

# **APPENDIX B**

## **Wetland Delineation Report**

# WETLAND DELINEATION REPORT

**Carlisle Interconnect  
5300 W. Franklin Blvd  
Franklin, Wisconsin**

**June 7, 2016**

TRC Project No: 255682.0000

Prepared For:

JP Cullen  
13040 West Lisbon Road, Suite 900  
Brookfield, Wisconsin 53005

Prepared By:

Ron Londré, PWS  
TRC Environmental Corporation  
150 N. Patrick Blvd., Suite 150  
Brookfield, Wisconsin 53045



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## 1.0 INTRODUCTION

On behalf of JP Cullen, TRC Environmental Corporation (TRC) conducted a wetland delineation within a designated Study Area at 5300 W. Franklin Blvd (Figure 1, Appendix A). The Study Area was approximately 14 acres and located in Section 26, Township 5 North, Range 21 East, in the City of Franklin, Milwaukee County, Wisconsin.

Landowner's Name and Contact Information:

Carlisle Interconnect Technologies, Inc.  
5300 W Franklin Drive  
Franklin, Wisconsin 53132

The purpose of this wetland delineation was to determine the current location and extent of wetlands located within the designated Study Area for the proposed expansion of the Carlisle Interconnect manufacturing facility. Our study is presented here in terms of methodology, results, and conclusions.

The wetland delineation field investigation was conducted by TRC scientists Ron Londré (WDNR Assured Delineator), and Amanda Larsen on May 11, 2016 and May 13, 2016. Ron Londré was the lead investigator and is the author of this report.

### 1.1 Statement of Qualifications

TRC has extensive experience managing and conducting wetland delineations and assessments across the United States. TRC's biologists and ecologists have been trained to properly and consistently apply the methods set forth in the 1987 Corps of Engineers Wetland Delineation Manual and applicable regional supplements. They have direct experience identifying and documenting indicators of hydrophytic vegetation, wetland hydrology, and hydric soil and are experienced in dealing with naturally problematic and disturbed conditions.

TRC's large natural resources staff have the capability to coordinate wetland survey teams to meet fast-track project schedules and satisfy the challenges of complex or controversial projects.

**Mr. Ron Londré, PWS**, WDNR Assured Wetland Ecologist, is a Senior Ecologist at TRC with over twelve years of professional experience in wetland ecology. He is certified by the Society of Wetland Scientists Professional Certification Program as a Professional Wetland Scientist (PWS # 2436) and is certified by the Ecological Society of America as an Ecologist. His academic studies, from which he earned M.S. and B.S. Degrees in Biological Science, focused on plant community ecology and restoration ecology. Mr. Londré has completed the following wetland delineation technical training workshops provided by UW-La Crosse: Advanced Wetland Delineation; Basic Wetland Delineation; Critical Methods in Wetland Delineation; Hydric Soils; and Grasses, Sedges, and Rushes. Additionally, he has completed the Regional Supplement Seminar and Field Practicum training provided by the Wetland Training Institute and the Wetland Delineation



Training Workshop provided by the University of Wisconsin-Milwaukee. Mr. Londré is a part of the Wetland Delineation Professional Assurance Initiative of the Wisconsin Department of Natural Resources (WDNR). This means his work is assured for purposes of State of Wisconsin wetland delineations.

**Ms. Amanda Larsen** is a biologist with TRC and has over five years of experience working on a variety of natural resource projects throughout the United States. She specializes in conducting wetland delineations and assessments, biological surveys, water monitoring, habitat restoration, and invasive species control. Ms. Larsen has a B.S. degree in Conservation and Environmental Science from UW-Milwaukee with a focus on water resources. She has taken the following technical trainings related to wetland delineation: Wetland Delineation Critical Methods Workshop (2016), Advanced Wetland Delineation (2014), Basic Wetland Delineation (2013), provided by UW-La Crosse; and Significant Nexus Determination (2014) provided by the Swamp School.

## 1.2 Agency Regulatory Authority

Under Section 404 of the Clean Water Act (CWA), wetlands and waterways that are considered Waters of the U.S. are subject to federal regulation. The jurisdictional regulatory authority under Section 404 of the Clean Water Act (CWA) lies with the U.S. Army Corps of Engineers (USACE). Under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Code NR 103, 151, 299, 350, and 353 wetlands are subject to regulation. The jurisdictional regulatory authority under the Wisconsin State Statutes and Administrative Code lies with the Wisconsin Department of Natural Resources (WDNR). Municipalities, townships and counties may also have local zoning authority over certain areas or types of wetlands and waterways. The determination that a wetland or waterway is subject to regulatory jurisdiction is made independently by the federal, state and local agencies.

## 2.0 METHODS

This wetland delineation was conducted in accordance with the guidelines of the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0, 2010). National Wetland Indicator status and taxonomic nomenclature is referenced from The National Wetland Plant List (Lichvar, 2016). National Wetland Indicator status is based on the Midwest Region. Indicators of hydric soil are based on the Field Indicators of Hydric Soils in the United States guide Version 7.0 (Vasilas, L. M. et. al. 2010). This report has also been prepared in accordance with the guidelines set forth in the "Guidance for Submittal of Delineation Reports to the St. Paul District Corps of Engineers and the Wisconsin Department of Natural Resources" document issued March 4, 2015.

## **2.1 Off-Site Review**

Prior to conducting fieldwork, TRC scientists Ron Londré and Amanda Larsen reviewed several maps including the United States Geological Survey (USGS) 7.5' Quadrangle maps, Natural Resource Conservation Service (NRCS) Soil Survey Map, Wisconsin Wetland Inventory (WWI) Map, and aerial photographs. These sources were used to identify areas likely to contain wetlands.

Precipitation data from approximately 90 days prior to the field investigation were obtained from a weather station near the Study Area and compared with 30-year average precipitation data obtained from a NRCS WETS Table for the County where the Study Area was located to determine if antecedent hydrologic conditions at the time of the site visit were normal, wetter, or drier than the normal range.

## **2.2 On-Site Field Investigation**

Areas having wetland indicators within the Study Area were evaluated in the field by TRC wetland scientists Ron Londré and Amanda Larsen on May 11, 2016 and May 13, 2016. Sample points were located in areas exhibiting wetland and upland characteristics to document the presence and/or absence of wetlands and to provide support for the delineated wetland boundaries. At each sample point, data were collected to document the vegetation and hydrophytic vegetation indicators, soil profiles and hydric soil indicators, and wetland hydrology indicators.

Plant species were identified at each sample point and their wetland indicator status; obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL); was determined by referencing The National Wetland Plant List (Lichvar 2014). Soil pits were dug to the depth needed to document the indicator or confirm the absence of indicators. Soil color was determined using a Munsell soil color chart. The sample point plots and soil pits were evaluated for the presence of wetland hydrology indicators.

The wetland boundaries were delineated and staked using wire pin flags and when needed flagging tape. Wetland boundaries were generally determined by distinct to subtle differences in the abundance of hydrophytic vegetation and non-hydrophytic vegetation, presence versus absence of hydric soil indicators, and presence versus absence of wetland hydrology indicators.

### 3.0 RESULTS

#### 3.1 Off-Site Review

The 2-Foot Contour Map (Appendix A, Figure 2) showed elevations ranging from 720 to 730 feet above sea level. Based on the contour map, water would be expected to drain from the southwest and western portions of the site towards the southeastern portion of the site.

According to the NRCS Soil Survey map (Appendix A, Figure 3) three mapped soil units are located within the Study Area. The soils mapped within the Study Area are listed on Table 1 below.

Table 1 – Mapped Soils

Map Unit Symbol	Map Unit Name	Drainage Class	Hydric Rating	% of Study Area
AsA	Ashkum silty clay loam, 0-2 percent slopes	Poorly Drained	97	28.2
BIA	Blount silt loam, 1 to 3 percent slopes	Somewhat Poorly Drained	0	63.6
MzdB	Morley silt loam, 2 to 6 percent slopes	Well Drained	0	8.2

The Wisconsin Wetland Inventory (WWI) map (Appendix A, Figure 4) shows three wetlands within the Study Area. The types of wetland shown on the WWI map within the Study Area are listed in Table 2 below.

Table 2 – Mapped WWI Wetland Types

Map Unit Symbol	Description
T3K	Forested, Broad leaved deciduous, Wet soil, Palustrine
E2K	Emergent/wet meadow, Narrow-leaved persistent, Wet soil, Palustrine

A review of aerial imagery from 2000, 2005, 2007, 2010, and 2015 (Appendix A, Figures 5-9) shows the Study Area as containing a building and associated parking lots and drives as well as having a forested area to the east of the building and emergent vegetation to the north of the building. There does not appear to be any observable land use change during this time period.

Prior to conducting the field visit, antecedent precipitation data were analyzed. Data were obtained from a nearby weather station (MILWAUKEE MITCHELL AP (WI) USW00014839) and compared to data from a nearby WETS station (MILWAUKEE MITCHELL AP (WI) USW00014839). The most recent rainfall event prior to the site visit was 1.12 inches, which occurred on May 10, 2016. Precipitation for the 14 days prior to the site visit was 2.04 inches. The precipitation data for the 90 day period prior to the field visit (Appendix B, Table 3) were entered into a WETS

analysis worksheet (Appendix B, Table 4) to weight the information from each preceding month to analyze hydrologic conditions. Based on this analysis, the antecedent hydrologic conditions were considered to be within a normal range, suggesting that climatic/hydrologic conditions were normal for this time of year.

### **3.2 On-Site Field Investigation**

#### **3.2.1 Site Description**

The Study Area was comprised of a manufacturing building and associated parking lots and drives with some ornamental landscaping and lawn areas surrounding the western and southern portions of the building. The eastern portion of the Study Area was predominantly forested mixed with areas dominated by shrubs. The north central portion of the Study Area contained predominantly herbaceous plant communities.

Naturally problematic conditions and disturbed (atypical) conditions were encountered within the Study Area. The naturally problematic conditions included relatively high abundances of FACU plant species in some areas of forested wetlands. The disturbed conditions included areas of mowed lawn and artificially planted vegetation.

#### **3.2.2 Uplands**

Upland plant communities observed in the Study Area included small portions of upland forest and areas of lawn with ornamental trees. All other areas of upland were built upon containing a building, parking lot, and drives. Sample points SP-2, SP-4, SP-6, SP-8, and SP-10 were located in upland areas.

#### **3.2.3 Wetlands**

One wetland was delineated. The delineated wetland boundaries and sample points are shown on a map (Exhibit A) in Appendix C. Photographs were taken at sample points and other notable locations (Appendix D). Data were collected and recorded on Wetland Determination Data Forms at 12 sample points to document wetland and upland locations (Appendix E).

##### Wetland (Shallow Marsh, Hardwood Swamp, Shrub Carr wetland complex)

The wetland was approximately 6.53 acres within the Study Area and consisted of shallow marsh, hardwood swamp, and shrub-carr plant communities. There were patches of sedge meadow within the shallow marsh area just to the north of wetland sample point SP-3. The boundary of the wetland extends beyond the Study Area offsite to the north and east. Seven wetland sample points (SP-1, SP-3, SP-5, SP-7, SP-9, SP-11, and SP-12) were taken within the wetland and five upland sample points (SP-2, SP-4, SP-6, SP-8, and SP-10) were taken in adjacent upland areas.

The dominant vegetation at wetland Sample Point SP-1, which was taken in a shrub-carr plant community, included *Ulmus americana* (American elm) in the tree stratum, *Rhamnus cathartica* (common buckthorn) in the shrub stratum, and *Phragmites australis* (common reed grass) in the herb stratum. The dominant vegetation at wetland Sample Point SP-3, which was taken in a shallow marsh plant community, included *Fraxinus pennsylvanica* (green ash), *Acer negundo* (boxelder), and *Salix bebbiana* (Bebb's willow) in the shrub stratum; and *Typha angustifolia* (narrow leaved cattail), and *Carex stricta* (tussock sedge) in the herb stratum. The dominant vegetation at wetland Sample Point SP-5, which was in a mixed hardwood swamp / shrub-carr plant community, included *Fraxinus pennsylvanica* and *Quercus alba* (white oak) in the tree stratum, *Rhamnus cathartica* in the shrub stratum; and *Carex bromoides* (brome-like sedge), *Ribes cynosbati* (prickly gooseberry), and *Rhamnus cathartica* in the herb stratum. The dominant vegetation at wetland Sample Point SP-7, which was taken in a mixed hardwood swamp / shrub-carr plant community, includes *Carya ovata* (shagbark hickory) and *Fraxinus pennsylvanica* in the tree stratum, *Rhamnus cathartica* and *Ostrya virginiana* (American hophornbeam) in the shrub stratum; and *Carex bromoides*, *Ribes cynosbati*, and *Rhamnus cathartica* in the shrub stratum. The dominant vegetation at wetland Sample Point SP-9, which was taken in a mixed hardwood swamp / shrub-carr plant community, included *Quercus rubra* (red oak) and *Quercus bicolor* (swamp white oak) in the tree stratum; *Carpinus caroliniana* (musclewood) and *Rhamnus cathartica* in the shrub stratum; and *Ribes cynosbati*, *Carpinus caroliniana*, *Prunus virginiana*, and *Rhamnus cathartica* in the herb stratum. The dominant vegetation at wetland Sample Point SP-11, which was taken in a hardwood swamp plant community, included *Carya ovata* and *Tilia americana* in the tree stratum, *Carpinus caroliniana* and *Ostrya virginiana* in the shrub stratum, and *Carpinus caroliniana* in the herb stratum. The dominant vegetation at wetland Sample Point SP-12, which was taken in a hardwood swamp plant community, included *Quercus alba*, *Quercus bicolor*, and *Acer saccharinum* (silver maple) in the tree stratum; *Carpinus caroliniana* and *Ostrya virginiana* in the shrub stratum; and *Carex pensylvanica* in the herb stratum. Species including *Ostrya virginiana*, *Rhamnus cathartica*, *Carya ovata*, and *Tilia americana* were frequently exhibiting morphological adaptation to saturated or inundated conditions including adventitious roots, shallow root systems, and/or buttressing. This suggests that there may have been an increase in hydrology in recent years that may not have been the historical condition.

Hydrology generally appeared to be sustained by surface water runoff from the adjacent impervious surfaces and a limited outlet for water from the site. Wetland hydrology indicators observed at the wetland Sample Points included High Water Table (A2), Saturation (A3), Water Marks (B1), Water-Stained Leaves (B9), Saturation Visible on Aerial Imagery (C9), Geomorphic Position (D2), and Positive FAC-neutral tests (D5). Saturation and possible inundation is visible in some wetland areas in a 2014 Google Earth image during spring leaf-off. Hydric soils indicators observed at the wetland Sample Points included Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6),

The boundary of the wetland was based on subtle topographic breaks, the boundary between hydrophytic and non-hydrophytic vegetation, the boundary between the presence and absence of wetland hydrology indicators, and the boundary between hydric and non-hydric soil. In some

areas, the wetland extended nearly to the edge of the parking lot in the northern portion of the Study Area.

#### **3.2.4 Other Aquatic Resources**

No other aquatic resources were identified within the Study Area.

#### **3.2.5 Professional Opinion On Wetland Susceptibility Per NR 151**

Table 5 in Appendix F lists a professional opinion on wetland susceptibility, based on a request by the WDNR, to do so per revised NR 151 guidance (Guidance #3800-2015-02). Please note that the final determination of wetland susceptibility rests with the WDNR.

## **4.0 CONCLUSIONS**

Based on the wetland delineation completed by TRC, one wetland was delineated totaling 6.53 acres of wetlands within the approximately 14 acre Study Area. No other aquatic resources were observed within the Study Area.

The results of this field study are based on site conditions at the time of the field study, which was conducted in accordance with current regulatory policy and methods.

Wetlands and other aquatic resources delineated and identified in this report are a professional finding based on current regulatory policy accepted by the USACE and WDNR methodology at the time the resources were delineated. Unknown and future conditions that affect observations of field indicators or change in interpretation of regulatory policy or methods may modify future findings.

The ultimate authority to determine the location of the wetland boundary and jurisdictional authority over the wetlands and other aquatic resources identified in this report resides with the USACE and WDNR. Decisions made by staff of these regulatory agencies may result in modifications to the location of the wetland or other aquatic resource boundaries shown in this report. In addition, the USACE and WDNR have jurisdictional authority to determine which features are exempt from regulation including stormwater ponds and conveyance features. If the client proposes to modify a potentially exempt feature, a WDNR Artificial Determination Exemption and USACE Approved Jurisdictional Determination (AJD) requests would need to be submitted. Furthermore, municipalities, townships and counties may have local zoning authority over certain areas or types of wetlands and waterways. The determination that a wetland or waterway is subject to regulatory jurisdiction is made independently by the agencies.

Any activity in a delineated wetland or below the Ordinary High Water Mark of other aquatic resources may require USACE permits and WDNR Water Quality Certification, and local

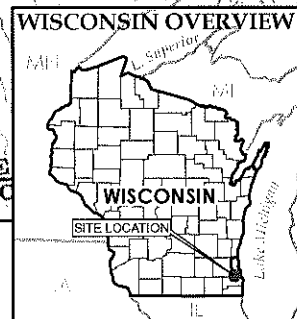
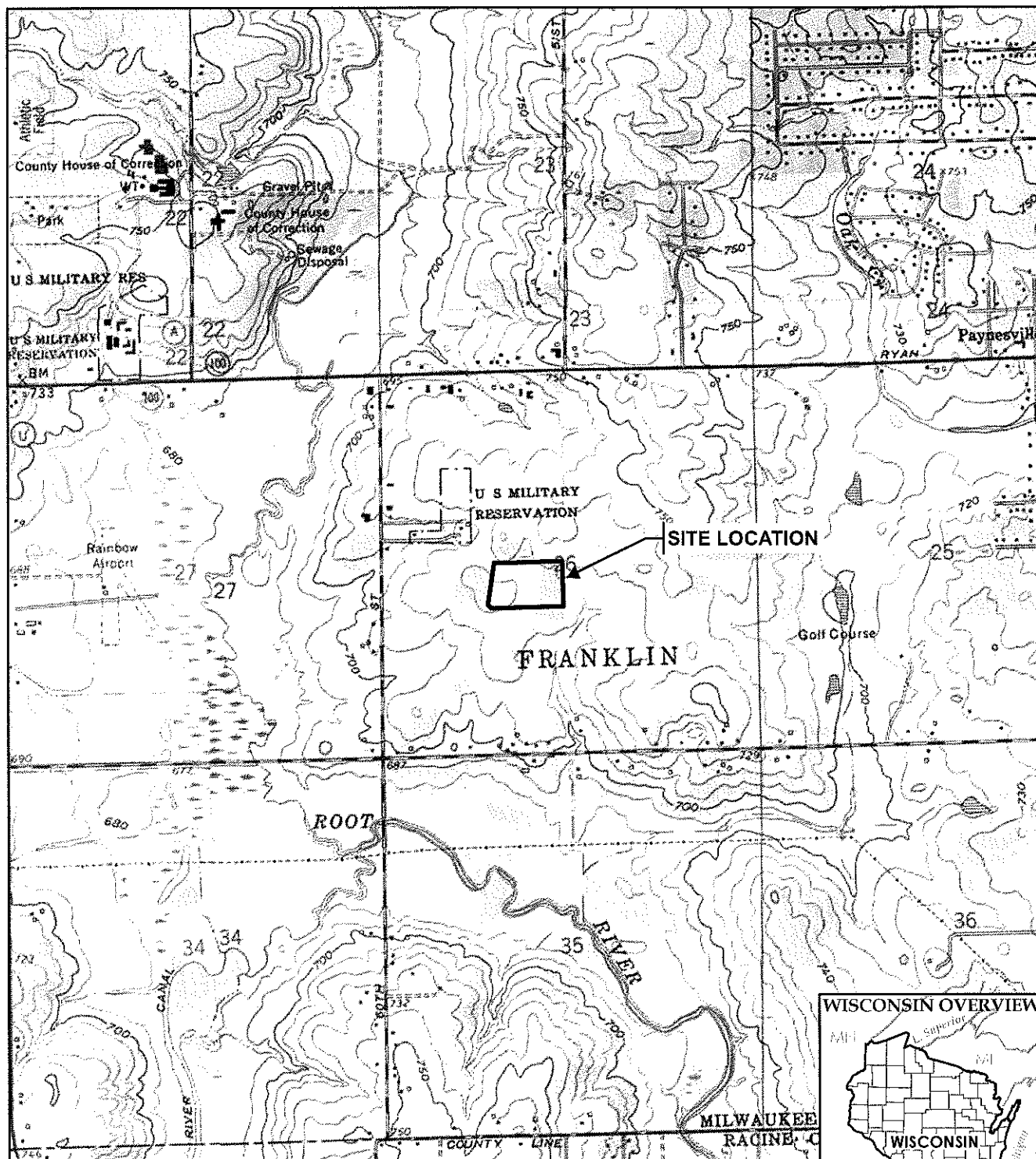
government permits. If the Client proceeds to change, modify or utilize the property in question without obtaining authorization from the appropriate regulatory agency, it will be done at the Client's own risk and TRC Environmental Corporation shall not be responsible or liable for any resulting damages.

## 5.0 REFERENCES

- Charts, Munsell Soil Color. 1994. "Munsell color." *Macbeth Division of Kollmorgen Instruments Corporation, New Windsor, NY* 12553.
- Eggers, Steve D. and Donald M. Reed. 1997. Wetland Plants and Plant Communities of Minnesota and Wisconsin. 2<sup>nd</sup> Ed. U.S. Army Corps of Engineers, St. Paul District.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2016. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42.
- Midwestern Regional Climate Center cli-MATE Database (Web Address: <http://mrcc.isws.illinois.edu/CLIMATE/> )
- Southeastern Wisconsin Regional Planning Commission (SEWRPC) Southeastern Wisconsin Regional Land Information: Regional Map Server (Web Address: <http://maps.sewrpc.org/regionalandinfo/regionalmapping/RegionalMaps/viewer.htm> )
- Swink, Floyd, and Gerould Wilhelm. 1994. "Plants of the Chicago region." Indianapolis: Indiana Academy of Science.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2015. St. Paul District Regulatory. Special Public Notice. Issued: March 4, 2015. Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources.
- USDA Natural Resources Conservation Service Web Soil Survey (Web Address: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> )
- USDA NRCS Climate Analysis by County Web Site (WETS). (Web Address: <http://www.wcc.nrcs.usda.gov/climate/wetlands.html> )
- Vasilas, L. M., G. W. Hurt, and C. V. Noble. 2010. "Field indicators of hydric soils in the United States." US Dep. Agric., NRCS, in cooperation with the National Technical Committee for Hydric Soils. Version 7.0.
- Wisconsin Department of Natural Resources, 2016. Surface Water Data Viewer: <http://dnrm.wisconsin.gov/sl/?Viewer=SWDV>.
- Woodward, D.E. 1997. Hydrology Tools for Wetland Determination, Chapter 19. In: Engineering Field Handbook, U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.



## **APPENDIX A: FIGURES**



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



1" = 2,000'  
1:24,000

0 2,000 4,000  
FEET



150 North Patrick Blvd.  
Suite 180  
Brookfield, WI 53045  
Phone: 262.879.1212

TRC - GIS

PROJECT:

**CARLISLE INTERCONNECT WETLAND DELINEATION  
5300 WEST FRANKLIN DRIVE  
FRANKLIN, WISCONSIN**

TITLE:

**SITE LOCATION MAP**

DRAWN BY:

SUEMNICHT R

CHECKED BY:

LONDRE R

APPROVED BY:

LONDRE R

DATE:

JUNE 2016

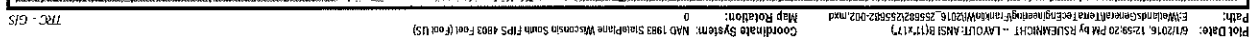
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255682


FILE:

255682-001slm.mxd

**FIGURE 1**



ISSUED BY:	SUBMITTER:	REF NO.:	255982
ISSUED BY:	LOUISE R		
APPROVED BY:	LOUISE R		
DATE:	JUNE 2015		



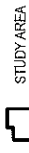
## FIGURE 2

159 Ivan Petric Blvd., Suite 100  
 Richmond, BC V6V 1A7  
 Phone: 252-873-1212  
[www.trcsolutions.com](http://www.trcsolutions.com)

Map Unit Symbol	Taxonomic Classification	Drainage Class	Hydric Rating	% Of Study Area
AsA	Ashcum silty clay loam, 0 to 2 percent slopes	Poorly drained	Partially Hydric	28.2%
BIA	Blount silt loam, 1 to 3 percent slopes	Somewhat poorly drained	Not Hydric	63.6%
MdDB	Morley silt loam, 2 to 6 percent slopes	Well drained	Not Hydric	8.2%

### Table 1 – Mapped Soils

### LEGEND



## SOIL CLASSIFICATION

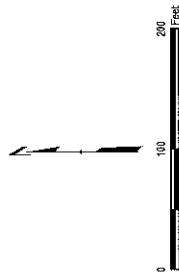
ASHKUM SILTY CLAY LOAM,  
0 TO 2 PERCENT SLOPES

BLOUNT SILT LOAM,  
1 TO 3 PERCENT SLOPES

MORLEY SILT LOAM,  
2 TO 6 PERCENT SLOPES

## NOTES

1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, JUNE 2015.
2. SOILS DATA FROM USDA NRCS SSURGO DATABASE.

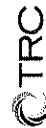


ST  
CARLISLE INTERCONNECT WETLAND DELINEATION  
5300 WEST FRANKLIN DRIVE  
FRANKLIN, WISCONSIN

## NRCS SOILS MAP

DRAMA 37	SUEWICHT R	PRONOZ	255982
CHECKED BY:	LONDRE R		
APPROVED BY:	LCAUDRE R		
DATE:	JUNE 2018		

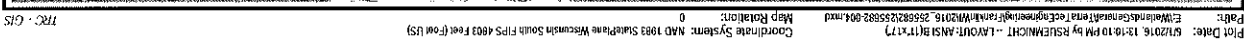
**FIGURE 3**



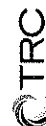
50 North Payne Blvd., Suite 180  
Brookfield, WI 53045  
Phone: 262.879.1212  
[www.resolutionss.com](http://www.resolutionss.com)

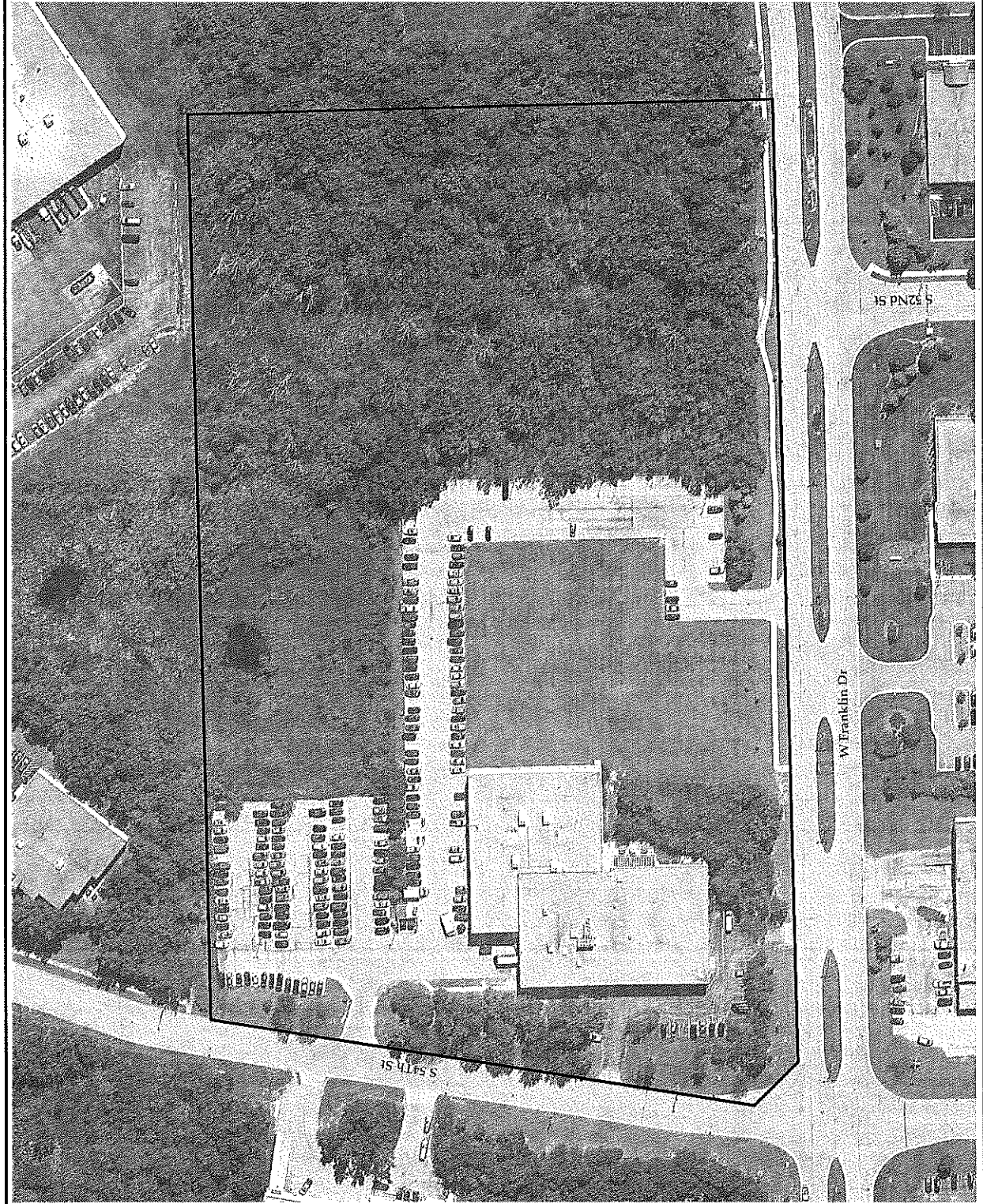
3115



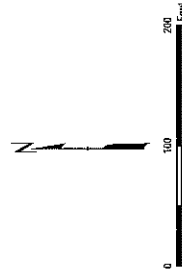


**TRC**  
150 North Patrick Blvd., Suite 100  
Bristolville, WI 53005  
Phone: 262.879.1212  
www.trcshalls.com



 STUDY AREA STUDY AREA

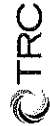
1. BASE MAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, JUNE 2015.



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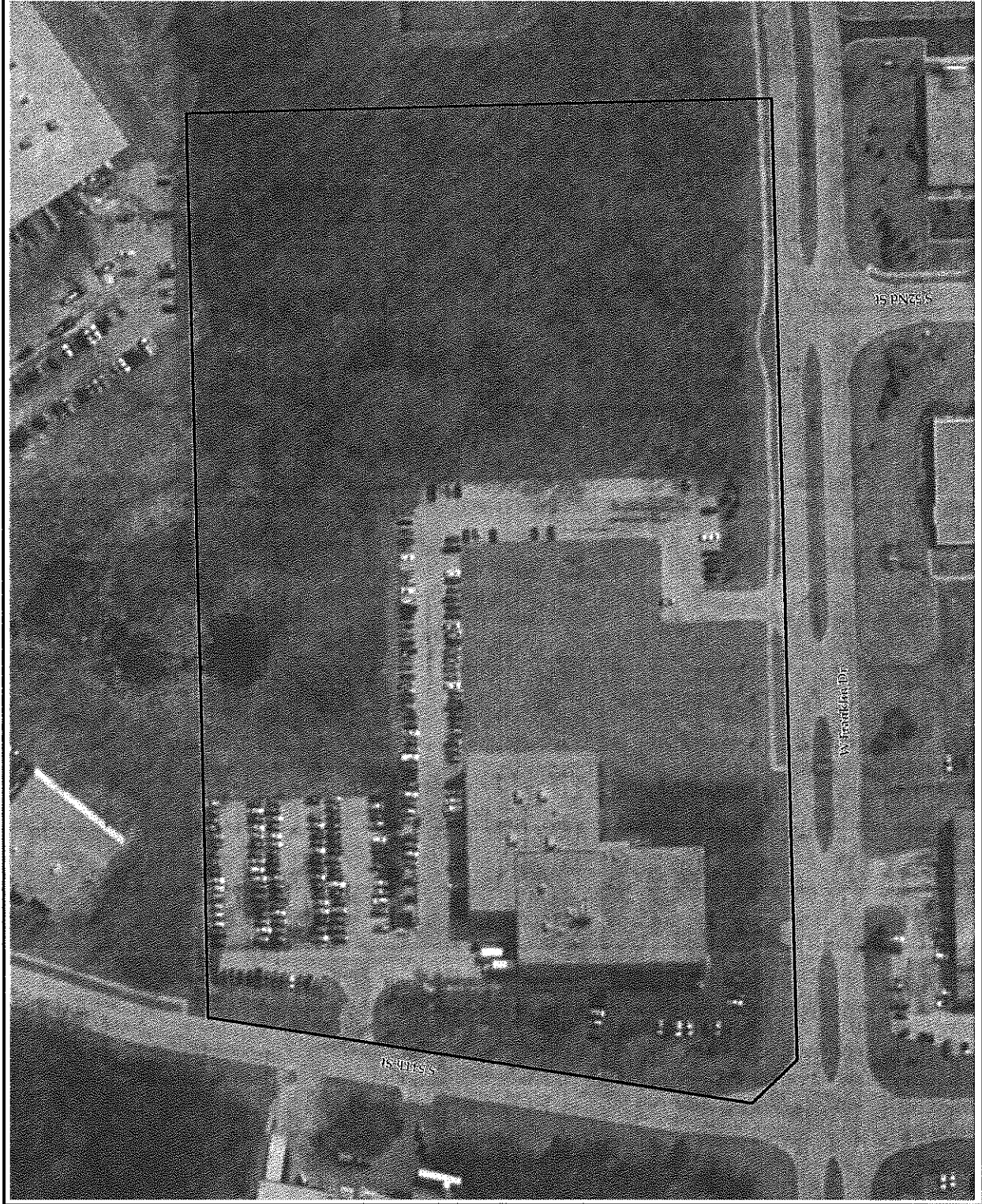
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CHECKED BY:	LONGRE R		
APPROVED BY:	LONGRE R		
DATE:	JUNE 2016		




## III





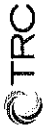
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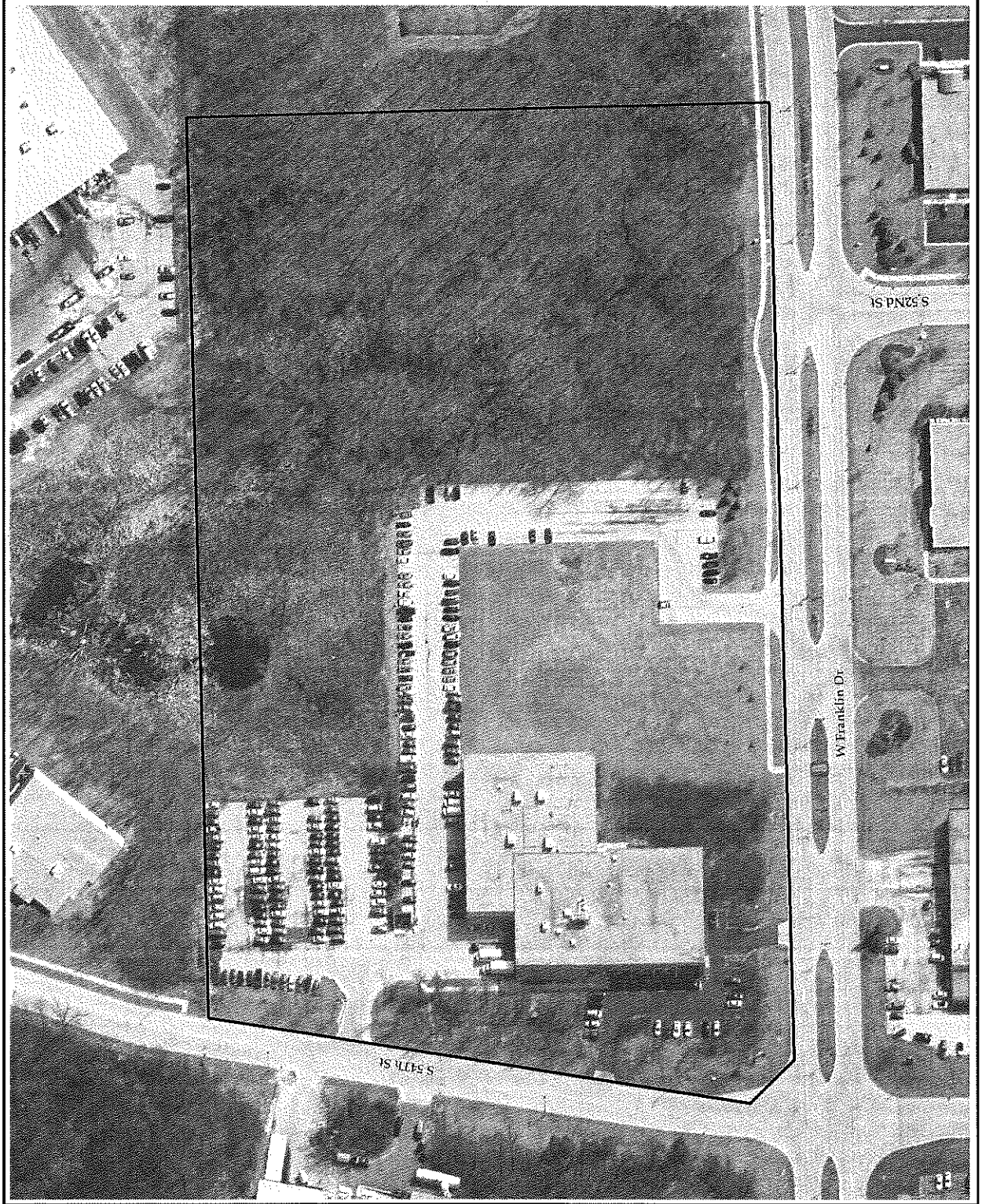
 STUDY AREA

**NOTES**


1. BASE MAP IMAGERY FROM WISCONSIN DNR GIS SERVER, WISCONSIN REGIONAL ORTHOPHOTO CONSORTIUM (WRROC), 2010.



PROJECT		CARLISLE INTERCONNECT WETLAND DELINEATION 6300 WEST FRANKLIN DRIVE FRANKLIN, WISCONSIN	
FILE		2010 AERIAL IMAGERY	
DRAWN BY	SHAWN KATZ	PROJECT NO.	255682
CHECKED BY	LOUISE E.	FIGURE 6	
APPROVED BY	LOUISE E.		
DATE	JUNE 2016		
		150 North Pinckney Blvd., Suite 100 Franklin, WI 53122 Phone: 762.415.1212 www.ctrcalliance.com	
FILE NO.		255682-006-006	



**LEGEND**

 STUDY AREA

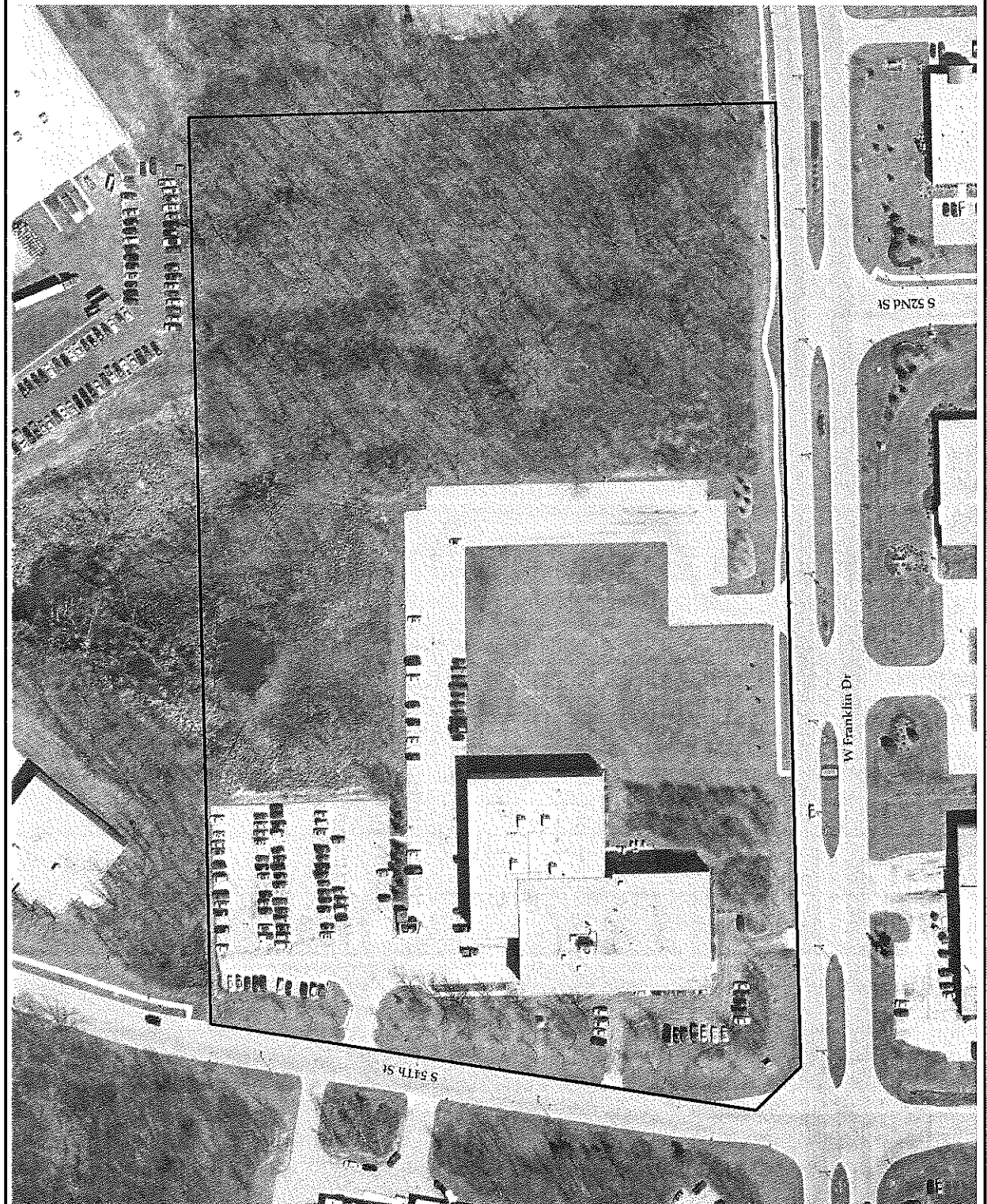
**NOTES**

1. BASE MAP IMAGERY FROM USGS COUNTY HIGH RESOLUTION ORTHOIMAGERY FOR MILWAUKEE COUNTY, JUNE 2007.




<b>TITLE</b>	
CARLSLE INTERCONNECT WETLAND DELINEATION 9300 WEST FRANKLIN DRIVE FRANKLIN, WISCONSIN	
<b>DATE</b>	
2007 AERIAL IMAGERY	
<b>PROJECT</b>	
DESIGNED BY	SKINCHNCHT
CHECKED BY	LORENSE S
APPROVED BY	LORENSE S
DATE	JUNE 2016
<b>FIGURE 7</b>	
<b>CTRC</b>	
159 North Pacific Blvd., Suite 180 Franklin, WI 53122 Phone: 608.833.1212 www.ctrcsolutions.com	
FILE NO. 25582-007.mxd	



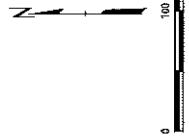


**LEGEND**

 STUDY AREA

**NOTES**

1. BASE MAP IMAGERY FROM MILWAUKEE COUNTY PICTOMETRY, 2005.

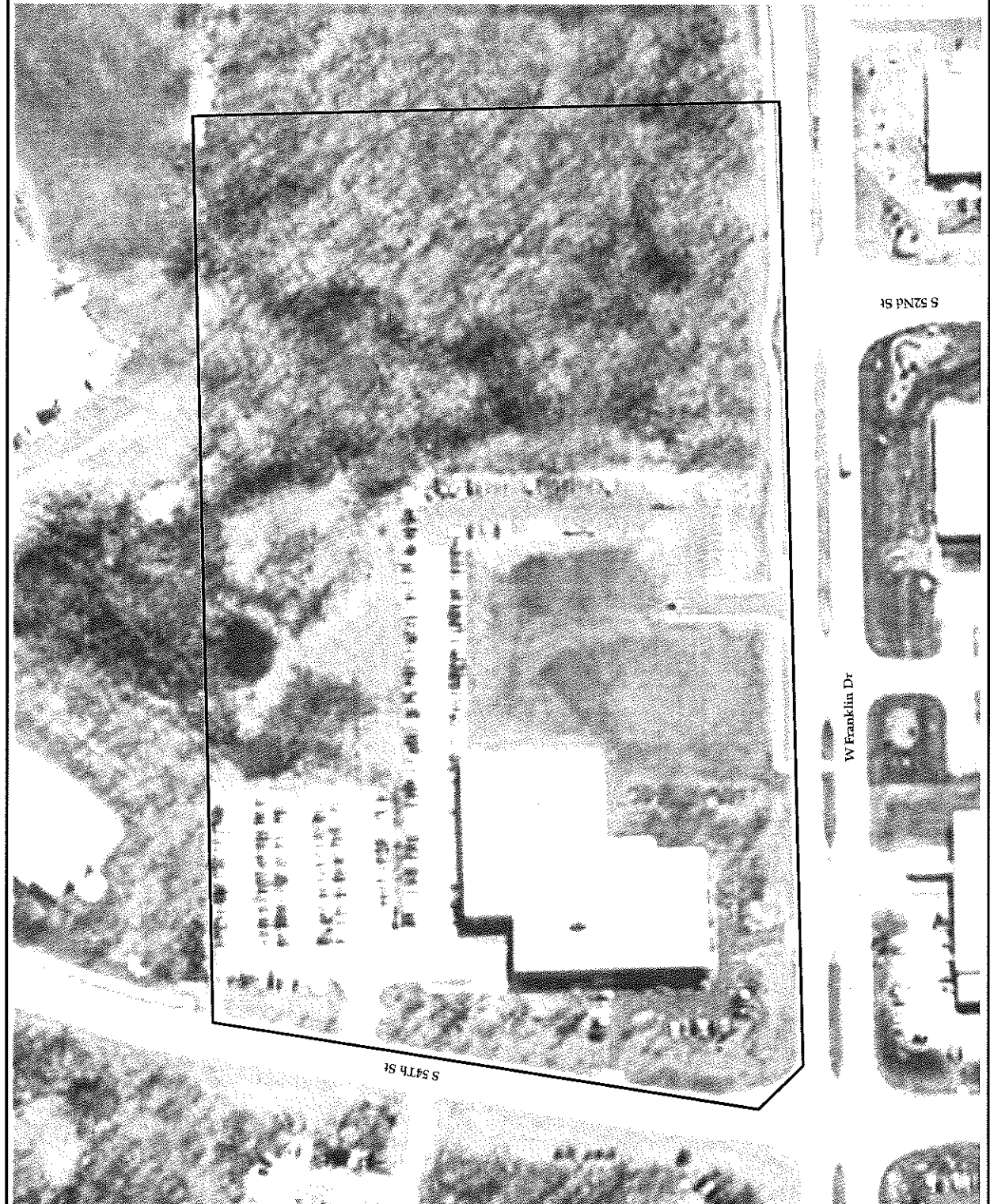


PROJECT  
CARLISLE INTERCONNECT WETLAND DELINEATION  
5300 WEST FRANKLIN DRIVE  
FRANKLIN, WISCONSIN

FILE

2005 AERIAL IMAGERY			
DATE	DATE	DATE	DATE
25582	25582	25582	25582

**CTRC**  
161 North Portland Blvd., Suite 300  
Franklin, WI 53122  
Phone: 762.279.1212  
www.ctrc.com  
25582-000.mxd

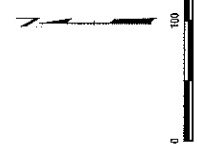


**LEGEND**

-  STUDY AREA

**NOTES**

1. BASE MAP IMAGERY FROM USGS DIGITAL ORTHOPHOTO QUADRANGLE (DOQ), 2000.



<b>PROJECT</b>	
CARLISLE INTERCONNECT WETLAND DELINEATION 5300 WEST FRANKLIN DRIVE FRANKLIN, WISCONSIN	
<b>DATE</b>	
2000 AERIAL IMAGERY	
<b>FIGURE 9</b>	
<b>DATE</b>	<b>FILE NO.</b>
25502	25502
<b>DATE</b>	<b>FILE NO.</b>
25502	25502
<b>CTRC</b>	
150 North Pacific Blvd., Suite 100 Franklin, WI 53122 Phone: 262.319.1212 www.ctrc.com	

**APPENDIX B:**  
**ANTECEDENT PRECIPITATION DATA / WETS ANALYSIS**

Table 3. Antecedent Precipitation Data					
February 11, 2016 - May 10, 2016					
Precipitation Data Source Location					
MILWAUKEE MITCHELL AP (WI) USW00014839					
3rd Month Prior		2nd Month Prior		1st Month Prior	
Date	PPT	Date	PPT	Date	PPT
2/11/2016	0	3/12/2016	0	4/11/2016	0
2/12/2016	0	3/13/2016	0.41	4/12/2016	0
2/13/2016	0	3/14/2016	0.02	4/13/2016	T
2/14/2016	0.05	3/15/2016	0.43	4/14/2016	0
2/15/2016	0.02	3/16/2016	0.08	4/15/2016	0
2/16/2016	0.03	3/17/2016	0	4/16/2016	0
2/17/2016	0	3/18/2016	0.08	4/17/2016	0
2/18/2016	T	3/19/2016	T	4/18/2016	0
2/19/2016	0	3/20/2016	0	4/19/2016	T
2/20/2016	0	3/21/2016	0	4/20/2016	0.12
2/21/2016	0	3/22/2016	0	4/21/2016	0.07
2/22/2016	0	3/23/2016	0.35	4/22/2016	0
2/23/2016	0	3/24/2016	0.95	4/23/2016	0
2/24/2016	0	3/25/2016	0	4/24/2016	0
2/25/2016	T	3/26/2016	0	4/25/2016	0.07
2/26/2016	0	3/27/2016	0.1	4/26/2016	T
2/27/2016	0	3/28/2016	T	4/27/2016	0.08
2/28/2016	0.01	3/29/2016	0	4/28/2016	0.03
2/29/2016	T	3/30/2016	0.02	4/29/2016	0.02
3/1/2016	0.15	3/31/2016	0.56	4/30/2016	0.4
3/2/2016	0	4/1/2016	0.03	5/1/2016	0.13
3/3/2016	T	4/2/2016	0.12	5/2/2016	0
3/4/2016	0.1	4/3/2016	T	5/3/2016	0.04
3/5/2016	T	4/4/2016	T	5/4/2016	T
3/6/2016	0	4/5/2016	0.03	5/5/2016	0
3/7/2016	T	4/6/2016	0.6	5/6/2016	T
3/8/2016	T	4/7/2016	0.01	5/7/2016	T
3/9/2016	0.09	4/8/2016	0.15	5/8/2016	0
3/10/2016	0	4/9/2016	0	5/9/2016	0.22
3/11/2016	0	4/10/2016	0.07	5/10/2016	1.12
Total = 0.45		Total = 4.01		Total = 2.3	

PPT - Precipitation in inches

T - Trace

M - Missing



**Table 4. WETS Analysis**

Project Site: Carslile Interconnect  
 Period of interest: February 11, 2016 - May 10, 2016  
 County: Milwaukee

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

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	April	2.78	3.78	4.45
2nd month prior:	March	1.58	2.59	3.14
3rd month prior:	February	0.93	1.65	2.01
		Sum = <b>8.02</b>		

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

\*\*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

**Site determination**

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
2.30	Normal	2	3	6
4.01	Wet	3	2	6
0.45	Dry	1	1	1
<b>6.76</b>	Sum*** =			<b>13</b>

Determination: Wet  
 Dry  
 X Normal

Precipitation data source: MILWAUKEE MITCHELL AP (WI) USW00014839

WETS Station: MILWAUKEE MITCHELL AP (WI) USW00014839

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.



**APPENDIX C:  
WETLAND DELINEATION MAP**





## 519 - 211

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## 519 - 211

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## 519 - 211

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**APPENDIX D:  
SITE PHOTOGRAPHS**





## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
1	5/11/16		
Description			
Wetland sample point SP-1, facing west.			

Photo No.	Date	
2	5/11/16	
Description		
Upland sample point SP-2, facing west		



## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date	 A black and white photograph showing a dense field of tall, thin grasses or reeds. A shovel is stuck upright in the ground, and a white plastic bag is visible on the right side of the field.	
3	5/11/16		
Description			
Wetland sample point SP-3, facing north.			

Photo No.	Date	 A black and white photograph showing a dense thicket of trees and shrubs in the foreground. In the background, a large, multi-story building is visible through the branches.
4	5/11/16	
Description		
Upland sample point SP-4, facing west.		



## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
5	5/11/16		
Description Wetland sample point SP-5, facing east.			

Photo No.	Date	
6	5/13/16	
Description Upland sample point SP-6, facing north.		





## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
7	5/13/16		
Description			
Wetland sample point SP-7, facing north.			

Photo No.	Date	
8	5/13/16	
Description Upland sample point SP-8, facing south-southeast.		



## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
9	5/13/16		
Description Wetland sample point SP-9, facing north.			

Photo No.	Date	
10	5/13/16	
Description Upland sample point SP-10, facing northwest.		





## Site Photographs



Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
11	5/13/16		
Description			
Wetland sample point SP-11, facing northwest.			

Photo No.	Date	
12	5/13/16	
Description		
Wetland sample point SP-12, facing west.		



## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
12	5/13/16		
Description			
Representative photo of shallow roots on <i>Ostrya virginiana</i> in hardwood swamp.			

Photo No.	Date	
13	5/13/16	
Description		
Representative photo of adventitious/shallow roots on <i>Rhamnus cathartica</i> in hardwood swamp.		



## Site Photographs




Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
14	5/13/16		
Description			
Representative photo of adventitious/shallow roots on <i>Ostrya virginiana</i> .			

Photo No.	Date	
15	5/13/16	
Description View of western portion of Study Area, roadside.		





## Site Photographs

Project Name		Site Location	Project No.
Carlisle Interconnect		5300 W. Franklin Dr., Franklin, WI	255682
Photo No.	Date		
16	5/13/16		
Description			
View of southern portion of Study Area, roadside.			

**APPENDIX E:**  
**WETLAND DETERMINATION DATA FORMS**

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 11-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-1  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex  
 Slope: 3.0% 1.7° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount silt loam (BIA) NWI classification: T3/E2K

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.		

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 15' x 150')				
1. <i>Ulmus americana</i>	10	<input checked="" type="checkbox"/> 100.0%	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	0	<input type="checkbox"/> 0.0%		
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%	0	
	10	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' x 50')				
1. <i>Rhamnus cathartica</i>	50	<input checked="" type="checkbox"/> 86.2%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>14</u> x 4 = <u>56</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>174</u> (A) <u>451</u> (B) Prevalence Index = B/A = <u>2.592</u>
2. <i>Crataegus crus-galli</i>	5	<input type="checkbox"/> 8.6%	FAC	
3. <i>Prunus virginiana</i>	3	<input type="checkbox"/> 5.2%	FACU	
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	58	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5' x 15')				
1. <i>Phragmites australis</i>	60	<input checked="" type="checkbox"/> 56.6%	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Rhamnus cathartica</i>	20	<input type="checkbox"/> 18.9%	FAC	
3. <i>Phalaris arundinacea</i>	15	<input type="checkbox"/> 14.2%	FACW	
4. <i>Rosa multiflora</i>	5	<input type="checkbox"/> 4.7%	FACU	
5. <i>Solidago canadensis</i>	3	<input type="checkbox"/> 2.8%	FACU	
6. <i>Sonchus arvensis</i>	3	<input type="checkbox"/> 2.8%	FACU	
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
	106	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 15' x 150')				
1. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

The criterion for hydrophytic vegetation is met. Plot size is based on the linear shape of the wetland. Shrub carr / fresh (wet) meadow wetland complex.

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

# SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features						Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>				
0-4	10YR	3/1	100						Sandy Clay Loam	
4-11	10YR	4/1	88	10YR	5/8	10	C	M	Sandy Clay	
				10YR	5/6	2	C	M		
11-20	10YR	5/2	80	10YR	5/6	20	C	M	Sandy Clay	

<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

## Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: None

Depth (inches): NA

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

The criterion for hydric soil is met.

# HYDROLOGY

## Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)

- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)

## Field Observations:

- Surface Water Present? Yes ☐ No ☒
- Water Table Present? Yes ☒ No ☐
- Saturation Present? (includes capillary fringe) Yes ☒ No ☐

Depth (inches): \_\_\_\_\_  
 Depth (inches): 3  
 Depth (inches): 0

Wetland Hydrology Present? Yes ☒ No ☐

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

WETS analysis, WWI map, Soils map, aerial imagery, prior delineation

## Remarks:

Based on WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is met.

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 11-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-2  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex  
 Slope: 6.0% 3.4° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Ashkum silty clay loam (AsA) NWI classification: None

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

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

Hydrophytic Vegetation Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Circumstances are not normal due to mowing of vegetation. Based on the absence of all three parameters, this point is located in an upland.		

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 15' x 150')				
1.	0	<input type="checkbox"/> 0.0%		<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' x 50')				
1.	0	<input type="checkbox"/> 0.0%		<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>53</u> x 4 = <u>212</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>98</u> (A) <u>367</u> (B) Prevalence Index = B/A = <u>3.745</u>
2.	0	<input type="checkbox"/> 0.0%		
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5' x 50')				
1. <i>Poa compressa</i>	40	<input checked="" type="checkbox"/> 40.8%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Poa pratensis</i>	30	<input checked="" type="checkbox"/> 30.6%	FAC	
3. <i>Daucus carota</i>	10	<input type="checkbox"/> 10.2%	UPL	
4. <i>Medicago sativa</i>	5	<input type="checkbox"/> 5.1%	FACU	
5. <i>Plantago major</i>	5	<input type="checkbox"/> 5.1%	FAC	
6. <i>Trifolium repens</i>	5	<input type="checkbox"/> 5.1%	FACU	
7. <i>Sonchus arvensis</i>	3	<input type="checkbox"/> 3.1%	FACU	
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	98	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 15' x 150')				
1.	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
2.	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation significantly disturbed due to recent mowing. Although mowed, vegetation is still identifiable. The criterion for hydrophytic vegetation is not met.

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Sampling Point: **SP-2**

## HYDROLOGY

**Wetland Hydrology Indicators:**Midwest Region - Version 2.0



# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 11-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-3  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave  
 Slope: 0.0% 0.0 ° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Ashkum silty clay loam (AsA) NWI classification: T3/E2K

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.		

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status
1. <i>Fraxinus pennsylvanica</i>	5	<input checked="" type="checkbox"/> 100.0%	FACW
2. _____	0	<input type="checkbox"/> 0.0%	
3. _____	0	<input type="checkbox"/> 0.0%	
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status
1. <i>Fraxinus pennsylvanica</i>	5	<input checked="" type="checkbox"/> 45.5%	FACW
2. <i>Acer negundo</i>	3	<input checked="" type="checkbox"/> 27.3%	FAC
3. <i>Salix bebbiana</i>	3	<input checked="" type="checkbox"/> 27.3%	FACW
4. _____	0	<input type="checkbox"/> 0.0%	
5. _____	0	<input type="checkbox"/> 0.0%	
	11	= Total Cover	
Herb Stratum (Plot size: 5' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status
1. <i>Typha angustifolia</i>	60	<input checked="" type="checkbox"/> 43.8%	OBL
2. <i>Carex stricta</i>	40	<input checked="" type="checkbox"/> 29.2%	OBL
3. <i>Symphyotrichum puniceum</i>	10	<input type="checkbox"/> 7.3%	OBL
4. <i>Euthamia graminifolia</i>	8	<input type="checkbox"/> 5.8%	FACW
5. <i>Daucus carota</i>	5	<input type="checkbox"/> 3.6%	UPL
6. <i>Solidago gigantea</i>	5	<input type="checkbox"/> 3.6%	FACW
7. <i>Barbarea vulgaris</i>	3	<input type="checkbox"/> 2.2%	FAC
8. <i>Cirsium vulgare</i>	3	<input type="checkbox"/> 2.2%	FACU
9. <i>Sonchus arvensis</i>	3	<input type="checkbox"/> 2.2%	FACU
10. _____	0	<input type="checkbox"/> 0.0%	
	137	= Total Cover	
Woody Vine Stratum (Plot size: 30' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	
2. _____	0	<input type="checkbox"/> 0.0%	
	0	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: Multiply by:

OBL species	<u>110</u>	x 1 =	<u>110</u>
FACW species	<u>26</u>	x 2 =	<u>52</u>
FAC species	<u>6</u>	x 3 =	<u>18</u>
FACU species	<u>6</u>	x 4 =	<u>24</u>
UPL species	<u>5</u>	x 5 =	<u>25</u>
Column Totals:	<u>153</u>	(A)	<u>229</u> (B)

Prevalence Index = B/A = 1.497

**Hydrophytic Vegetation Indicators:**

☐ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is > 50%

☒ 3 - Prevalence Index is ≤ 3.0<sup>1</sup>

☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

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

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met. Shallow marsh / sedge meadow plant community.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

# SOIL

Sampling Point: **SP-3**

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%						
0-7	10YR	3/1	95	5YR	4/6	5	C	M	Sandy Clay Loam	
7-11	10YR	2/1	90	10YR	5/6	10	C	M	Sandy Clay	
11-23	10YR	4/1	70	10YR	5/6	30	C	M	Sandy Clay	

<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

## Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: None  
Depth (inches): NA

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

The criterion for hydric soil is met.

# HYDROLOGY

## Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)

## Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
Water Table Present? Yes ☒ No ☐ Depth (inches): 14  
Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 3

Wetland Hydrology Present? Yes ☒ No ☐

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

WETS analysis, WWI map, Soils map, aerial imagery, prior delineation

## Remarks:

Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is met. Sample point ~ 3' lower in elevation than SP-2.

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 11-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-4  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex  
 Slope: 3.0% 1.7 ° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Ashkum silty clay loam (AsA) NWI classification: T3K

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

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Based on the absence of two of three parameters, this point is located in an upland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30' r )				
1. <i>Quercus alba</i>	30	<input checked="" type="checkbox"/> 66.7%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>14.3%</u> (A/B)
2. <i>Ostrya virginiana</i>	10	<input checked="" type="checkbox"/> 22.2%	FACU	
3. <i>Fraxinus pennsylvanica</i>	5	<input type="checkbox"/> 11.1%	FACW	
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	45	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' r )				
1. <i>Prunus virginiana</i>	25	<input checked="" type="checkbox"/> 43.1%	FACU	<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>8</u> x 2 = <u>16</u> FAC species <u>21</u> x 3 = <u>63</u> FACU species <u>114</u> x 4 = <u>456</u> UPL species <u>6</u> x 5 = <u>30</u> Column Totals: <u>149</u> (A) <u>565</u> (B) Prevalence Index = B/A = <u>3.792</u>
2. <i>Rhamnus cathartica</i>	15	<input checked="" type="checkbox"/> 25.9%	FAC	
3. <i>Ostrya virginiana</i>	15	<input checked="" type="checkbox"/> 25.9%	FACU	
4. <i>Lonicera morrowii</i>	3	<input type="checkbox"/> 5.2%	FACU	
5. _____	0	<input type="checkbox"/> 0.0%		
	58	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5' r )				
1. <i>Prunus virginiana</i>	15	<input checked="" type="checkbox"/> 32.6%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Taraxacum officinale</i>	10	<input checked="" type="checkbox"/> 21.7%	FACU	
3. <i>Carex blanda</i>	3	<input type="checkbox"/> 6.5%	FAC	
4. <i>Carex pensylvanica</i>	3	<input type="checkbox"/> 6.5%	UPL	
5. <i>Dryocallis arguta</i>	3	<input type="checkbox"/> 6.5%	FACU	
6. <i>Phalaris arundinacea</i>	3	<input type="checkbox"/> 6.5%	FACW	
7. <i>Ribes cynosbati</i>	3	<input type="checkbox"/> 6.5%	FAC	
8. <i>Rosa multiflora</i>	3	<input type="checkbox"/> 6.5%	FACU	
9. <i>Aster cordifolius</i>	3	<input type="checkbox"/> 6.5%	UPL	
10. _____	0	<input type="checkbox"/> 0.0%		
	46	= Total Cover		
<b>Woody Vine Stratu</b> (Plot size: 30' r )				
1. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

Sampling Point: **SP-4**

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)				
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)		
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)		
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry Season Water Table (C2)		
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)		
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)		
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)		
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)		
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)		
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)			
<b>Field Observations:</b> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ (includes capillary fringe)			<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
WETS analysis, WWI map, Soils map, aerial imagery, prior delineation				
Remarks:				
Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is not met.				

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 11-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-5  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave  
 Slope: 0.0% 0.0 ° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Ashkum silty clay loam (AsA) NWI classification: T3K

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30' r )				
1. <i>Fraxinus pennsylvanica</i>	25	<input checked="" type="checkbox"/> 55.6%	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)
2. <i>Quercus alba</i>	10	<input checked="" type="checkbox"/> 22.2%	FACU	
3. <i>Carpinus caroliniana</i>	5	<input type="checkbox"/> 11.1%	FAC	
4. <i>Carya ovata</i>	5	<input type="checkbox"/> 11.1%	FACU	
5. _____	0	<input type="checkbox"/> 0.0%		
	45	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' r )				
1. <i>Rhamnus cathartica</i>	60	<input checked="" type="checkbox"/> 72.3%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>93</u> x 3 = <u>279</u> FACU species <u>42</u> x 4 = <u>168</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>185</u> (A) <u>547</u> (B)  Prevalence Index = B/A = <u>2.957</u>
2. <i>Ostrya virginiana</i>	15	<input type="checkbox"/> 18.1%	FACU	
3. <i>Crataegus crus-galli</i>	5	<input type="checkbox"/> 6.0%	FAC	
4. <i>Carya ovata</i>	3	<input type="checkbox"/> 3.6%	FACU	
5. _____	0	<input type="checkbox"/> 0.0%		
	83	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5' r )				
1. <i>Carex bromoides</i>	20	<input checked="" type="checkbox"/> 35.1%	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Ribes cynosbati</i>	10	<input checked="" type="checkbox"/> 17.5%	FAC	
3. <i>Rhamnus cathartica</i>	10	<input checked="" type="checkbox"/> 17.5%	FAC	
4. <i>Fraxinus pennsylvanica</i>	5	<input type="checkbox"/> 8.8%	FACW	
5. <i>Dryocallis arguta</i>	3	<input type="checkbox"/> 5.3%	FACU	
6. <i>Geum canadense</i>	3	<input type="checkbox"/> 5.3%	FAC	
7. <i>Lonicera morrowii</i>	3	<input type="checkbox"/> 5.3%	FACU	
8. <i>Prunus virginiana</i>	3	<input type="checkbox"/> 5.3%	FACU	
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
	57	= Total Cover		
<b>Woody Vine Stratu</b> (Plot size: 30' r )				
1. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met. Mixed hardwood swamp / Shrub carr plant community.

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

# SOIL

Sampling Point: SP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR	2/1	75	10YR	5/8	15	C	Sandy Clay Loam	
				10YR	5/2	10	D		
10-24	10YR	5/1	60	10YR	5/8	20	C	Sandy Clay	
				10YR	4/2	10	D		

<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators:

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ 2 cm Muck (A10)  
☒ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Muck Mineral (S1)  
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☒ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)

## Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Coast Prairie Redox (A16)  
☐ Dark Surface (S7)  
☐ Iron Manganese Masses (F12)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: None

Depth (Inches): NA

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

The criterion for hydric soil is met.

# HYDROLOGY

## Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)  
☒ High Water Table (A2)  
☒ Saturation (A3)  
☒ Water Marks (B1)  
☐ Sediment Deposits (B2)  
☐ Drift Deposits (B3)  
☐ Algal Mat or Crust (B4)  
☐ Iron Deposits (B5)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Sparsely Vegetated Concave Surface (B8)  
☒ Water-Stained Leaves (B9)  
☐ Aquatic Fauna (B13)  
☐ True Aquatic Plants (B14)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Gauge or Well Data (D9)  
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)  
☐ Drainage Patterns (B10)  
☐ Dry Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☒ Saturation Visible on Aerial Imagery (C9)  
☐ Stunted or Stressed Plants (D1)  
☒ Geomorphic Position (D2)  
☒ FAC-Neutral Test (D5)

## Field Observations:

Surface Water Present? Yes ☐ No ☒

Water Table Present? Yes ☒ No ☐

Saturation Present?  
(includes capillary fringe) Yes ☒ No ☐

Depth (Inches):

Depth (Inches): 0

Depth (Inches): 0

Wetland Hydrology Present? Yes ☒ No ☐

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

WETS analysis, WWI map, Soils map, aerial imagery, prior delineation

## Remarks:

Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is met. Sample point ~ 2' lower in elevation than SP-4. Saturation / possible inundation visible on 2014 leaf-off aerial imagery.



# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-6  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex  
 Slope: 6.0% 3.4 ° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount silt loam (BIA) NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Based on the absence all three parameters, this point is located in an upland.	

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30' r )					
1. <u>Quercus rubra</u>	10	<input checked="" type="checkbox"/> 66.7%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)	
2. <u>Carya ovata</u>	5	<input checked="" type="checkbox"/> 33.3%	FACU		
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
5. _____	0	<input type="checkbox"/> 0.0%			
15 = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>165</u> (A) <u>575</u> (B) Prevalence Index = B/A = <u>3.485</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: 15' r )					
1. <u>Cornus racemosa</u>	40	<input checked="" type="checkbox"/> 80.0%	FAC		
2. <u>Rhamnus cathartica</u>	10	<input checked="" type="checkbox"/> 20.0%	FAC		
3. _____	0	<input type="checkbox"/> 0.0%			
50 = Total Cover					
<b>Herb Stratum</b> (Plot size: 5' r )					
1. <u>Bromus inermis</u>	60	<input checked="" type="checkbox"/> 60.0%	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Poa pratensis</u>	30	<input checked="" type="checkbox"/> 30.0%	FAC		
3. <u>Cornus racemosa</u>	5	<input type="checkbox"/> 5.0%	FAC		
4. <u>Fragaria virginiana</u>	5	<input type="checkbox"/> 5.0%	FACU		
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
8. _____	0	<input type="checkbox"/> 0.0%			
9. _____	0	<input type="checkbox"/> 0.0%			
10. _____	0	<input type="checkbox"/> 0.0%			
100 = Total Cover					
<b>Woody Vine Stratu</b> (Plot size: 30' r )					
1. _____	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
2. _____	0	<input type="checkbox"/> 0.0%			
0 = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

<sup>1</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

# SOIL

Sampling Point: SP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>			
0-8	10YR	4/3	95					Sandy Clay Loam	
	10YR	2/1	5						
8-14	10YR	5/3	65	10YR	5/6	20	C	M	Sandy Clay
				10YR	5/2	15	D	M	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):	Hydric Soil Present?
Type: <u>None</u> Depth (inches): <u>NA</u>	Yes <input type="radio"/> No <input checked="" type="radio"/>

Remarks:  
The criterion for hydric soil is not met.

# HYDROLOGY

Wetland Hydrology Indicators:	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>22</u> Depth (inches): <u>18</u>	<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: WETS analysis, WWI map, Soils map, aerial imagery, prior delineation	
Remarks: Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is not met.	

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-7  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): concave  
 Slope: 3.0% 1.7° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount silt loam (BIA) NWI classification: None

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.		

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Ref. Strat. Cover	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30' r )				
1. <i>Carya ovata</i>	25	<input checked="" type="checkbox"/> 41.7%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)
2. <i>Fraxinus pennsylvanica</i>	25	<input checked="" type="checkbox"/> 41.7%	FACW	
3. <i>Quercus rubra</i>	10	<input type="checkbox"/> 16.7%	FACU	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	60	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15' r )				
1. <i>Rhamnus cathartica</i>	40	<input checked="" type="checkbox"/> 61.5%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>66</u> x 4 = <u>264</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>181</u> (A) <u>554</u> (B) Prevalence Index = B/A = <u>3.061</u>
2. <i>Ostrya virginiana</i>	20	<input checked="" type="checkbox"/> 30.8%	FACU	
3. <i>Fraxinus pennsylvanica</i>	5	<input type="checkbox"/> 7.7%	FACW	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	65	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5' r )				
1. <i>Carex bromoides</i>	25	<input checked="" type="checkbox"/> 44.6%	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Ribes cynosbati</i>	10	<input checked="" type="checkbox"/> 17.9%	FAC	
3. <i>Rhamnus cathartica</i>	10	<input checked="" type="checkbox"/> 17.9%	FAC	
4. <i>Prunus virginiana</i>	5	<input type="checkbox"/> 8.9%	FACU	
5. <i>Rosa multiflora</i>	3	<input type="checkbox"/> 5.4%	FACU	
6. <i>Trillium recurvatum</i>	3	<input type="checkbox"/> 5.4%	FACU	
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	56	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 30' r )				
1.	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
2.	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is met. Mixed hardwood swamp / Shrub carr plant community.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

# SOIL

Sampling Point: SP-7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 2/1	100					Sandy Clay Loam	
3-6	10YR 2/1	90	10YR 5/8	10	C	M	Sandy Clay Loam	
6-12	10YR 3/1	85	10YR 5/8	15	C	M	Sandy Clay	
12-20	10YR 4/2	60	10YR 4/1	25	D	M	Sandy Clay	
			10YR 5/8	15	C	M		

<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup> Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators:

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ 2 cm Muck (A10)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Muck Mineral (S1)  
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☒ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)

## Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Coast Prairie Redox (A16)  
☐ Dark Surface (S7)  
☐ Iron Manganese Masses (F12)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: None

Depth (inches): NA

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

The criterion for hydric soil is met.

# HYDROLOGY

## Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)  
☒ High Water Table (A2)  
☒ Saturation (A3)  
☐ Water Marks (B1)  
☐ Sediment Deposits (B2)  
☐ Drift Deposits (B3)  
☐ Algal Mat or Crust (B4)  
☐ Iron Deposits (B5)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Sparsely Vegetated Concave Surface (B8)  
☐ Water-Stained Leaves (B9)  
☐ Aquatic Fauna (B13)  
☐ True Aquatic Plants (B14)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Gauge or Well Data (D9)  
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)  
☐ Drainage Patterns (B10)  
☐ Dry Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☒ Saturation Visible on Aerial Imagery (C9)  
☐ Stunted or Stressed Plants (D1)  
☒ Geomorphic Position (D2)  
☐ FAC-Neutral Test (D5)

## Field Observations:

Surface Water Present? Yes ☐ No ☒  
 Water Table Present? Yes ☒ No ☐  
 Saturation Present? (Includes capillary fringe) Yes ☒ No ☐

Depth (inches): \_\_\_\_\_  
 Depth (inches): 5  
 Depth (inches): 0

Wetland Hydrology Present? Yes ☒ No ☐

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

WETS analysis, WWI map, Soils map, aerial imagery, prior delineation

## Remarks:

Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is met. Sample point ~ 2' lower in elevation than SP-6. Saturation / possible inundation visible on 2014 leaf-off aerial imagery.

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-8  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex  
 Slope: 3.0% 1.7° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Morley silt loam (MzdB) NWI classification: None

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

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

Hydrophytic Vegetation Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Based on the absence of all three parameters, this point is located in an upland.		

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Carya ovata</i>	15	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
	15	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Prevalence Index worksheet:
1. <i>Ostrya virginiana</i>	60	<input checked="" type="checkbox"/> 60.0%	FACU	
2. <i>Rhamnus cathartica</i>	15	<input type="checkbox"/> 15.0%	FAC	OBL species <u>0</u> x 1 = <u>0</u>
3. <i>Cornus racemosa</i>	10	<input type="checkbox"/> 10.0%	FAC	FACW species <u>0</u> x 2 = <u>0</u>
4. <i>Zanthoxylum americanum</i>	10	<input type="checkbox"/> 10.0%	FACU	FAC species <u>35</u> x 3 = <u>105</u>
5. <i>Prunus virginiana</i>	5	<input type="checkbox"/> 5.0%	FACU	FACU species <u>111</u> x 4 = <u>444</u>
	100	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
				Column Totals: <u>146</u> (A) <u>549</u> (B)
				Prevalence Index = B/A = <u>3.760</u>
Herb Stratum (Plot size: 5' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Hydrophytic Vegetation Indicators:
1. <i>Rhamnus cathartica</i>	10	<input checked="" type="checkbox"/> 32.3%	FAC	
2. <i>Prunus virginiana</i>	10	<input checked="" type="checkbox"/> 32.3%	FACU	<input type="checkbox"/> 2 - Dominance Test is > 50%
3. <i>Trillium recurvatum</i>	5	<input type="checkbox"/> 16.1%	FACU	<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
4. <i>Taraxacum officinale</i>	3	<input type="checkbox"/> 9.7%	FACU	<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. <i>Zanthoxylum americanum</i>	3	<input type="checkbox"/> 9.7%	FACU	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6. _____	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
	31	= Total Cover		
Woody Vine Stratu (Plot size: 30' r )	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



## SOIL

Sampling Point: **SP-8**

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b> <div> <div> Surface Water Present?    Yes <input type="radio"/>    No <input checked="" type="radio"/> </div> <div> Depth (inches): _____ </div> </div> <div> Water Table Present?    Yes <input type="radio"/>    No <input checked="" type="radio"/> </div> <div> Depth (inches): _____ </div> <div> Saturation Present? (includes capillary fringe)    Yes <input type="radio"/>    No <input checked="" type="radio"/> </div> <div> Depth (inches): _____ </div> <div> <b>Wetland Hydrology Present?</b>    Yes <input type="radio"/>    No <input checked="" type="radio"/> </div> <p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p> <p>WETS analysis, WWI map, Soils map, aerial imagery, prior delineation</p> <p>Remarks:</p> <p>Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is not met.</p>		

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-9  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): concave  
 Slope: 3.0% 1.7° Lat.: Long.: Datum:  
 Soil Map Unit Name: Blount silt loam (BIA) NWI classification: None

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.		

## VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Ref. Strat. Cover	Indicator Status	
<b>Tree Stratum (Plot size: 30' r )</b>				
1. <i>Quercus rubra</i>	40	<input checked="" type="checkbox"/> 66.7%	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
2. <i>Quercus bicolor</i>	20	<input checked="" type="checkbox"/> 33.3%	FACW	
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	60	= Total Cover		
<b>Sapling/Shrub Stratum (Plot size: 15' r )</b>				
1. <i>Carpinus caroliniana</i>	30	<input checked="" type="checkbox"/> 46.2%	FAC	<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>108</u> x 3 = <u>324</u> FACU species <u>58</u> x 4 = <u>232</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>186</u> (A) <u>596</u> (B)  Prevalence Index = B/A = <u>3.204</u>
2. <i>Rhamnus cathartica</i>	30	<input checked="" type="checkbox"/> 46.2%	FAC	
3. <i>Ostrya virginiana</i>	5	<input type="checkbox"/> 7.7%	FACU	
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	65	= Total Cover		
<b>Herb Stratum (Plot size: 5' r )</b>				
1. <i>Ribes cynosbati</i>	20	<input checked="" type="checkbox"/> 32.8%	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Carpinus caroliniana</i>	10	<input checked="" type="checkbox"/> 16.4%	FAC	
3. <i>Prunus virginiana</i>	10	<input checked="" type="checkbox"/> 16.4%	FACU	
4. <i>Rhamnus cathartica</i>	10	<input checked="" type="checkbox"/> 16.4%	FAC	
5. <i>Cornus racemosa</i>	5	<input type="checkbox"/> 8.2%	FAC	
6. <i>Carex blanda</i>	3	<input type="checkbox"/> 4.9%	FAC	
7. <i>Trillium recurvatum</i>	3	<input type="checkbox"/> 4.9%	FACU	
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	61	= Total Cover		
<b>Woody Vine Stratu (Plot size: 30' r )</b>				
1.	0	<input type="checkbox"/> 0.0%		<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
2.	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

The criterion for hydrophytic vegetation is met. Mixed hardwood swamp / Shrub carr plant community. *Rhamnus cathartica* and *Ostrya virginiana* exhibiting adaptations to saturated conditions in the form of adventitious roots and shallow root system. Recalculating as FAC species not needed to meet the Dominance Test.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Sampling Point: **SP-9**

## HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

**Field Observations:**

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

Remarks:

Midwest Region - Version 2.0

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cuilen State: WI Sampling Point: SP-10  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex  
 Slope: 5.0% 2.9° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount silt loam (BIA) NWI classification: None

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

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: Based on the absence of all three parameters, this point is located in an upland.	

## VEGETATION - Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum (Plot size: 30' r )</b>				Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1. <i>Quercus alba</i>	40	<input checked="" type="checkbox"/> 53.3%	FACU	
2. <i>Quercus rubra</i>	20	<input checked="" type="checkbox"/> 26.7%	FACU	
3. <i>Acer rubrum</i>	10	<input type="checkbox"/> 13.3%	FAC	
4. <i>Acer saccharinum</i>	5	<input type="checkbox"/> 6.7%	FACW	
5. _____	0	<input type="checkbox"/> 0.0%		
	75	= Total Cover		
<b>Sapling/Shrub Stratum (Plot size: 15' r )</b>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>43</u> x 3 = <u>129</u> FACU species <u>111</u> x 4 = <u>444</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>209</u> (A) <u>833</u> (B) Prevalence Index = B/A = <u>3.986</u>
1. <i>Zanthoxylum americanum</i>	25	<input checked="" type="checkbox"/> 44.6%	FACU	
2. <i>Lonicera morrowii</i>	10	<input checked="" type="checkbox"/> 17.9%	FACU	
3. <i>Carpinus caroliniana</i>	8	<input type="checkbox"/> 14.3%	FAC	
4. <i>Prunus virginiana</i>	8	<input type="checkbox"/> 14.3%	FACU	
5. <i>Cornus racemosa</i>	5	<input type="checkbox"/> 8.9%	FAC	
	56	= Total Cover		
<b>Herb Stratum (Plot size: 5' r )</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Carex pensylvanica</i>	50	<input checked="" type="checkbox"/> 64.1%	UPL	
2. <i>Cornus racemosa</i>	15	<input type="checkbox"/> 19.2%	FAC	
3. <i>Ostrya virginiana</i>	5	<input type="checkbox"/> 6.4%	FACU	
4. <i>Ribes cynosbati</i>	5	<input type="checkbox"/> 6.4%	FAC	
5. <i>Dryocallis arguta</i>	3	<input type="checkbox"/> 3.8%	FACU	
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
	78	= Total Cover		
<b>Woody Vine Stratum (Plot size: 30' r )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
1. _____	0	<input type="checkbox"/> 0.0%		
2. _____	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criterion for hydrophytic vegetation is not met.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

Sampling Point: **SP-10**

Profile Description: (Describe to the depth needed to document an indicator or confirm the absence of indicators.)														
Depth (inches)	Matrix		Redox Features				Texture	Remarks						
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>								
0-5	10YR	3/2	100				Silty Clay Loam							
5-16	10YR	6/4	98	10YR	5/8	2	C	M	Silty Clay					
16-24	10YR	6/4	90	10YR	5/8	10	C	M	Silty Clay					
<p><sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup> Location: PL=Pore Lining, M=Matrix.</p>														
<b>Hydric Soil Indicators:</b>					<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>									
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)					<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)					<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)				
<b>Restrictive Layer (if observed):</b> Type: <u>None</u> Depth (inches): <u>NA</u>					<b>Hydric Soil Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>									
Remarks: The criterion for hydric soil is not met.														

## HYDROLOGY

Wetland Hydrology Indicators:			Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Algal Mat or Crust (B4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> FAC-Neutral Test (D5)						
<b>Field Observations:</b>						
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches):			<b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	20			
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	16			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
WETS analysis, WWI map, Soils map, aerial imagery, prior delineation						
Remarks:						
Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is not met.						



# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-11  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave  
 Slope: 0.0% 0.0 ° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Blount silt loam (BIA) NWI classification: T3K

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.		

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' r )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Carya ovata</i>	40	<input checked="" type="checkbox"/> 57.1%	FAC	
2. <i>Tilia americana</i>	30	<input checked="" type="checkbox"/> 42.9%	FAC	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	70	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Prevalence Index worksheet:
1. <i>Carpinus caroliniana</i>	40	<input checked="" type="checkbox"/> 80.0%	FAC	
2. <i>Ostrya virginiana</i>	10	<input checked="" type="checkbox"/> 20.0%	FAC	OBL species <u>0</u> x 1 = <u>0</u>
3.	0	<input type="checkbox"/> 0.0%		FACW species <u>10</u> x 2 = <u>20</u>
4.	0	<input type="checkbox"/> 0.0%		FAC species <u>158</u> x 3 = <u>474</u>
5.	0	<input type="checkbox"/> 0.0%		FACU species <u>5</u> x 4 = <u>20</u>
	50	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
				Column Totals: <u>173</u> (A) <u>514</u> (B)
				Prevalence Index = B/A = <u>2.971</u>
Herb Stratum (Plot size: 5' r )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Hydrophytic Vegetation Indicators:
1. <i>Carpinus caroliniana</i>	30	<input checked="" type="checkbox"/> 56.6%	FAC	
2. <i>Carex bromoides</i>	10	<input type="checkbox"/> 18.9%	FACW	<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
3. <i>Cornus racemosa</i>	5	<input type="checkbox"/> 9.4%	FAC	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
4. <i>Trillium recurvatum</i>	5	<input type="checkbox"/> 9.4%	FACU	<input checked="" type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. <i>Ribes cynosbati</i>	3	<input type="checkbox"/> 5.7%	FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6.	0	<input type="checkbox"/> 0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	53	= Total Cover		
Woody Vine Stratum (Plot size: 30' r )	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1.	0	<input type="checkbox"/> 0.0%		
2.	0	<input type="checkbox"/> 0.0%		
	0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation naturally problematic due to abundance of what would normally be FACU species in wetland. Greater than 50% of *Carya ovata*, *Tilia americana*, and *Ostrya virginiana* plants within the plot were exhibiting morphological adaptations including buttressing, adventitious roots, and shallow root systems. These plant were recalculated as FAC species. The criterion for hydrophytic vegetation is met.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Sampling Point: **SP-11**

## HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

**Field Observations:**

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

WETS analysis, WWI map, Soils map, aerial imagery, prior delineation

Remarks:

Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is met. Sample point ~ 2' lower in elevation than SP-10. Saturation / possible inundation visible on 2014 leaf-off aerial imagery.

# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Carlisle Interconnect City/County: Franklin / Milwaukee Sampling Date: 13-May-16  
 Applicant/Owner: Carlisle Interconnect / JP Cullen State: WI Sampling Point: SP-12  
 Investigator(s): Ron Londré, Amanda Larsen Section, Township, Range: S 26 T 5N R 21E  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave  
 Slope: 0.0% 0.0° Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Ashkum silty clay loam (ASA) NWI classification: T3/E2K

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

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: Based on the presence of all three parameters, this point is located within a wetland.		

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species? Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <i>Quercus rubra</i>	25	<input checked="" type="checkbox"/> 36.8%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)
2. <i>Quercus bicolor</i>	20	<input checked="" type="checkbox"/> 29.4%	FACW	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. <i>Acer saccharinum</i>	15	<input checked="" type="checkbox"/> 22.1%	FACW	Percent of dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
4. <i>Acer rubrum</i>	5	<input type="checkbox"/> 7.4%	FAC	
5. <i>Tilia americana</i>	3	<input type="checkbox"/> 4.4%	FACU	
	68	= Total Cover		
Sapling/Shrub Stratum (Plot size: 155)				Prevalence Index worksheet:
1. <i>Carpinus caroliniana</i>	5	<input checked="" type="checkbox"/> 50.0%	FAC	Total % Cover of: Multiply by:
2. <i>Ostrya virginiana</i>	5	<input checked="" type="checkbox"/> 50.0%	FAC	OBL species <u>3</u> x 1 = <u>3</u>
3.	0	<input type="checkbox"/> 0.0%		FACW species <u>50</u> x 2 = <u>100</u>
4.	0	<input type="checkbox"/> 0.0%		FAC species <u>28</u> x 3 = <u>84</u>
5.	0	<input type="checkbox"/> 0.0%		FACU species <u>28</u> x 4 = <u>112</u>
	10	= Total Cover		UPL species <u>50</u> x 5 = <u>250</u>
Herb Stratum (Plot size: 5' r)				Column Totals: <u>159</u> (A) <u>549</u> (B)
1. <i>Carex pensylvanica</i>	50	<input checked="" type="checkbox"/> 61.7%	UPL	Prevalence Index = B/A = <u>3.453</u>
2. <i>Carex bromoides</i>	15	<input type="checkbox"/> 18.5%	FACW	
3. <i>Carex blanda</i>	10	<input type="checkbox"/> 12.3%	FAC	
4. <i>Cornus racemosa</i>	3	<input type="checkbox"/> 3.7%	FAC	
5. <i>Sagittaria latifolia</i>	3	<input type="checkbox"/> 3.7%	OBL	
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	81	= Total Cover		
Woody Vine Stratum (Plot size: 30' r)				Hydrophytic Vegetation Indicators:
1.	0	<input type="checkbox"/> 0.0%		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2.	0	<input type="checkbox"/> 0.0%		<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
				<input checked="" type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation naturally problematic due to abundance of what would normally be FACU species in wetland. Greater than 50% of *Ostrya virginiana* plants within the plot were exhibiting morphological adaptations including adventitious roots and shallow root systems. These plant were recalculated as FAC species. The criterion for hydrophytic vegetation is met.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

# SOIL

Sampling Point: SP-12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>			
0-5	10YR	3/2	100					Silt Loam	
5-14	10YR	4/2	60	10YR	5/8	20	C	M	Silty Clay
					10YR	4/1	20	D	
14-22	10YR	5/2	85	10YR	6/8	15	C	M	Silty Clay

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators:

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ 2 cm Muck (A10)  
☒ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Muck Mineral (S1)  
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☒ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)

## Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Coast Prairie Redox (A16)  
☐ Dark Surface (S7)  
☐ Iron Manganese Masses (F12)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if observed):

Type: None

Depth (inches): NA

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

The criterion for hydric soil is met.

# HYDROLOGY

## Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☒ Saturation (A3)  
☐ Water Marks (B1)  
☐ Sediment Deposits (B2)  
☐ Drift Deposits (B3)  
☐ Algal Mat or Crust (B4)  
☐ Iron Deposits (B5)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Sparsely Vegetated Concave Surface (B8)  
☐ Water-Stained Leaves (B9)  
☐ Aquatic Fauna (B13)  
☐ True Aquatic Plants (B14)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres on Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Gauge or Well Data (D9)  
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)  
☐ Drainage Patterns (B10)  
☐ Dry Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Stunted or Stressed Plants (D1)  
☒ Geomorphic Position (D2)  
☐ FAC-Neutral Test (D5)

## Field Observations:

Surface Water Present? Yes ☐ No ☒  
 Water Table Present? Yes ☒ No ☐  
 Saturation Present? (includes capillary fringe) Yes ☒ No ☐

Depth (inches): \_\_\_\_\_  
 Depth (inches): 18  
 Depth (inches): 10

Wetland Hydrology Present? Yes ☒ No ☐

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

WETS analysis, WWI map, Soils map, aerial imagery, prior delineation

## Remarks:

Based on a WETS analysis, antecedent hydrologic conditions were within a normal range. The criterion for wetland hydrology is met. Sample point ~ 6-8" higher in elevation than shallow marsh ~ 30 west of sample point.

# **APPENDIX C**

**Table 15-3.0503**

**Table 15-3.0505**

**NRPP Checklist**

**Table 15-3.0503 Worksheet for the Calculation of Natural Resource Protection Land**

<b>Natural Resource Feature</b>	<b>Zoning District Type: Non- Residential (b) Protection Standard (%)</b>	<b>Area of Resource in Study Area (acres)</b>	<b>Protection Requirement (acres)</b>	<b>Area of Proposed Disturbance in Study Area (acres)</b>
<b>Steep Slopes:</b>				
10 - 19%	40%	0.00	0.00	0.00
20 - 30%	70%	0.00	0.00	0.00
> 30%	80%	0.00	0.00	0.00
<b>Woodlands &amp; Forests:</b>				
Mature	70%	5.30	3.71	0.34
Young	50%	0.00	0.00	0.00
<b>Lakes &amp; Ponds</b>	100%	0.09	0.09	0.00
<b>Streams</b>	100%	0.00	0.00	0.00
<b>Shore Buffer</b>	100%	0.56	0.56	0.00
<b>Floodplains/Floodlands</b>	100%	0.00	0.00	0.00
<b>Wetland Buffers (30')</b>	100%	0.63	0.63	0.12
<b>Wetland Setback (50')*</b>	100%	0.75	0.75	0.13
<b>Wetlands &amp; Shoreland Wetlands</b>	100%	6.44	6.44	0.23

\* The 50' Wetland Setback also includes the land within the 30' Wetland Buffer.

The total unadjusted natural resource protection land is 13.77 acres; however, the mature woodland, wetland, wetland buffer, wetland setback, pond, and shore buffer overlap covers 7.34 acres. Due to overlapping natural resources, the adjusted natural resource protection land is 6.43 acres.



**Table 15-3.0505**  
**WORKSHEET FOR THE CALCULATION OF SITE INTENSITY AND**  
**CAPACITY FOR NONRESIDENTIAL DEVELOPMENT**

<b>STEP 1:</b>	<b>CALCULATE MINIMUM REQUIRED LANDSCAPE SURFACE:</b>  Take <b>Base Site Area</b> (from Step 5 in Table 15-3.0502): <b>11.01 acres</b>  Multiple by Minimum <b>Landscape Surface Ratio (LSR)</b> (see specific zoning district LSR standard): X 0.25  Equals <b>MINIMUM REQUIRED ON-SITE LANDSCAPE SURFACE =</b>	<b>2.75 acres</b>
<b>STEP 2:</b>	<b>CALCULATE NET BUILDABLE SITE AREA:</b>  Take <b>Base Site Area</b> (from Step 5 in Table 15-3.0502): <b>11.01 acres</b>  Subtract <b>Total Resource Protection Land</b> from Table 15-3.0503) or <b>Minimum Required Landscape Surface</b> (from Step 1 above), whichever is greater:  - <b>6.43 acres</b>  Equals <b>NET BUILDABLE SITE AREA =</b>	<b>4.58 acres</b>
<b>STEP 3:</b>	<b>CALCULATE MAXIMUM NET FLOOR AREA YIELD OF SITE:</b>  Take <b>Net Buildable Site Area</b> (from Step 2 above): <b>4.58 acres</b>  Multiple by Maximum <b>Net Floor Area Ratio (NFAR)</b> (see specific nonresidential zoning district NFAR standard): X 0.85  Equals <b>MAXIMUM NET FLOOR AREA YIELD OF SITE =</b>	<b>NA for PDD No. 18</b>
<b>STEP 4:</b>	<b>CALCULATE MAXIMUM GROSS FLOOR AREA YIELD OF SITE:</b>  Take <b>Base Site Area</b> (from Step 5 of Table 15-3.0502): <b>11.01 acres</b>  Multiple by Maximum <b>Gross Floor Area Ratio (GFAR)</b> (see specific nonresidential zoning district GFAR standard): X 0.55  Equals <b>MAXIMUM GROSS FLOOR AREA YIELD OF SITE =</b>	<b>NA for PDD No. 18</b>
<b>STEP 5:</b>	<b>DETERMINE MAXIMUM PERMITTED FLOOR AREA OF SITE:</b>  Take the <b>lowest</b> of Maximum Net Floor Area Yield of Site (from Step 3 above) or Maximum Gross Floor Area Yield of Site (from Step 4 above):  (Multiple results by 43,560 for maximum floor area in square feet):	<b>NA for PDD No. 18</b>

# **APPENDIX D**

## **Site Photographs**



## Site Photographs



Project Name		Site Location	Project No.
Carlisle Interconnect		Franklin, Wisconsin	255682
Photo No.	Date		
1	9/12/16		
Description			
Hardwood swamp wetland and mature woodland area proposed to be impacted.			
Looking southwest			

Photo No.	Date	
2	9/12/16	
Description Hardwood swamp wetland and mature woodland area proposed to be impacted. Looking north		



## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		Franklin, Wisconsin	255682
Photo No.	Date		
3	9/12/16		
<p>Description</p> <p>Hardwood swamp wetland and mature woodland area proposed to be impacted.</p> <p>Looking south</p>			

Photo No.	Date		
4	9/12/16		
<p>Description</p> <p>Hardwood swamp wetland and wetland, mature woodland, and wetland buffer/setback proposed to be impacted.</p> <p>Looking north</p>			



## Site Photographs


Project Name		Site Location	Project No.
Carlisle Interconnect		Franklin, Wisconsin	255682
Photo No.	Date		
5	9/12/16		
<p>Description</p> <p>Hardwood swamp wetland, mature woodland, and wetland buffer/setback proposed to be impacted.</p> <p>Looking east</p>			

Photo No.	Date		
6	5/11/16		
<p>Description</p> <p>Hardwood swamp wetland, mature woodland, and wetland buffer/setback proposed to be impacted.</p> <p>Looking west from within mature woodland.</p>			





## Site Photographs


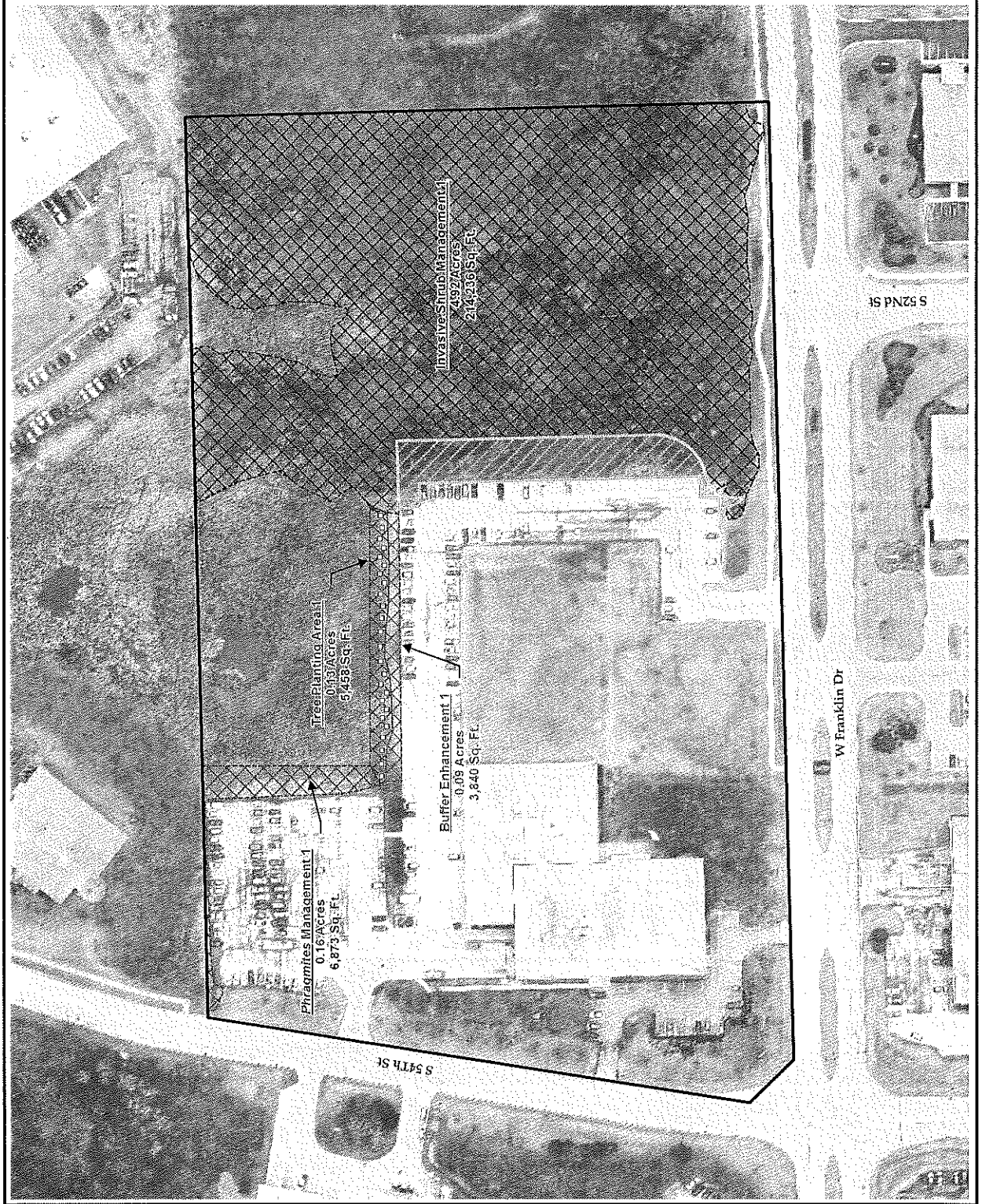
Project Name		Site Location	Project No.
Carlisle Interconnect		Franklin, Wisconsin	255682
Photo No.	Date		
5	5/11/16		
Description			
North end of northwest parking lot with where the invasive grass <i>Phragmites</i> occurs. Herbicide treatment and native seeding will be conducted here for mitigation.			

Photo No.	Date	
6	5/11/16	
Description		
North side of parking where wetland buffer can be enhanced and general area where native tree saplings can be planted for mitigation.		



# **APPENDIX E**

## **Figure 3 – Mitigation Map**

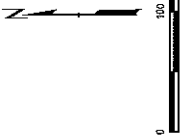


**LEGEND**

- TREE PLANTING AREA
- BUFFER ENHANCEMENT
- INVASIVE SHRUB MANAGEMENT
- PHRAGMITES MANAGEMENT
- TREE PLANTING AREA
- AREA OF PROPOSED DISTURBANCE
- STUDY AREA

**NOTES**

1. BASE MAP IMAGERY FROM MILWAUKEE COUNTY LAND INFORMATION OFFICE, 2015.



PROJECT  
 CARLISLE INTERCONNECT TECHNOLOGIES, INC.  
 5300 WEST FRANKLIN DRIVE  
 FRANKLIN, WISCONSIN

**MITIGATION AND ENHANCEMENT MAP**

DATE	OCTOBER 2016	FIGURE 3
DESIGNED BY	R. S. B. W. N. C. H. T.	25562
APPROVED BY		
FILE NO.	160 North Parkside Blvd., Suite 100 Pewaukee, WI 53150 Phone: 262.779.1170 www.ctrcwi.com	

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**Natural Resource Special Exception Question and Answer Form.****Questions to be answered by the Applicant**

Items on this application to be provided in writing by the Applicant shall include the following, as set forth by Section 15-9.0110C. of the UDO:

- A. Indication of the section(s) of the UDO for which a Special Exception is requested. \_\_\_\_\_  
 Table 15-4.0100 imposing a 100% protection standard on wetlands and wetland buffers but  
 permitting mitigation for industrial uses under 15-4.0103(B) \_\_\_\_\_  
 \_\_\_\_\_
- B. Statement regarding the Special Exception requested, giving distances and dimensions where appropriate.  
 Special exemption request is for disturbance of wetland (0.23-acre) and wetland buffer/setback (0.2-acre) for the  
 Carlisle IT Franklin Facility Expansion. Disturbance includes wetland fill and disturbance of wetland buffer and setback  
 for the creation of a driveway and additional parking needed due to facility expansion. \_\_\_\_\_  
 \_\_\_\_\_
- C. Statement of the reason(s) for the request.  
 Disturbance to natural resources is needed for the expansion of the existing facility to increase manufacturing floor space.  
 Additional parking and driveway access were needed to accommodate additional staff. A detailed Project  
 description, purpose and need, and alternatives analysis are attached to this request. \_\_\_\_\_  
 \_\_\_\_\_
- D. Statement of the reasons why the particular request is an appropriate case for a Special Exception, together with any proposed conditions or safeguards, and the reasons why the proposed Special Exception is in harmony with the general purpose and intent of the Ordinance. In addition, the statement shall address any exceptional, extraordinary, or unusual circumstances or conditions applying to the lot or parcel, structure, use, or intended use that do not apply generally to other properties or uses in the same district, including a practicable alternative analysis as follows:

**1) Background and Purpose of the Project.**

- (a) Describe the project and its purpose in detail. Include any pertinent construction plans.  
 See attached wetland fill permit request (dated September 21, 2016) and Carlisle project description,  
 purpose and need, and alternatives analysis attached to this request. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- (b) State whether the project is an expansion of an existing work or new construction.  
 Expansion of an existing facility in the Franklin Business Park. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



- (c) State why the project must be located in or adjacent to the stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback to achieve its purpose.

This is an expansion of an existing manufacturing facility. To increase production, increased work space on site is needed. Due to the use of heavy equipment, building up (2 floors) to reduce impact area is not feasible. Having exhausted various alternatives, only the driveway and single row of parking on the east side of the expansion area essential for safe and efficient site circulation will impact wetlands.

2) **Possible Alternatives.**

- (a) State all of the possible ways the project may proceed without affecting the stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback as proposed.

This project may not proceed without impacting wetland and wetland buffer/setback. This project has been redesigned to reduce the area of impact, no further actions are possible to further reduce impact. Carlisle IT has conducted a practicable alternatives analysis and has concluded that there are no practicable alternatives that either completely avoid wetland impacts or further minimize wetland impacts beyond what is being proposed. See attached.

- (b) State how the project may be redesigned for the site without affecting the stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback.

This project can not be redesigned without impacting wetland and wetland buffer/setback.

This project has been redesigned to reduce the area of impact, no further actions are possible to further reduce impact. See attached alternatives analysis for further detail.

- (c) State how the project may be made smaller while still meeting the project's needs.

This project has undergone several design alternatives to reduce the area of impact. This project may not be made any smaller while still meeting the projects needs. See attached alternatives analysis for further detail.

- (d) State what geographic areas were searched for alternative sites.

Local and national areas outside of Wisconsin areas were considered and rejected as alternative sites.

See attached alternatives analysis for further detail.

- (e) State whether there are other, non-stream, or other non-navigable water, non-shore buffer, non-wetland, non-wetland buffer, and/or non-wetland setback sites available for development in the area.

Due to the type of product manufacturing that is done in this facility, to increase production, the expansion must be connected to the existing building. See attached alternatives analysis for further detail.

- (f) State what will occur if the project does not proceed.

The alternative of not building an expansion would result in Carlisle IT having to utilize outside contract manufacturing services to produce product which would result in >\$15 million in lost profit due to increased manufacturing cost over the next 5 years.  
If the supplier is not approved by our customers, it could put the entire Franklin business operation at risk totaling the loss of >\$400 million in revenue for Carlisle IT over the life of the project.

**3) Comparison of Alternatives.**

- (a) State the specific costs of each of the possible alternatives set forth under sub.2., above as compared to the original proposal and consider and document the cost of the resource loss to the community.

See attached alternatives analysis for further detail.

- (b) State any logistical reasons limiting any of the possible alternatives set forth under sub. 2., above.

See attached alternatives analysis for further detail.

- (c) State any technological reasons limiting any of the possible alternatives set forth under sub. 2., above.

See attached alternatives analysis for further detail.

- (d) State any other reasons limiting any of the possible alternatives set forth under sub. 2., above.

See attached alternatives analysis for further detail.

**4) Choice of Project Plan.**

State why the project should proceed instead of any of the possible alternatives listed under sub.2., above, which would avoid stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback impacts.

This project may not proceed without impacting wetland and wetland buffer/setback.

See attached alternatives analysis for further detail.

5) **Stream or Other Navigable Water, Shore Buffer, Wetland, Wetland Buffer, and Wetland Setback Description.**

Describe in detail the stream or other navigable water shore buffer, wetland, wetland buffer, and/or wetland setback at the site which will be affected, including the topography, plants, wildlife, hydrology, soils and any other salient information pertaining to the stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback.

Wetland in the proposed impact area is mixed hardwood swamp / shrub-carr plant community. Dominant vegetation includes *Fraxinus pennsylvanica* (green ash) and *Quercus alba* (white oak) in the tree stratum, *Rhamnus cathartica* (common buckthorn) in the shrub stratum; and *Carex bromoides* (brome-like sedge), *Ribes cynosbati* (prickly gooseberry), and *Rhamnus cathartica* in the herb stratum. Topography was relatively flat and soils were a sandy clay loam. The wetland buffer/setback includes mowed turf grass and upland hardwood forest. See Wetland Delineation Report (June 7, 2016) for more detail.

6) **Stream or Other Navigable Water, Shore Buffer, Wetland, Wetland Buffer, and Wetland Setback Impacts.**

- |    |  |  |  |
|----|--|--|--|
| a) | Diversity of flora including State and/or Federal designated threatened and/or endangered species.   | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| b) | Storm and flood water storage.   | <input type="checkbox"/> Not Applicable            | <input checked="" type="checkbox"/> Applicable |
| c) | Hydrologic functions.  | <input type="checkbox"/> Not Applicable            | <input checked="" type="checkbox"/> Applicable |
| d) | Water quality protection including filtration and storage of sediments, nutrients or toxic substances.   | <input type="checkbox"/> Not Applicable            | <input checked="" type="checkbox"/> Applicable |
| e) | Shoreline protection against erosion.  | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| f) | Habitat for aquatic organisms.   | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| g) | Habitat for wildlife.  | <input type="checkbox"/> Not Applicable            | <input checked="" type="checkbox"/> Applicable |
| h) | Human use functional value.  | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| i) | Groundwater recharge/discharge protection.   | <input type="checkbox"/> Not Applicable            | <input checked="" type="checkbox"/> Applicable |
| j) | Aesthetic appeal, recreation, education, and science value.  | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| k) | Specify any State or Federal designated threatened or endangered species or species of special concern.  | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| l) | Existence within a Shoreland.  | <input checked="" type="checkbox"/> Not Applicable | <input type="checkbox"/> Applicable            |
| m) | Existence within a Primary or Secondary Environmental Corridor or within an Isolated Natural Area, as those areas are defined and currently mapped by the Southeastern Wisconsin Regional Planning Commission from time to time. | <input type="checkbox"/> Not Applicable            | <input checked="" type="checkbox"/> Applicable |

Describe in detail any impacts to the above functional values of the stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback:

Filling wetland on site will generate a minimal reduction in the amount of area available for storm water storage, hydrologic functions, water quality protection, wildlife habitat, and groundwater protection. These alterations are unlikely to generate any meaningful impacts to the surrounding area. The existing wetland is within a mature woodland listed as an Isolated Natural Area by the Southeastern Wisconsin Regional Planning Commission.

7) **Water Quality Protection.**

Describe how the project protects the public interest in the waters of the State of Wisconsin.

Carlisle IT has conducted a practicable alternatives analysis and has concluded that there are no practicable alternatives that either completely avoid wetland impacts or further minimize wetland impacts beyond what is being proposed.

There are no proposed impacts to waterways. Indirect impacts to water quality during construction and post construction are being managed by complying with s. NR 151, Wis. Adm. Code.

**City of Franklin Environmental Commission**

TO: Common Council  
DATE: November 9, 2016  
RE: Special Exception application review and recommendation  
APPLICATION: Carlisle Interconnect Technologies, Inc., owner, Applicant,  
dated: October 4, 2016  
(5300 West Franklin Drive)

**I. §15-9.0110 of the Unified Development Ordinance Special Exception to Natural Resource Feature Provisions Application information:**

1. Unified Development Ordinance Section(s) from which Special Exception is requested:

*Table 15-4.0100 and Section 15-4.0103B of the City of Franklin Unified Development Ordinance.*

2. Nature of the Special Exception requested (description of resources, encroachment, distances and dimensions):

*To fill and pave approximately 0.23 acre of wetlands, 0.12 acre of wetland buffers, and 0.01 acre of wetland setback.*

3. Applicant's reason for request:

*To construct additional parking and a driveway associated with an approximately 26,000 square foot addition to the existing Carlisle facility.*

4. Applicant's reason why request appropriate for Special Exception:

*The Carlisle facility needs to increase its manufacturing floor space due to increasing business and sales. The building addition is needed to house additional manufacturing machines such as CNC & Milling equipment and additional production space to meet the increased business demand and industry needs. Additional parking is needed for the additional staff associated with a building addition completed earlier this year, and for the proposed new building addition. The driveway access is needed to accommodate the parking for the additional staff, and for safe and efficient circulation for trucks. Carlisle has conducted a practicable alternatives analysis and has concluded that there are no practicable alternatives that*

*either completely avoid wetland impacts or further minimize wetland impacts beyond what is being proposed for the preferred alternative while still meeting the basic purpose and need of the project.*

**II. Environmental Commission review of the §15-9.0110C.4.f. Natural Resource Feature impacts to functional values:**

1. Diversity of flora including State and/or Federal designated threatened and/or endangered species:

*Wetland impact area (0.23 acre of 6.44 total acres) comprised of green ash, white oak, common buckthorn, brome-like sedge, and prickly gooseberry. The wetland buffer/setback impact area (0.13 acre of 1.38 total acres) includes mowed grass. Impact area also includes five trees over 12" in diameter (white oak, red oak, and American elm), and three adjacent trees over 12" (white oak) which may be impacted.*

*No known State and/or Federal designated threatened and/or endangered species.*

2. Storm and flood water storage:

*Minimal reduction in the amount of stormwater storage. No identified floodplain within the subject area.*

3. Hydrologic functions:

*Minimal impact on hydrologic functions.*

4. Water quality protection including filtration and storage of sediments, nutrients or toxic substances:

*Minimal impact on water quality, indirect impacts during construction will be managed by erosion control compliance with NR 151.*

5. Shoreline protection against erosion:

*No impact.*

6. Habitat for aquatic organisms:

*No impact.*

7. Habitat for wildlife:

*Minimal impact on wildlife habitat.*

8. Human use functional value:

*No impact.*

9. Groundwater recharge/discharge protection:

*Minimal impact on groundwater.*



10. Aesthetic appeal, recreation, education, and science value:

*No impact.*

11. State or Federal designated threatened or endangered species or species of special concern:

*No impact.*

12. Existence within a Shoreland:

*No impact.*

13. Existence within a Primary or Secondary Environmental Corridor or within an Isolated Natural Area, as those areas are defined and currently mapped by the Southeastern Wisconsin Regional Planning Commission from time to time:

*The wetland/woodland has been identified as an Isolated Natural Resource Area.*

**III. Environmental Commission review of the §15-10.0208B.2.d. factors and recommendations as to findings thereon:**

1. That the condition(s) giving rise to the request for a Special Exception were not self-imposed by the applicant (this subsection a. does not apply to an application to improve or enhance a natural resource feature):

*The subject natural resources were not identified on the Franklin Business Park subdivision plat (Lot 2 of Block 9). Only a small area in the northwestern portion of the subject lot (not impacted) was identified as a Greenspace area. It appears that the wetlands have grown significantly, pursuant to comparison with a plat of survey prepared in 2008.*

2. That compliance with the stream, shore buffer, navigable water-related, wetland, wetland buffer, and wetland setback requirement will:

a. be unreasonably burdensome to the applicants and that there are no reasonable practicable alternatives: ; or

b. unreasonably and negatively impact upon the applicants' use of the property and that there are no reasonable practicable alternatives:

*Little undeveloped land remains within the subject property outside the existing wetlands. The existing building and parking lot occupies the majority of the buildable site, and any significant building additions can only extend eastward. That area, formerly Lot 2 of Block 9 of the Franklin Business Park, did not identify any natural resource features. However, this lot is now almost entirely comprised of wetlands.*

*Reducing the parking lot would not be feasible, as most of the parking is now regularly used, and the applicant has already proposed a reduction in parking compared to current conditions.*

*The applicant has indicated that numerous alternatives were evaluated, and the project redesigned to be smaller than preferred.*

3. The Special Exception, including any conditions imposed under this Section will:

- a. be consistent with the existing character of the neighborhood:

*The proposed building addition and parking will result in a project similar in size to other large buildings nearby, and would be similarly located adjacent to/slightly within similar woodlands as are other adjacent properties; and*

- b. not effectively undermine the ability to apply or enforce the requirement with respect to other properties:

*The Carlisle property is unique in that three separate parcels have been acquired over time (two from the Franklin Business Park and one from the adjacent Industrial Park), and combined into one for eventual development purposes. The subject area, formerly Lot 2 of Block 9 of the Franklin Business Park, did not identify any natural resource features. However, this lot is now almost entirely comprised of wetlands.*

*It appears that the applicant has exhausted all reasonable alternatives, has minimized impacts, is providing mitigation for the proposed impacts, and is avoiding the majority of the natural resources on the property.; and*

- c. be in harmony with the general purpose and intent of the provisions of this Ordinance proscribing the requirement:

*The proposed impacts are minimal when compared to the amount of natural resources on the property, and mitigation will be undertaken to improve a majority of the remaining resources; and*

- d. preserve or enhance the functional values of the stream or other navigable water, shore buffer, wetland, wetland buffer, and/or wetland setback in co-existence with the development (*this finding only applying to an application to improve or enhance a natural resource feature*):

**IV. Environmental Commission review of the §15-10.0208B.2.a., b. and c. factors and recommendations as to findings thereon:**

1. Characteristics of the real property, including, but not limited to, relative placement of improvements thereon with respect to property boundaries or otherwise applicable setbacks:

*The project will meet all other zoning and site planning requirements.*

2. Any exceptional, extraordinary, or unusual circumstances or conditions applying to the lot or parcel, structure, use, or intended use that do not apply generally to other properties or uses in the same district:

*The Carlisle property is unique in that three separate parcels have been acquired over time (two from the Franklin Business Park and one from the adjacent Industrial Park), and combined into one for development purposes. The subject natural resources were not identified on the Franklin Business Park subdivision plat (Lot 2 of Block 9). Only a small area in the northwestern portion of the subject lot (not impacted) was identified as a Greenspace area. It appears that the wetlands have grown significantly, pursuant to comparison with a plat of survey prepared in 2008.*

3. Existing and future uses of property; useful life of improvements at issue; disability of an occupant:

*The subject property is currently used and zoned for light industrial/manufacturing uses. The property is planned for, and is envisioned to remain as, future commercial use.*

4. Aesthetics:

*The proposed building addition and parking will result in a project similar in size to other nearby sites, and would be similarly located adjacent to/slightly within similar woodlands as are other adjacent properties. The proposed impacts are minimal when compared to the amount of natural resources on the property, and mitigation will be undertaken to improve a majority of the remaining resources.*

5. Degree of noncompliance with the requirement allowed by the Special Exception:

*Approximately 0.23 acre of wetlands (about 4% of the total 6.4 acres), 0.12 acre of wetland buffers (about 19% of the total 0.63 acre), and 0.01 acre of wetland setback (about 1% of the total 0.75 acre) will be filled and paved.*

6. Proximity to and character of surrounding property:

*The areas immediately to the east and north are wooded/wetland areas. Similarly sized light industrial/manufacturing uses located further east and north are also immediately adjacent/slightly encroaching into the wooded/wetland areas. All other adjacent areas are developed for similar light industrial/manufacturing uses.*

7. Zoning of the area in which property is located and neighboring area:

*Planned Development District No. 18, Franklin Business Park.*

8. Any negative affect upon adjoining property:

*No negative impacts are anticipated.*

9. Natural features of the property:

*Wetlands, wetland buffers, wetland setbacks, and a mature woodland exist on the subject property.*

*The wetland complex is comprised of shallow marsh, hardwood swamp, and shrub-carr habitat. The mature woodland, which overlaps much of the wetlands, consists of various oaks, American elm, green ash, and American basswood. The wetland buffer/setback area includes mowed grass.*

10. Environmental impacts:

*To fill and pave approximately 0.23 acre of wetlands, 0.12 acre of wetland buffers, and 0.01 acre of wetland setback.*

#### **V. Environmental Commission Recommendation:**

The Environmental Commission has reviewed the subject Application pursuant to §15-10.0208B. of the Unified Development Ordinance and makes the following recommendation:

1. The recommendations set forth in Sections III. and IV. Above are incorporated herein.
2. The Environmental Commission recommends [approval] [denial] of the Application upon the aforesaid recommendations for the reasons set forth therein.
3. The Environmental Commissions recommends that should the Common Council approve the Application, that such approval be subject to the following conditions:
  - a. *That the applicant obtain all Wisconsin Department of Natural Resources and U.S. Army Corps of Engineers permits and approvals prior to construction.*

The above review and recommendation was passed and adopted at a regular meeting of the Environmental Commission of the City of Franklin on the 26<sup>th</sup> day of October, 2016.

Dated this 10<sup>th</sup> day of NOVEMBER, 2016.

Wesley Cannon  
Wesley Cannon, Chairman

Attest:

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Curtis Bolton, Vice-Chairman