	H	FACU	-
<i>Daucus carota</i> *	Queen Anne's lace	H	UPL	-
<i>Dipsacus laciniatus</i> *	cut-leaved teasel	H	UPL	-
<i>Echinochloa crusgalli</i>	spiny barnyard grass	H	OBL	0
<i>Elymus virginicus</i>	Virginia wild rye	H	FACW	4
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Erechtites hieracifolia</i>	fireweed	H	FAC	2
<i>Erigeron canadensis</i>	horseweed	H	FACU	0
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	S	FACW	1
<i>Lactuca canadensis</i>	wild lettuce	H	FACU	2
<i>Lactuca serriola</i> *	prickly lettuce	H	FACU	-
<i>Lycopus virginicus</i>	bugle weed	H	OBL	9
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Ranunculus sceleratus</i>	cursed crowfoot	H	OBL	6
<i>Rhamnus cathartica</i> *	common buckthorn	ST	FAC	-
<i>Salix interior</i>	sandbar willow	HS	FACW	1
<i>Solidago sempervirens</i> *	seaside goldenrod	H	FACW	-
<i>Sonchus arvensis</i> *	field sow thistle	H	FACU	-
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1
<i>Typha latifolia</i>	broad-leaved cattail	H	OBL	1
<i>Verbena hastata</i>	blue vervain	H	FACW	4
*Non-native species <b>Bolded species is dominant in the denoted stratum</b>			Mean C =	2.5
H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine			FQI =	10.2

## Site 32 - Marsh/wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<i>Eleocharis erythropoda</i>	<b>red-rooted spike rush</b>	H	<b>OBL</b>	<b>2</b>
<i>Leersia oryzoides</i>	<b>rice cut grass</b>	H	<b>OBL</b>	<b>4</b>
<i>Lemna minor</i>	<b>small duckweed</b>	H	<b>OBL</b>	<b>5</b>
<i>Phalaris arundinacea</i> *	<b>reed canary grass</b>	H	<b>FACW</b>	-
<i>Typha angustifolia</i>	<b>narrow-leaved cattail</b>	H	<b>OBL</b>	<b>1</b>
<i>Agrostis alba</i> *	red top	H	FACW	-
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Asclepias incarnata</i>	swamp milkweed	H	OBL	4
<i>Carex blanda</i>	common wood sedge	H	FAC	1
<i>Carex cristatella</i>	crested oval sedge	H	FACW	4
<i>Carex pellita</i>	wooly sedge	H	OBL	4
<i>Echinochloa crusgalli</i>	spiny barnyard grass	H	OBL	0
<i>Eleocharis obtusa</i>	blunt spike rush	H	OBL	3
<i>Equisetum arvense</i>	common horsetail	H	FAC	0
<i>Erechtites hieracifolia</i>	fireweed	H	FAC	2
<i>Eupatorium perfoliatum</i>	common boneset	H	OBL	4
<i>Glyceria striata</i>	fowl manna grass	H	OBL	4
<i>Helianthus grosseserratus</i>	sawtooth sunflower	H	FACW	2
<i>Juncus acuminatus</i>	sharp-fruited rush	H	OBL	6
<i>Juncus balticus</i> var. <i>littoralis</i>	lake shore rush	H	OBL	6
<i>Juncus dudleyi</i>	Dudley's rush	H	FACW	4
<i>Juncus torreyi</i>	Torrey's rush	H	FACW	4
<i>Lobelia spicata</i>	pale spiked lobelia	H	FAC	6
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lythrum alatum</i>	winged loosestrife	H	OBL	7
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Panicum implicatum</i>	panic grass	H	FAC	2
<i>Phragmites australis</i>	common reed	H	FACW	1
<i>Poa compressa</i> *	Canadian blue grass	H	FACU	-
<i>Rhamnus cathartica</i> *	common buckthorn	HS	FAC	-
<i>Rhamnus frangula</i> *	glossy buckthorn	HS	FACW	-
<i>Rosa blanda</i>	early wild rose	H	FACU	5
<i>Rudbeckia hirta</i>	black-eyed Susan	H	FACU	1
<i>Salix bebbiana</i>	beaked willow	S	FACW	8
<i>Salix nigra</i>	black willow	T	OBL	4
<i>Scirpus atrovirens</i>	dark green rush	H	OBL	4
<i>Scirpus pendulus</i>	red bulrush	H	OBL	4
<i>Senecio pauperculus</i>	balsam ragwort	H	FAC	6
<i>Solanum dulcamara</i> *	bittersweet nightshade	H	FAC	-
<i>Solidago canadensis</i>	Canada goldenrod	H	FACU	1
<i>Solidago sempervirens</i> *	seaside goldenrod	H	FACW	-

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 3.5

FQI = 20.2

## Site 34 - Wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Echinochloa crusgalli</i></b>	<b>spiny barnyard grass</b>	<b>H</b>	<b>OBL</b>	<b>0</b>
<i>Acer saccharinum</i>	silver maple	H	FACW	0
<i>Barbarea vulgaris</i> *	winter cress	H	FAC	-
<i>Carex stipata</i>	common fox sedge	H	OBL	3
<i>Cyperus sp.</i>	nut sedge	H	-	-
<i>Daucus carota</i> *	Queen Anne's lace	H	UPL	-
<i>Erechtites hieracifolia</i>	fireweed	H	FAC	2
<i>Juncus torreyi</i>	Torrey's rush	H	FACW	4
<i>Leersia oryzoides</i>	rice cut grass	H	OBL	4
<i>Lycopus americanus</i>	common water horehound	H	OBL	5
<i>Lythrum salicaria</i> *	purple loosestrife	H	OBL	-
<i>Phalaris arundinacea</i> *	reed canary grass	H	FACW	-
<i>Polygonum persicaria</i> *	lady's thumb	H	FACW	-
<i>Ranunculus flabellaris</i>	yellow water buttercup	H	OBL	7
<i>Ranunculus sceleratus</i>	cursed crowfoot	H	OBL	6
<i>Typha angustifolia</i>	narrow-leaved cattail	H	OBL	1
<i>Verbena hastata</i>	blue vervain	H	FACW	4

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 3.3

FQI = 10.9

## Site 36 - Wet floodplain forest

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<b><i>Acer saccharinum</i></b>	<b>silver maple</b>	HT	<b>FACW</b>	<b>0</b>
<b><i>Phalaris arundinacea</i>*</b>	<b>reed canary grass</b>	<b>H</b>	<b>FACW</b>	-
<i>Acer negundo</i>	box elder	T	FAC	0
<i>Alisma subcordatum</i>	common water plantain	H	OBL	4
<i>Arisaema dracontium</i>	green dragon	H	FACW	7
<i>Aster simplex</i>	panicked aster	H	FAC	3
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Boehmeria cylindrica</i> var. <i>drummondiana</i>	rough false nettle	H	OBL	
<i>Carex normalis</i>	spreading oval sedge	H	FACW	5
<i>Erechtites hieracifolia</i>	fireweed	H	FAC	2
<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>	green ash	HS	FACW	1
<i>Helenium autumnale</i>	sneezeweed	H	FACW	5
<i>Iris virginica</i> var. <i>shrevei</i>	southern blue flag	H	OBL	5
<i>Laportea canadensis</i>	Canada wood nettle	H	FACW	3
<i>Lycopus uniflorus</i>	nothern bugle weed	H	OBL	7
<i>Lysimachia ciliata</i>	fringed loosestrife	H	FACW	4
<i>Lysimachia nummularia</i> *	moneywort	H	FACW	-
<i>Mentha arvensis</i> var. <i>villosa</i>	wild mint	H	FACW	5
<i>Parthenocissus quinquefolia</i>	Virginia creeper	H	FACU	2
<i>Physostegia virginiana</i>	obedient plant	H	FACW	6
<i>Polygonum virginianum</i>	Virginia knotweed	H	FAC	2
<i>Rhamnus cathartica</i> *	common buckthorn	S	FAC	-
<i>Rhus radicans</i>	poison ivy	H	FAC	2
<i>Ribes americanum</i>	wild black currant	H	FACW	7
<i>Sagittaria latifolia</i>	common arrowhead	H	OBL	4
<i>Sium suave</i>	water parsnip	H	OBL	7
<i>Ulmus americana</i>	American elm	H	FACW	3
<i>Viola sororia</i>	common blue violet	H	FACW	3
<i>Vitis riparia</i>	riverbank grape	HW	FACW	2

\*Non-native species      **Bolded species is dominant in the denoted stratum**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 3.7

FQI = 18.6

## **APPENDIX C**

### **Figures**

**Figure 1 – Project Location Map**

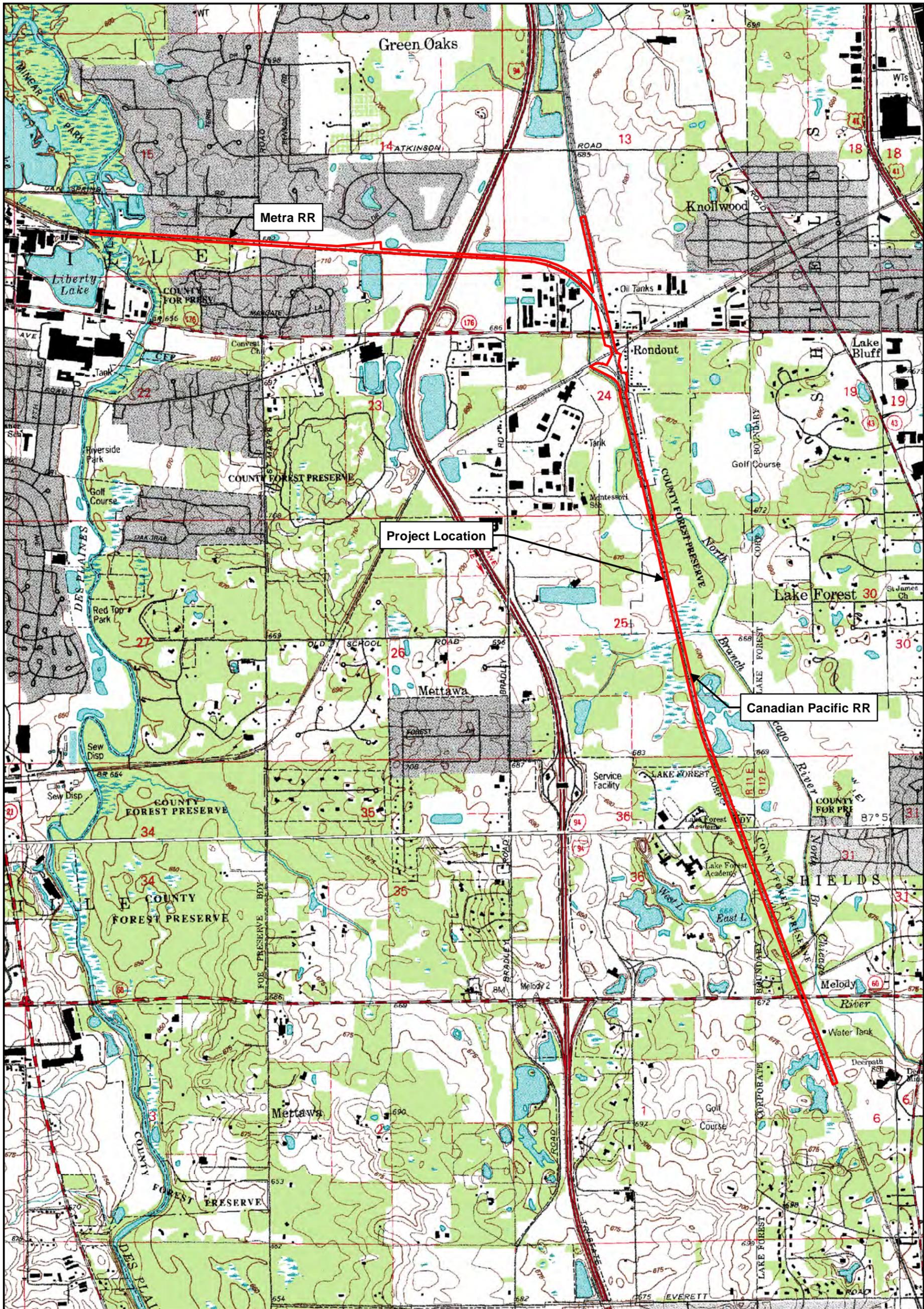
**Figure 2 – National Wetlands Inventory Map**

**Figure 3 – ADID and County Wetland Inventory Map**

**Figure 4 – Soil Survey Map**

**Figure 5 – Wetland Determination Overview Map**

**Figure 6 – Wetland Determination Maps**



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 Champaign, Illinois 61820

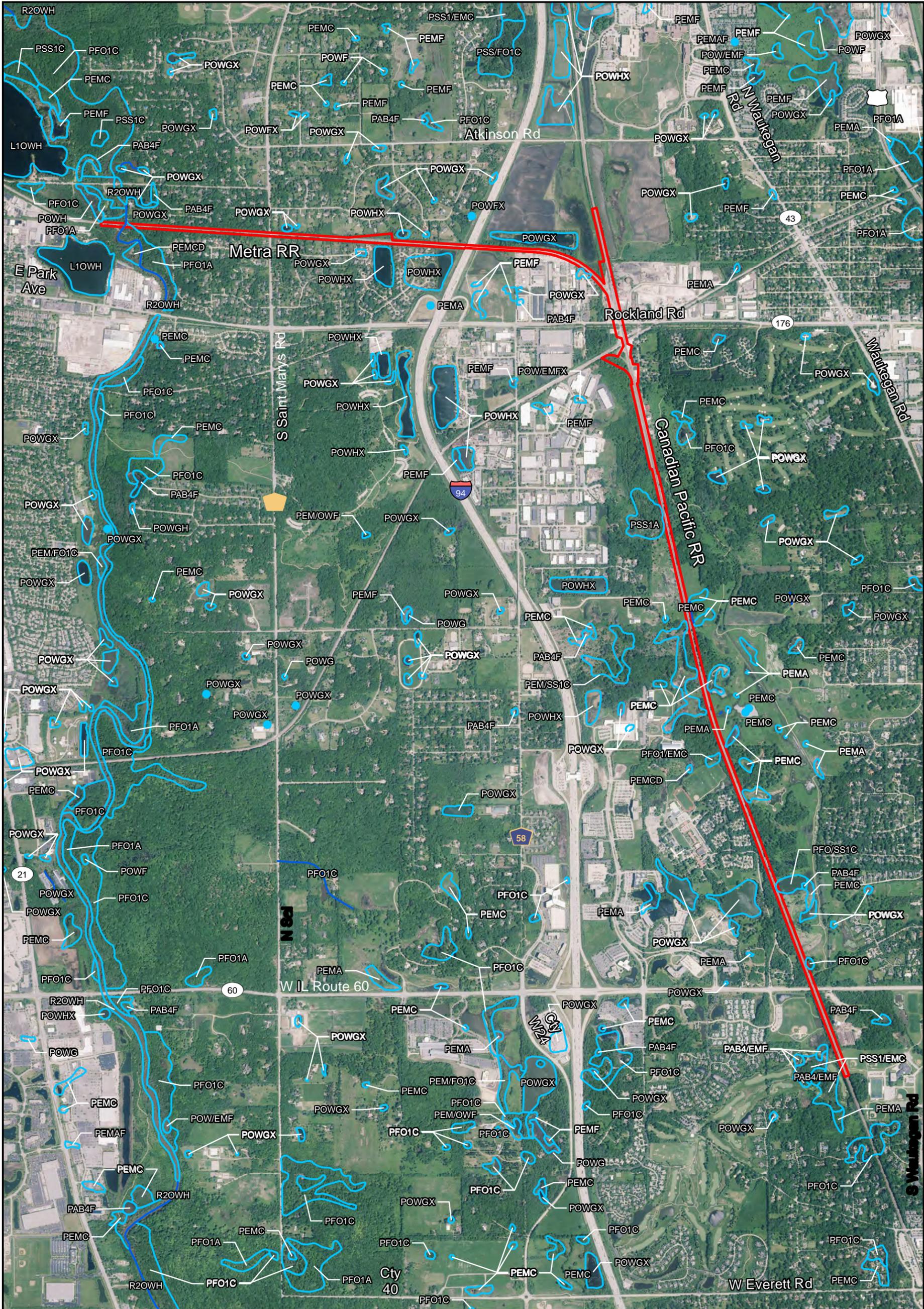
**Figure 1**  
**Project Location Map**  
**Rondout Siding Extension**  
**Lake County**

0 Meters 500      0 Feet 2,000

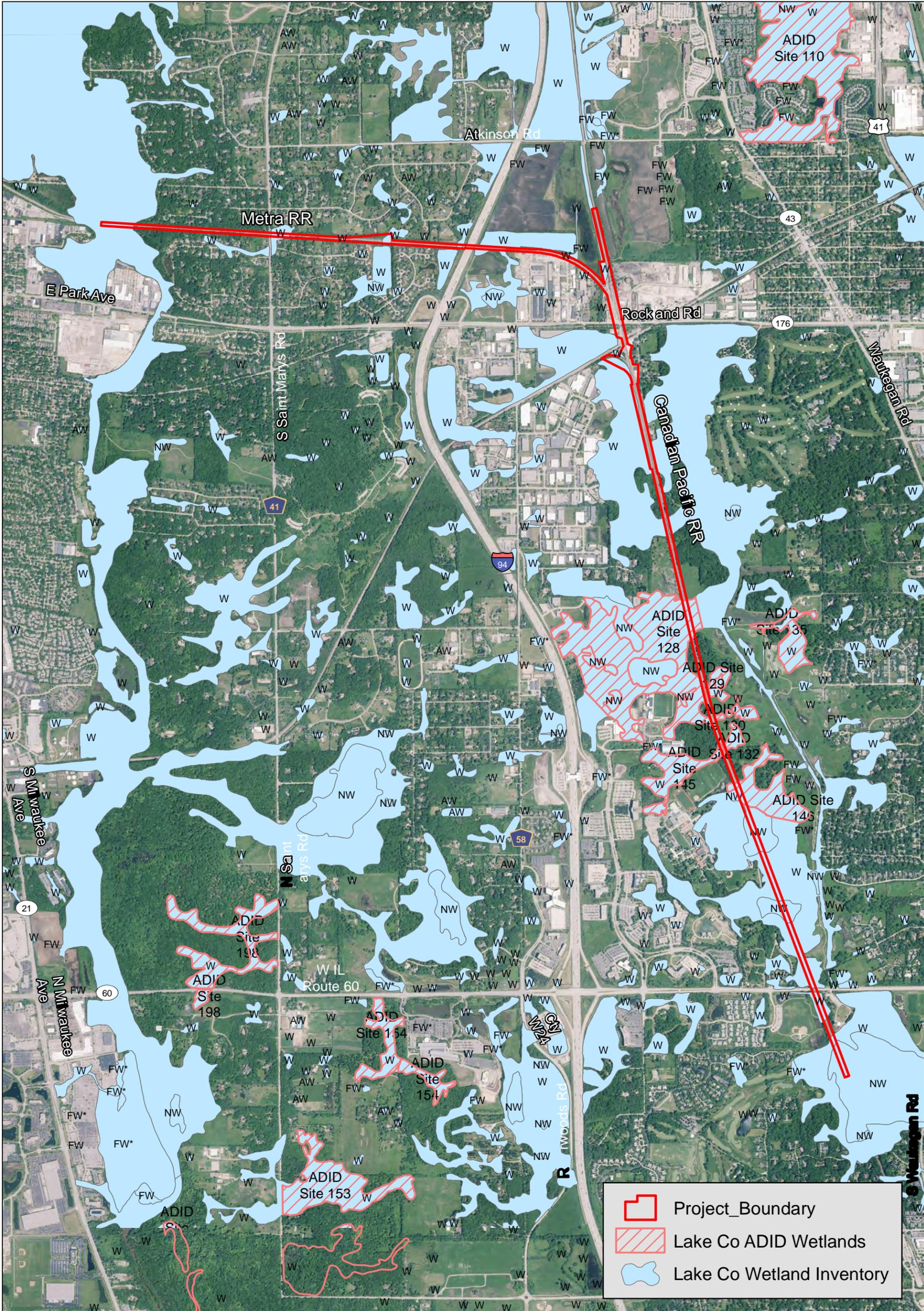
**Seq. No: 19157**

August 2015





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	Project_Boundary
	Lake Co ADID Wetlands
	Lake Co Wetland Inventory

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PRAIRIE RESEARCH INSTITUTE

**Wetland Science Program**  
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Champaign, Illinois 61820

**Figure 3**  
**Lake County Wetland Inventory and ADID Map**  
**Rondout Siding Extension**  
**Lake County**

Seq. No: 19157

0 Meters 500	0 Feet 2,000
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August 2015





- 1107A - Sawmill silty clay loam, undrained, 0-2% slopes, frequently flooded
- 153A - Pella silty clay loam, 0-2% slopes
- 228B - Nappanee silt loam, 2-4% slopes
- 228C2 - Nappanee silty clay loam, 4-6% slopes, eroded
- 232A - Ashkum silty clay loam, 0-2% slopes
- 320A - Frankfort silt loam, 0-2% slopes
- 320B - Frankfort silt loam, 2-4% slopes
- 330A - Peotone silty clay loam, 0-2% slopes
- 365A - Aptakisic silt loam, 0-2% slopes
- 4103A - Houghton muck, ponded, 0-2% slopes
- 465A - Montgomery silty clay loam, 0-2% slopes
- 696B - Zurich silt loam, 2-4% slopes
- 697A - Wauconda silt loam, 0-2% slopes
- 802B - Orthents, loamy, undulating
- 805B - Orthents, clayey, undulating
- 981A - Wauconda and Frankfort silt loams, 0-2% slopes
- 981B - Wauconda and Frankfort silt loams, 2-4% slopes
- 983B - Zurich and Nappanee silt loams, 2-4% slopes
- W - Water

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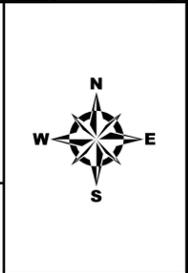
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Champaign, Illinois 61820

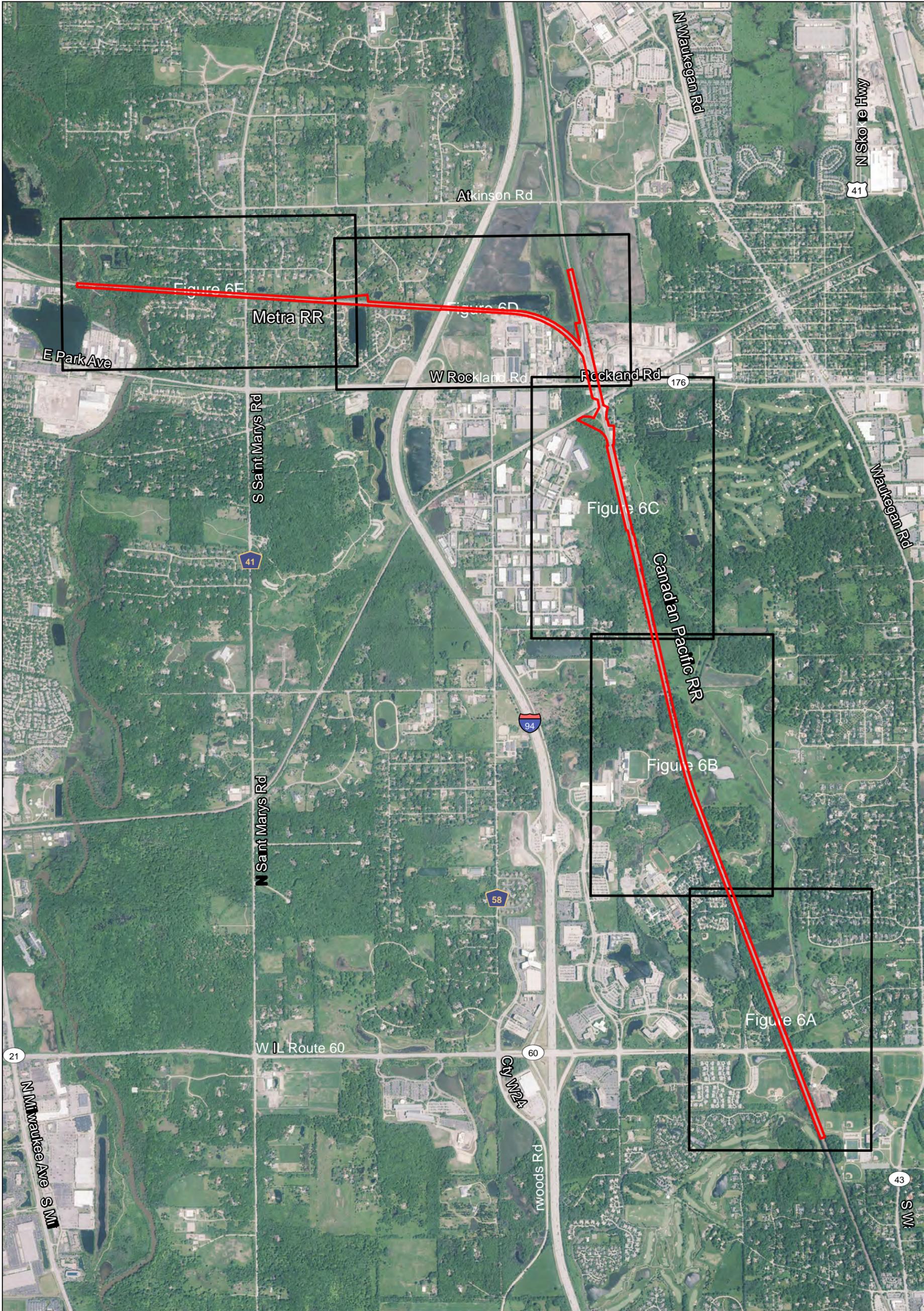
**Figure 4**  
**Soil Survey Map**  
**Rondout Siding Extension**  
**Lake County**

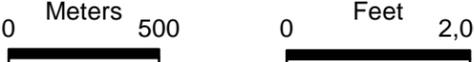
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August 2015

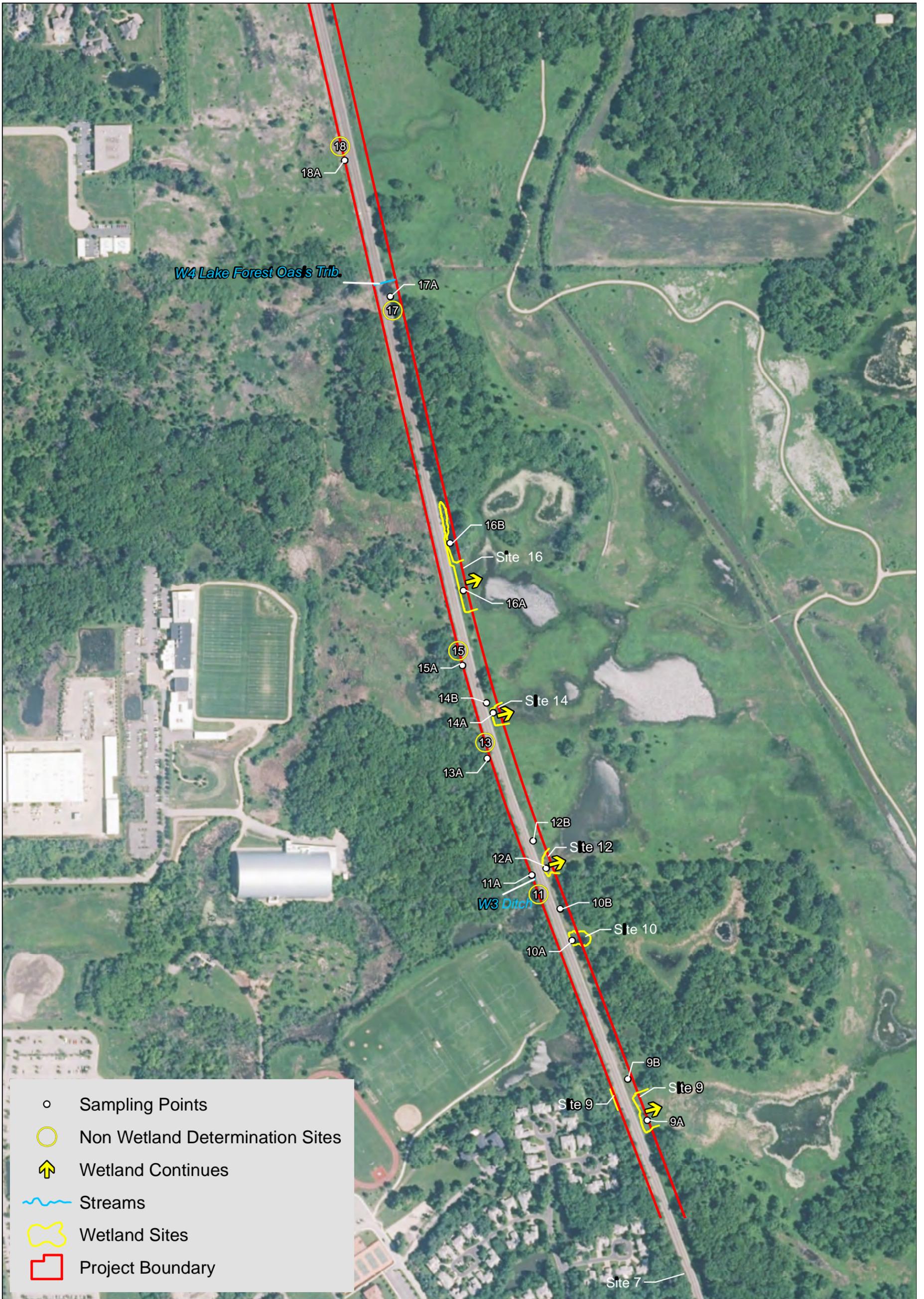




<p>University of Illinois at Urbana-Champaign</p>  <p><b>ILLINOIS NATURAL HISTORY SURVEY</b> PRAIRIE RESEARCH INSTITUTE</p> <p><b>Wetland Science Program</b> 1816 South Oak Street Champaign, Illinois 61820</p>	<p><b>Figure 5</b> <b>Wetland Determination Overview Map</b> <b>Rondout Siding Extension</b> <b>Lake County</b></p> <p>0 Meters 500      0 Feet 2,000</p> 	<p style="text-align: right;">Seq. No: 19157</p> <p style="text-align: center;">August 2015</p>	
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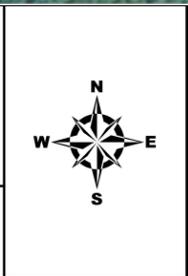
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1816 South Oak Street  
Champaign, Illinois 61820

**Figure 6C**  
**Wetland Determination Map**  
**Rondout Siding Extension**  
**Lake County**

Seq. No: 19157

August 2015

0 Meters 100 0 Feet 400





- Sampling Points
- Non Wetland Determination Sites
- ↑ Wetland Continues
- ~ Streams
- Wetland Sites
- Project Boundary

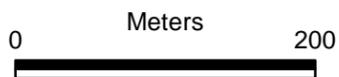
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Champaign, Illinois 61820

**Figure 6D**  
**Wetland Determination Map**  
**Rondout Siding Extension**  
**Lake County**

Seq. No: 19157



August 2015





- Sampling Points
- Non Wetland Determination Sites
- ↑ Wetland Continues
- ~ Streams
- ⬭ Wetland Sites
- ▭ Project Boundary

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**Figure 6E**  
**Wetland Determination Map**  
**Rondout Siding Extension**  
**Lake County**

Seq. No: 19157



August 2015



**APPENDIX D**

**Photographs of Wetlands and Waters of the United States (WOUS)**

## Wetland Photographs



Facing north from sampling point 1A,  
overlooking wetland site 1.



Facing south from sampling point 5A,  
overlooking wetland site 5.



Facing east from sampling point 2A,  
overlooking wetland site 2.



Facing east from sampling point 6A,  
overlooking wetland site 6.



Facing east from sampling point 3A,  
overlooking wetland site 3.



Facing west from sampling point 7A,  
overlooking wetland site 7.

### **Wetland Photographs (cont.)**



Facing east from sampling point 8A,  
overlooking wetland site 8.



Facing east from sampling point 12A,  
overlooking wetland site 12.



Facing east from sampling point 9A,  
overlooking wetland site 9.



Facing east from sampling point 14A,  
overlooking wetland site 14.



Facing east from sampling point 10A,  
overlooking wetland site 10.



Facing east from sampling point 16A,  
overlooking wetland site 16.

### Wetland Photographs (continued)



Facing south from sampling point 21A, overlooking wetland site 21.



Facing south from sampling point 32A, overlooking wetland site 32.



Facing north from sampling point 28A, overlooking wetland site 28.



Facing west from sampling point 34A, overlooking wetland site 34.



Facing east from sampling point 31A, overlooking wetland site 31.



Facing south from sampling point 36A, overlooking wetland site 36.

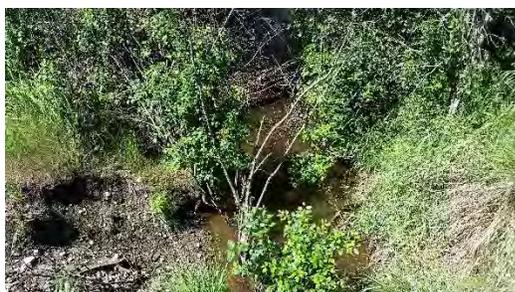
**Waters of the United States (WOUS) Photographs**



Facing west overlooking WOUS site 1.



Facing east overlooking WOUS site 5.



Facing west overlooking WOUS site 2.



Facing east overlooking WOUS site 6.

No Photo Available

WOUS site 3.



Facing west overlooking WOUS site 4.



Facing east overlooking WOUS site 7

**WOUS Photographs (continued)**



Facing east overlooking WOUS site 8



Facing east overlooking WOUS site 9



Facing north overlooking WOUS site 10

**APPENDIX E**

**Preliminary Bat and Swallow Habitat Assessment and Survey**

Photo of swallow nests underneath I-94 overpass.





## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Chicago Ecological Service Field Office  
1250 SOUTH GROVE AVENUE SUITE 103  
BARRINGTON, IL 60010  
PHONE: (847)381-2253 FAX: (847)381-2285  
URL:

[www.fws.gov/midwest/endangered/section7/s7process/7a2process.html](http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html)

Consultation Code: 03E13000-2016-SLI-0155

March 28, 2016

Event Code: 03E13000-2016-E-00209

Project Name: Rondout Extension/Metra Fox Lk 2nd Track, Lake Co, seq. 19157

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

***Please note!*** For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

For all other projects, continue the Section 7 Consultation process by going to our Section 7 Technical Assistance website at

<http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. If you are familiar with this website, you may want to go to Step 2 of the Section 7 Consultation process at <http://www.fws.gov/midwest/endangered/section7/s7process/step2.html>.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and

completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Rondout Extension/Metra Fox Lk 2nd Track, Lake Co, seq. 19157

## Official Species List

### Provided by:

Chicago Ecological Service Field Office

1250 SOUTH GROVE AVENUE SUITE 103

BARRINGTON, IL 60010

(847) 381-2253

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

**Consultation Code:** 03E13000-2016-SLI-0155

**Event Code:** 03E13000-2016-E-00209

**Project Type:** TRANSPORTATION

**Project Name:** Rondout Extension/Metra Fox Lk 2nd Track, Lake Co, seq. 19157

**Project Description:** Chicago-Milwaukee Intercity Passenger Rail Corridor, Rondout Extension/Metra Fox Lk 2nd Track, CP MP 31.16 to Metra MP 33.85, Lake Co. T44N/R11E/S 13. New ROW 0.78 ac. No tree removal, instream work NB Chicago R. Middlefork Savanna INAI/NP/FP. No bats found under bridges; two EPFO plants found, with closest 15' from corridor & damaged by herbicide drift. Commitments. Timing of construction unknown.

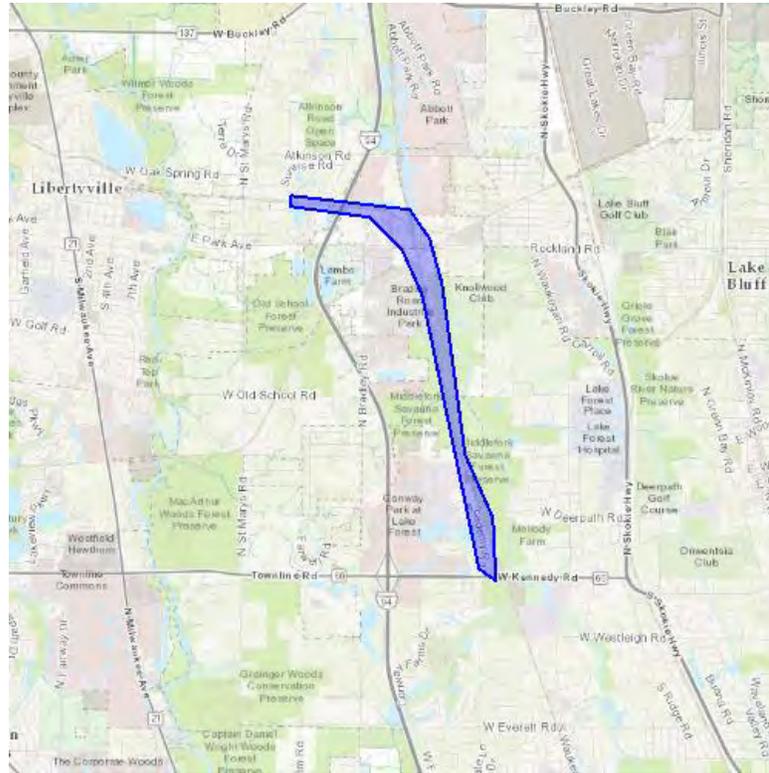
**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: Rondout Extension/Metra Fox Lk 2nd Track, Lake Co, seq. 19157

**Project Location Map:**



**Project Coordinates:** MULTIPOLYGON (((-87.89783477783203 42.28442103567813, -87.89457321166992 42.280865005308065, -87.89251327514648 42.275403567891125, -87.88890838623047 42.254696612008324, -87.88427352905273 42.247072707169636, -87.88375854492186 42.239574968838696, -87.88650512695312 42.24097291983063, -87.8957748413086 42.27413339832821, -87.8990364074707 42.27946793846568, -87.90435791015625 42.28340504748079, -87.91706085205078 42.284675030167485, -87.91706085205078 42.2860719815549, -87.89783477783203 42.28442103567813)))

**Project Counties:** Lake, IL



## Endangered Species Act Species List

There are a total of 7 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Piping Plover ( <i>Charadrius melodus</i> ) Population: Great Lakes watershed	Endangered		
Red Knot ( <i>Calidris canutus rufa</i> )	Threatened		
<b>Flowering Plants</b>			
Eastern Prairie Fringed orchid ( <i>Platanthera leucophaea</i> )	Threatened		Will this project impact, directly or indirectly, emergent wetland, wet meadow, sedge meadow, fen, wet to mesic prairie, or marsh edges?
Pitcher's thistle ( <i>Cirsium pitcheri</i> )	Threatened		
<b>Insects</b>			
Karner Blue butterfly ( <i>Lycaeides melissa samuelis</i> ) Population: Entire	Endangered		
<b>Mammals</b>			
Northern long-eared Bat ( <i>Myotis</i> )	Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Rondout Extension/Metra Fox Lk 2nd Track, Lake Co, seq. 19157

<i>septentrionalis</i> )			
<b>Reptiles</b>			
eastern Massasauga ( <i>Sistrurus catenatus</i> )	Proposed Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Rondout Extension/Metra Fox Lk 2nd Track, Lake Co, seq. 19157

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.

## Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

### Information to Determine 4(d) Rule Compliance:

	YES	NO
1. Does the project occur wholly outside of the WNS Zone <sup>1</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Have you contacted the appropriate agency <sup>2</sup> to determine if your project is near known hibernacula or maternity roost trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Could the project alter the entrance or interior environment of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

**Agency and Applicant<sup>3</sup>** (Name, Email, Phone No.): IDOT, [Susan.Hargrove@illinois.gov](mailto:Susan.Hargrove@illinois.gov), 217-785-0150

**Project Name:** Rondout Extension/Metra Fox Lake 2<sup>nd</sup> Track, seq. 19157

**Project Location** (include coordinates if known): T44N/R4E/S 13, Lake County, IL

**Basic Project Description** (provide narrative below or attach additional information):

Chicago to Milwaukee Intercity Passenger Rail Corridor: to replace RR bridge over NB Chicago R, replace RR track, add track & signals from CP MP 31.16 to Metra MP 33.85, Lake Co, IL. New ROW 0.78 ac, unknown tree removal/instream work (to be determined during design).

<sup>1</sup> <http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>

<sup>2</sup> See <http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html>

<sup>3</sup> If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project occur within 150 feet of a known maternity roost tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project include forest conversion <sup>4</sup> ? (if yes, report acreage below)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Estimated total acres of forest conversion		
If known, estimated acres <sup>5</sup> of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31 <sup>6</sup>		
Does the project include timber harvest? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: \_\_\_\_\_

*Suzanne D. Halpern*

Date Submitted: \_\_\_\_\_

*March 30, 2016*

<sup>4</sup> Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).

<sup>5</sup> If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.

<sup>6</sup> If the activity includes tree clearing in June and July, also include those acreage in April to October.



# Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271  
www.dnr.illinois.gov

Bruce Rauner, Governor  
Wayne A. Rosenthal, Director

April 4, 2016

Mrs. Susan Dees Hargrove  
Bureau of Design and Environment  
Natural Resources Unit  
Illinois Department of Transportation  
2300 South Dirksen Parkway  
Springfield, IL 62674

**Re: Rondout Extension**  
**Sequence Number: 19157**  
**IDNR EcoCAT Project Number: 1608980**  
**Alternate Project Number(s):**  
**County: Lake County**

Dear Mrs. Dees Hargrove:

This letter concerns the Endangered Species Consultation for the Rondout Extension, located in Lake County. This project was submitted for consultation in accordance with the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code Part 1075*.

The proposed action involves: "Replace small RR bridge over NB Chicago R; replace track, new track & signals from CP MP 31.16 to Metra MP 33.85, Lake Co. Middlefork Savanna INAI/NP w/ many T&E. INHS found marsh speedwell, golden sedge, EPFO, least bittern, IA darter 3 streams, no Blanding's turtles. Commitments."

### **E&T Review**

The following protected resources occur in the vicinity of the project area and proposed action:

**Northern Long-eared Bat, *Myotis septentrionalis***  
**Iowa Darter, *Etheostoma exile***  
**Middlefork Savanna Nature Preserve**  
**Middle Fork Savanna INAI**

To minimize or avoid potential adverse impacts, the Department recommends the measures described below be included as commitments in the NRR.

This project is in the vicinity of a record for the State-listed threatened Northern Long-Eared Bat (*Myotis septentrionalis*). This species is also a Federally-listed threatened species. It is possible that migrating individual bats may pass through the project area, forage along the river, and be present in trees that are within the project's footprint. Therefore, the Department recommends the following:

**Recommendation:** Trees >5 inches diameter breast height (dbh) to be cut within the project area shall be clearly flagged and/or marked and shall not be cut between the dates of April 1 - October 14.

Due to the presence of EOR's for the State-listed Iowa Darter (*Etheostoma exile*) and the potential for instream (minimal) work, the Department recommends the following:

**Recommendation:** No instream work during the dates April 1st through June 30th.

**Recommendation:** Strict adherence to best management practices for erosion and sedimentation control should be used to minimize the possibility of any adverse impacts to aquatic species, streams, Middlefork Savanna Nature Preserve, and wetlands in the vicinity of this project action.

Because nature preserves are protected by law, no adverse impact is allowed to Middlefork Savanna Nature Preserve, including changes to current hydrology. Although all work, with the exclusion of some potential ROW addition (0.78 acre) on the north end of project action (away from the Nature Preserve) will be in existing ROW, the Department recommends the following to avoid potential adverse impact to the Middlefork Savanna Nature Preserve:

**Recommendation:** Direct coordination with the Illinois Nature Preserves Commission staff to ensure avoidance of any impacts, direct or indirect, to the Middlefork Savanna Nature Preserve, up to and including permitting by INPC if necessary. Contact Kelly Neal, INPC Stewardship Project Manager, [kelly.neal@illinois.gov](mailto:kelly.neal@illinois.gov) or by phone at 217/524-2415.

The IDOT NRR Memo, dated 4/1/2016, indicates recommendations by the Department have been included as commitments for this project action. The Department concurs with the NRR. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Sincerely,



Sheldon R. Fairfield  
Impact Assessment Section  
Division of Ecosystems & Environment  
Phone: (217) 782-0031



# Illinois Department of Transportation

## Memorandum

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To: John E. Oimoen                      Attn: Elliott Ramos  
From: Maureen M. Addis              By: Thomas C. Brooks  
Subject: Natural Resources Review  
Date: April 1, 2016

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Chicago – Milwaukee Intercity Passenger Rail Corridor  
Rondout Extension/Metra Fox Lake Second Track  
Canadian Pacific MP 31.16 to Metra MP 33.85  
Lake County  
Sequence # 19157

By  **CONCUR**  
Impact Assessment Section  
IDNR

The proposed project involves replacing a small railroad bridge over the North Branch Chicago River at the north end of the project, replacing track, and installing new track and signals. The project is 2.7 miles long and runs through Middlefork Savanna Forest Preserve.

There will be 0.78 acres of land acquisition for the project at the north end of the project. There may be instream work in the North Branch Chicago River. There may be tree removal. The decision regarding potential of instream work and tree removal will be decided during the final design phase of this project. Land cover in the vicinity of the proposed improvement is a mixture of county forest preserve with wetlands and woodlands, as well as adjacent to residential properties.

### Review for Illinois Endangered Species Protection and Illinois Natural Areas Preservation – Part 1075

The Illinois Natural Heritage Database contains records of State-listed threatened or endangered species found within and near Middlefork Savanna Natural Areas Inventory Site (INAI) and Nature Preserve (NP) at the project location. The INAI straddles the project area. The NP occurs on both sides of the project location, apparently with its right of way contiguous with that of UPRR. There will be no impact to the NP since no right of way will be taken from it. There are records of the following state-listed species occurring within the vicinity of the project area, with their last observed dates and locations: king rail and Wilson's phalarope (2008 in the INAI), golden sedge (2008 in Section 31 at the south end of the project), pale vetchling (1995 but not found during 2002 survey, Section 36 northeast corner), marsh speedwell (1998 but not found during 2002 survey, Section 36 northeast corner and Sections 25 and 30), Eastern prairie fringed orchid (2012, Section 36 northeast corner), Iowa darter (1995 but not found in 2006 survey, Section 23), and Blanding's turtle (1991 but not found again in 2006, Section 25). EcoCAT was submitted March 28, 2016, to Illinois Department of Natural Resources (IDNR) and consultation is open pending

receipt of the Natural Resources Review (NRR) memo. IDNR's EcoCAT response dated March 31, 2016, contains several recommendations, summarized below as commitments. The Illinois Natural History Survey (INHS) conducted the following surveys in 2015: botany, bats, birds, turtles, fish, mussels, water quality, benthic macroinvertebrates, and wetlands with results summarized below. Their reports are attached.

### **Botanical Survey**

INHS conducted botanical surveys in June, July, and August, 2015. It was noted that the ecological quality of the plant communities within the project limits was generally less than that beyond the project limits. One population each of the state threatened plant species marsh speedwell (*Veronica scutellata*, Site 12, new occurrence) and golden sedge (*Carex aurea*, Site 13, reconfirming existing population), were found within the project limits on the east side of the railroad tracks. Two Eastern prairie fringed orchid (EPFO) individuals were found within a high-quality wetland that was previously known to harbor an EPFO population (just outside Site 9). While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. One of the EPFO plants was approximately 15 feet east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation. The other EPFO plant occurred approximately 600 feet east of the project area. No rail work is proposed at Sites 9, 12, or 13. The proposed rail work will either occur on the opposite (west) side of the railroad tracks or elsewhere on both sides of the tracks in spot locations. There will thus be no adverse effect on the marsh speedwell, golden sedge, or EPFO by the project. Erosion and sediment control commitments will also be implemented in order to further protect these species.

### **Bat Habitat Survey**

INHS mammalogists conducted bat habitat suitability surveys August 3 and 4, 2015. No mist netting was conducted due to lack of suitable sites. INHS mammalogists found thirteen potential roost trees. INHS stated that the project corridor is of low habitat suitability for listed bats due to better habitat occurring outside the corridor and few suitable trees occurring within the corridor. INHS wetlands scientists also conducted bat habitat suitability assessments on June 15-16, July 6-7 and 15-16, and August 1, 2015. They found no bats or signs of bats under four bridges and a few swallows and nests under the I-94 overpass. Further discussion regarding bats and swallows is in the Section 7 portion of this NRR.

### **Bird Survey**

INHS conducted avian surveys June 7 and 16 and July 15, 2015. They found breeding least bitterns, which were probably breeding at Middlefork Savanna just east of the project area. Usually king rail and Wilson's phalarope and other listed species are also found breeding at Middlefork Savanna but were not found during this survey. The rail work is being conducted mostly within existing right of way on the opposite side of the tracks than where the least bittern occurs. Since the proposed rail work will occur on the opposite side of the tracks than the least bitterns, and since there is already disturbance consisting of constant train

traffic, the project is likely to have little impact on breeding listed birds. This office has determined that there will be no adverse effect on the least bittern and other listed nesting avian species by the project.

### **Fish and Mussel Survey**

INHS conducted fish and mussel surveys on June 17-18, 2015. INHS found no mussels. Iowa darters were found at the following locations and quantities, with Site 1 at the south end of the project and Site 4 at the north end: none were found at Site 1 (= unnamed tributary to a wetland); two were found at Site 2 (= unnamed tributary to the North Branch Chicago River in Middlefork Savanna); 42 were found at Site 3 (= North Branch Chicago River in Middlefork Savanna); and 11 were found at Site 4 (= North Branch Chicago River in Rondout). The bridge at Site 4 will be replaced. There will be no work on the bridges at Sites 1, 2, and 3. The decision regarding potential of instream work will be decided during the final design phase of this project. This office has determined that there will be no adverse effect to the Iowa darter with the implementation of a commitment to conduct no instream work during the Iowa darter spawning season. This office has determined that there will be no adverse effect on the Iowa darter by this project with the implementation of a commitment for no instream work from April 1 through June 30 during any construction year.

### **Blanding's Turtle Survey**

INHS conducted Blanding's turtle surveys June 16, 17, and 18, 2015. None were captured in this survey, nor have any been captured in many prior surveys conducted during the past decade in and around Middlefork Savanna. It is unlikely that this species occurs in the project area. This office has determined that this project will not adversely impact the Blanding's turtle.

### **Review for Illinois Interagency Wetland Policy Act – Part 1090**

The National Wetlands Inventory shows wetlands in the vicinity of the project location. A survey for wetlands was conducted within the Environmental Survey Request limits for the proposed improvements. Several sites were examined and 18 were determined to be wetlands. The Wetland Delineation Report and spatial information (ArcGIS shapefile) are saved in the project folder.

The project sponsor will consider location and design alternatives to avoid and minimize adverse wetland impacts to the extent practical. **Please note that Wetland Sites 7, 10, 16, 21, 32, if impacted, will require a mitigation ratio of 5.5:1.0 due to FQI over 20 and/or mean C 4.0 or higher. Please note also that EPFO was found near Wetland Site 10.** After the extent of impacts is determined, a Wetland Impact Evaluation (WIE) form will be completed and submitted to the IDOT Bureau of Design and Environment. Unavoidable adverse wetland impacts are subject to the applicable ratios specified in 17 Ill. Adm. Code Part 1090.50 (c)(8). If the project will avoid adverse wetland impacts, the WIE should reflect the determination that adverse wetland impacts will not occur. The WIE form and instructions for its completion can be accessed at <http://apps.dot.illinois.gov/environment/wetlands.asp>.

## **Review for Endangered Species Act - Section 7**

The proposed improvement was reviewed in fulfillment of our obligation under Section 7(a)2 of the Endangered Species Act. Our review included use of the US Fish and Wildlife Service's Information for Planning and Conservation (IPaC) web-based review tool. Through IPaC, an official species list was received and is saved to the project folder. The list contains the endangered, threatened, proposed and candidate species and proposed and designated critical habitat that may be present within or in the vicinity of the proposed improvement. The following species are listed: Northern long-eared bat (NLEB), piping plover, red knot, Pitcher's thistle, Karner blue butterfly, Eastern massasauga, and eastern prairie fringed orchid. No proposed or designated critical habitat is listed.

### **Northern Long-eared Bat**

Northern long-eared bat suitable summer habitat consists of a wide variety of forested or wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees or snags three or more inches dbh that have exfoliating bark, cracks, crevices, or hollows) as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested or wooded habitat. Trees found in high developed urban areas (e.g., street trees, downtown areas) are extremely unlikely to be suitable NLEB habitat. Northern long-eared bats have also been observed roosting in bridges; therefore, these structures should also be considered potential summer habitat.

We assessed the potential for adverse impacts to the NLEB in accordance with the *Federal Highway Administration Range-Wide Biological Assessment (BA) for Transportation Projects for Indiana Bat and Northern Long-Eared Bat*. The proposed improvement may involve tree clearing, to be determined in the final design phase. In accordance with the BA, an assessment for signs of bats was conducted June 15-16, July 6-7 and 15-16, and August 1, 2015. No mist netting was conducted due to lack of suitable sites. INHS mammalogists found thirteen potential roost trees. INHS stated that the project corridor is of low habitat suitability for listed bats due to better habitat occurring outside the corridor and few suitable trees occurring within the corridor. No bats or signs of bats were observed under the bridges. We determined that this action is not likely to adversely affect the NLEB. In accordance with the final 4(de) rule for NLEB, the following voluntary conservation measure may be implemented to reduce the impacts of this action on the NLEB: trees five (5) inches or greater in diameter at breast height will not be cleared from April 1 through October 14.

### **Eastern Prairie Fringed Orchid**

INHS found Eastern prairie fringed orchid (EPFO) during botanical surveys in 2015. Two EPFO plants were found within a high-quality wetland that was

previously known to harbor an EPFO population (just outside Botanical Site 9 and Wetland Site 10). While this wetland extended into the project area, the EPFO plants themselves were outside of the project area. The closest EPFO plant was approximately 15 feet east of the project boundary, growing within an area with evidence of herbicide drift damage on its associated vegetation. The other EPFO plant occurred approximately 600 feet east of the project area. The proposed rail work will either occur on the opposite (west) side of the railroad tracks or elsewhere on both sides of the tracks in spot locations. There will thus be no adverse effect on the EPFO by the project. Erosion and sediment control commitments will also be implemented in order to further protect these species.

We cross-referenced the preferred habitat of each listed species with our knowledge of the project area and determined that there is no suitable habitat present for the species listed above other than the NLEB. We have made a no effect determination on these species.

**We have determined that the proposed improvement is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of any critical habitat.**

#### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transport, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the U.S. Fish and Wildlife Service (USFWS). As such, work under the I-94 overpass should be conducted outside the breeding season.

INHS found swallows and a few nests under the I-94 overpass during bat habitat surveys conducted June 15-16, July 6-7 and 15-16, and August 1, 2015. Construction of new railroad track is proposed to occur under the I-94 overpass, potentially impacting nesting swallows.

Therefore, the following commitments shall be adhered to in order to protect nesting swallows, in accordance with MBTA:

- No work shall be conducted under the I-94 overpass from May 1 through August 15 of any construction year in order to protect nesting birds under the overpass.
- If the work cannot be started until after May 1, netting or other obstructions should be placed under the overpass prior to April 1 to prevent birds from nesting under the overpass but so as not to interfere with train traffic.

If these commitments are adhered to, there will be no effect to nesting birds by this project.

#### **Commitments**

1. In order to protect the state and federally listed Northern long-eared bat, trees five inches or greater in diameter at breast height (dbh) to be cut within the project area shall be clearly flagged and/or marked and shall not be cut between the dates of April 1 through October 14.
2. In order to protect the state listed Iowa darter, there shall be no instream work during the dates April 1 through June 30.
3. Strict adherence to best management practices for erosion and sedimentation control should be used to minimize the possibility of any adverse impacts to aquatic species, streams, Middlefork Savanna Nature Preserve, and wetlands in the vicinity of this project action.
4. Direct coordination is needed at the appropriate time with the Illinois Nature Preserves Commission staff to ensure avoidance of any impacts, direct or indirect, to the Middlefork Savanna Nature Preserve, up to and including permitting by INPC if necessary. Contact Kelly Neal, INPC Stewardship Project Manager, [Kelly.neal@illinois.gov](mailto:Kelly.neal@illinois.gov) or by phone at 217/524-2415.
5. No work shall be conducted under the I-94 overpass from May 1 through August 15 of any construction year in order to protect nesting birds under the overpass.
6. If the work cannot be started until after May 1, netting or other obstructions should be placed under the overpass prior to April 1 to prevent birds from nesting under the overpass but so as not to interfere with train traffic.

Should the proposed improvement be modified or new information indicate listed or proposed species may be affected, consultation or additional coordination should be initiated.

Cc: Sheldon Fairfield (IDNR)

SDH