

## Assured Wetland Delineation Report

Alliant Energy Center  
City of Madison, Dane County, WI  
Stantec Project #: 193703955  
Lead Delineator: Jeff Kraemer



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September 15, 2015

## Sign-off Sheet

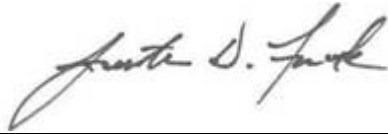
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Prepared by \_\_\_\_\_

(signature)

**Abigail Medis, Environmental Technician**



Reviewed by \_\_\_\_\_

(signature)

**Justin Funk, Senior Project Manager**



Reviewed by \_\_\_\_\_

(signature)

**Jeff Kraemer, Principal**

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## INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed a wetland delineation of the Alliant Energy Center (the "Study Area") on behalf of Dane County, Wisconsin. The wetland delineation was led by Jeff Kraemer of Stantec, an assured delineator qualified via the Wisconsin Department of Natural Resources's Wetland Delineation Assurance Program, on September 1, 2015 (See Appendix E for Delineator Qualifications).

The Study Area is comprised of 4 separate areas totaling approximately 28 acres and is located in Sections 25 and 36, Township 7 North, Range 9 East, in the City of Madison, Dane County, Wisconsin. Specifically, the Study Area is located on the southwest side of John Nolen Drive, northwest of the intersection of John Nolen Drive and STH 12/18 (Figure 1). The purpose and objective of the wetland delineation was to identify the extent and spatial arrangement of wetlands within the Study Area. Three wetland areas were identified within the Study Area.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority lies with the U.S. Army Corps of Engineers (USACE). Additionally, the Wisconsin Department of Natural Resources (WDNR) has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Finally counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways. Stantec recommends this report be submitted to local authorities, the WDNR and USACE for final jurisdictional review and concurrence. Delineations completed by a WDNR Assured Delineator do not need to obtain WDNR concurrence.

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## 1.0 METHODS

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### 1.1 WETLANDS

Wetland determinations were based on the criteria and methods outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplements to the *Corps of Engineers Wetland Delineation Manual*.

The wetland determination involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, and aerial photography.

On-site wetland determinations were made using the three criteria (vegetation, soil, and hydrology) and technical approach defined in the USACE 1987 Manual and applicable Regional Supplement. According to procedures described in the 1987 Manual and applicable Regional Supplement, areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands.

Additionally, as climate plays an important role in the formation and identification of wetlands, the antecedent precipitation in the months leading up to the field investigations was reviewed. The current year's precipitation data was compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

The uppermost wetland boundary and sampling points were identified and surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software. Flagging tape was also placed at intervals around the perimeter of all field-delineated wetland boundaries.

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## 2.0 RESULTS

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### 2.1 SITE DESCRIPTION

The Study Area is comprised of four separate areas (Areas A, B, C, and D) all located on the Alliant Energy Center grounds. Area A is an actively maintained landscape comprised of mowed turf grass and planted trees. Topography is relatively flat in Area A, with a topographic low of approximately 850 feet mean sea level (msl) in the northwestern portion of the site to topographic high in the southeastern portion of approximately 854 feet msl. Area A is bordered by Olin Avenue and John Nolen Drive to the east and northeast, Expo Way and W. Expo Drive to the northwest and south, respectively, and a pond along the southwest boundary.

Area B is also a maintained landscape largely consisting of mowed turf grass and planted trees. John Nolen Drive, Rimrock Road (CTH MM), and Bram Street border Area B to the northeast, southeast, and south perimeters, respectively. The western boundary is adjacent to a paved parking lot. There are two rises in Area B, one in the northcentral portion and one in the southwest corner of the Area, both rising from approximately 850 feet msl to 856 feet msl. A storm water retention basin is present in the eastern corner of Area B.

Area C is a triangular shaped area located south of Area B, separated by Bram Street. Area C is also comprised of maintained turf grass, with a topographic high of approximately 860 feet msl, which slopes down to 850 feet msl along the outer margin of the area. Rimrock Road (CTH MM) borders Area C to the east, with Bram Street to the north, and a paved parking lot to the west.

Area D also contains mowed turf grass along the southern boundary adjacent to a paved parking lot, but is largely comprised of old field vegetation and a shrub community that surrounding the open water wetland complex. Area D is bordered by Rimrock Road (CTH MM) to the west, commercial development to the south, and additional wetland area to the east.

Soils present within the Study Area and their hydric status are summarized in Table 1. All wetlands identified during the field investigation are located within areas that do not contain mapped hydric soils (Appendix A, Figures 2 and 3).

**Table 1. Summary of Soils Identified within the Study Area**

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
Co: Colwood silt loam, 0 to 2 percent slopes	Colwood	80-90	Lakebeds (relict)	Yes
	Pella	5-10	Depressions, drainageways, ground moraines	Yes
	Palms	5-10	Depressions on interdrumlins	Yes
Cu: Cut and fill land	Cut and fill land	100	—	No
Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status

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Ma: Made land	Made land	100	—	No
VwA: Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	Virgil-Gravelly substratum	100	Outwash plains	No
	Endoaqualfs		Depressions	Yes
W: Water	Water greater than 40 acres	100	—	Unranked
Wa: Wacousta silty clay loam, 0 to 2 percent slopes	Wacousta	80-90	Drumlins on lakebeds (relict), depressions on lakebeds (relict)	Yes
	Sable	5-10	Drumlins	Yes
	Sebewa	5-10	Drumlins	Yes

The Wisconsin Wetland Inventory (WWI) map identifies one wetland area within and adjacent to Area D (Appendix A, Figure 5). The field delineated wetland W3 is present within the same location as this WWI mapped area. Additionally, wetland indicator soils are mapped along the northeast and southeast edges of the Area A in the Study Area (Appendix A, Figure 4). In general, soils observed within the Study Area were consistent with the Cut and Fill soil unit.

Average precipitation for the investigation area was obtained from the University of Wisconsin Arboretum National Weather Service (NWS) weather station (NWS station #WI0273) and used for the WETS analysis. A total of 12.70 inches of precipitation occurred in this three month time period in 2015 compared to the long-term average of 13.06 inches. Based on the WETS analysis, conditions were within the normal range (Appendix D).

## 2.2 WETLANDS

Three wetlands were identified and delineated within the Study Area. Wetland determination data forms were completed for 13 sample points along transects through the wetlands and adjacent uplands and are contained in Appendix B. Photographs of the wetlands and adjacent lands are contained in Appendix C. The wetland boundary and sample point locations are shown on Figure 5 (Appendix A). The wetlands are summarized in Table 2 below and described in detail in the following sections.

**Table 2. Summary of Wetlands Identified within the Study Area**

Wetland	Wetland Type	Adjacent Surface Waters	Acreage (on-site)
Wetland 1 (W1)	Shallow Marsh	No direct inlets. Stormwater pipe outlet observed within connected stormwater basin	1.01 acre
Wetland 2 (W2)	Shallow Mash	No direct inlets/outlets observed, possibly stormwater pipe outlet present but not observed.	0.17 acre
Wetland 3 (W3)	Shallow Marsh (E2/W0H)	Stormwater pipe inlet and outlet observed	4.01 acres
Sediment Basin	Wet meadow	Outlets observed/stormwater pipe	<0.01 acre

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Stormwater Basin (SB1)	Open water	Outlet observed/stormwater pipe.	0.91 acre
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## 2.2.1 Wetland 1

Wetland 1 (W1) is a shallow marsh community connected to a storm water basin feature (SB1) within Area B. The wetland appears to serve as a storm water drainage feature and conveys water from the adjacent parking lots and roadside to the storm water pond in the eastern corner of Area B. The shallow marsh portions are located adjacent to the west boundary of Area B and along the northeast boundary adjacent to John Nolen Drive. The storm water feature is identified as an excavated pond on the WWI, and is visible on the USGS 24k hydro layer (Appendix A, Figure 1) and WDNR 24k hydrography layer (Appendix A, Figure 4). W1 appears to be an isolated system with no direct connection to other surface waters.

### Vegetation

Dominant plant species identified at sample points completed within W1 consist of narrow-leaf cattail (*Typha angustifolia*, OBL) and bald spike rush (*Eleocharis erythropoda*, OBL). Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

### Hydrology

Wetland W1 appears to hold standing water for the majority of the year. A High Water Table (A2) and Saturation within the upper 12 inches (A3) were observed as primary indicators of wetland hydrology at both sample points P4 and P7. Surface Water (A1) was also observed at P4. Secondary indicators of wetland hydrology observed include Dry-Season Water Table (C2), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

### Soils

Soils within the wetland are mapped by the NRCS as Cut and Fill soils (Appendix A, Figure 2). There were no distinctive horizon breaks observed in the soil profile of either P4 or P7, which is characteristic of a landscape that had been disturbed and filled, historically. Field indicators of hydric soil identified at sample points P4 and P7 consisted of NRCS field Indicators F3-Depleted Matrix and F6-Redox Dark Surface. Therefore, the hydric soil criterion was satisfied.

### Wetland Boundary

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils and topography consisting of the following: 1) Transition from a shallow marsh and storm water pond wetland community dominated by narrow-leaf cattail and bald spike rush to a maintained turf grass upland community; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from soils exhibiting hydric soil field indicators, to a lack of hydric soil field indicators in the adjacent upland. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break.



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### 2.2.2 Wetland 2

Wetland 2 (W2) is a shallow marsh wetland swale located at the base of an embankment supporting stormwater conveyance from the adjacent paved parking lot within Area C.

#### *Vegetation*

Narrow-leaf cattail (OBL) was dominant within W2. Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

#### *Hydrology*

Wetland W2 also appears to hold standing water for the majority of the year, depending on precipitation. A High Water Table (A2) and Saturation within the upper 12 inches (A3) were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology observed include Dry-Season Water Table (C2), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

#### *Soils*

Soils within the wetland are mapped by the NRCS as Cut and Fill soils (Appendix A, Figure 2). Field indicators of hydric soil identified consisted of NRCS field Indicators A11-Depleted Below Dark Surface and F3-Depleted Matrix. Therefore, the hydric soil criterion was satisfied.

#### *Wetland Boundary*

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils and topography consisting of the following: 1) Transition from a shallow marsh and storm water pond wetland community dominated by narrow-leaf cattail to a maintained turf grass upland community; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from soils exhibiting hydric soil field indicators, to a lack a hydric soil field indicators in the adjacent upland. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break.

### 2.2.3 Wetland 3

Wetland 3 (W3) is predominantly a shallow marsh community connected to a storm water swale conveying water from near the intersection of John Nolan Drive and Rimrock Road (CTH MM) to the larger wetland area with a central located stormwater basin within and extending beyond Area D. The wetland area is identified on the WWI map and extends beyond Area D to the east (Appendix A, Figure 4).

#### *Vegetation*

Dominant plant species identified at sample points completed within W3 consist of narrow-leaf cattail (OBL). Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

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### *Hydrology*

Wetland W3 appears to hold standing water for the majority of the year. Surface Water (A1), a High Water Table (A2) and Saturation within the upper 12 inches (A3) were observed as primary indicators of wetland hydrology at both sample points P11 and P13. Secondary indicators of wetland hydrology observed include Dry-Season Water Table (C2), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

### *Soils*

Soils within the wetland are mapped by the NRCS as Cut and Fill soils (Appendix A, Figure 2). There were no distinctive horizon breaks observed in the soil profile of either P11 or P13, which is characteristic of a landscape that has been historically disturbed and filled. Field indicators of hydric soil identified consisted of NRCS field Indicators A11 – Depleted Below Dark Surface and F3-Depleted Matrix. Therefore, the hydric soil criterion was satisfied.

### *Wetland Boundary*

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils and topography consisting of the following: 1) Transition from a shallow marsh community dominated by narrow-leaf cattail to a maintained turf grass upland community; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from soils exhibiting hydric soil field indicators, to a lack a hydric soil field indicators in the adjacent upland. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break.

## 2.3 UPLAND

Upland within the Study Area consisted primarily of maintained turf grass and planted trees, with a small portion of scrub-shrub along W3 within Area D. Turf areas were planted to Kentucky bluegrass (*Poa pretense*, FACU) with various weed species including creeping Charlie (*Glechoma hederacea*, FACU), dandelion (*Taraxacum officinale*, FACU), and common plantain (*Plantago major*, FACU). All areas of the Study Area have been subject to some level of historic fill and grading, with upland soils commonly comprised of mixed fill materials. As a result, the majority of the Study Area was determined to be non-wetland based on the lack of wetland hydrology, lack of hydric soils, and the varying degree of man-made fill effectively eliminating the potential for wetland conditions to exist.

## 2.4 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands within the Study Area. However, there may be other regulated environmental features within the Study Area, including, but not limited to, historical or archeological features, endangered or threatened species, navigable waters and/or floodplains, etc. Federal, state, and local units of government and regional planning organizations may have regulatory authority to control or restrict land uses within or in close proximity to these features. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

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Specifically, in the state of Wisconsin, Wis. Adm. Code NR 151.12 requires that a “protective area” or buffer be determined from the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands. In accordance with NR 151.12, the width of the “protective area” for less susceptible wetlands is determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. Moderately susceptible wetlands, lakes, and perennial and intermittent streams identified on USGS topographic maps or NRCS county soil survey maps (whichever is more current) require a protective buffer of 50 feet, and outstanding or exceptional resource waters, highly susceptible wetlands, and wetlands in areas of special natural resource interest require protective buffers of 75 feet. The wetlands identified within the Study Area are dominated by invasive plant species, specifically narrow-leaf cattail and do not appear to connect to any adjacent surface water bodies. Therefore, based on the “protective buffer” standards provided by NR 151.12, it is Stantec’s professional opinion that the wetland meets the criteria for less susceptible wetlands and the buffer from the wetland boundary would be 10 to 30 feet. However, Dane County commonly employs a 75-foot set-back from wetland areas. The jurisdictional authority on wetland buffers rests with the WDNR. Local zoning authorities and/or a regional planning organization may have more restrictive buffers from wetlands than that imposed under NR 151.

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### 3.0 CONCLUSION

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Stantec performed a wetland determination and delineation of the Alliant Energy Center property on behalf of Dane County, Wisconsin. The approximately 28-acre Study Area is located in Sections 25 and 36, Township 7 North, Range 9 East, in the City of Madison, Dane County, Wisconsin. The purpose and objective of the wetland delineation was to identify the extent and spatial arrangement of wetlands within the Study Area.

Three wetlands were identified and delineated within the Study Area in accordance with state and federal guidelines and were subsequently surveyed with GPS, and mapped using GIS software. There were a combined total of 5.19 acres of wetlands within the Study Area. Wetlands were mostly composed of shallow marsh and a storm water pond; all wetlands appeared to convey and/or store runoff from adjacent developed urban land. Additionally a small sediment basin associated with a stormwater pipe was identified within Area A and met wetland criteria. A larger open water stormwater pond (SB1) was identified within Area B. These stormwater management features may be exempt from state wetland regulation, however the authority of an exemption determination lies with the WDNR and a separate request for such a determination would need to be submitted prior to completing work within these areas.

The USACE has regulatory authority over Waters of the U.S. including adjacent wetlands, and the WDNR has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Finally counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work to comply with applicable regulations. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

The information provided by Stantec regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present within the Site at the time of the fieldwork. The delineation was performed by experienced and qualified professionals using standard practices and sound professional judgment. The ultimate decision on wetland boundaries rests with the USACE and, in some cases, the WDNR or a local unit of government. As a result, there may be adjustments to boundaries based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to recent precipitation patterns and the season of the year. In addition, the physical characteristics of the Study Area can change over time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands within the Study Area.

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### 4.0 REFERENCES

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Appendix A- Figures  
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## Appendix A – Figures

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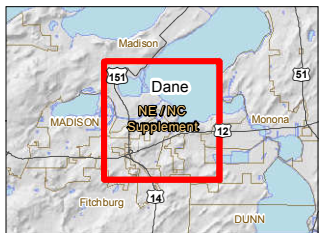
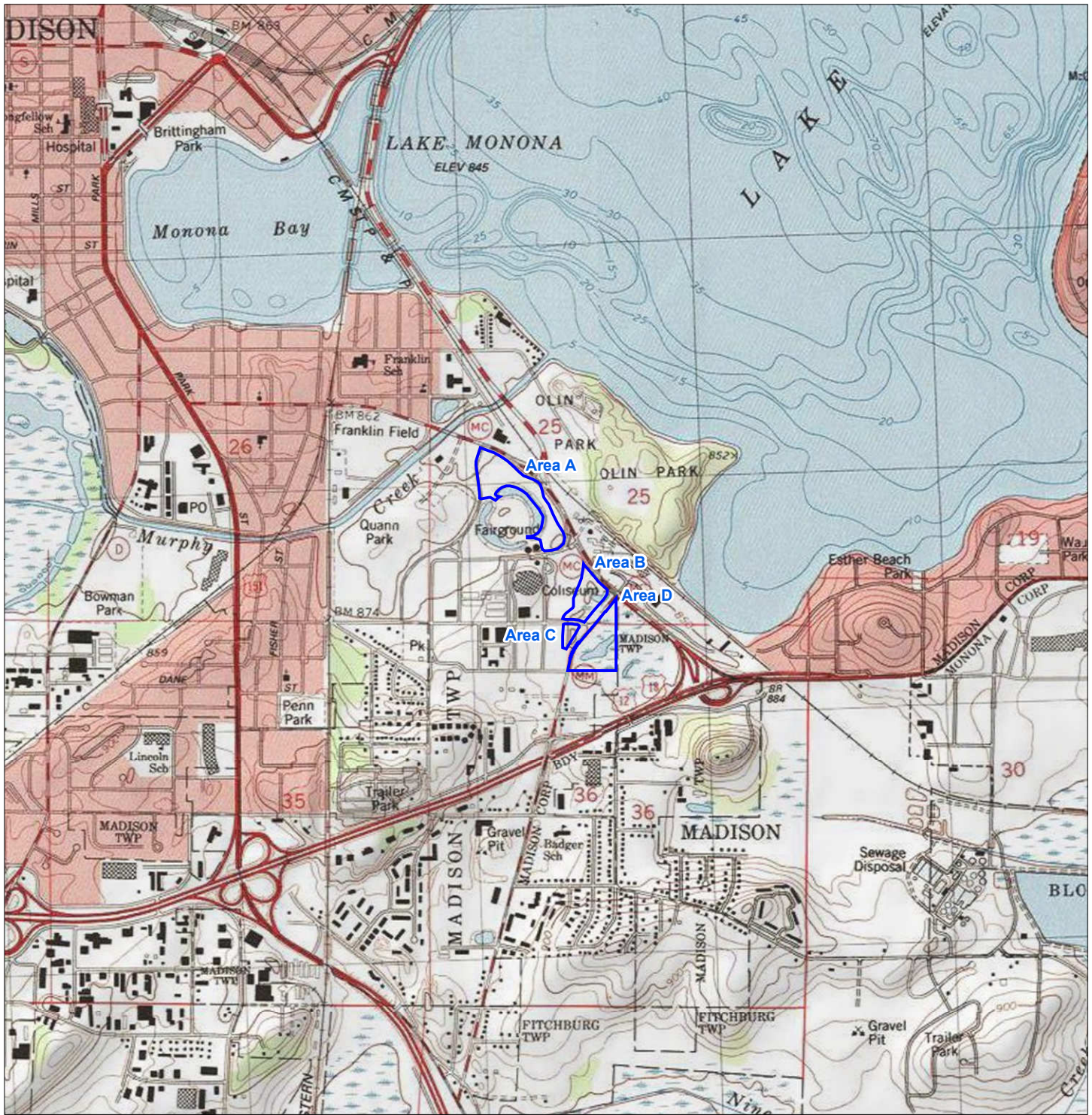
Figure 1. Project Location and Topography

Figure 2. NRCS Soil Survey Data – Hydric Ratings

Figure 3. NRCS Soil Survey Data – Wetland Indicator Soils

Figure 4. Wisconsin Wetland Inventory

Figure 5. Field Collected Data



**Legend**  
 Approximate Project Boundary

- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
  2. Data Sources Include: Stantec, WDOT
  3. Background: USGS 7.5' Topographic Quadrangles

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

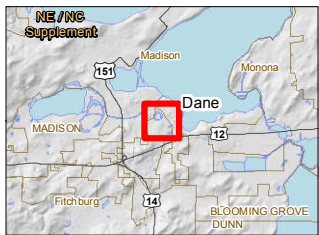
Figure No.  
**1**  
 Title  
**Project Location and Topography**

Client/Project  
 Alliant Energy Center  
 Wetland Delineation

Project Location 193703955  
 T7N, R9E, S25 and S36 Prepared by JD on 2015-09-01  
 C. of Madison, Technical Review by MP on 2015-09-01  
 Dane Co., WI Independent Review by JK on 2015-09-15

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 1:24,000 (at original document size of 8.5x11)





**Legend**

- Approximate Project Boundary
- NRCS Soil Survey Data
- Hydric Ratings**
- Predominantly Hydric Soils
- Partially Hydric Soils
- Non-Hydric Soils
- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody

**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet  
 2. Data Sources Include: Stantec, WDOT, WDNR, NRCS  
 3. Orthophotography: 2013 NAIIP

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.  
**2**

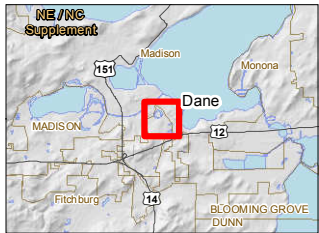
**Title**  
**NRCS Soil Survey Data**  
**Hydric Ratings**

Client/Project  
 Alliant Energy Center  
 Wetland Delineation

Project Location: 193703955  
 T7N, R9E, S25 and S36 Prepared by JD on 2015-09-01  
 C. of Madison, Technical Review by MP on 2015-09-01  
 Dane Co., WI Independent Review by JK on 2015-09-15







**Legend**

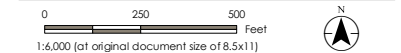
- Approximate Project Boundary
- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody
- Very Poorly Drained
- Poorly Drained
- Somewhat Poorly Drained
- 

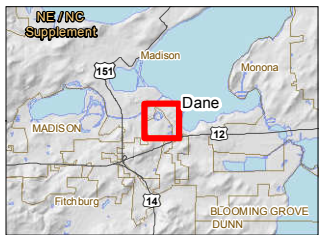
**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet  
 2. Data Sources Include: Stantec, WDOT, WDNR, NRCS  
 3. Orthophotography: 2013 NAIP

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No. **3**  
 Title  
**NRCS Soil Survey Data  
 Wetland Indicator Soils**  
 Client/Project  
 Alliant Energy Center  
 Wetland Delineation

Project Location 193703955  
 T7N, R9E, S25 and S36 Prepared by JD on 2015-09-01  
 C. of Madison, Technical Review by MP on 2015-09-01  
 Dane Co., WI Independent Review by JK on 2015-09-15





- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
  2. Data Sources Include: Stantec, WDOT, WDNR
  3. Orthophotography: 2013 NAIIP

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

**Legend**

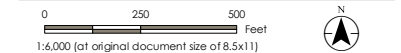
- Approximate Project Boundary
- ~ DNR 24k Hydrography
- ~ Perennial Stream
- - - Intermittent Stream
- ~ Waterbody
- Wetland
- Wetland Class Areas
- Wetland Class Points
- Wetland too small to delineate
- Excavated pond

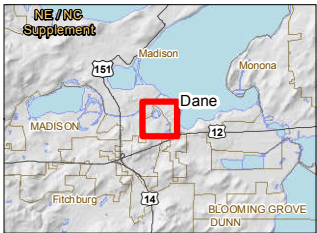
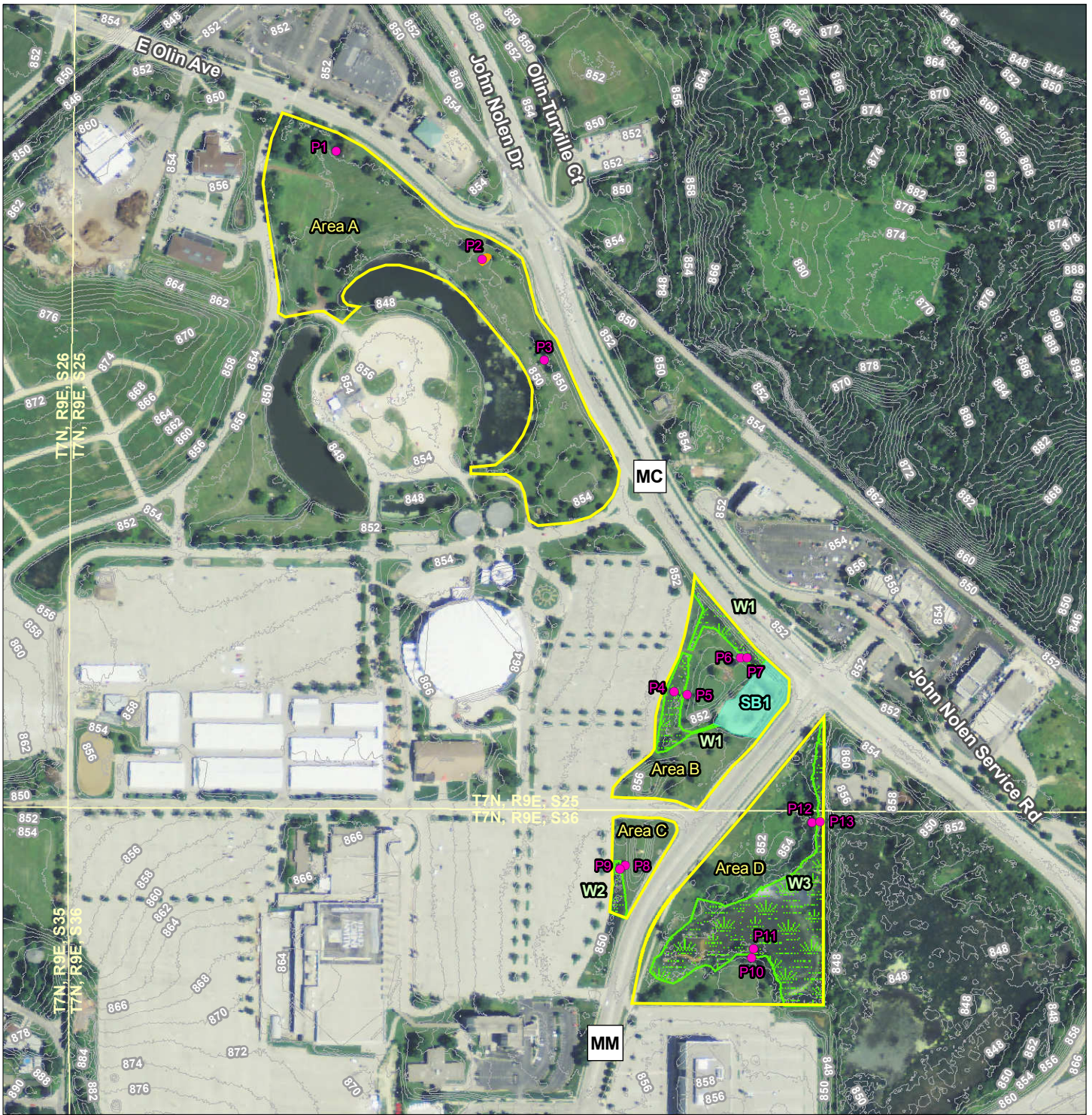
Figure No. **4**

Title  
**Wisconsin Wetland Inventory**

Client/Project  
Alliant Energy Center  
Wetland Delineation

Project Location 193703955  
T7N, R9E, S25 and S36 Prepared by JD on 2015-09-01  
C. of Madison, Technical Review by MP on 2015-09-01  
Dane Co., WI Independent Review by JK on 2015-09-15





**Legend**

- Approximate Project Boundary
- 2 ft Elevation Contours
- Sample Point
- Sediment Basin
- Stormwater Basin
- Field Delineated Wetland
- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream

- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
  2. Data Sources Include: Stantec, WDOT, WDNR
  3. Orthophotography: 2013 NAIP

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.

**5**

Title

**Field Collected Data**

Client/Project  
Alliant Energy Center  
Wetland Delineation

Project Location 193703955  
T7N, R9E, S25 and S36 Prepared by JD on 2015-09-01  
C. of Madison, Technical Review by JD on 2015-09-01  
Dane Co., WI Independent Review by JK on 2015-09-15

0 250 500  
Feet  
1:6,000 (at original document size of 8.5x11)



# ASSURED WETLAND DELINEATION REPORT

Alliant Energy Center  
Appendix B- Wetland Determination Data Forms  
September 15, 2015

## Appendix B- Wetland Determination Data Forms

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Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Colwood silt loam, 0 to 2 percent slopes</b>	State: <b>Wisconsin</b>
Landform: <b>Flat</b>	Local Relief: <b>none</b>	Wetland ID: <b>N/A</b>
Slope (%): <b>0</b>	Latitude: <b>N/A</b>	Sample Point: <b>P1</b>
	Longitude: <b>N/A</b>	Community ID: <b>Upland</b>
	Datum: <b>NAD 83</b>	Section: <b>25</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. The sample point is located in maintained open area comprised of mowed turf grass that had been historically filled.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
---	---	--

**Field Observations:**

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	<b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Colwood silt loam, 0 to 2 percent slopes**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	13	1	10YR	3/2	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
---	--	---

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

Restrictive Layer (If Observed) Type: **Compacted Gravel** Depth: **13**

**Hydric Soil Present?**  Yes  No

Remarks: **Approximately 10% of the observed soil profile is comprised of gravel fill. Appears to have been disturbed/filled in the past.**

Project/Site: **Alliant Energy Center** Wetland ID: **N/A** Sample Point: **P1**

**VEGETATION** (Species identified in all uppercase are non-native species.)

	<i>Species Name</i>	% Cover	Dominant	Ind. Status
1.	<b>SALIX BABYLONICA</b>	<b>5</b>	<b>Y</b>	<b>UPL</b>
2.	<b>Betula nigra</b>	<b>2</b>	<b>Y</b>	<b>FACW</b>
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>7</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

**Prevalence Index Worksheet**

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>2</u>	x 2 =	<u>4</u>
FAC spp.	<u>2</u>	x 3 =	<u>6</u>
FACU spp.	<u>112</u>	x 4 =	<u>448</u>
UPL spp.	<u>5</u>	x 5 =	<u>25</u>
Total		<u>121</u> (A)	<u>483</u> (B)
Prevalence Index = B/A =		<u>3.992</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 2 meter radius)				
1.	<b>POA PRATENSIS</b>	<b>70</b>	<b>Y</b>	<b>FACU</b>
2.	<b>FESTUCA RUBRA</b>	<b>20</b>	<b>N</b>	<b>FACU</b>
3.	<b>GLECHOMA HEDERACEA</b>	<b>20</b>	<b>N</b>	<b>FACU</b>
4.	<b>ARCTIUM MINUS</b>	<b>2</b>	<b>N</b>	<b>FACU</b>
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>112</b>		

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

Woody Vine Stratum (Plot size: 10 meter radius)				
1.	<b>Vitis riparia</b>	<b>2</b>	<b>Y</b>	<b>FAC</b>
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>2</b>		

**Hydrophytic Vegetation Present**  Yes  No

Remarks: **Herbaceous vegetation is mowed turf grass. Trees have been planted.**

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Colwood silt loam, 0 to 2 percent slopes</b>	State: <b>Wisconsin</b>
Landform: <b>Depression</b>	Local Relief: <b>Concave</b>	Wetland ID: <b>N/A</b>
Slope (%): <b>5</b>	Latitude: <b>N/A</b>	Sample Point: <b>P2</b>
Longitude: <b>N/A</b>	Datum: <b>NAD 83</b>	Community ID: <b>Sediment basin</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: <b>25</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: <b>7N</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: <b>9</b> Dir: <b>E</b>

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. Sample point represents a stormwater basin that drains northeast into a culvert towards John Nolen Drive.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input checked="" type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
--	---	--

**Field Observations:**

Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <b>4</b> (in.)	<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <b>0</b> (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <b>0</b> (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **Small sediment basin drains northeast towards John Nolen Drive.**

**SOILS**

Map Unit Name: **Colwood silt loam, 0 to 2 percent slopes**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	6	1	10YR	4/2	50	--	--	--	--	--	silt loam
--	--	--	10YR	2/1	40	10YR	5/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
---	---	---

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

Restrictive Layer (If Observed) Type: <b>Compacted gravel</b> Depth: <b>6</b>	<b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:	

Project/Site: **Alliant Energy Center** Wetland ID: **N/A** Sample Point: **P2**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Nymphaea odorata</i>	20	Y	OBL
2.	<i>PHALARIS ARUNDINACEA</i>	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>25</b>		

Total Cover = **25**

Woody Vine Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

Total Cover = **0**

Remarks:

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:		Multiply by:	
OBL spp.	<u>20</u>	x 1 =	<u>20</u>
FACW spp.	<u>5</u>	x 2 =	<u>10</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>25</u> (A)	<u>30</u> (B)
Prevalence Index = B/A =		<u>1.200</u>	

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**  Yes  No

**Additional Remarks:**



Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Made land</b>	State: <b>Wisconsin</b>
Landform: <b>Flat</b>	Local Relief: <b>none</b>	Wetland ID: <b>N/A</b>
Slope (%): <b>0</b>	Latitude: <b>N/A</b>	Sample Point: <b>P3</b>
	Longitude: <b>N/A</b>	Community ID: <b>Upland</b>
	Datum: <b>NAD 83</b>	Section: <b>25</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. The sample point is located in maintained, open grounds where the vegetation has been mowed.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Made land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	10	1	10YR	2/1	100	--	--	--	--	--	silt loam
10	24	2	10YR	4/2	60	--	--	--	--	--	silty clay loam
--	--	--	10YR	4/3	30	10YR	5/6	10	C	M	silt loam
24	28	3	N	2.5/0	100	--	--	--	--	--	mucky silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b> Depth: <b>N/A</b>	<p><b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Remarks: **Horizon 2: approximately 10% soil profile is comprised of gravel fill. Upper 24 inches of profile represents fill material and hydric features do not appear to have formed in-situ**

Project/Site: **Alliant Energy Center** Wetland ID: **N/A** Sample Point: **P3**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Prevalence Index Worksheet**

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>125</u>	x 4 =	<u>500</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total <u>125</u> (A)			<u>500</u> (B)
Prevalence Index = B/A =			<u>4.000</u>

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>POA PRATENSIS</i>	90	Y	FACU
2.	<i>ELYMUS REPENS</i>	20	N	FACU
3.	<i>LOLIUM PERENNE</i>	10	N	FACU
4.	<i>TARAXACUM OFFICINALE</i>	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>125</b>		

**Hydrophytic Vegetation Indicators:**

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Rapid Test for Hydrophytic Vegetation
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Dominance Test is > 50%
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Prevalence Index is ≤ 3.0 *
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Morphological Adaptations (Explain) *
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Problem Hydrophytic Vegetation (Explain) *

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Present**  Yes  No

Remarks: **Vegetation is maintained turf grass that has been mowed.**

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Depression</b>	Local Relief: <b>Concave</b>	Wetland ID: <b>W1</b>
Slope (%): <b>1-2</b>	Latitude: <b>N/A</b>	Sample Point: <b>P4</b>
	Longitude: <b>N/A</b>	Community ID: <b>Shallow Marsh</b>
	Datum: <b>NAD 83</b>	Section: <b>25</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. W1 serves as a stormwater feature collecting runoff from adjacent developed land. Soil disturbance is evidenced by presence of gravel fill in soil profile.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>2</b> (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>0</b> (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>0</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **Sample point located within stormwater feature, conveying runoff from adjacent parking lot to open water stormwater pond.**

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
<b>1</b>	<b>24</b>	<b>1</b>	<b>10YR</b>	<b>4/2</b>	<b>88</b>	<b>10YR</b>	<b>4/6</b>	<b>12</b>	<b>C</b>	<b>M</b>	<b>silt loam</b>
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	--	--	--

<p><b>NRCS Hydric Soil Field Indicators</b> (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
--	--

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

Restrictive Layer (If Observed) Type: <b>N/A</b>	Depth: <b>N/A</b>	<b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	-------------------	---

Remarks: **Soil profile contains approximately 10% gravel fill. Soil is disturbed and appears to be mixed fill/sediment.**

Project/Site: **Alliant Energy Center**

Wetland ID: **W1**

Sample Point: **P4**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:		Multiply by:	
OBL spp.	122	x 1 =	122
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total		142 (A)	202 (B)
Prevalence Index = B/A =		<u>1.423</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Indicators:**

- Yes     No    Rapid Test for Hydrophytic Vegetation
- Yes     No    Dominance Test is > 50%
- Yes     No    Prevalence Index is ≤ 3.0 \*
- Yes     No    Morphological Adaptations (Explain) \*
- Yes     No    Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>TYPHA ANGUSTIFOLIA</i>	60	Y	OBL
2.	<i>Eleocharis erythropoda</i>	50	Y	OBL
3.	<i>POA PRATENSIS</i>	20	N	FACU
4.	<i>Lycopus americanus</i>	10	N	OBL
5.	<i>Alisma subcordatum</i>	2	N	OBL
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>142</b>		

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Present**     Yes     No

Remarks:

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Backslope</b>	Local Relief: <b>Convex</b>	Wetland ID: <b>W1</b>
Slope (%): <b>2</b>	Latitude: <b>N/A</b>	Sample Point: <b>P5</b>
	Longitude: <b>N/A</b>	Community ID: <b>Upland</b>
	Datum: <b>NAD 83</b>	Section: <b>25</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. Sample point is located in maintained, open grounds where the vegetation comprised of mowed turf grass.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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**Field Observations:**

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	<b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
1	12	1	10YR	3/2	100	--	--	--	--	--	silt loam
12	20	2	10YR	4/4	60	--	--	--	--	--	silty clay loam
--	--	--	10YR	4/3	30	--	--	--	--	--	silt loam
--	--	--	10YR	3/2	10	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b>	Depth: <b>N/A</b>	<b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: <b>Horizon 2 is a mixture of fill material.</b>		

Project/Site: **Alliant Energy Center**

Wetland ID: **W1**

Sample Point: **P5**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<i>Species Name</i>	% Cover	Dominant	Ind. Status
1.	<b>POPULUS X CANESCENS</b>	<b>5</b>	<b>Y</b>	<b>UPL</b>
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>5</b>		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		
Herb Stratum (Plot size: 2 meter radius)				
1.	<b>POA PRATENSIS</b>	<b>85</b>	<b>Y</b>	<b>FACU</b>
2.	<b>PLANTAGO MAJOR</b>	<b>5</b>	<b>N</b>	<b>FACU</b>
3.	<b>TRIFOLIUM REPENS</b>	<b>5</b>	<b>N</b>	<b>FACU</b>
4.	<b>TARAXACUM OFFICINALE</b>	<b>2</b>	<b>N</b>	<b>FACU</b>
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>97</b>		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

**Dominance Test Worksheet**

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

**Prevalence Index Worksheet**

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>97</u>	x 4 =	<u>388</u>
UPL spp.	<u>5</u>	x 5 =	<u>25</u>
Total		<u>102</u> (A)	<u>413</u> (B)
Prevalence Index = B/A =		<u>4.049</u>	

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**  Yes  No

Remarks: **Vegetation is comprised of planted hybrid poplar and mowed turf grass.**

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Backslope</b>	Local Relief: <b>Convex</b>	Wetland ID: <b>W1</b>
Slope (%): <b>1</b>	Latitude: <b>N/A</b>	Sample Point: <b>P6</b>
	Longitude: <b>N/A</b>	Community ID: <b>Upland</b>
	Datum: <b>NAD 83</b>	Section: <b>25</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. Sample point is located in maintained, open grounds where the vegetation comprised of mowed turf grass.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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**Field Observations:**

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	<b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
1	12	1	10YR	3/2	100	--	--	--	--	--	silt loam
12	20	2	10YR	4/4	60	--	--	--	--	--	silty clay loam
--	--	--	10YR	4/3	30	--	--	--	--	--	silt loam
--	--	--	10YR	3/2	10	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b>	Depth: <b>N/A</b>	<b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: **Horizon 2 is a mixture of fill material.**

Project/Site: **Alliant Energy Center** Wetland ID: **W1** Sample Point: **P6**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index Worksheet**

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>95</u>	x 4 =	<u>380</u>
UPL spp.	<u>5</u>	x 5 =	<u>25</u>
Total		<u>100</u> (A)	<u>405</u> (B)
Prevalence Index = B/A =		<u>4.050</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<b>POA PRATENSIS</b>	<b>90</b>	<b>Y</b>	<b>FACU</b>
2.	<b>SETARIA ITALICA</b>	<b>5</b>	<b>N</b>	<b>UPL</b>
3.	<b>TARAXACUM OFFICINALE</b>	<b>5</b>	<b>N</b>	<b>FACU</b>
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>100</b>		

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Present**  Yes  No

Remarks: **Vegetation is comprised of mowed turf grass.**

**Additional Remarks:**



Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Depression</b>	Local Relief: <b>Concave</b>	Wetland ID: <b>W1</b>
Slope (%): <b>2</b>	Latitude: <b>N/A</b>	Sample Point: <b>P7</b>
	Longitude: <b>N/A</b>	Community ID: <b>Shallow Marsh</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: <b>25</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: <b>7N</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: <b>9</b> Dir: <b>E</b>

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. W1 serves as a stormwater feature collecting runoff from adjacent developed land. Soil disturbance is evidenced by presence of gravel fill in soil profile.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>6</b> (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>0</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **Sample point is located in a stormwater swale that drains water from the adjacent parking lot to the storm water pond.**

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
1	18	1	10YR	3/1	68	10YR	4/2	20	C	M	silt loam
--	--	--	--	--	--	10YR	4/6	12	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p><b>NRCS Hydric Soil Field Indicators</b> (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b> Depth: <b>N/A</b>	<p><b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

Remarks: **gravelly fill material observed in profile.**

Project/Site: **Alliant Energy Center**

Wetland ID: **W1**

Sample Point: **P7**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Total Cover = <b>0</b>				
------------------------	--	--	--	--

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<b>TYPHA ANGUSTIFOLIA</b>	<b>100</b>	<b>Y</b>	<b>OBL</b>
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>100</b>		

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index Worksheet**

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>100</u>	x 1 =	<u>100</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total <u>100</u> (A)		<u>100</u> (B)	
Prevalence Index = B/A =		<u>1.000</u>	

**Hydrophytic Vegetation Indicators:**

- Yes     No    Rapid Test for Hydrophytic Vegetation
- Yes     No    Dominance Test is > 50%
- Yes     No    Prevalence Index is ≤ 3.0 \*
- Yes     No    Morphological Adaptations (Explain) \*
- Yes     No    Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**     Yes     No

Remarks:

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Footslope</b>	Local Relief: <b>Convex</b>	Wetland ID: <b>W2</b>
Slope (%): <b>1-2</b>	Latitude: <b>N/A</b>	Sample Point: <b>P8</b>
	Longitude: <b>N/A</b>	Community ID: <b>Upland</b>
	Datum: <b>NAD 83</b>	Section: <b>36</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. The sample point is located on maintained grounds where the vegetation has been mown and the area has been historically filled.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	3/2	100	--	--	--	--	--	silt loam
16	20	2	10YR	4/4	60	--	--	--	--	--	silt loam
--	--	--	10YR	3/2	40	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b> Depth: <b>N/A</b>	<p><b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	--

Remarks: **Horizon 2 is comprised of mixed fill material.**

Project/Site: **Alliant Energy Center**

 Wetland ID: **W2**

 Sample Point: **P8**
**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Fraxinus pennsylvanica</i>	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		5		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>POA PRATENSIS</i>	90	Y	FACU
2.	<i>FESTUCA RUBRA</i>	10	N	FACU
3.	<i>TARAXACUM OFFICINALE</i>	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		110		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

**Dominance Test Worksheet**

 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

 Total Number of Dominant Species Across All Strata: 2 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

Multiply by:

OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>5</u>	x 2 =	<u>10</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>110</u>	x 4 =	<u>440</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>

 Total 115 (A) 450 (B)

 Prevalence Index = B/A = 3.913
**Hydrophytic Vegetation Indicators:**

- |                              |  |  |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation      |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50%                    |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 *                |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) *      |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**
**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**  Yes  No

 Remarks: **Herbaceous vegetation is comprised of mowed turf grass.**
**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Toeslope</b>	Local Relief: <b>Concave</b>	Wetland ID: <b>W2</b>
Slope (%): <b>0</b>	Latitude: <b>N/A</b>	Sample Point: <b>P9</b>
	Longitude: <b>N/A</b>	Community ID: <b>Shallow Marsh</b>
	Datum: <b>NAD 83</b>	Section: <b>36</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. Sample point is located in a drainage swale at the toe of the parking lot adjacent to the west boundary of the study area.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input checked="" type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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**Field Observations:**

Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: <b>N/A</b> (in.)	<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <b>8</b> (in.)	
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: <b>0</b> (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	4	1	10YR	2/1	100	--	--	--	--	--	silt loam
4	18	2	10YR	4/1	90	10YR	5/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A**

**Hydric Soil Present?**  Yes  No

Remarks:

Project/Site: **Alliant Energy Center**

Wetland ID: **W2**

Sample Point: **P9**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Total Cover = <b>0</b>				
------------------------	--	--	--	--

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>TYPHA ANGUSTIFOLIA</i>	90	Y	OBL
2.	<i>PHALARIS ARUNDINACEA</i>	10	N	FACW
3.	<i>Schoenoplectus tabernaemontani</i>	2	N	OBL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>102</b>		

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

Remarks:

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:		Multiply by:	
OBL spp.	<u>92</u>	x 1 =	<u>92</u>
FACW spp.	<u>10</u>	x 2 =	<u>20</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>102</u> (A)	<u>112</u> (B)
Prevalence Index = B/A =		<u>1.098</u>	

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**  Yes  No

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Backslope</b>	Local Relief: <b>Convex</b>	Wetland ID: <b>W3</b>
Slope (%): <b>1-2</b>	Latitude: <b>N/A</b>	Sample Point: <b>P10</b>
	Longitude: <b>N/A</b>	Community ID: <b>Old field</b>
	Datum: <b>NAD 83</b>	Section: <b>36</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		
Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. Sample point is located on upland mowed area around edge of W3.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	10	1	10YR	3/2	100	--	--	--	--	--	silt loam
10	20	2	10YR	4/2	45	--	--	--	--	--	silty clay loam
--	--	--	10YR	3/2	30	--	--	--	--	--	silty clay loam
--	--	--	10YR	4/3	25	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p><b>NRCS Hydric Soil Field Indicators</b> (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b> Depth: <b>N/A</b>	<p><b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks:

Project/Site: **Alliant Energy Center**

 Wetland ID: **W3**

 Sample Point: **P10**
**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Picea glauca</i>	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		10		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	<i>LONICERA X BELLA</i>	10	Y	FACU
2.	<i>RHAMNUS CATHARTICA</i>	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		15		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>POA PRATENSIS</i>	90	Y	FACU
2.	<i>GLECHOMA HEDERACEA</i>	10	N	FACU
3.	<i>DAUCUS CAROTA</i>	10	N	UPL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		110		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

**Dominance Test Worksheet**

 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

 Total Number of Dominant Species Across All Strata: 4 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

Multiply by:

OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>5</u>	x 3 =	<u>15</u>
FACU spp.	<u>120</u>	x 4 =	<u>480</u>
UPL spp.	<u>10</u>	x 5 =	<u>50</u>

 Total 135 (A) 545 (B)

 Prevalence Index = B/A = 4.037
**Hydrophytic Vegetation Indicators:**

- |                              |  |  |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation      |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50%                    |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 *                |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) *      |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**
**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**  Yes  No

 Remarks: **Sample point is located in a maintained upland area around the edge of W3 where the vegetation has been recently mowed.**
**Additional Remarks:**



Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Toeslope</b>	Local Relief: <b>Concave</b>	Wetland ID: <b>W3</b>
Slope (%): <b>N/A</b>	Latitude: <b>N/A</b>	Sample Point: <b>P11</b>
	Longitude: <b>N/A</b>	Community ID: <b>Shallow Marsh</b>
	Datum: <b>NAD 83</b>	Section: <b>36</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</b>

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>4</b> (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>0</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	16	1	10YR	4/1	80	10YR	5/6	10	C	M	silt loam
--	--	--	10YR	2/1	10	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

<p><b>NRCS Hydric Soil Field Indicators</b> (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b> Depth: <b>N/A</b>	<p><b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	--

Remarks: **Soils are disturbed, but exhibit hydric characteristics.**

Project/Site: **Alliant Energy Center** Wetland ID: **W3** Sample Point: **P11**

**VEGETATION** (Species identified in all uppercase are non-native species.)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<b>TYPHA ANGUSTIFOLIA</b>	<b>90</b>	<b>Y</b>	<b>OBL</b>
2.	<b>LYTHRUM SALICARIA</b>	<b>5</b>	<b>N</b>	<b>OBL</b>
3.	<b>PHALARIS ARUNDINACEA</b>	<b>5</b>	<b>N</b>	<b>FACW</b>
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>100</b>		

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<b>Vitis riparia</b>	<b>2</b>	<b>Y</b>	<b>FAC</b>
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>2</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index Worksheet**

<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL spp.	<u>95</u>	x 1 =	<u>95</u>
FACW spp.	<u>5</u>	x 2 =	<u>10</u>
FAC spp.	<u>2</u>	x 3 =	<u>6</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>102</u> (A)	<u>111</u> (B)
Prevalence Index = B/A =		<u>1.088</u>	

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

- Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
- Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
- Woody Vines** - All woody vines greater than 3.28 ft. in height.

**Hydrophytic Vegetation Present**  Yes  No

Remarks:

**Additional Remarks:**

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>08/27/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Backslope</b>	Local Relief: <b>Convex</b>	Wetland ID: <b>W3</b>
Slope (%): <b>0-1</b>	Latitude: <b>N/A</b>	Sample Point: <b>P12</b>
	Longitude: <b>N/A</b>	Community ID: <b>Shrub/Scrub</b>
	Datum: <b>NAD 83</b>	Section: <b>36</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: <b>7N</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Range: <b>9</b> Dir: <b>E</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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<p><b>Field Observations:</b></p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Depth: <b>N/A</b> (in.)	<p><b>Wetland Hydrology Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks:

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%	Type	Location	
0	18	1	10YR	3/2	80	--	--	--	--	--
--	--	--	10YR	4/3	20	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

<p><b>NRCS Hydric Soil Field Indicators</b> (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) <p><small><sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</small></p>
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Restrictive Layer (If Observed) Type: <b>N/A</b> Depth: <b>N/A</b>	<p><b>Hydric Soil Present?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Remarks: **The soil profile is comprised of mixed fill material with approximately 10% gravel.**

Project/Site: **Alliant Energy Center**

 Wetland ID: **W3**

 Sample Point: **P12**
**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<i>Species Name</i>	% Cover	Dominant	Ind. Status
1.	<i>Betula nigra</i>	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		5		

**Dominance Test Worksheet**

 Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

 Total Number of Dominant Species Across All Strata: 4 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:		Multiply by:	
OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>5</u>	x 2 =	<u>10</u>
FAC spp.	<u>110</u>	x 3 =	<u>330</u>
FACU spp.	<u>30</u>	x 4 =	<u>120</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>145</u> (A)	<u>460</u> (B)
Prevalence Index = B/A =		<u>3.172</u>	

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<i>Species Name</i>	% Cover	Dominant	Ind. Status
1.	<i>RHAMNUS CATHARTICA</i>	80	Y	FAC
2.	<i>LONICERA X BELLA</i>	30	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		110		

**Hydrophytic Vegetation Indicators:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation      |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | Dominance Test is > 50%                    |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 *                |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) *      |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 2 meter radius)				
	<i>Species Name</i>	% Cover	Dominant	Ind. Status
1.	<i>RHAMNUS CATHARTICA</i>	30	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		30		

**Definitions of Vegetation Strata:**
**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<i>Species Name</i>	% Cover	Dominant	Ind. Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

**Hydrophytic Vegetation Present**  Yes  No

 Remarks: The plant community is dominated by common buckthorn (*Rhamnus cathartica*, FAC), likely due to past disturbances as evidenced by the fill material in the soil profile. No herbaceous species present due to dense shrub cover.

**Additional Remarks:**

 The plant community is dominated by common buckthorn (*Rhamnus cathartica*, FAC), likely due to past disturbances as evidenced by the fill material in the soil profile. While the vegetation passes the dominance test, the lack of hydrology and hydric soil indicators support an upland determination.

Project/Site: <b>Alliant Energy Center</b>	Stantec Project #: <b>193703955</b>	Date: <b>09/01/15</b>
Applicant: <b>Dane County</b>	Investigator #1: <b>Jeff Kraemer</b>	County: <b>Dane</b>
Investigator #2: <b>Abigail Medis</b>	Soil Unit: <b>Cut and fill land</b>	State: <b>Wisconsin</b>
Landform: <b>Depression</b>	Local Relief: <b>Concave</b>	Wetland ID: <b>W3</b>
Slope (%): <b>2-3</b>	Latitude: <b>N/A</b>	Sample Point: <b>P13</b>
	Longitude: <b>N/A</b>	Community ID: <b>Open water</b>
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: <b>36</b>
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Township: <b>7N</b>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Range: <b>9</b> Dir: <b>E</b>

**SUMMARY OF FINDINGS**

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: **A WETS analysis of the antecedent precipitation indicates the hydrologic conditions on the site were within normal range at the time of investigation. The sample point is located in an open water stormwater swale that drains water south to the shallow marsh.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check here if indicators are not present ):

<p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input checked="" type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
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<b>Field Observations:</b> Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>3</b> (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>0</b> (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Depth: <b>0</b> (in.)	<b>Wetland Hydrology Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **N/A**

Remarks: **The sample point is located in a stormwater swale that drains water south to the shallow marsh.**

**SOILS**

Map Unit Name: **Cut and fill land**

**Profile Description** (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)	%		Color (Moist)	%	Type	Location		
0	4	1	10YR	3/1	--	--	--	--	--	--	silt loam
4	18	2	10YR	4/1	88	10YR	5/6	12	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ):

<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<p><b>Indicators for Problematic Soils<sup>1</sup></b></p> <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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<sup>1</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: <b>N/A</b>	Depth: <b>N/A</b>	<b>Hydric Soil Present?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:

Project/Site: **Alliant Energy Center** Wetland ID: **W3** Sample Point: **P13**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)  
 Total Number of Dominant Species Across All Strata: 0 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: NA (A/B)

**Prevalence Index Worksheet**

Total % Cover of: 0 Multiply by:

OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>0</u>	x 2 =	<u>0</u>
FAC spp.	<u>0</u>	x 3 =	<u>0</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>
Total		<u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = NA

Sapling/Shrub Stratum (Plot size: 5 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Indicators:**

- Yes  No Rapid Test for Hydrophytic Vegetation
- Yes  No Dominance Test is > 50%
- Yes  No Prevalence Index is ≤ 3.0 \*
- Yes  No Morphological Adaptations (Explain) \*
- Yes  No Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 2 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		<b>0</b>		

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

**Woody Vines** - All woody vines greater than 3.28 ft. in height.

Woody Vine Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		<b>0</b>		

**Hydrophytic Vegetation Present**  Yes  No

Remarks: **No vegetation present. Open water in stormwater drainage feature.**

**Additional Remarks:**

The sample point is located in a stormwater swale that drains water south to the shallow marsh. No vegetation is present, however a wetland determination is made based on the observation of primary hydrology indicators and hydric soils.

# ASSURED WETLAND DELINEATION REPORT

Alliant Energy Center  
Appendix C– Site Photographs  
September 15, 2015

## Appendix C – Site Photographs

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**Photo 1.** P1, view south



**Photo 2.** P1, view west



**Photo 3.** P2 at storm water sediment basin, view east



**Photo 4.** Pond adjacent to Area A, view south from east central shore



**Photo 5.** P3, view south



**Photo 6.** W1, view east from P4





**Photo 7.** P6, view south along W1 boundary



**Photo 8.** P7 in W1, view east



**Photo 9.** W1 storm water basin, view southeast from northwest corner of basin



**Photo 10.** Area C, view southwest from northeast corner of parcel



**Photo 11.** P8, view west towards W2



**Photo 12.** P10, view west



**Photo 13.** W3, view east from P10 looking towards P11



**Photo 14.** P12, view west



**Photo 15.** W3 storm water drainage swale, view southwest from P13

# ASSURED WETLAND DELINEATION REPORT

Alliant Energy Center  
Appendix D- WETS Analysis  
September 15, 2015

## Appendix D – WETS Analysis

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## WETS Analysis Worksheet

Project Name: Alliant Engery Center  
 Project Number: 193703955  
 Period of interest: June-August  
 Station: University of Wisconsin Arboretum (WI0273)  
 County: Dane County, WI

**Long-term rainfall records (from WETS table)**

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	August	2.94	4.10	4.84
2nd month prior:	July	2.98	4.36	5.20
3rd month prior:	June	2.70	4.60	5.58
		Sum =	<b>13.06</b>	

**Site determination**

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
4.30	Normal	2	3	6
4.68	Normal	2	2	4
3.72	Normal	2	1	2
		Sum =	Sum*** =	<b>12</b>

\*Normal precipitation with 30% to 70% probability of occurrence

Determination: \_\_\_\_\_ Wet

\*\*Condition value:

Dry = 1  
 Normal = 2  
 Wet = 3

\*\*\*If sum is:

6 to 9 then period has been drier than normal  
 10 to 14 then period has been normal  
 15 to 18 then period has been wetter than normal

\_\_\_\_\_ Dry  
  X   Normal

Precipitation data source: ACIS - NOAA Regional Climate Centers  
 Western Regional Climate Center - ARBORETUM UNIV WIS, WI Monthly Sum of Precipitation

Reference: Donald E. Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

## ASSURED WETLAND DELINEATION REPORT

Alliant Energy Center  
Appendix E- Delineator Qualifications  
September 15, 2015

# Appendix E- Delineator Qualifications

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Mr. Kraemer specializes in environmental regulatory support and policy. He has substantial experience working with the local, state, and federal regulatory agencies on complex, often controversial projects. Mr. Kraemer has substantial experience assisting clients at the project planning level to identify and plan for environmental regulatory implications and risk across many industry sectors with particular expertise in the utility and private development industries. Mr. Kraemer has a thorough understanding of the technical and regulatory aspects of environmental projects. His experience includes: Project critical issues analysis/permitting feasibility assessments; Wetland and other natural resource investigations, mitigation planning, and permitting; Clean Water Act and Endangered Species Act studies and consultation; and National Environmental Policy Act documentation (EA/EIS).

In addition to environmental regulatory expertise, Mr. Kraemer has a strong technical background in wetland ecology and botany and manages Stantec's Midwest ecological restoration implementation group. This group is responsible for building, managing, and monitoring natural area restoration projects such as wetland mitigation. Mr. Kraemer is an assured wetland professional through the Wisconsin Department of Natural Resources Wetland Delineation Professional Assurance Initiative and has extensive environmental consulting experience as both a field ecologist and project manager.

#### EDUCATION

Wetland Training Institute, Training, Wetland Soils and Hydrology, 2003

Vegetation of Wisconsin Workshop, Training, UW-Milwaukee, 2000

Wetland Delineation Training Workshop, Continuing Education and Extension, UW-La Crosse, 2001

Identification of Sedges Workshop, Training, UW-Milwaukee, 2001

Environmental Corridor Delineation Workshop, Training, Southeastern Wisconsin Regional Planning Commission (SEWRPC), 2004

M.S. – Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin, Milwaukee, Wisconsin, 2003

B.S. – Biological Sciences (Emphasis in Aquatic Biology), University of Wisconsin, La Crosse, Wisconsin, 1999

Assured Wetland Delineator, Milwaukee, Wisconsin, 2008

#### REGISTRATIONS

Professionally Assured Wetland Delineator, Wisconsin Department of Natural Resources

Wetland Professional in Training (WPIT), Society of Wetland Scientists Certification Program

#### MEMBERSHIPS

Member, Society of Wetland Scientists

Member, Wisconsin Wetlands Association

#### PROJECT EXPERIENCE

##### **Commercial / Retail Development**

Commercial Development, Windsor, Wisconsin  
*Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the commercial development project.*

Fitchburg Technology Campus, Fitchburg, Wisconsin

*Completed woodland assessment, tree survey, and woodland restoration and management plan in support of retail and commercial development project.*

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Senior Scientist / Project Manager

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## **Conventional Power**

Edgewater Generation Facility, Sheboygan, Wisconsin

*Managed and coordinated environmental regulatory process for expansion of existing fly-ash disposal facility which required approvals from the USACE and WDNR for wetland impacts associated with the project.*

Waukegan Power Station, Lake County, Illinois

*Provided threatened and endangered species consultation and wetland surveying along Lake Michigan shorelines for permitting a dredging activity and expansion of the facility.*

Nelson Dewey Power Generation Facility Expansion Project, Caseville, Wisconsin

*Completed comprehensive field evaluations of wetlands in preparation of NEPA documentation for expansion of the facility.*

Waukegan Power Generation Facility Expansion Project, Lake County, Illinois

*Completed field evaluations of wetlands and threatened and endangered species in coordination with Section 404 permitting requirements for expansion of the facility.*

Invasive Species Survey, Prairie Du Sac, Wisconsin

*Conducted a purple loosestrife survey on Lake Wisconsin shorelines and wetlands in order to develop a purple loosestrife management plan in support of the hydroelectric facility FERC licensing.*

## **Ecosystem Restoration**

Campus Facility Native Landscape Management, Milwaukee County, Wisconsin

*Managed and coordinated development of a native landscape plan for the 50 acres of open space surrounding Northwestern Mutual's campus facility. The plan consisted of wetland, woodland, and prairie restoration. Following completion and approval of the plan, continued to manage and coordinate the implementation of native landscape installation and long-term management.*

Threatened Plant Species Consultation, Port Wing, Wisconsin

*Completed comprehensive study of a threatened plant species population (*Petasites sagittatus*) in support of STH 13 Reconstruction project including preparation of relocation and monitoring plan, physical relocation of plants, and follow-up annual monitoring. This project resulted in one of the first documented, successful relocation of this species after five years of monitoring.*

Neptune Wetland Mitigation Site, Richland County, Wisconsin

*Completed annual comprehensive vegetation surveys, mapping, performance evaluations, and reporting of a 50-acre wetland mitigation bank site.*

Lake Koshkonong Water Level and Wetland Studies, Lake Koshkonong, Wisconsin

*Developed and conducted wetland studies for development of a water level management plan: *E. prairie* fringed orchid hydrology study; Floodplain forest/hydrology study; Floristic quality assessment/vegetation mapping within 4000 acres of wetlands.*

Wildcat Mountain Wetland Mitigation Monitoring, Vernon County, Wisconsin

*Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 38-acre mitigation site.*

Jug Creek Wetland Mitigation Monitoring, Vernon County, Wisconsin

*Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 10-acre mitigation site.*

Wetland Mitigation Bank Monitoring and Remediation, Oakdale, Wisconsin

*Completed annual mitigation site monitoring, vegetation surveys, and performance evaluations of 60-acre mitigation bank site. Completed mitigation remediation management plan for compliance with USACE performance standards.*

Samuelson Fen Restoration, Portage, Indiana

*Developed restoration plan to restore a degraded 30-acre fen, conducted vegetation surveys, floristic quality assessments and hydrology monitoring.*

\* denotes projects completed with other firms

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Senior Scientist / Project Manager

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## **Healthcare**

### **Badger Prairie Health Care Center Expansion Project, Verona, Wisconsin**

*Completed wetland delineation/evaluations and wetland permitting in support of the expansion of the healthcare facility.*

## **Oil and Gas Pipelines**

### **New Gas Pipeline Project, Wausau, Wisconsin**

*Completed environmental surveys along proposed gas pipeline corridor including environmental assessments, threatened and endangered plant species survey, and identification of wetland and upland community types.*

### **Southern Access Expansion Project, Wisconsin**

*Crude Petroleum Pipeline Project. Completed wetland delineations and habitat assessments along a 343 mile proposed crude petroleum pipeline corridor through Wisconsin as part of Enbridge Energy's Southern Access Expansion Program.*

## **Power Transmission & Distribution**

### **ComEd Prairie Programs, Various Locations, Illinois**

*Project manager for supporting ComEd's Prairie Program. ComEd initiated this program to restore native prairie habitats within their electric transmission Rights-of-way (ROW) and buffers. Stantec manages this program in coordination with ComEd which includes development of native management plans; coordination with site stewards; development of annual budgets; development of performance standards, and identifying new sites and stewards for program expansion. Stantec's implementation services include a full range of prairie restoration and management including preparing and installing new prairies and managing existing prairies through herbiciding, mowing, shrub removal; and prescribed burning. Currently there are over 100 acres of ROW within the prairie program in various stages of development.*

## **Prairie Program**

*Project manager for supporting ComEd's Prairie Program. ComEd initiated this program to restore native prairie habitats within their electric transmission Rights-of-way (ROW) and buffers. Stantec manages this program in coordination with ComEd which includes development of native management plans; coordination with site stewards; development of annual budgets; development of performance standards, and identifying new sites and stewards for program expansion. Stantec's implementation services include a full range of prairie restoration and management including preparing and installing new prairies and managing existing prairies through herbiciding, mowing, shrub removal; and prescribed burning. Currently there are over 100 acres of ROW within the prairie program in various stages of development.*

## **Electric Transmission Line Projects**

*Managed support for environmental and GIS services to gain regulatory approvals for new transmission lines. Provided project support for: transmission line siting; critical issues analysis; route matrices; GIS data acquisition and mapping services, coordination of regulatory agency meetings, completion of field wetland delineations; threatened and endangered species; biological assessment and Section 404 permitting, CPCN approvals; community advisory and public workshop support, and expert witness testimony. LaSalle-Ottawa, LaSalle County, IL; Wood River Refinery, Madison County, IL; Rockwood-Big River, Jefferson County, MO; Saddle Creek 73, Franklin County, MO. Havana Rebuild, Mason County, IL*

### **345 kV Transmission Line Project, Wisconsin**

*Arrowhead to Weston. Completed wetland delineations, threatened and endangered plant surveys, and habitat assessments along a 208 mile proposed new transmission line.*

### **Endangered Species Support, Wisconsin**

*Conducted Karner Blue butterfly surveys (federally endangered) along transmission line right-of-ways.*

## **Residential Development**

### **Country View Estates, DeForest, Wisconsin**

*Completed wetland delineation/evaluation, wetland permitting, and mitigation planning in support of a 400-acre mixed residential/commercial/recreational development project.*

\* denotes projects completed with other firms



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Senior Scientist / Project Manager

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## Northeast Neighborhood Plan, Fitchburg, Wisconsin

*Developed wetland protection standards for the City of Fitchburg's NE Neighborhood Plan.*

## Wesenberg Development, New Glarus, Wisconsin

*Conducted threatened and endangered plant species surveys, wetland delineations, and floristic quality assessment in support of the residential development.*

## Westwynde Development, Sun Prairie, Wisconsin

*Completed wetland delineation/evaluations, wetland permitting, wetland mitigation planning, and upland prairie restoration planning in support of the residential development.*

## Westshore Development Restoration Design, Oconomowoc, Wisconsin

*Designed a 30-acre upland habitat enhancement and wetland restoration plan in support of gaining regulatory approvals for residential development.*

## **Warehouse / Light Industrial**

### Manufacturing Facility Expansion Project, Arcadia, Wisconsin

*Developed and gained WDNR/USACE approval for 35-acre wetland mitigation plan in support of wetland impact application for expansion of the manufacturing facility; continue to monitor and coordinate implementation of mitigation plan.*

### Industrial Facility Expansion Project, Hustisford, Wisconsin

*Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the expansion of the industrial facility.*

### Trucking Facility Expansion, Franklin, Wisconsin

*Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation design for expansion of the trucking facility.*

\* denotes projects completed with other firms

# Jeffrey D. Kraemer W.P.I.T.

Senior Scientist / Project Manager

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## PUBLICATIONS

Presentation. Lake Koshkonong Wetlands: Diversity, Floristic Quality, and Community Mapping. *Lake Koshkonong Wetland Association*, 2006.

Presentation. Management of the Eastern Prairie Fringed Orchid in the Lake Koshkonong Wetlands. *Lake Koshkonong Wetland Association*, 2006.

Presentation. Lake Koshkonong Water Level Controversy: A Balance between Recreation and Wetland Protection. *WWA Annual Science Forum*, 2005.

Presentation. Lake Koshkonong Water Levels and Growth Rate of Trees in Bordering Floodplain Forests.. *Lake Koshkonong Wetland Association*, 2005.

Presentation. Floodplain forest hydrology and management implications: Lake Koshkonong as a case study. *Wisconsin Wetlands Association Annual Science Forum*, 2004.

Kraemer, J. Using wetland plants as indicators of fine scale variation in hydrology: the plant community-environment relationship in sedge meadows. *Master's Thesis defense*, 2003.

Presentation. Effects of invasive plant species on natural communities. *UW-Milwaukee, Biology Department*, 2001.