Chicago-Milwaukee Amtrak Hiawatha Service Draft Environmental Assessment

Appendix F
Wisconsin Natural Resources Review



## Amtrak Hiawatha Natural Resource Review Milwaukee County

## **DOT Project I.D. 0385-57-02**

## November 2015

Prepared for

Wisconsin Department of Transportation

Southeast Region 141 Northwest Barstow St. Waukesha, WI 53187

Prepared by



125 S 84<sup>th</sup> St., Suite 401 Milwaukee, WI 53214 (414) 259-1500

Project Manager: Geoffrey Parish, P.G., P.H.

geoffrey.parish@graef-usa.com Lead Scientist: Mike Al-wathiqui mike.al-wathiqui@graef-usa.com

Project No.: 2014-0041.39

www.graef-usa.com

## **CONTENTS**

1.0	INTRO	DUCTION	2
2.0	WETLA	AND AND UPLAND ANALYSIS	2
2.1	ME	THODS	2
2.2	BAC	CKGROUND REVIEW	3
2	.2.1	Topography	3
2	.2.2	Wisconsin Wetland Inventory	
2	.2.3	Soils	3
2	.2.4	Precipitation Data	
2.3	FIEL	_D STUDY	4
2	.3.1	Site Description	4
2	.3.2	Wetlands	
	.3.3	Uplands	
2.4	CON	NCLUSION	7
2.5	LIM	ITATIONS	7
3.0	THREA	ATENED AND ENDANGERED SPECIES	7
3.1	Wet	tlands	8
3.2	Fish	neries/Stream Work	8
3.3	Mig	ratory Birds	8
3.4		asive Species	
3.5	Floo	odplains	. 8
3.6	Eme	erald Ash Borer	8
3.7	Con	struction Site Considerations	9
3.8	Nor	thern Long-Eared Bat	9
1.0	REFER	ENCES	10

## **APPENDICES**

Appendix A: Figures

Appendix B: Statement of Qualifications

Appendix C: WETS Analysis

Appendix D: Wetland Delineation Map

Appendix E: Wetland Determination Data Forms

Appendix F: Site Photographs

Appendix G: Upland and Wetland Summary Tables

Appendix H: Plants Lists

Appendix I: WDNR Threatened and Endangered Species Review and IPaC Results

1

#### 1.0 INTRODUCTION

Per the request of the Wisconsin Department of Transportation, GRAEF conducted a Natural Resource Review (NRR) to support environmental analyses for the Chicago-Milwaukee Intercity Passenger Rail project which studies the impact of increasing service on Amtrak's *Hiawatha Service* from 7 to 10 round trips per day in the Chicago to Milwaukee corridor. GRAEF is responsible for producing the NRR for infrastructure improvement projects within the Wisconsin portion of the corridor. The project locations are as follows:

- 1. Milwaukee Airport Rail Station Second Platform Project, milepost 78.54 to milepost 78.69.
- 2. Muskego Yard Signalization Project, milepost 83.4 to milepost 87.3.
- 3. MKE to Cut-Off CTC Installation Project, milepost 84.34 to milepost 87.3.

All projects are located in the city of Milwaukee, County of Milwaukee, State of Wisconsin and are generally located within the railroad right of way along the Canadian Pacific Railroad from Amtrak's Milwaukee Airport Rail Station to Canal Street in Milwaukee, WI (Figure 1, Appendix A).

The purpose of this NRR is to determine the current location and extent of protected natural resources located within the identified project areas which included wetlands, remnant uplands and threatened and endangered Species. The first section of the NRR discusses the wetland and upland analysis in terms of methodology, results, and conclusions. The second portion of the report discusses the Threatened and Endangered Species review.

The NRR field investigation was conducted by GRAEF scientists Mike Al-wathiqui and Geoffrey B. Parish on August 13<sup>th</sup> and 24<sup>th</sup>, 2015. A Statement of Qualifications on the field investigators is provided in Appendix B.

#### 2.0 WETLAND AND UPLAND ANALYSIS

### 2.1 METHODS

The wetland delineation portion of the NRR was conducted in accordance with the guidelines of the 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) and in general accordance with Wisconsin Department of Natural Resources guidelines (WI Department of Administration, WI Coastal Management Program, 1995) and Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guidelines (1993). National Wetland Indicator status and taxonomic nomenclature is referenced from The National Wetland Plant List (Lichvar 2013). National Wetland Indicator status is based on the Midwest Region.

Prior to conducting fieldwork, GRAEF scientists reviewed several maps including the United States Geological Survey (USGS) 7.5' Quadrangle maps, Wisconsin Wetland Inventory Map, Natural Resource Conservation Service (NRCS) Soil Survey Map, and aerial photographs. *Note: NRCS no longer releases their NRCS Wetland Inventory Maps to other than the landowner or operator without documented permission from the landowner or operator; therefore they were not reviewed nor are they included with this report.* 

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

Sampling 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 sampling point, data were collected to document the vegetation, soils, and indicators of wetland hydrology. The wetland boundaries were staked using wire pin flags and flagging tape when needed. Wetland boundaries were generally determined by distinct to subtle differences in the abundance of hydrophytic vegetation and upland vegetation, apparent topographic breaks, and regular probing of soils.

In addition to delineating wetlands, scientists investigated for the presence of any remnant upland plant communities of ecological significance with in the project areas. A Floristic Quality Assessment (FQA) for each wetland and upland was conducted using the guidelines described in Development of a Floristic Quality Assessment for Wisconsin (Bernthal, 2003) as adopted and amended from the Plants of the Chicago Region (Swink and Wilhelm, 1994). A meander survey was performed for each wetland and upland area to identify and document all vascular plant species present and identifiable at the time of the site visit. Based on the data collected, mean C and Floristic Quality Index (FQI) values were calculated using coefficients of conservatism values made available by the University of Wisconsin-Madison Herbarium's "Checklist of the Vascular Plants of Wisconsin".

#### 2.2 BACKGROUND REVIEW

### 2.2.1 Topography

Topography of the site generally consisted of elevated areas associated with the embankment of the railroad and depressional or flat, low areas at the base of the railroad embankment.

## 2.2.2 Wisconsin Wetland Inventory

The Wisconsin Wetland Inventory (WWI) map (Figure 2, Appendix A) depicted four wetlands within the project areas. The types of wetland shown on the WWI map are listed in Table 1 below.

Table 1. Mapped WWI Wetland Types

Map Unit Symbol	Description		
E1K	Wet Meadow, Persistent, Wet Soil		
E2K / \$E2K	Wet Meadow, Narrow Leaved Persistent, Wet Soil		

#### 2.2.3 Soils

According to the NRCS Soil Survey map (Figure 3, Appendix A) four mapped soil units are located within the project areas. The types of mapped soils are listed on Table 2 below.

Table 2. Mapped Soils

Map Unit Symbol	Soil Name	Hydric Classification
BIA	Blount silt loam, 1 to 3 percent slopes	Hydric
LDF	Land Fill	Not Hydric
MzdB	Morley silt loam, 2 to 6 percent slopes	Not Hydric
MzdC2	Morley silt loam, 6 to 12 percent slopes	Not Hydric

#### 2.2.4 Precipitation Data

The WETS analysis worksheet is provided in Appendix C. According to the NRCS EFOTG database, the total precipitation from a nearby weather station MILWAUKEE MITCHELL AP (14839) for the 14 days prior to the site visit was 1.48 inches for August 13<sup>th</sup> and 2.04 inches for August 24<sup>th</sup>. The most recent rainfall event prior to the site visits were 0.96 inches and 0.02 inches, which occurred on August 10<sup>th</sup> and 23<sup>rd</sup>, respectively. The total precipitation for the 90 days prior to the month of August was approximately 6.52 inches, which was 3.68 inches below a 30-year average. The precipitation data for the 90 day period preceding the month of August were entered into a WETS analysis worksheet to determine antecedent hydrologic conditions at the time of the site visit for field investigation purposes. Based on this analysis, the precipitation total for the 90 days prior to the site visits was considered below average, suggesting that the surface or near-surface hydrology at the time of the site visit was not normal and that hydrologic conditions during the site visit were not typical.

#### 2.3 FIELD STUDY

### 2.3.1 Site Description

The project areas are located within the Canadian Pacific railroad right-of-way from the Milwaukee Airport Rail Station to Canal Street in Milwaukee, WI. Most of the project areas are located in developed urban areas with little natural landscape. All wetlands within the corridor were located within the Milwaukee Airport Rail Station (MARS) project limits. Topography of the MARS project area typically consists of elevated railroad embankment and low areas at the base of the embankments. Delineated wetlands tended to occur in the low areas at the base of the railroad embankments, likely receiving water in the form of runoff down the slopes of the railroad embankment after rain events.

#### 2.3.2 Wetlands

Six wetlands (W-1 through W-6) were delineated within the MARS project area. The delineated wetland boundaries and data points are shown on maps (Exhibit A) in Appendix D. Data was collected and

recorded on Wetland Determination Data Forms at 12 data points to document wetland and upland locations (Appendix E). Photographs were taken at each data point and other notable locations (Appendix F). A wetland summary table is located in Appendix G.

Wetland W-1 was 0.32 acres and was contained entirely within the MARS project area. The wetland was comprised of a fresh (wet) meadow plant community in a depressional area at the base of the railroad embankment. Hydrology was likely received in the form of runoff down the slope of the embankment after rain events. The wetland sample point was dominated by Prairie Cord Grass, Spikerush and Torrey's Rush. Soils in the wetland were dark with a presence of redoximorphic features meeting hydric soil indicator F6 (Redox Dark Surface). Hydrology indicators in the wetland included a water table, saturation, geomorphic position and a passed FAC neutral test. The adjacent upland was dominated by Crown Vetch. Soils in the upland were dark, but without redox. The soils were primarily comprised of what appeared to be ash fill material possibly used in the construction of the railroad. Compact gravel prevented observation of the soil profile past 15 inches. A water table was present at 13 inches at the upland sample point with saturation at 12 inches, but this is likely an artifact of recent heavy rains three days prior to the site visit. The plant community, geomorphic position and proximity to the railroad indicate that this area is upland.

Wetland W-2 was 0.54 acres and extended outside of the MARS project area. The wetland was comprised of a fresh (wet) meadow in a ditch at the base of the railroad embankment that eventually broadened out and continued off site at the south end of the delineated area. Wetland W-2 was subdivided into three sections: W-2A, W-2B and W-2C. Wetland W-2A was connected to W-2B via a culvert through a small section of upland. W-2B was hydrologically connected to W-2C via a cement lined ditch running under the freeway bridge. Hydrology in W-2 was likely received in the form of runoff down the slope of the embankment of the railroad after rain events. The wetland sample points in W-2 were dominated by Narrow Leaf Cattail and Reed Canary Grass. Soils in the wetland at sample point SP-4 were depleted with redox meeting hydric soil indicator F3 (Depleted Matrix). Soils at sample point SP-10 were dark with a presence of redoximorphic features meeting hydric soil indicator F6 (Redox Dark Surface). Hydrology indicators in the wetland included a dry season water table, saturation, geomorphic position and a passed FAC neutral test. The adjacent uplands were dominated by Canada Goldenrod, Grey Dogwood and Bird's Foot Trefoil. Soils in the upland were lighter in value and higher in chroma than in the wetland and lacked any hydric soil indicators. Hydrology indicators were absent in the upland.

Wetland W-3 was 0.17 acres and was contained entirely within the MARS project area. The wetland was comprised of a fresh (wet) meadow and shrub-carr in a depressional area at the base of the railroad embankment. Hydrology was likely received in the form of runoff down the slope of the railroad embankment and the slope of the adjacent land to the west, after rain events. The wetland sample point was dominated by Dark Green Bulrush, Jewel Weed, Crack Willow and Bebb's Willow. Soils in the wetland were dark with a presence of redoximorphic features meeting hydric soil indicator F6 (Redox Dark Surface). Hydrology indicators in the wetland included geomorphic position and a passed FAC neutral test. The adjacent upland was dominated by Canada Thistle and Black Raspberry. Soils in the upland were dark at the surface, absent of redox, with a higher chroma and lighter value layer beneath. No hydric soil indicators were met. There were no indicators of hydrology present in the upland as well. The upland sample point was in a slope that likely conveyed runoff down towards the wetland after rain events.

Wetland W-4 was 0.06 acres and continued outside of the MARS project area. The wetland was comprised of a fresh (wet) meadow and shrub-carr in a depressional area at the base of the railroad embankment. Hydrology was likely received in the form of runoff down the slope of the railroad embankment and the slope of the adjacent land to the west, after rain events. The wetland sample point was dominated by Elderberry and Willowherb. Soils in the wetland were dark with a presence of redoximorphic features meeting hydric soil indicator F6 (Redox Dark Surface) with a depleted layer below the surface meeting indicator A11 (Depleted Below Dark Surface). Hydrology indicators in the wetland included a high water table, saturation, geomorphic position and a passed FAC neutral test. The adjacent upland was dominated by Canada Thistle and Grey Dogwood. Soils in the upland were dark at the surface, absent of redox, with a high chroma and light value layer beneath. No hydric soil indicators were met. There were no indicators of hydrology present in the upland as well. The upland sample point was in a slope that likely conveyed runoff down towards the wetland after rain events.

Wetland W-5 was 0.17 acres and was contained within the MARS project area. This wetland is likely a constructed stormwater feature that may be exempt. The wetland was comprised of a fresh (wet) meadow in what appeared to be a man made depressional area in the side lawn of the Amtrak Station. Hydrology was likely received in the form of runoff from the surrounding lawn and parking lot after rain events. The wetland sample point was dominated by Pathrush. Soils in the wetland were depleted below a dark surface meeting indicator A11 (Depleted Below Dark Surface). Hydrology indicators in the wetland included saturation visible on aerial imagery and geomorphic position. The adjacent upland was dominated by planted Kentucky Blue Grass. Soils in the upland were dark at the surface, absent of redox, with a high chroma and light value layer beneath. No hydric soil indicators were met. There were no indicators of hydrology present in the upland as well. The upland sample point was in a slope that likely conveyed runoff down towards the wetland after rain events.

Wetland W-6 was 0.07 acres and extended outside of the MARS project area. This wetland is possibly a constructed stormwater feature that may be exempt. The wetland was comprised of a fresh (wet) meadow in a depressional area in the side lawn of the Amtrak Station. Hydrology was likely received in the form of runoff from the surrounding lawn and parking lot after rain events. The wetland sample point was dominated by Pathrush and Torrey's Rush. Soils in the wetland were dark with redoximorphic features present meeting hydric soil indicator F6 (Dark Surface Redox). Hydrology indicators in the wetland included a high water table, saturation, saturation visible on aerial imagery, geomorphic position and a passed FAC neutral test. The adjacent upland was dominated by planted Kentucky Blue Grass and Red Fescue. Soils in the upland were dark at the surface, absent of redox, with a high chroma and light value layer beneath. No hydric soil indicators were met. There were no indicators of hydrology present in the upland as well.

#### 2.3.3 Uplands

Upland plant communities in all project areas were investigated in order to document the possible presence of any remnant communities. Upland areas were designated as U-1 through U-10 and are labeled on maps A-1 through A-14 in Appendix D. Uplands were generally dominated by weedy species

commonly found along roadsides and in disturbed areas. Representative plant lists for each upland area are shown in Appendix H. An upland summary table is located in Appendix G.

#### 2.4 CONCLUSION

Based on the natural resource review completed by GRAEF six wetlands (W-1 through W-6) were delineated with a total of 1.33 acres. There were no ADID wetlands present in the Study Areas. Two waterways, the Kinnickinnic River and the Menomonee River were identified in the Study Areas. Remnant upland plant communities were not found in the Study Areas.

Activity in delineated wetlands or waterways may require permits from the U.S. Army Corps of Engineers, Wisconsin Department of Natural Resources, and local governments prior to beginning any work. Impacts to wetlands is currently unknown, but will be addressed during permitting when construction of the MARS project has been funded.

#### 2.5 LIMITATIONS

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. Unknown and future conditions that affect observations of field indicators, and change in interpretation of regulatory policy, may modify future findings.

Statements within this report about the connectivity of the delineated wetlands to surface waters are the professional opinions of GRAEF's scientists and are not significant nexus determinations or jurisdictional determinations. Opinions on connectivity are based on general field observations and a cursory review available map resources. The ultimate authority to determine jurisdiction resides with the U.S. Army Corps of Engineers and the Wisconsin Department of Natural Resources.

The U.S. Army Corps of Engineers and the Wisconsin Department of Natural Resources have the ultimate authority to determine wetland boundaries, and adjustments to wetland boundaries may occur based on decisions made by these regulatory agencies.

#### 3.0 THREATENED AND ENDANGERED SPECIES

A Threatened and Endangered Species review was conducted by the Wisconsin Department of Natural Resources (WDNR) in December 2014 to determine the presence of threatened or endangered species listed by the State of Wisconsin in the project areas. After reviewing the scope of the project, the WDNR determined that there were no known threatened or endangered species or associated habitat likely to be impacted by the proposed project within the project areas. The letter from the WDNR regarding the results of the review are included in Appendix I. WDNR identified several project-specific resource concerns including wetlands, fisheries/stream work, migratory birds, invasive species, floodplains, Emerald Ash Borer, and construction site considerations. These resources are discussed in Sections 3.1-3.7 below.

The U.S Fish & Wildlife Service's IPaC project planning tool was used to investigate for the presence of federally listed threatened or endangered species and resources located within all three project areas. The results included one threatened and endangered species for which no critical habitat has yet been defined by the planning tool, the Northern Long-eared Bat (*Myotis septentrionalis*) (Appendix I). This species is discussed in Section 3.8.

#### 3.1 Wetlands

Six wetlands (W-1 through W-6) were delineated with a total of 1.33 acres. There were no ADID wetlands present in the Study Areas.

#### 3.2 Fisheries/Stream Work

Construction activities include replacing railroad ties on the bridge crossing the Menomonee River, a navigable waterway. No known activities are to occur in the waterway as part of the project. No known threatened and endangered aquatic species are known to be present either. If activities were to occur that would temporarily impair the water quality, they should be performed between June 15<sup>th</sup> and February 28<sup>th</sup> of the calendar year to minimize impacts to developing fish eggs and substrate for aquatic organisms.

#### 3.3 Migratory Birds

There is evidence of past migratory bird nesting on the bridge over the Menomonee River. To avoid potential impacts to nesting migratory birds, construction activities on the bridge should be conducted during the non-nesting season between August 30<sup>th</sup> and May 1<sup>st</sup>, according to the WDNR.

#### 3.4 Invasive Species

During construction, adequate precautions will be taken to prevent transporting or introducing invasive species via construction equipment. WDNR will be consulted during the permitting phase when projects have been funded for construction.

## 3.5 Floodplains

FEMA flood hazard maps were reviewed for the project areas. In the Menomonee River bridge area, it was found that the 1 percent flood event was mainly confined to the river channel, which is likely due to the extensive areas of sheet pile banks. Work in the immediate area of the river is confined to railway tie replacement, which is not anticipated to significantly affect the hydrologic storage of the lands adjacent to the river. In the Muskego Yard area west of the 27th Street bridge the 1 percent flood event inundates the railway. Evaluation of the impact of the proposed changes in the floodplain resulting from addition of new signaling and track on floodplain storage or water elevation is beyond the scope of this NRR evaluation. It is not anticipated that the proposed changes in the railway will have impacts on the utilization of the floodplain natural resources.

## 3.6 Emerald Ash Borer

During construction, all regulations pertaining to the transport of ash material, the emerald ash borer, and hardwood debris from EAB quarantined areas, and within these areas, will be followed.

#### 3.7 Construction Site Considerations

During construction, the engineer and contractor will coordinate with WDNR on erosion control and asbestos issues. The bridge over the Menomonee River will not be removed as part of any project.

### 3.8 Northern Long-Eared Bat

All three project areas are located in an urban setting in the railroad right of way. According to the Federal Highway Administration (FHWA) and Federal Railroad Administration (FRA) (2015), Northern Long-eared Bats spend summers roosting in wooded areas and winters hibernating in underground caves and cavelike structures, with very high humidity. Potential roosting areas within the Project area are limited. Wooded areas in and surrounding the Project area are heavily fragmented with extremely poor connectivity. Stands of trees in the Project area are very small and typically surrounded by urban development. Additionally, Indiana bats, thought to have similar roosting tendencies as NLEB, typically roost over 100 feet from roads and railroads. The Project area does not expand beyond 100 feet in either direction from the railroad making it more unlikely for NLEB's to roost in the Project area. Given the geological characteristics of the region it is highly unlikely that there are any caves or cave-like features suitable for winter habitat. There are what appear to be a few abandoned buildings adjacent to the Project area, near Greenfield Avenue. This was identified as the most likely winter habitat near the Project area, potentially serving as hibernacula. However, due to the apparent condition of the buildings it is highly unlikely they can sustain a suitable temperature and humidity to serve as winter habitat for the Northern Long-eared Bat.

If bats were to be found in the Project area, it is unlikely that they would affected by the proposed activities.

Review of Programmatic Consultation's Active Season Habitat Stressors:

- Noise/Vibration no effect, areas within 100 feet of railroad already receives noise from fairly heavy rail travel
- Tree Removal no effect, no tree removal
- Lighting Apply Avoidance and Mitigation Measure (AMM), no effect (FHWA & FDA, 2015)
- Water/Foraging Habitat Alteration wetland fill, 1.33 Acres of wetland are to be filled, will apply AMM, insignificant impacts anticipated
- Burning no effect, no burning
- Collision constructing pedestrian bridge near Mitchell Airport Amtrak Station, however significant impacts unlikely, because the bridge will cross the railroad where heavy locomotion traffic already occurs, posing existing collision risks

Review of Programmatic Consultation's Structures (Artificial Roost) Stressors:

- Structure Maintenance/Removal-Active Season no effect, replacing railroad ties above existing railroad bridge above the Menomonee River
- Structure Maintenance/Alteration/Demolition-Inactive/Winter Season no effect, replacing railroad ties above existing railroad bridge above the Menomonee River

Review of Programmatic Consultation's Active Season Habitat Stressors: No effects, no suitable winter habitat in Project area.

#### 4.0 REFERENCES

- Bernthal, Tom. 2003. Development of a Floristic Quality Assessment for Wisconsin. Wisconsin Department of Natural Resources, Bureau of Fisheries Management and Habitat Protection, 22 pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- 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.
- Federal Highway Administration and Federal Railroad Administration. 2015. Range-Wide Biological Assessment for Transportation Projects for Indiana Bat and Northern Long-Eared Bat. Federal Highway Administration and Federal Railroad Administration.
- Lichvar, R.W. 2013. *The National Wetland Plant List:* 2013 wetland ratings. Phytoneuron 3013-29: 1-241.

Midwestern Regional Climate Center cli-MATE Database <a href="http://mrcc.isws.illinois.edu/CLIMATE/">http://mrcc.isws.illinois.edu/CLIMATE/</a>

- Southeastern Wisconsin Regional Planning Commission (SEWRPC) Southeastern Wisconsin Regional Land Information: Regional Map Server <a href="http://maps.sewrpc.org/regionallandinfo/regionalmapping/RegionalMaps/viewer.htm">http://maps.sewrpc.org/regionallandinfo/regionalmapping/RegionalMaps/viewer.htm</a>
- Swink, Floyd, and Gerould Wilhelm. "Plants of the Chicago region." Indianapolis: Indiana Academy of Science, 1994.
- 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. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Training Manual: Northcentral and Northeast Region (Version 2.0),* ed. J.S. Wakeley, R. W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USDA Natural Resources Conservation Service Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

- USDA NRCS Climate Analysis by County Web Site (WETS). (Web Address: <a href="http://www.wcc.nrcs.usda.gov/climate/wetlands.html">http://www.wcc.nrcs.usda.gov/climate/wetlands.html</a>)
- Woodward, Donald E., ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.
- WI Department of Administration, WI Coastal Management Program. 1995. Basic Guide to Wisconsin's Wetlands and their Boundaries. WI Coastal Management Program, Madison, WI
- Wisconsin Department of Natural Resources Surface Water Data Viewer Web Mapping Application http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer
- Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline. 1993, revised March 2002. Wisconsin Department of Natural Resources, United States Army Corps of Engineers, United States Environmental Protection Agency, United States Fish and Wildlife Service, and the Federal Highway Administration.



## **APPENDICES**

Appendix A Figures

Appendix B Statement of

**Qualifications** 

**Appendix C WETS Analysis** 

**Appendix D** Wetland Delineation

Map

**Appendix E** Wetland Determination

**Data Forms** 

**Appendix F** Site Photographs

Appendix G Upland and Wetland

**Summary Tables** 

**Appendix H** Plant Lists

Appendix I WDNR Threatened and

**Endangered Species** 

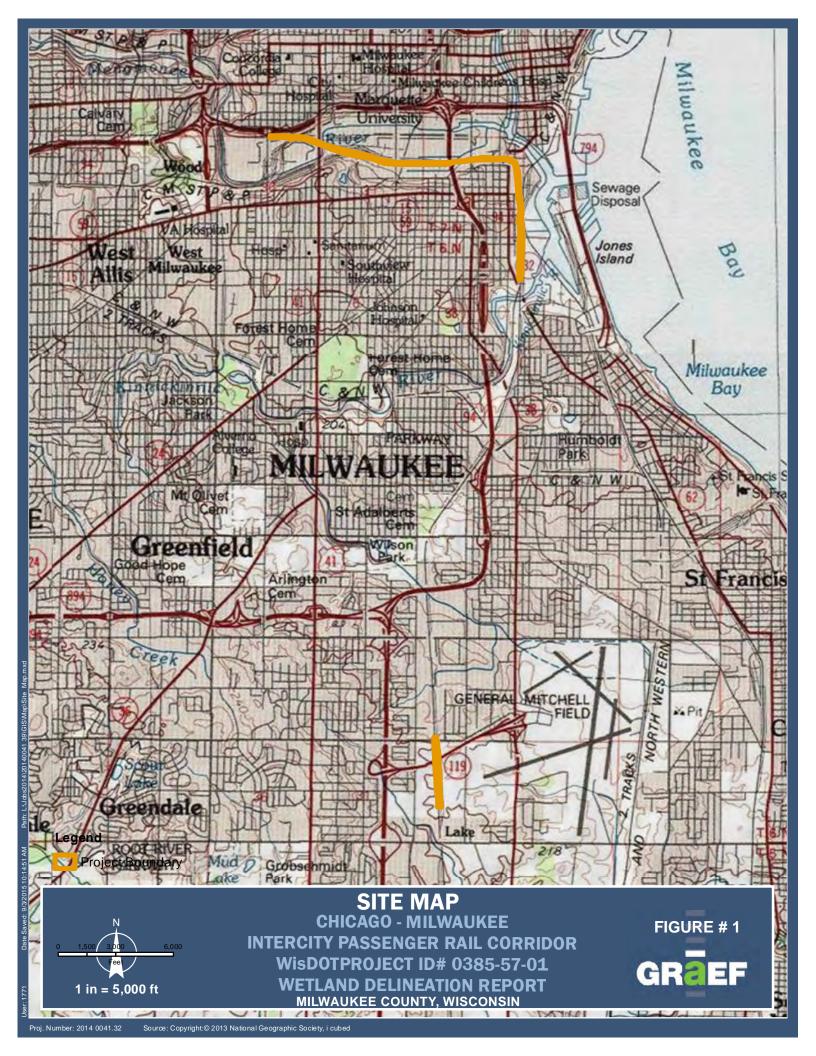
**Review and IPaC** 

**Results** 



# **APPENDIX A**

**Figures** 





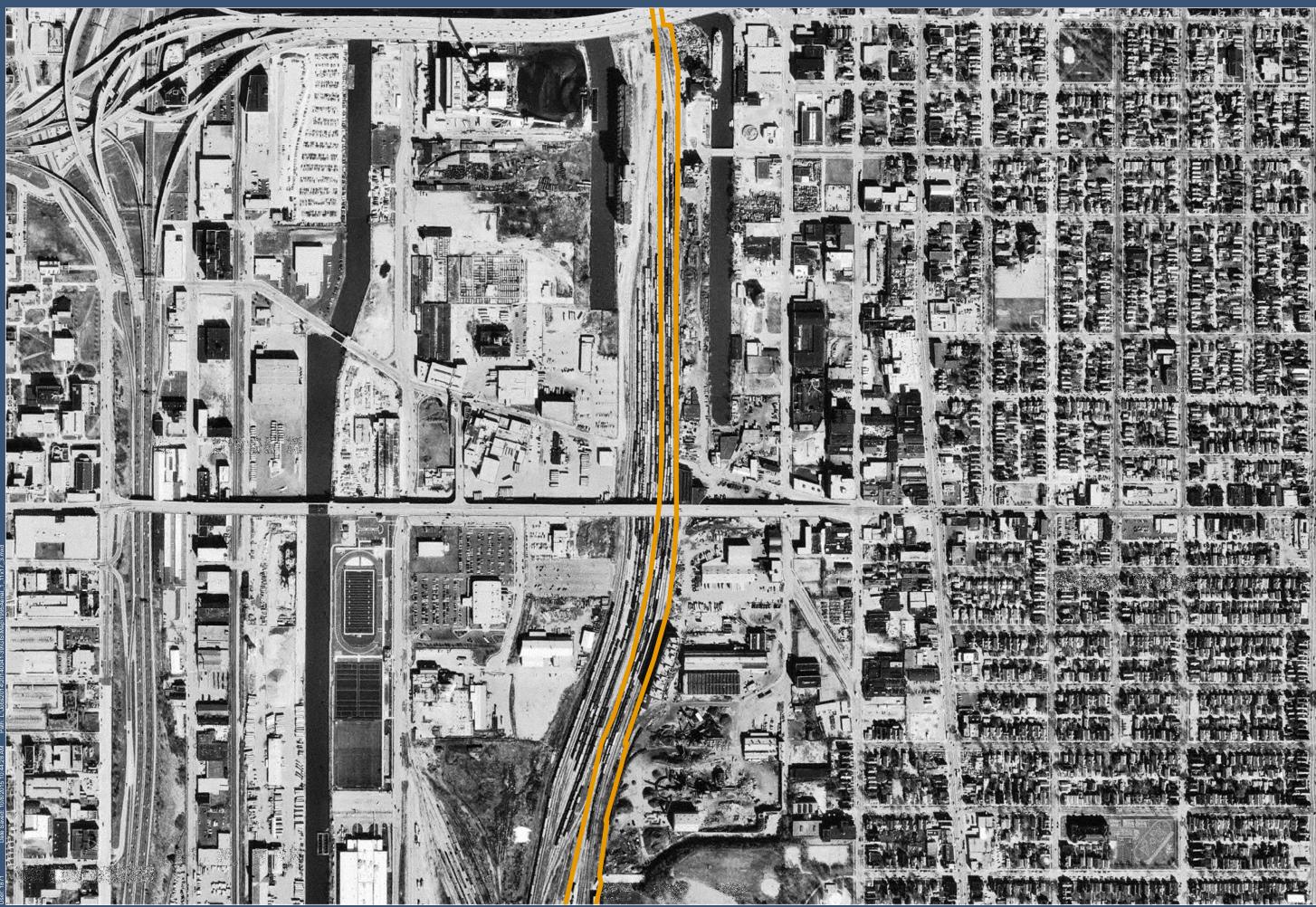
Source: SEWRPC 1995 Digital Orthophotography



GRAEF

**1995 AERIAL MAP** 

**NATURAL RESOURCE REVIEW** 



**1995 AERIAL MAP** 

**NATURAL RESOURCE REVIEW** 

**FIGURE #3-3** 

GRĀEF

0 150 300 Feet 1 in = 500 ft







GRäEF

FIGURE #3-2

2000 AERIAL MAP
IH 94
NATURAL RESOURCE REVIEW

RACINE COUNTY, WISCONSIN

2 0 150 300 Feet 1 in = 500 ft

FIGURE #3-3

GRAEF

2000 AERIAL MAP

IH 94
NATURAL RESOURCE REVIEW

0 150 300 Feet 1 in = 500 ft

ource: SEWRPC 2010 Digital Orthophotography: USDA-NRCS SSURGO Datab



FIGURE #3-4

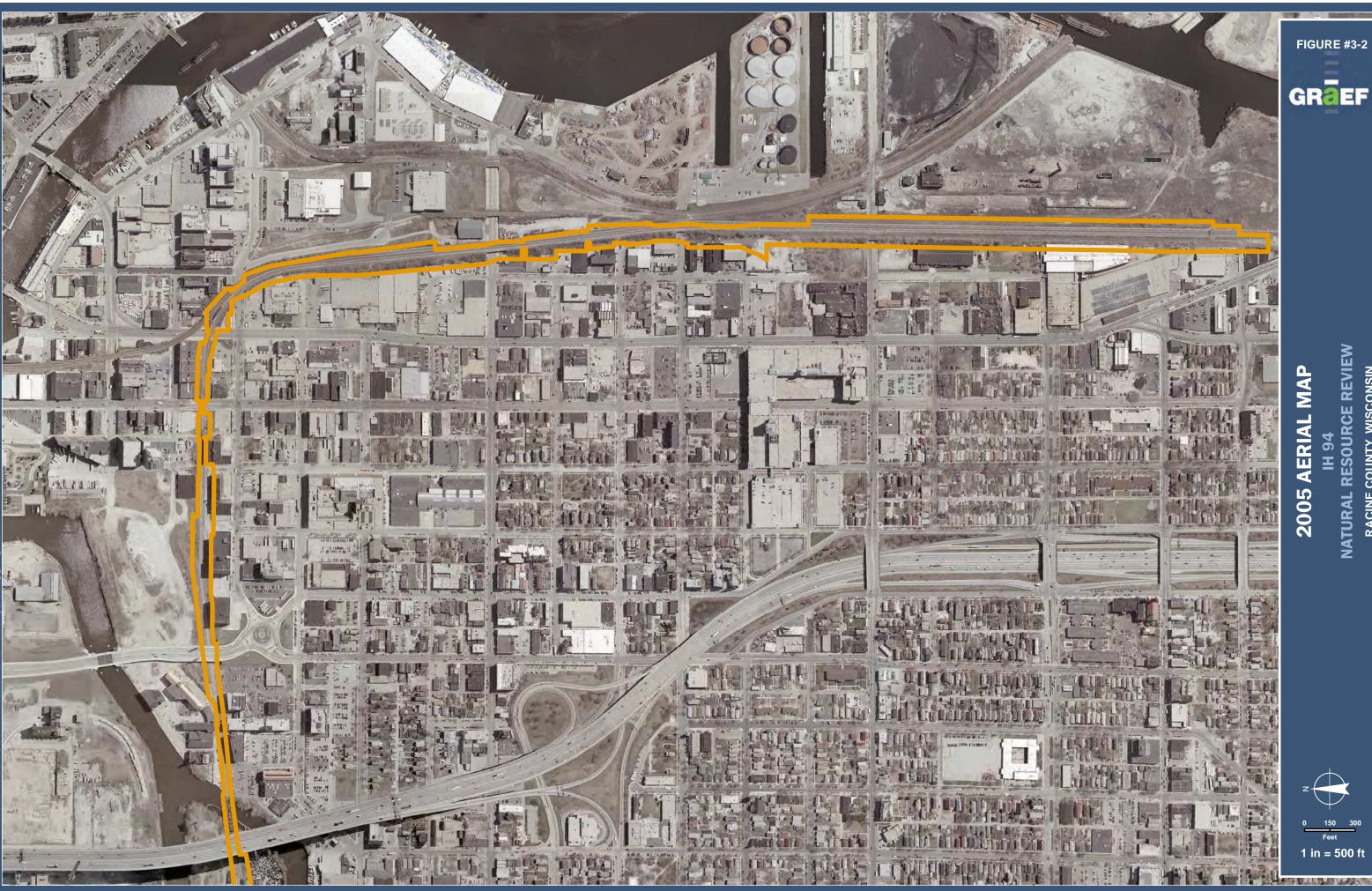
GRaEF

2000 AERIAL MAP

IH 94
NATURAL RESOURCE REVIEW
RACINE COUNTY, WISCONSIN

1 in = 500 ft





**2005 AERIAL MAP** 

IH 94 NATURAL RESOURCE REVIEW

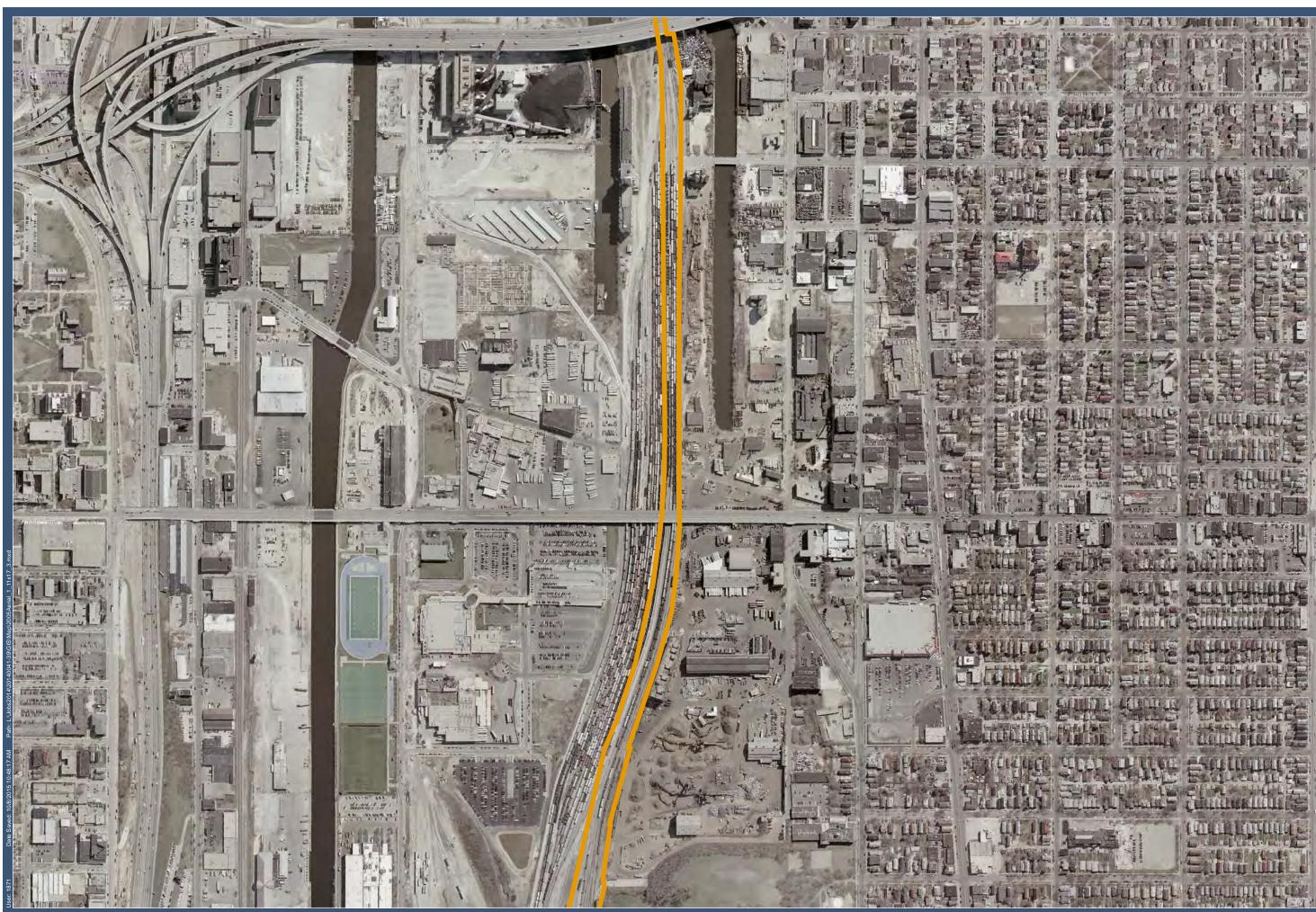


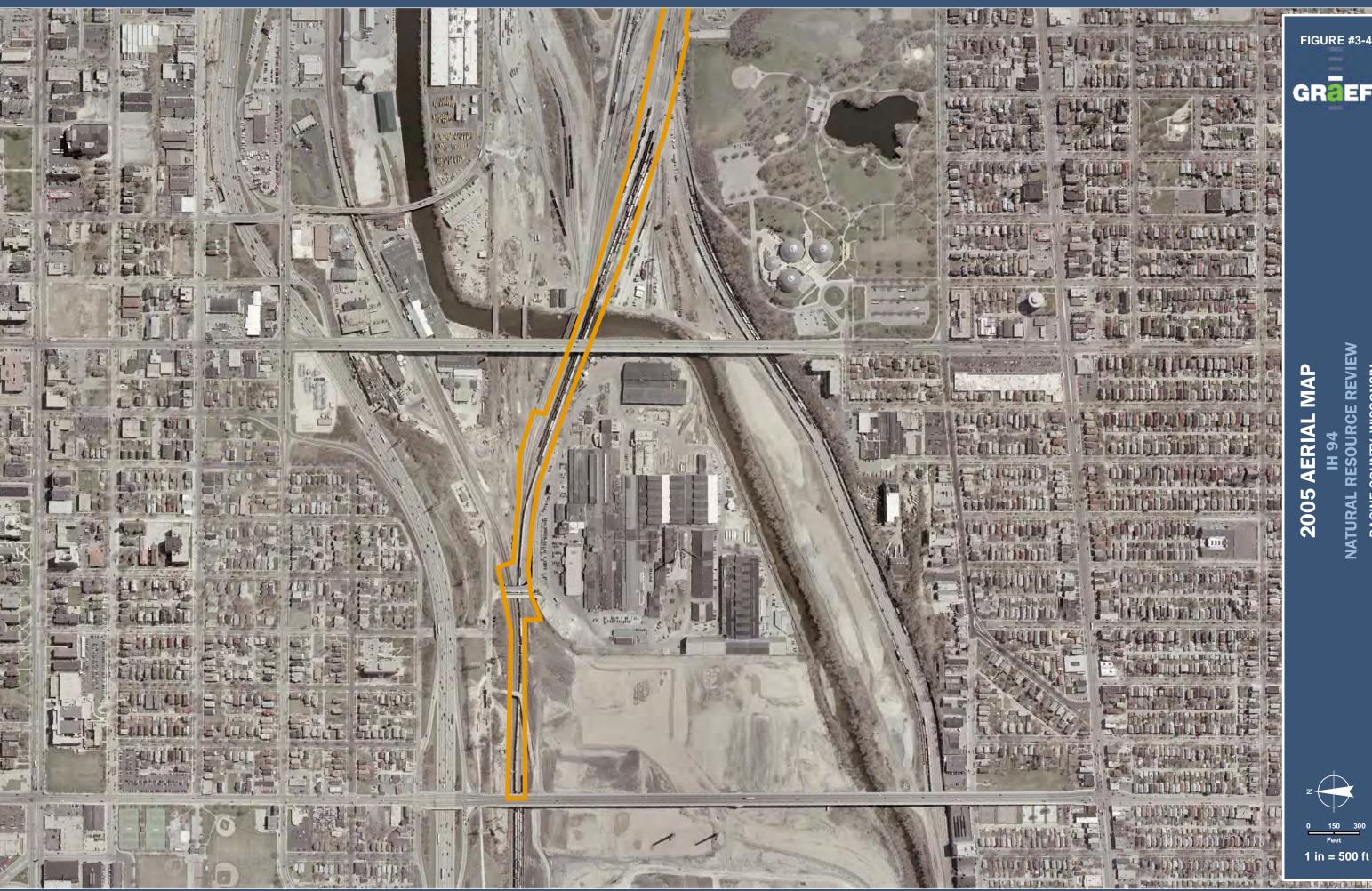
FIGURE #3-3

GRAEF

2005 AERIAL MAP

IH 94
NATURAL RESOURCE REVIEW
RACINE COUNTY, WISCONSIN

1 in = 500 ft



GRĀEF

**2005 AERIAL MAP** 

NATURAL RESOURCE REVIEW RACINE COUNTY, WISCONSIN

1 in = 500 ft



IH 94 NATURAL RESOURCE REVIEW 2010 AERIAL MAP

0 150 300 Feet 1 in = 500 ft



GRaEF

FIGURE #3-2

2010 AERIAL MAP

IH 94
NATURAL RESOURCE REVIEW
RACINE COUNTY, WISCONSIN

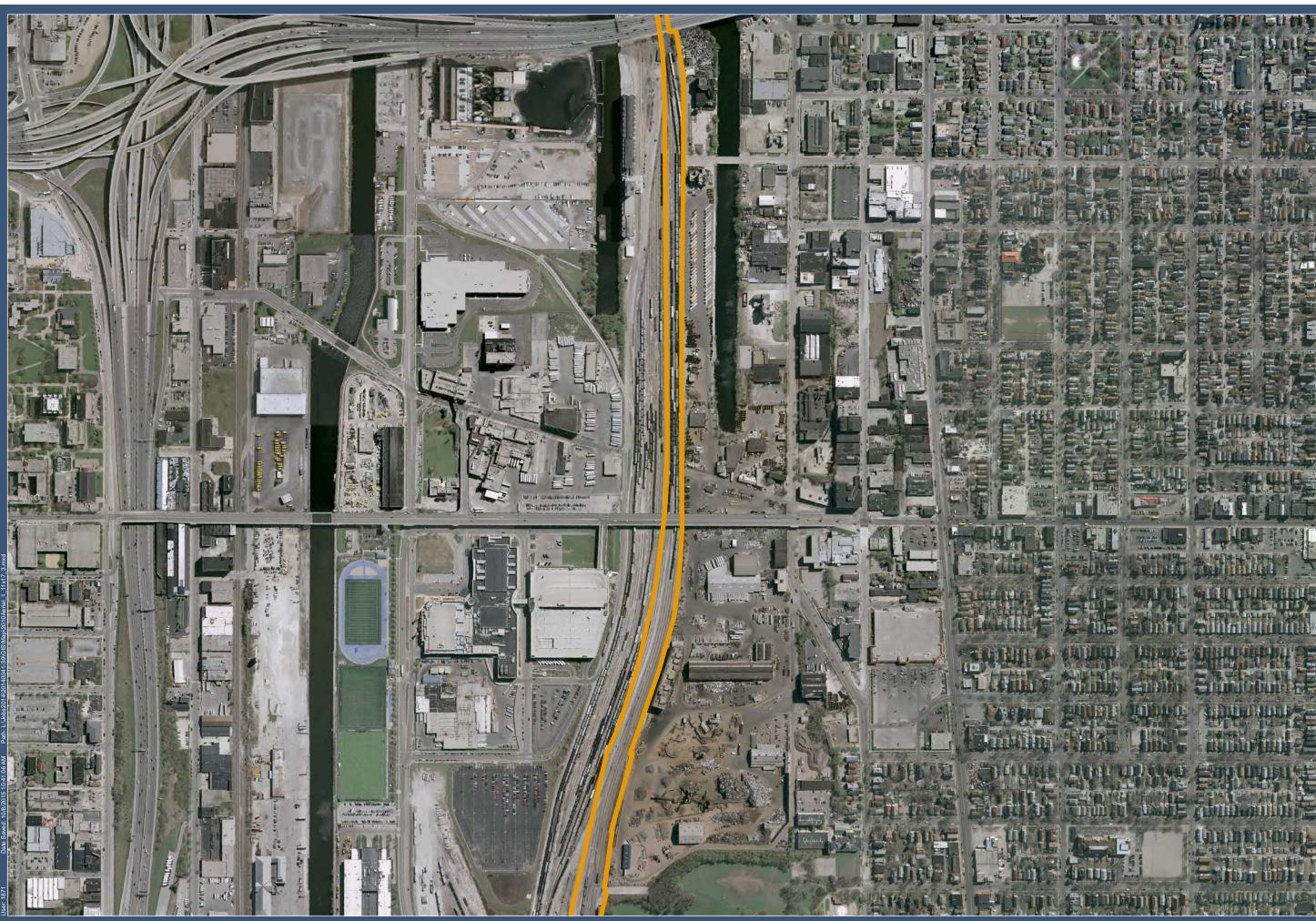


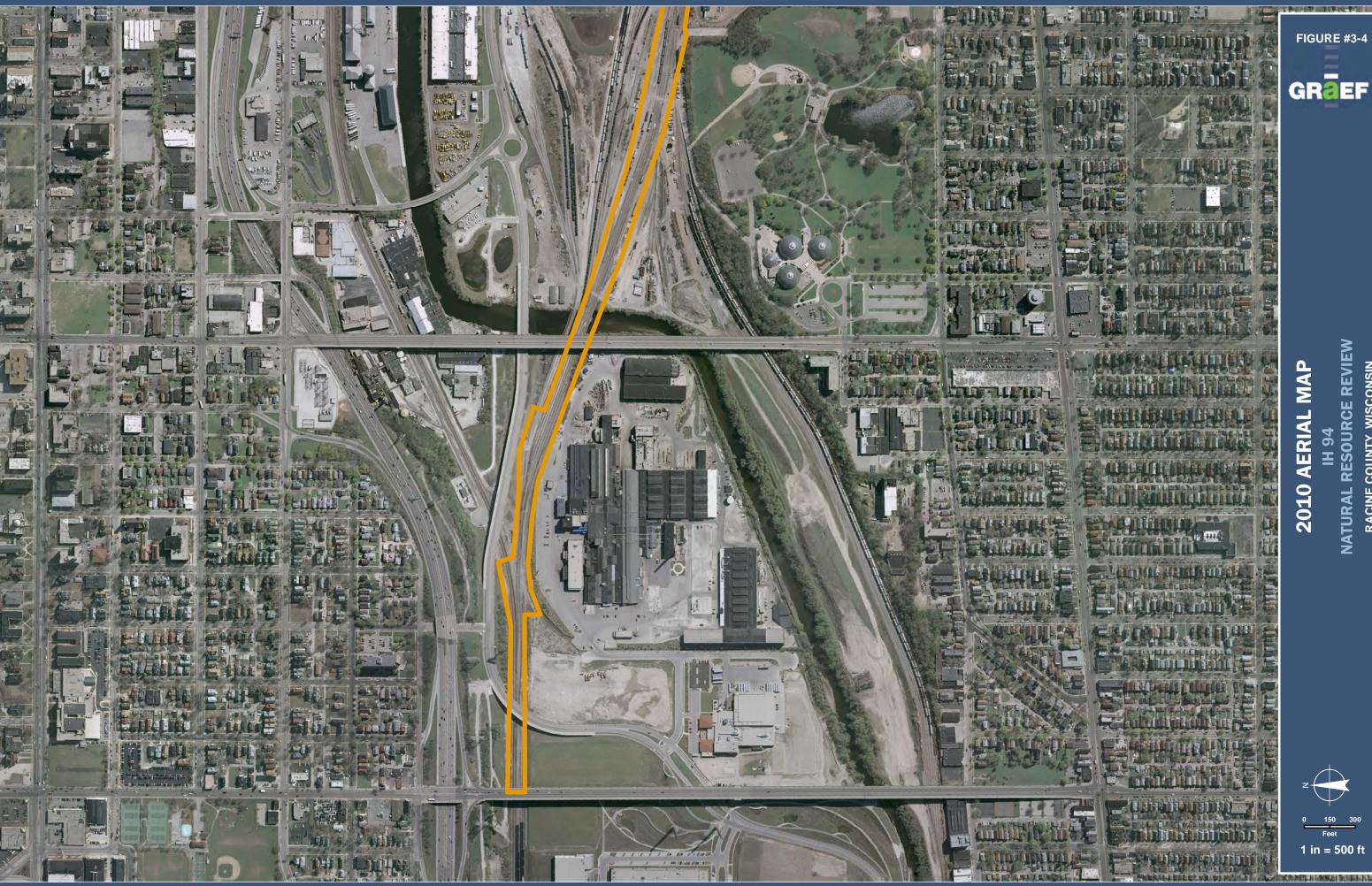
FIGURE #3-3

GRAEF

2010 AERIAL MAP

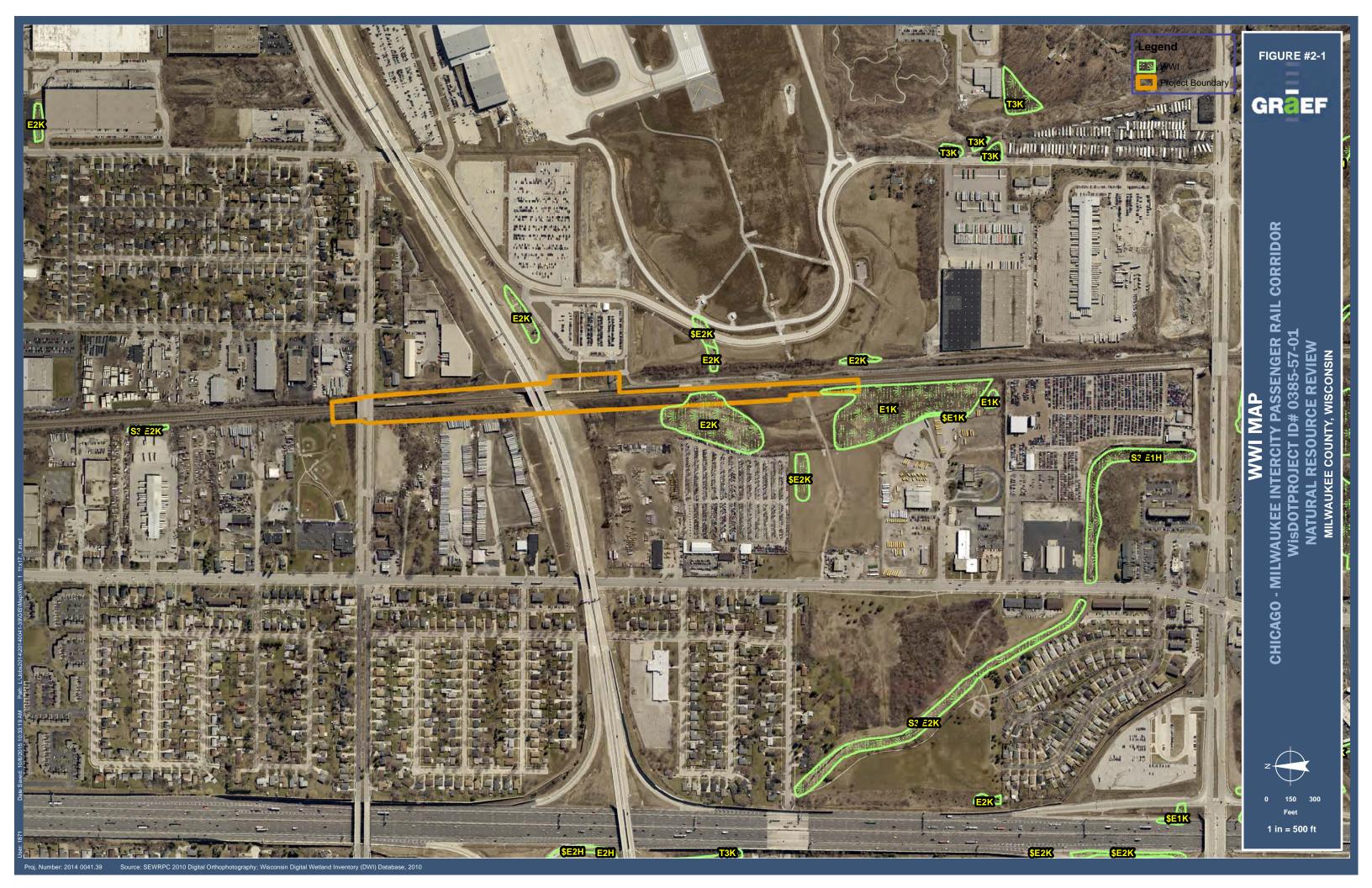
IH 94
NATURAL RESOURCE REVIEW

2 0 150 300 Feet 1 in = 500 ft



RACINE COUNTY, WISCONSIN

1 in = 500 ft



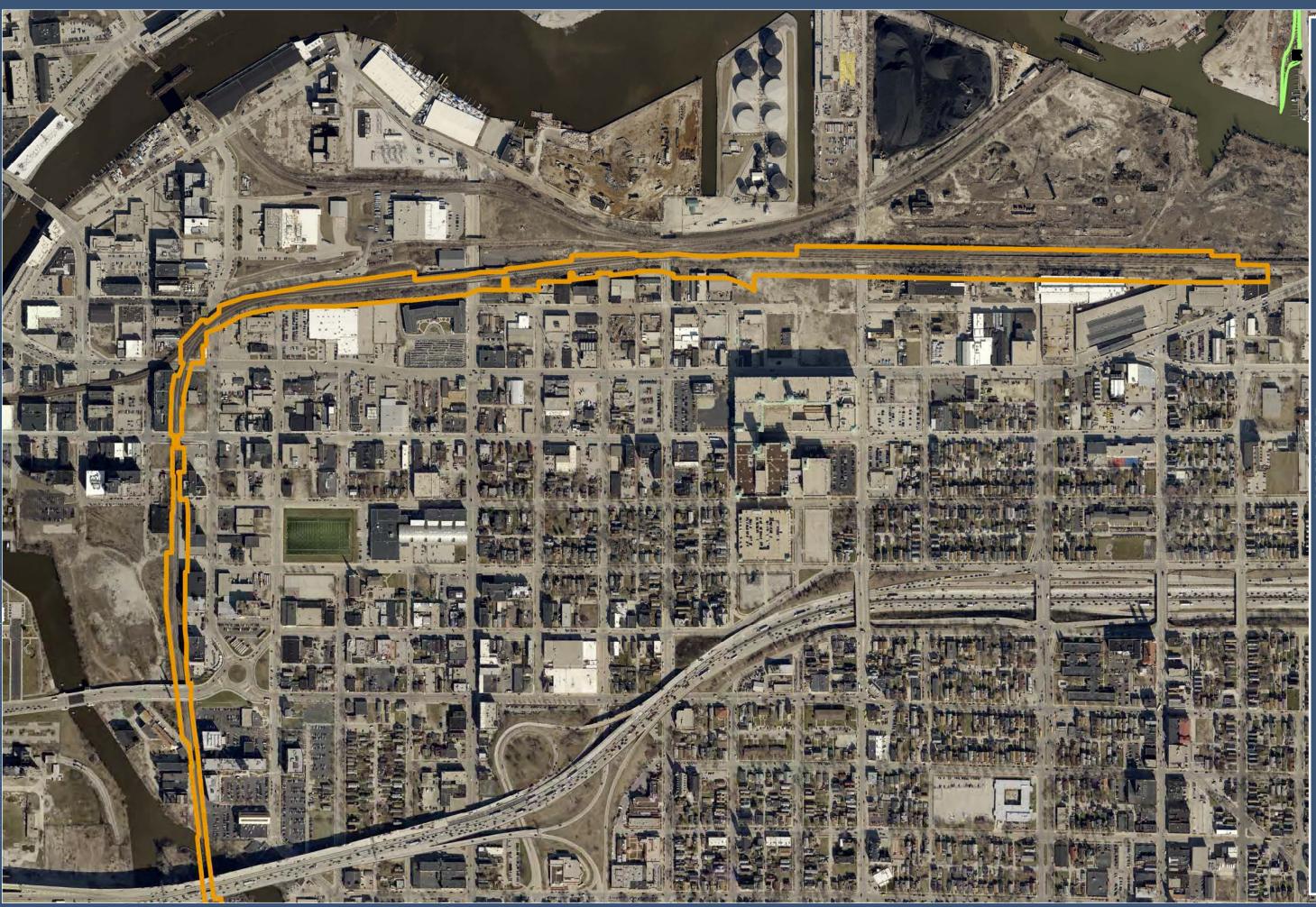


FIGURE #2-2

GRAEF

PASSENGER RAIL CORRIDOR **CHICAGO - MILWAUKEE INTERCITY** 

z

Feet



FIGURE #2-3

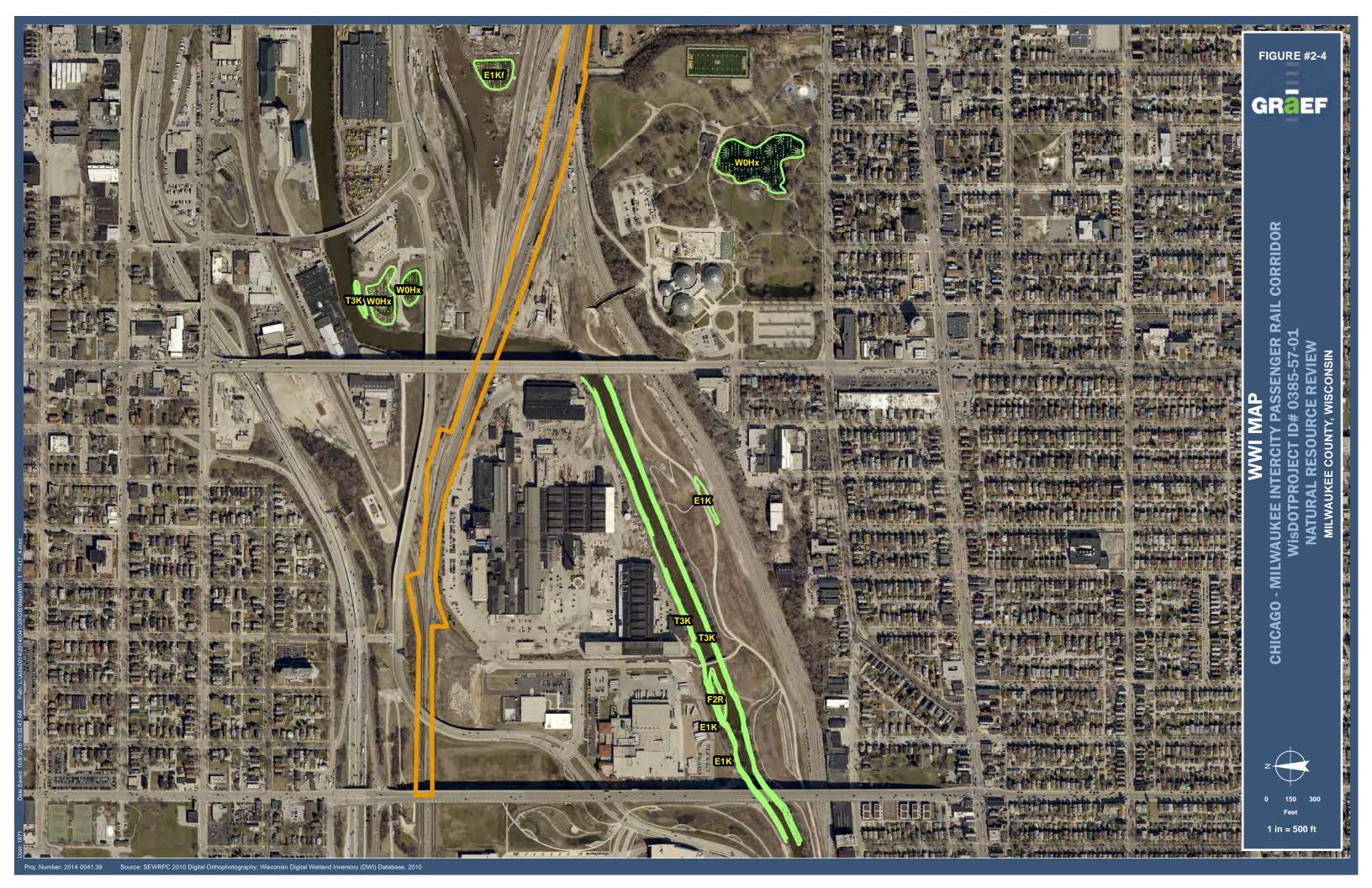
GRAEF

CHICAGO - MILWAUKEE INTERCITY PASSENGER RAIL CORRIDOR WISDOTPROJECT ID# 0385-57-01

NATURAL RESOURCE REVIEW MILWAUKEE COUNTY, WISCONSIN

z

0 150 300 Feet 1 in = 500 ft



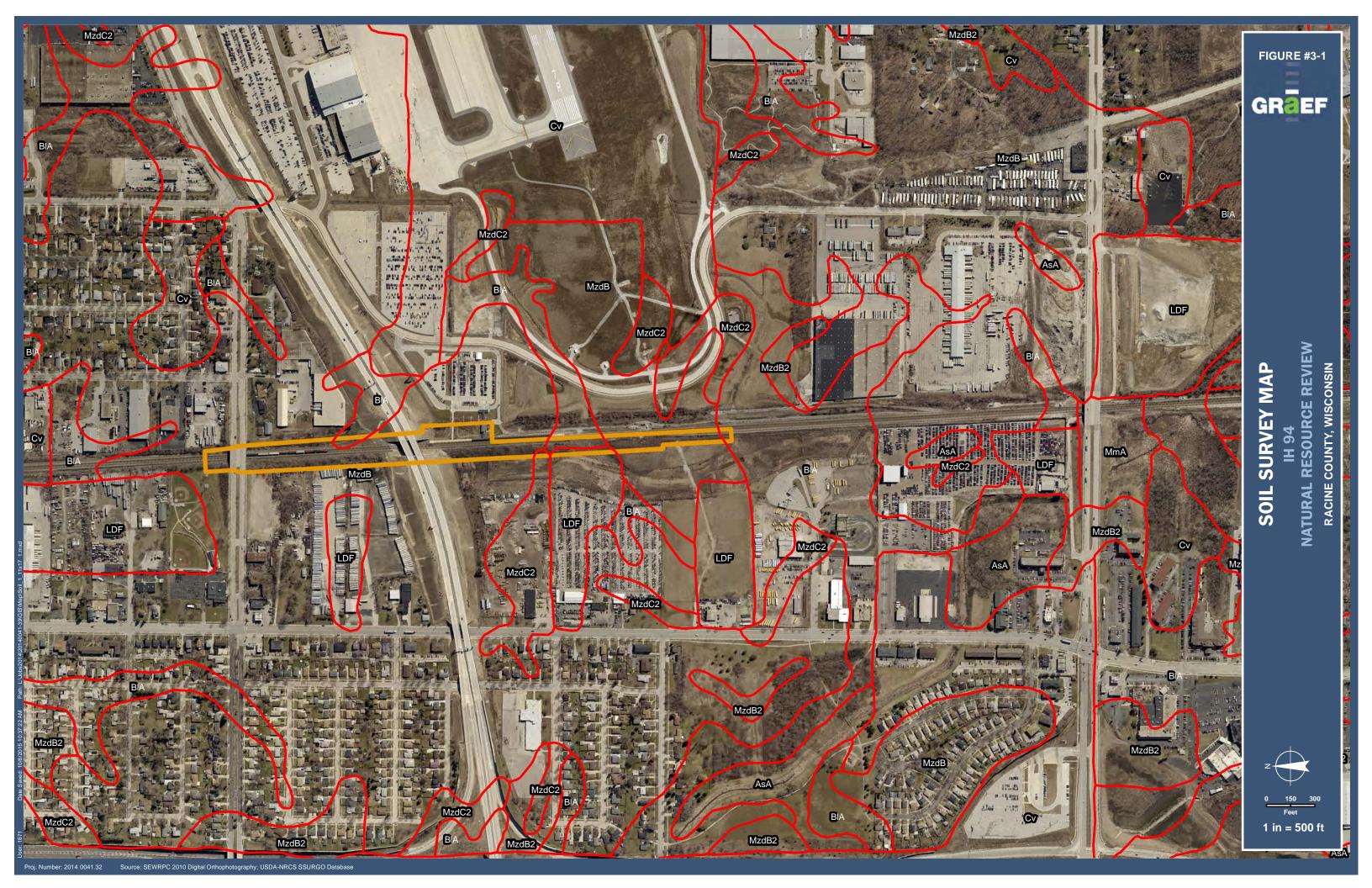




FIGURE #3-2

GRĀEF

SOIL SURVEY MAP

IH 94 NATURAL RESOURCE REVIEW

150 300 Feet

in - 500 ft

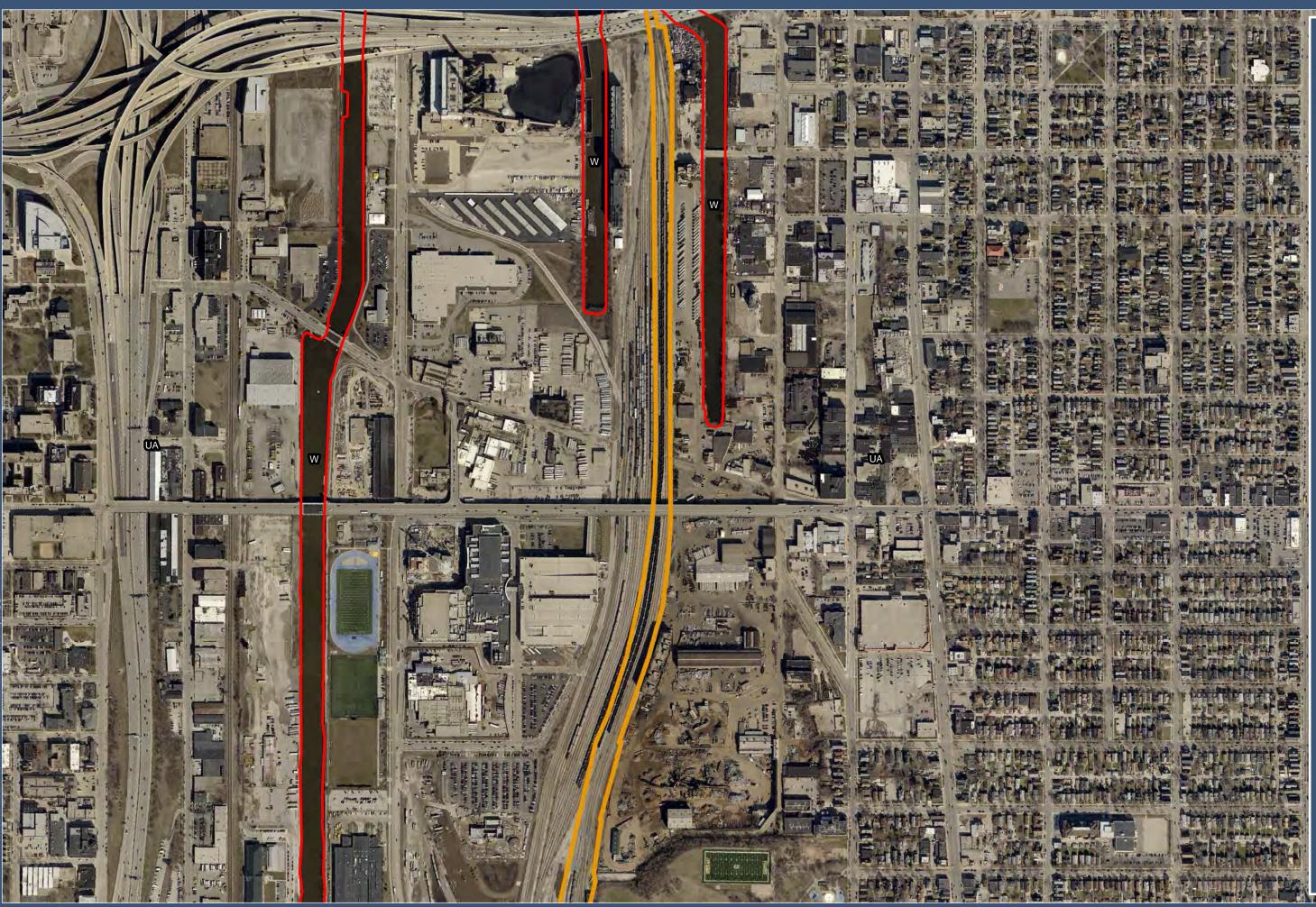


FIGURE #3-3

GRAEF

SOIL SURVEY MAP

IH 94
NATURAL RESOURCE REVIEW

2 0 150 300 Feet 1 in = 500 ft

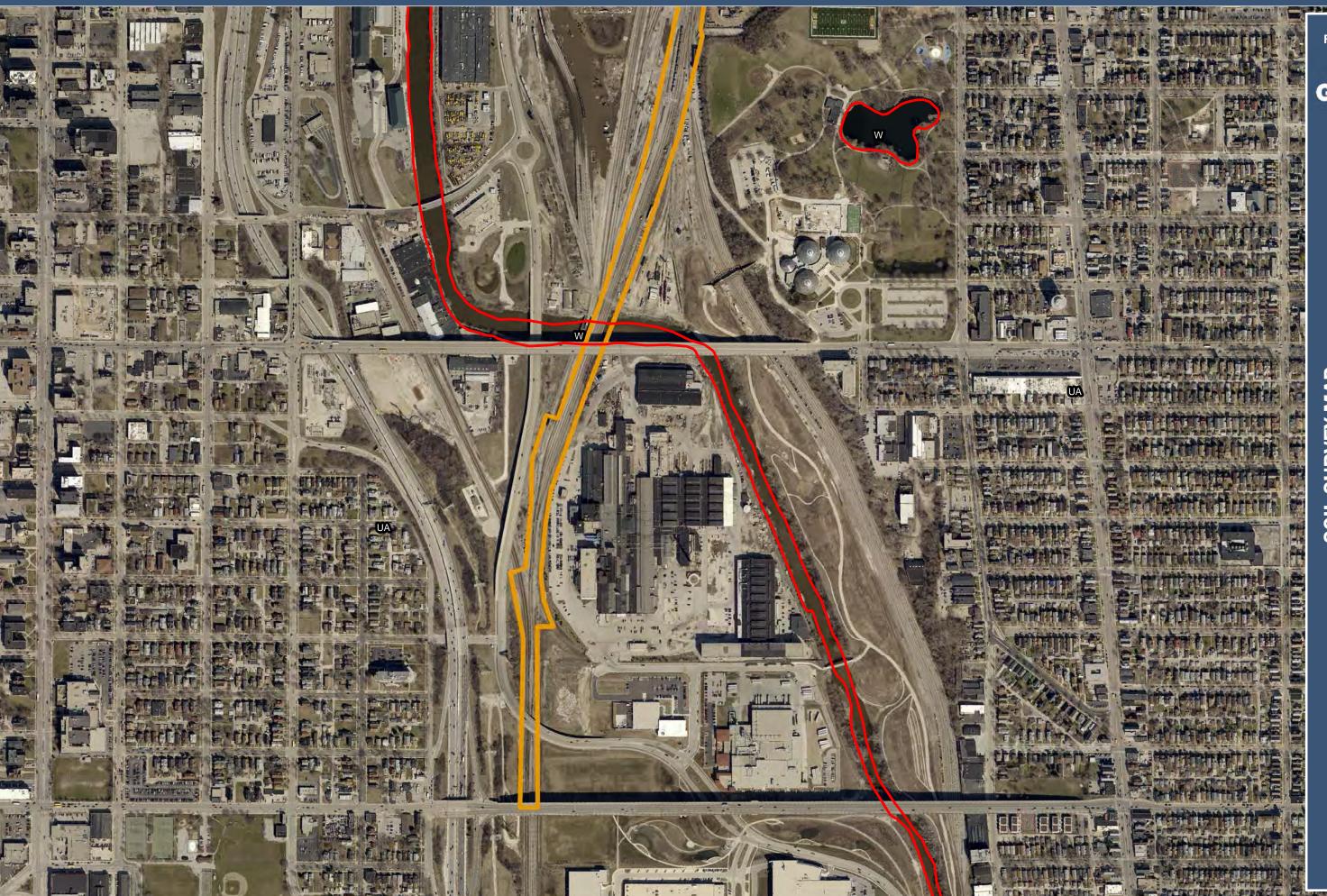


FIGURE #3-4

GRĀEF

# SOIL SURVEY MAP

IH 94
NATURAL RESOURCE REVIEW
RACINE COUNTY, WISCONSIN

Feet

1 in = 500 ft



## **APPENDIX B**

## Statement of Qualifications

## **STATEMENT OF QUALIFICATIONS**

## FIELD INVESTIGATORS:

## Geoffrey B. Parish, P.G., P.H.

Mr. Parish is a hydrologist and geologist with M.S. and B.S. degrees in geosciences from the University of Wisconsin-Milwaukee. He has studied wetland hydrology and soils in Wisconsin, and Illinois for almost twenty years. His wetland work has included wetland delineations, wetland mitigation projects, including enhancements, restorations and creations in Wisconsin and Illinois. Geof has worked on over 300 delineations in Wisconsin in the past six years. He was on a team of scientists that provided expert witness services to the US Department of Justice regarding impacts to a state of Wisconsin owned wetland. In 2014 and 2015 Geof co-taught Wetland Hydrology for the UW-Milwaukee School of Continuing Education Water Technology Program. The class focused on hydrology basics, wetland hydrology indicators, determining sources of wetland hydrology, soil indicators of wetland hydrology, hydrology of plant community types, wetland water budgets and restoration of wetlands. The 2014 proposed revisions of the definition of "Waters of the U.S." were presented in 2014 and the finalized definition published in 2015 was presented in 2015 along with connectivity concepts. Geof has worked on habitat mapping, including numerous plant species such as Forked Aster, Prairie Milkweed Small White Lady Slipper Hairy Wild Petunia and Slender Bog Arrow-grass, inarticulate species Karner Blue Butterfly, Gorgone Checker Spot, Phlox Moth and the Persius Dusky Wing, and animals such as Northern Cricket Frog and Red-shouldered Hawk. Geof has worked on the assessment of wetland functions using the WDNR Wetland Rapid Assessment Method Version 2.0 for project corridors. Geof has worked on invasive species mapping projects, such as mapping Phragmites australis along IH 94 in Kenosha and Racine Counties, and mapped the location of invasive species along over thirty miles of the Fox River from the City of Waukesha to Waterford, Wisconsin.

### Mike Al-wathiqui

Mr. Al-wathiqui received his M.S. degree in freshwater resources and technology from the University of Wisconsin-Milwaukee's School of Freshwater Science. He received a B.S. degree in biology and natural resource management at the University of Wisconsin-Milwaukee as well. He has completed the WDNR's Basic Wetland Delineators course in 2015. Mike has over five years of diverse ecological experience including performing wetland delineations, riparian landscape management, environmental education and stream studies. Mike has been performing wetland delineations for the past two years and has authored many delineation reports and wetland permit applications. He is familiar with state and federal wetland regulation and water policy and regularly coordinates with the WDNR and Army Corps of Engineers applying for wetland permits. Mike has years of experience in invasive vegetation management and vegetation monitoring. He provided invasive vegetation management and monitoring services for a Pike River management plan in Racine County. He has also worked at the WDNR on a trail management plan controlling invasive vegetation species along the Hank Aaron State Trail and with non-profits managing invasive vegetation species along the Milwaukee River greenway. Mike has also worked for the City of Milwaukee Forestry Department treating thousands of Ash trees to protect against infestation by the Emerald Ash Borer. He currently holds a valid Wisconsin Pesticide Applicators License. Mike has additional experience in developing metrics for assessing biological integrity of stream ecosystems. He recently worked on a project with the US Forest Service on assessing stream health and invertebrate community structure of various freshwater Hawaiian streams.



## APPENDIX C WETS Analysis

## **WETS Analysis**

Project Site: Amtrak Hiawatha
Project Number: 2014-0041.39
Period of interest: May-July, 2015
County: Milwaukee

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

		3 years in 10	Normal	3 years in 10
	Month	less than	INUITIAI	greater than
1st month prior:	July	2.40	3.58	4.28
2nd month prior:	June	2.34	3.56	4.28
3rd month prior:	May	1.8	3.06	3.71
		Sum =	10.20	

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

\*\*Condition value: \*\*\*If sum is:

Dry = 1 6 to 9 then period has been drier than normal

Normal = 2 10 to 14 then period has been normal

Wet = 3 15 to 18 then period has been wetter than normal

Precipitation data source: NRCS EFOTG

WETS Station: MILWAUKEE MITCHELL AP (14839)

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.

Site

Rainfall (in)

1.60

2.49

2.43

6.52

Sum =

Site determination

Condition

Dry/Normal\*/Wet

Dry

Normal

Normal

Condition\*\*

Value

1

2

2

Determination:

Month

Weight

3

2

Sum\*\*\* =

Product

3

4

2

9

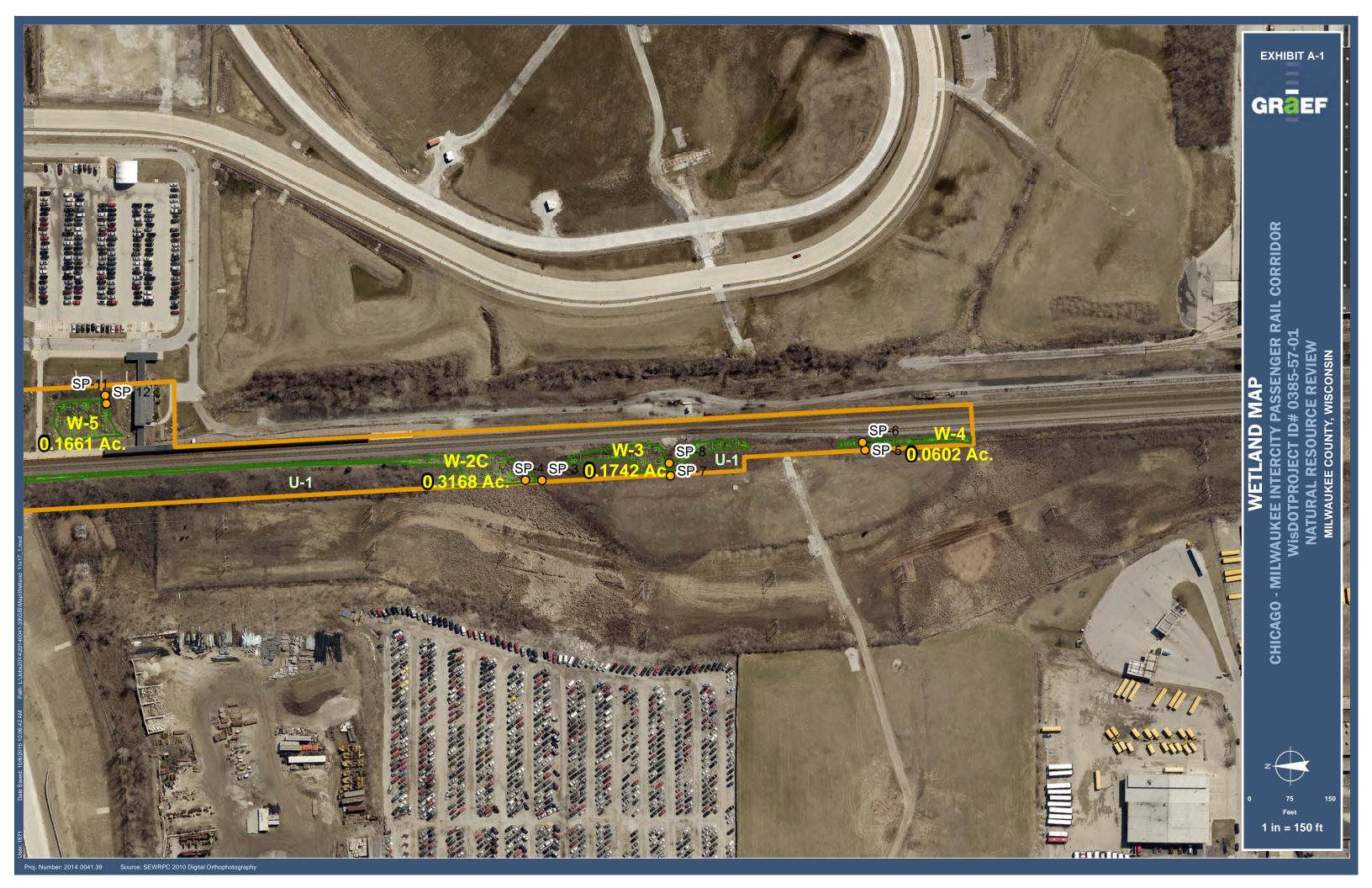
Wet Dry

Normal



## **APPENDIX D**

**Wetland Delineation Map** 







ber: 2014 0041.39 Source: SEWRPC 2010 Digital Orthophot



**EXHIBIT A-4** 

GRaEF

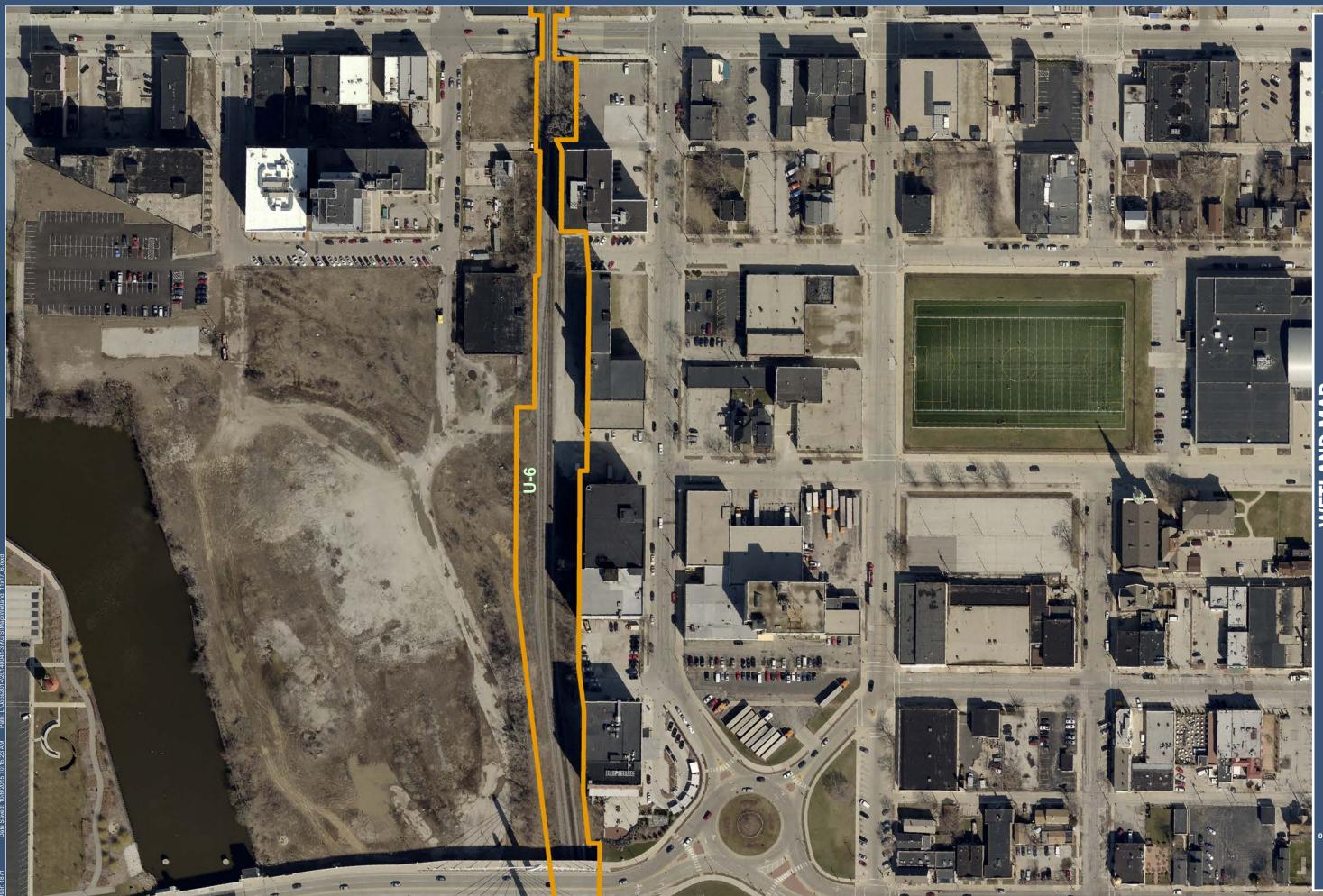
PASSENGER RAIL CORRIDOR **CHICAGO - MILWAUKEE INTERCITY** 

z -75

Feet in = 150 ft



CHICAGO - MILWAUKEE INTERCITY PASSENGER RAIL CORRIDOR Wisdotproject ID# 0385-57-01



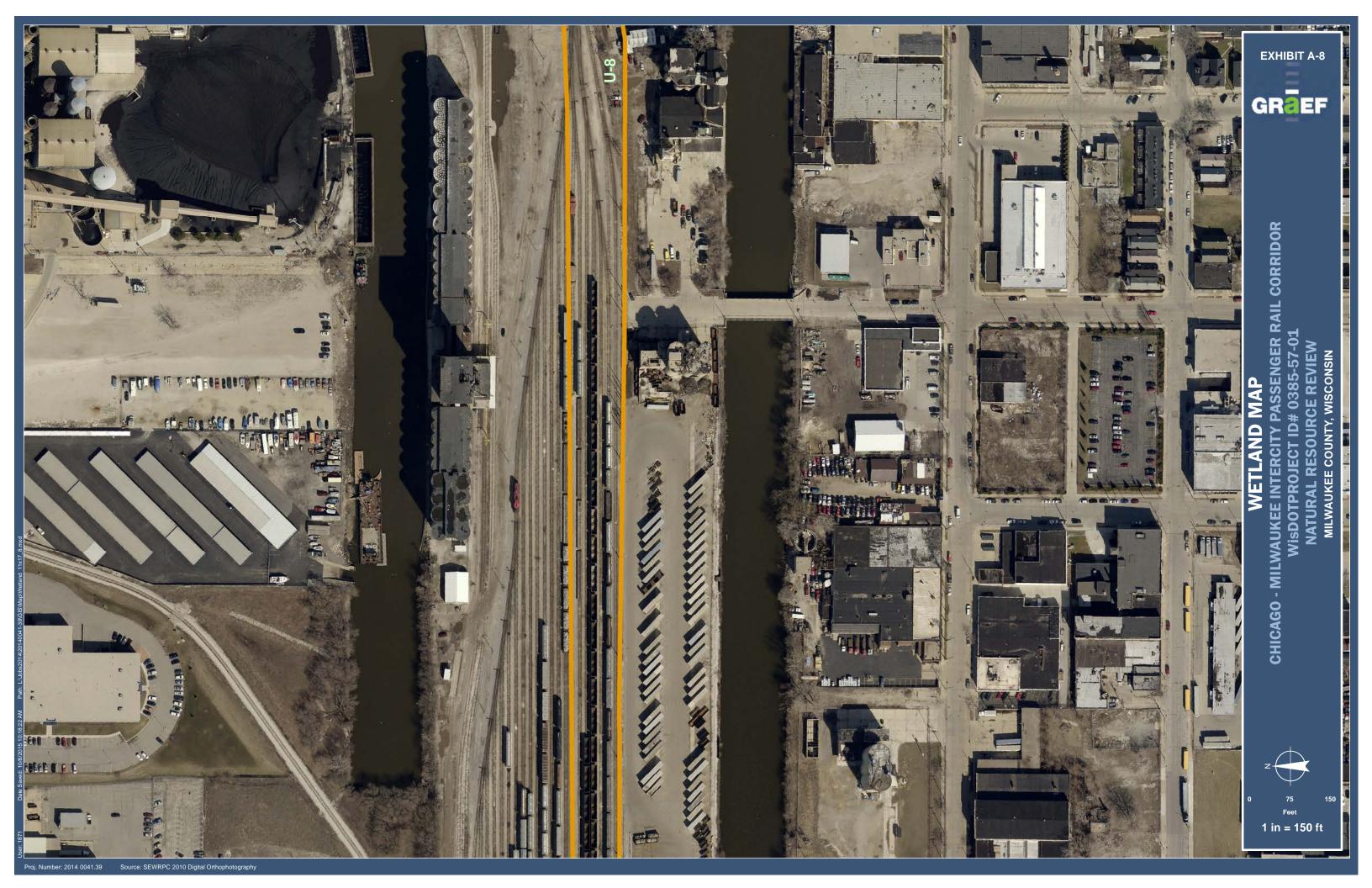
**EXHIBIT A-6** 

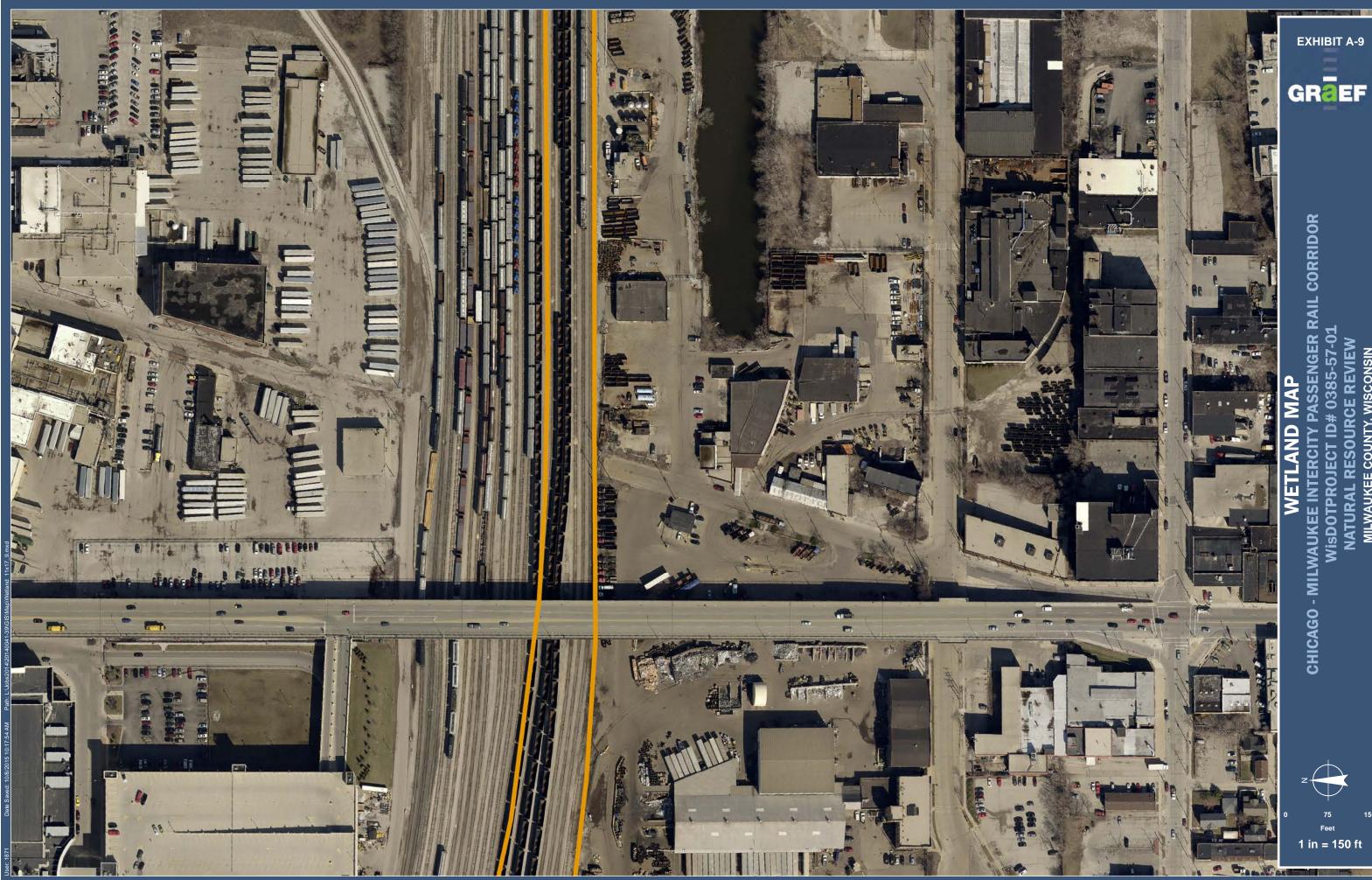
GRAEF

CHICAGO - MILWAUKEE INTERCITY PASSENGER RAIL CORRIDOR WISDOTPROJECT ID# 0385-57-01

75 1 Feet 1 in = 150 ft





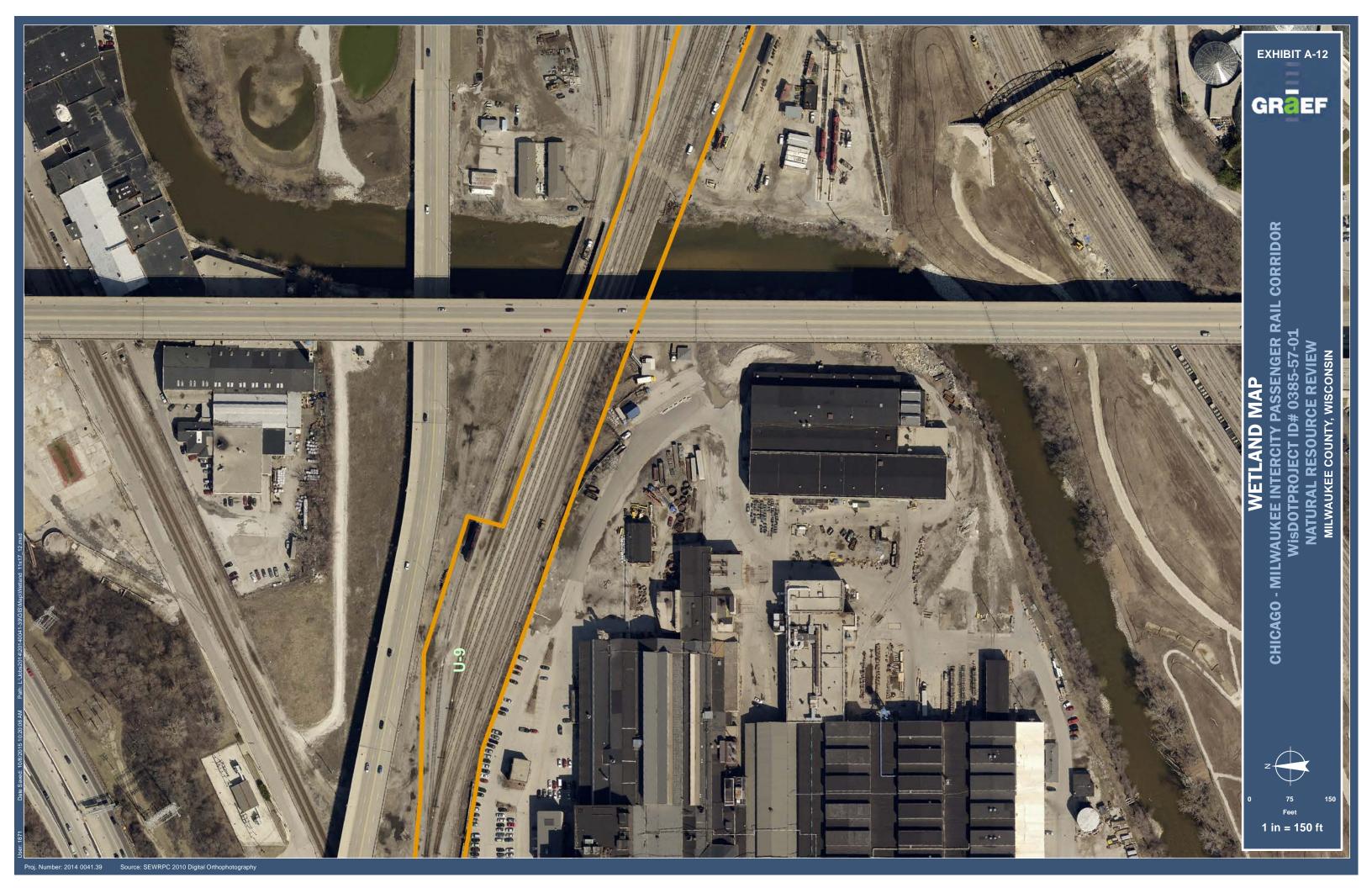


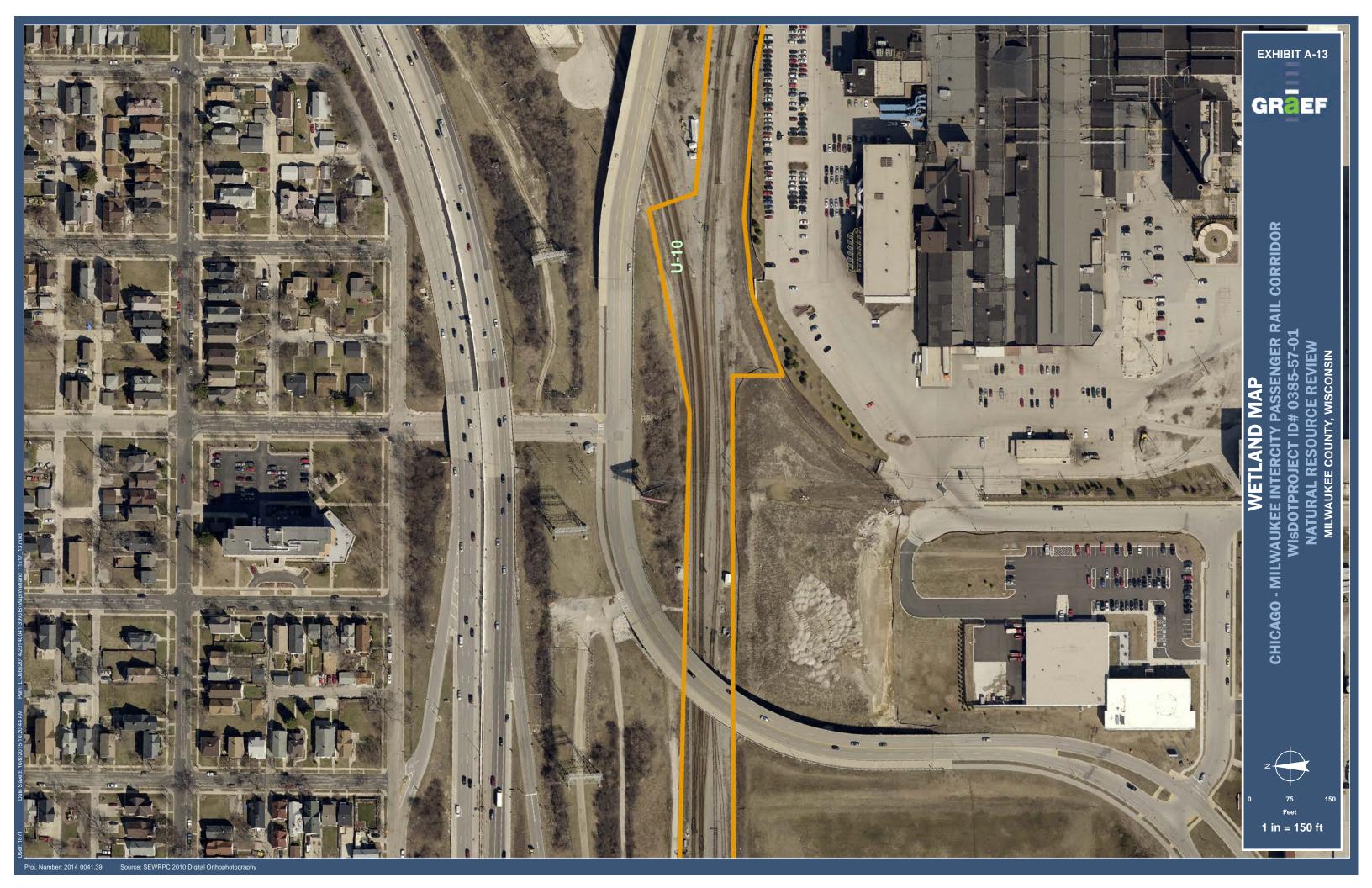


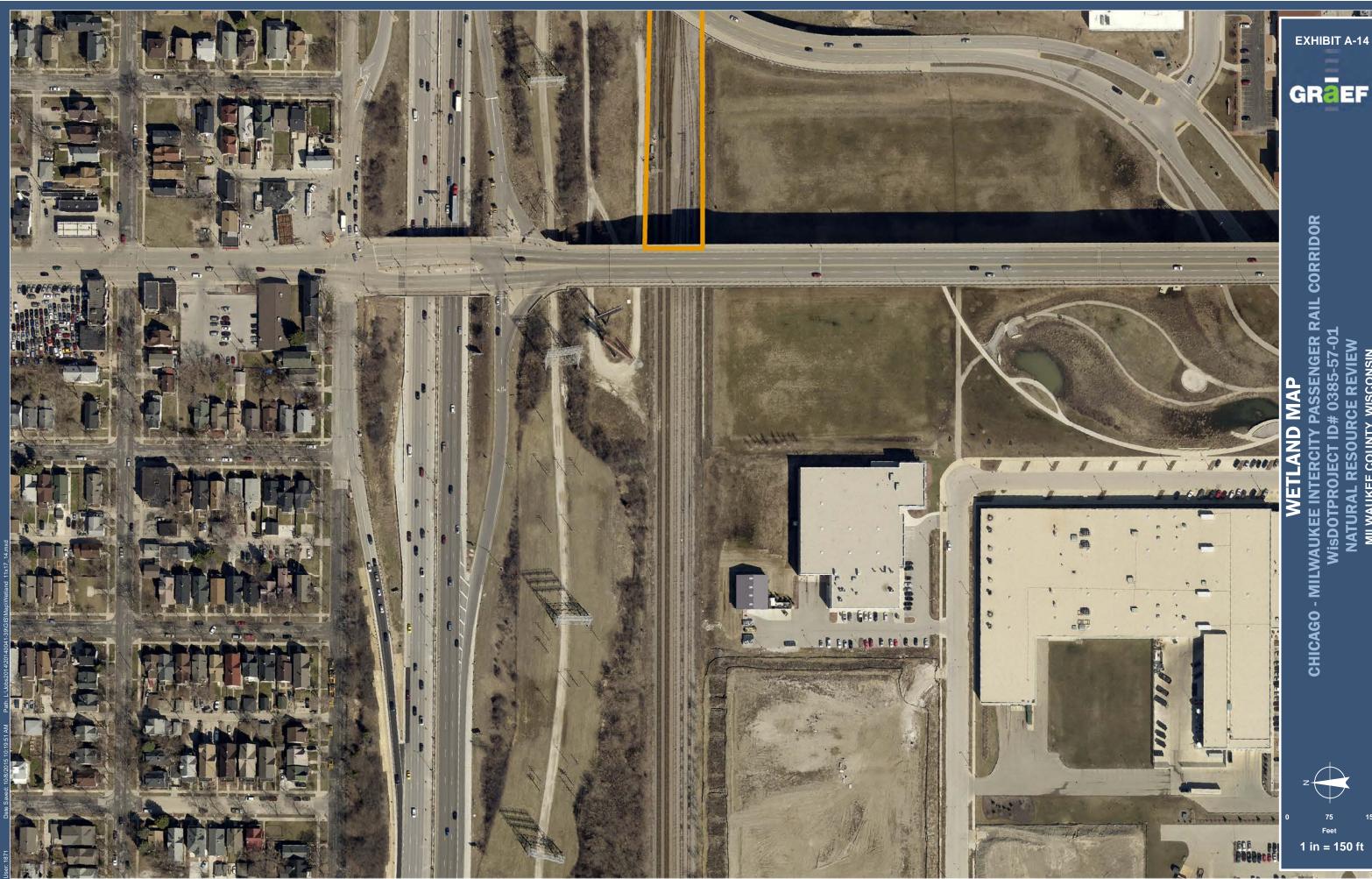


CHICAGO - MILWAUKEE INTERCITY PASSENGER RAIL CORRIDOR WISDOTPROJECT ID# 0385-57-01 NATURAL RESOURCE REVIEW

1 in = 150 ft







Proi Number: 2014 0041 39 Source: Si

Source: SEWRPC 2010 Digital Orthophotograp



## **APPENDIX E**

## Wetland Determination Data Forms

## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Amtrak Hiawatha	City/County:	Milwaukee/M	Alilwaukee Sampling Date: 13-Aug-15
Applicant/Owner: WisDOT		State:	WI Sampling Point: SP-1 upl
Investigator(s): _Mike Al-wathiqui, Geof Parish	Section, Tow	vnship, Range:	S 32 T 6N R 22E
Landform (hillslope, terrace, etc.): Footslope		Local relief (c	concave, convex, none): convex
Slope: 5.0% / 2.9 ° Lat.:	Long.:		 Datum:
			WWI classification: None
Soil Map Unit Name: Morley silt loam, 2 to 6 percent slopes (		(If no. e)	xplain in Remarks.)
Are climatic/hydrologic conditions on the site typical for this time of your secretarion.	cui.	, ,	
	ignificantly disturbed?		ormal circumstances present.
Are Vegetation	aturally problematic?  wing sampling poi	•	eded, explain any answers in Remarks.)
	Mile 20111211112 F 2 1		113, transcess, imperant reason 22, 222
$\wedge$	Is th	he Sampled A	
,		hin a Wetland	
Wetland Hydrology Present? Yes   No   No			
Remarks: WETS analysis found conditions to be slightly dryer than no abnormally wet hydrological conditions. This area is on the VEGETATION - Use scientific names of plan	e edge of the embankn	ment of the ra	ailroad.
Tree Stratum (Plot size: 30' r )	Absolute Rel.Strat % Cover Cover		Dominance Test worksheet:
1. Elaeagnus angustifolia	5 <b>1</b> 00.0%		Number of Dominant Species That are OBL, FACW, or FAC:  (A)
	0 0.0%		ITIAL die ODL, FACW, OI FAC.
3.	0 000		Total Number of Dominant
4.	0 0.0%		Species Across All Strata: (B)
5.	0 0.0%		Percent of dominant Species
	5 = Total Cov		That Are OBL, FACW, or FAC: 0.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15' r )			Prevalence Index worksheet:
1.	0 0.0%		Total % Cover of: Multiply by:
2.	0 0.0%		OBL species $0 \times 1 = 0$
3.	0 0.0%		FACW species 10 x 2 = 20
4.	0 0.0%		FAC species 18 x 3 = 54
5.	0 0.0%		FACU species 23 x 4 = 92
Herb Stratum (Plot size: 5' r )	0 = Total Cov	ver	UPL species 60 x 5 = 300
	60 🗸 56.6%	וחו	Column Totals: 111 (A) 466 (B)
1. Coronilla varia			
2. Panicum virgatum 3. Solidago canadensis	$ \begin{array}{c cccc}  & \underline{15} & \underline{\qquad} & \underline{14.2\%} \\ \hline  & 10 & \underline{\qquad} & 9.4\% \end{array} $		Prevalence Index = B/A = 4.198
Solidago canadensis     Symphyotrichum lateriflorum	$ \begin{array}{c cccc}  & 10 &                                $		Hydrophytic Vegetation Indicators:
5. Solidago canadensis	5 4.7%		1 - Rapid Test for Hydrophytic Vegetation
6. Spartina pectinata	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		2 - Dominance Test is > 50%
7. Sonchus arvensis	$\frac{3}{3}$ $\boxed{}$ 2.8%		$\Box$ 3 - Prevalence Index is ≤3.0 $^1$
8. Acer negundo	$\frac{3}{3}$ $\boxed{}$ 2.8%		4 - Morphological Adaptations 1 (Provide supporting
9.	0 0.0%		data in Remarks or on a separate sheet)
10.	0 0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	106 = Total Cov		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30' r )		VCI	be present, unless disturbed or problematic.
1	0 0.0%		
2	0 0.0%		Hydrophytic Vegetation
	0 = Total Cov	ver	Present? Yes No •
Remarks: (Include photo numbers here or on a separate since the transfer of th	•		

SOIL Sampling Point: SP-1 upl

		the depth ne				firm the	e absence of indicators.)			
DepthColor	Matrix (moist)	%	Red	ox Featu _%	res Type <sup>1</sup>	Loc2				
0-15 10YR	2/1	100	COIOI (IIIOISE)	_/0	TYPE	LUC	Sandy Loam Fill material			
013 1011							Sandy Leann			
							_			
Type: C=Concentration,	D=Depletion	n, RM=Reduce	ed Matrix, CS=Covered	d or Coate	ed Sand Grain	ns.	Location: PL=Pore Lining. M=Matrix.			
Hydric Soil Indicators	:						Indicators for Problematic Hydric Soils <sup>3</sup> :			
Histosol (A1)			Sandy Gleyed I	-	4)		Coast Prairie Redox (A16)			
Histic Epipedon (A2)			Sandy Redox (	•			Dark Surface (S7)			
☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4)	1)		Stripped Matrix	(S6)			☐ Iron Manganese Masses (F12)			
Stratified Layers (A5)	•		Loamy Mucky	Mineral (I	=1)		☐ Very Shallow Dark Surface (TF12)			
	)		Loamy Gleyed	Matrix (F	2)					
2 cm Muck (A10)	. C	11)	Depleted Matri	x (F3)			U Other (Explain in Remarks)			
Depleted Below Dark	•	11)	Redox Dark Su	rface (F6	)					
Thick Dark Surface (	•		Depleted Dark	Surface (	(F7)		<sup>3</sup> Indicators of hydrophytic vegetation and			
Sandy Muck Mineral  5 cm Mucky Peat or	` '		Redox Depress	ions (F8)	)		wetland hydrology must be present, unless disturbed or problematic.			
Restrictive Layer (if ob	. ,									
Type: Gravel Fill										
Depth (inches): 15							Hydric Soil Present? Yes No •			
Remarks:										
HYDROLOGY										
Wetland Hydrology In		ic roquirod; ch	oock all that apply)				Secondary Indicators (minimum of two requi	irod)		
Primary Indicators (minir	num or one	is required; ci			<b>(50)</b>		Secondary Indicators (minimum of two requ	iireu)		
Surface Water (A1)			☐ Water-Staine		(B9)		☐ Surface Soil Cracks (B6)			
High Water Table (A	2)		Aquatic Faun				☐ Drainage Patterns (B10)			
Saturation (A3)			☐ True Aquatic	•	•		✓ Dry Season Water Table (C2)			
Water Marks (B1)			☐ Hydrogen Su		. ,		Crayfish Burrows (C8)			
Sediment Deposits (I	B2)		Oxidized Rhiz	-	_	ots (C3)		)		
Drift Deposits (B3)			Presence of	Reduced	Iron (C4)		Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B	34)		Recent Iron	Reduction	n in Tilled Soi	ls (C6)	Geomorphic Position (D2)			
Iron Deposits (B5)			Thin Muck Su	urface (C	7)		FAC-Neutral Test (D5)			
Inundation Visible or	n Aerial Imag	gery (B7)	Gauge or We	ell Data ([	09)					
Sparsely Vegetated (	Concave Surf	face (B8)	Other (Expla	in in Rem	arks)					
Field Observations:		_								
Surface Water Present?	Yes	○ No ●	Depth (inch	nes):						
Water Table Present?	Yes	○ No ●	Depth (inch	nes):	13		_			
Saturation Present?	Yes				12	Wet	tland Hydrology Present? Yes   No			
(includes capillary fringe) Describe Recorded Da						pection	ns), if available:			
	- -		- · ·							
Remarks:										
				neavy ra	ins three d	ays prio	or to the site visit. Despite this vegetation, soils an	d best		
orofessional judgemer	it iiiuiCate l	uiat ulis afe	a is upiaiiū.							

Project/Site: Amtrak Hiawatha		City/Co	ounty: Milwaukee/M	Milwaukee Sampling Date: 13-Aug-15
Applicant/Owner: WisDOT			State:	: WI Sampling Point: SP-2 wtd
Investigator(s): Mike Al-wathiqui, Geof F	Parish	Section	on, Township, Range:	
Landform (hillslope, terrace, etc.): Toesl				concave, convex, none): convex
	Юрс			Datum:
Slope: 0.0% / 0.0 ° Lat.:			Long.:	· " · <del></del>
Soil Map Unit Name: Morley silt loam				WWI classification: None
Are climatic/hydrologic conditions on the		·cui .	( -, -	explain in Remarks.)
Are Vegetation, Soil 🗹		significantly disturbe	ed? Are "No	ormal Circumstances" present? Yes   No
Are Vegetation , Soil ,		naturally problemati	•	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - A		wing samplin	g point locatio	ons, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes   No   No		To the Complete	
Hydric Soil Present?	Yes  No		Is the Sampled A within a Wetland	
Wetland Hydrology Present?	Yes   No			
Remarks:				
WETS analysis found conditions to abnormally wet hydrological conditions				n occurred three days prior to the site visit may account for
adflormally wet flydrological condi-	tioris. All unree unteria ai	e met in uns arc	a mulcaung macic	: IS Wetland. Wedand 1D: w-1.
<b>VEGETATION -</b> Use scie	entific names of plan	nts. <b>Do</b>	minant	
72021711211	110110	Sp	ecies? ———	Dominance Test worksheet:
_Tree Stratum_(Plot size: _30' r	)		l.Strat. Indicator Cover Status	
1.		0 🗆	0.0%	Number of Dominant Species That are OBL, FACW, or FAC:3 (A)
2.		0	0.0%	
3.		0 🗆	0.0%	Total Number of Dominant Species Across All Strata: 3 (B)
		0 🗆	0.0%	
5.		0	0.0%	Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
		0 = Te	otal Cover	That Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15	<u>''</u> r)			Prevalence Index worksheet:
1			0.0%	Total % Cover of: Multiply by:
2			0.0%	OBL species <u>55</u> x 1 = <u>55</u>
3		0	0.0%	FACW species <u>75</u> x 2 = <u>150</u>
4.		0	0.0%	FAC species <u>5</u> x 3 = <u>15</u>
5			0.0%	FACU species
Herb Stratum (Plot size: 5' r	_)	0 = To	otal Cover	UPL species
1. Spartina pectinata		40	29.6% FACW	Column Totals: <u>135</u> (A) <u>220</u> (B)
2. Eleocharis obtusa		40	29.6% OBL	Prevalence Index = B/A = 1.630
3. Juncus torreyi		30	22.2% FACW	Hydrophytic Vegetation Indicators:
4. Scirpus atrovirens		10	7.4% OBL	1 - Rapid Test for Hydrophytic Vegetation
5. Juncus tenuis		5	3.7% FAC	2 - Dominance Test is > 50%
6. Juncus canadensis		5	3.7% OBL	
7. Euthamia graminifolia		5	3.7% FACW	3 - Prevalence Index is ≤3.0 ¹      A Marghabarian 1 (2) with a marghabarian 1 (3) with a marghabarian 1 (3) with a marghabarian 1 (4) with a
8.			0.0%	4 - Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet)
9.			0.0%	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10		_ 0	0.0%	
_Woody Vine Stratum_ (Plot size: 30' i	r )	135 = To	otal Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	·	0	0.0%	
2.		0	0.0%	Hydrophytic
<u> </u>			Total Cover	Vegetation Present? Yes No No
			otal covel	Present.
Remarks: (Include photo numbers	here or on a senarate s	:heet )	_	<del></del>
, ,	·	ŕ		
This is a fresh (wet) meadow. The	! Nyuropnyuc vegetation	Criterion is met.		

SOIL Sampling Point: SP-2 wtd

Remarks
gravel/fill
e Lining. M=Matrix.
or Problematic Hydric Soils <sup>3</sup> :
•
rie Redox (A16)
ce (S7)
anese Masses (F12)
ow Dark Surface (TF12)
olain in Remarks)
f hydrophytic vegetation and
hydrology must be present, disturbed or problematic.
esent? Yes • No ·
ry Indicators (minimum of two required
ace Soil Cracks (B6)
nage Patterns (B10)
Season Water Table (C2)
fish Burrows (C8)
ration Visible on Aerial Imagery (C9)
ted or Stressed Plants (D1)
morphic Position (D2)
Neutral Test (D5)
resent? Yes • No O

Project/Site: Amtrak Hiawatha		City/Co	unty: Milwaukee/N	<u> </u>	Sampling Date: 24-Sep-15
Applicant/Owner: WisDOT			State:	WI Sampli	ing Point: SP-3 upl
Investigator(s): Mike Al-wathiqui, Geof F			on, Township, Range:	: S 32 T 6N	R 22E
Landform (hillslope, terrace, etc.): Shou	ılder slope		Local relief (	concave, convex, none): (	convex
Slope: 5.0% / 2.9 ° Lat.:	•		Long.:	_	Datum:
Soil Map Unit Name: Morley silt loam				WWI classifica	ution:
Are climatic/hydrologic conditions on the				xplain in Remarks.)	uon.
Are Vegetation , Soil		significantly disturbe	, ,	ormal Circumstances" prese	ent? Yes • No O
		naturally problemati		•	
Are Vegetation	, , , , , , , , , , , , , , , , , , , ,	, .	,	eded, explain any answers in the constant of t	,
Hydrophytic Vegetation Present?	Yes ○ No ●				
Hydric Soil Present?	Yes ○ No ●		Is the Sampled A		
Wetland Hydrology Present?	Yes ○ No ●		within a Wetland	d? Yes ○ No ●	
Remarks:			1		
WETS analysis found conditions to	be slightly dryer than n	ormal. None of th	ne three criteria ar	e met indicating that th	is area is upland.
VEGETATION - Use scie	entific names of pla	nts. <b>Do</b>	minant		
		Sp	ecies? ————————————————————————————————————	Dominance Test work	 ksheet:
_Tree Stratum_(Plot size: 30' r	)	% Cover	Cover Status	Number of Dominant Sp	
1		0	0.0%	That are OBL, FACW, or	
2			0.0%	Total Number of Domina	ant
3		0	0.0%	Species Across All Strata	
4. 5.		0	0.0%	Percent of dominant	Charine
j		_ <u>0</u>	0.0%	That Are OBL, FACW	
_Sapling/Shrub Stratum (Plot size: 15	s'r )		otal Cover		
1.	,	0	0.0%	Prevalence Index wor	
2.			0.0%	Total % Cover OBL species	
3.			0.0%	FACW species	$ \begin{array}{cccc} 0 & x & 1 & = & 0 \\ 0 & x & 2 & = & 0 \end{array} $
4.		0	0.0%	FACW species  FAC species	
5.		0	0.0%	FACU species  FACU species	
-			otal Cover	UPL species	
Herb Stratum (Plot size: 5' r	)				
1. Solidago canadensis			34.5% FACU	Column Totals:	<u>29</u> (A) <u>108</u> (B)
2. Cornus racemosa			34.5% FAC	Prevalence Index	x = B/A = <u>3.724</u>
3. Rosa acicularis			17.2% FACU	Hydrophytic Vegetation	on Indicators:
		_ 2	6.9% FACU	1 - Rapid Test for	Hydrophytic Vegetation
5. Rubus occidentalis 6.		2	6.9% UPL	2 - Dominance Tes	st is > 50%
7.		0	0.0%	3 - Prevalence Ind	lex is ≤3.0 ¹
8.		_ 0	0.0%	4 - Morphological	Adaptations <sup>1</sup> (Provide supporting
9.			0.0%		or on a separate sheet)
10.			0.0%	Problematic Hydro	ophytic Vegetation $^1$ (Explain)
			otal Cover		soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30'	<u>r</u> )		otal covel	be present, unless dis	sturbed or problematic.
1			0.0%	l	
2			0.0%	Hydrophytic Vegetation	
		0 = To	otal Cover	Present? Yes	○ No •
Remarks: (Include photo numbers	s here or on a separate s	heet.)			
This area is dominated by upland	weeds. The vegetation of	riterion is not me	et.		

Sampling Point: SP-3 upl

Profile Descr	intion: (Des	scribe to t	he denth n	eeded to document	the indi	cator or co	nfirm the	absence of indicators.)		
	iptioni (Des	Matrix	are acper ii		lox Featu		iiiiiiii die	absence of malcators.		
Depth (inches)	Color (ı		%	Color (moist)		Type 1	Loc2	Texture	Remarks	
0-7	10YR	4/3	50					Silty Clay Loam		
	10YR	3/2	40							
	10YR	4/2	100							
7-17	10YR		50					Cilty Clay Loam		
·	-	4/3						Silty Clay Loam		
	10YR	4/6								
	10YR	4/2	10							
	10YR	3/2	10							
17 00		5 1						2 21 2 4	•	
Hydric Soil I		=Depletion	, RM=Reduc	ed Matrix, CS=Covere	d or Coate	ed Sand Gra	ins.	Location: PL=Pore Lining. M=		
Histosol (				Sandy Gleyed	Matrix (Se	4)		Indicators for Problem	iatic Hydric Soils 3:	
	pedon (A2)			Sandy Redox	-	• /		Coast Prairie Redox (	A16)	
Black Hist				Stripped Matri				Dark Surface (S7)		
Hydrogen Sulfide (A4)				Loamy Mucky	` '	F1)		☐ Iron Manganese Mass		
Stratified	Layers (A5)			Loamy Gleyed	•	•		☐ Very Shallow Dark Su	rface (TF12)	
2 cm Muc	k (A10)			Depleted Matr	-	,		Other (Explain in Rem	narks)	
Depleted	Below Dark S	Surface (A1	1)	Redox Dark S	` '	)				
	k Surface (A1	•		Depleted Dark	Surface (	(F7)		<sup>3</sup> Indicators of hydrophy	tic vegetation and	
_ `	Sandy Muck Mineral (S1)  Redox Depressions (F8)							wetland hydrology r	must be present,	
	ky Peat or Pe							unless disturbed or	r problematic.	
Restrictive La	ayer (if obs	erved):								
Type:								Hydric Soil Present?	Yes ○ No •	
Depth (incl	nes):							Tryunc Son Tresent:		
The hydric so	il criterion i	s not met								
HYDROLO	GY									
Wetland Hyd	rology Indi	cators:								
Primary Indica	ntors (minimu	ım of one i	s required; c	heck all that apply)				Secondary Indicato	rs (minimum of two required)	
Surface W	ater (A1)			Water-Stain		(B9)		Surface Soil Cracks (B6)		
	er Table (A2)			Aquatic Fau	. ,			Drainage Patter		
Saturation				☐ True Aquation	-	-		☐ Dry Season Wa		
☐ Water Ma				☐ Hydrogen S		. ,		Crayfish Burrow		
	Deposits (B2	)		Oxidized Rh		_	Roots (C3)		le on Aerial Imagery (C9)	
☐ Drift Depo				Presence of					ssed Plants (D1)	
	or Crust (B4)	1		Recent Iron			oils (C6)	☐ Geomorphic Po		
☐ Iron Depo			(DZ)	☐ Thin Muck S	•	•		☐ FAC-Neutral Te	st (D5)	
	n Visible on A	_		☐ Gauge or W	•	•				
☐ Sparsely \	egetated Co	ncave Suri	ace (B8)	U Other (Expla	ain in Rem	arks)				
Field Observ	ations:									
Surface Water	Present?	Yes	O No 🤄	Depth (inc	thes):		_			
Water Table P	resent?	Yes	O No	Depth (inc	thes):					
Saturation Pres	sent?	Yes <sup>(</sup>		\			Wet	land Hydrology Present?	Yes O No •	
(includes capill				• •			-	\ 'C 'III		
Describe Rec	orded Data	(stream	gauge, moi	nitoring well, aerial	pnotos,	previous in	spections	s), if available:		
Remarks:										
There are no	indicators	of hydrol	ogy in this	area. The criterion	is not me	et.				

Project/Site: Amtrak Hiawatha		City	y/County:	Milwaukee/M	filwaukee Sampling Date: 24-Sep-15				
Applicant/Owner: WisDOT				State:	WI Sampling Point: SP-4 wtd				
Investigator(s): Mike Al-wathiqui, Geof Parish		S	ection, Tow	nship, Range:	S 32 T 6N R 22E				
Landform (hillslope, terrace, etc.): Flat				Local relief (c	concave, convex, none): flat				
Slope: 0.0% / 0.0 ° Lat.:			Long.:		Datum:				
	= 6 parcent clapes (A	4-dB) not k			WWI classification: None				
Soil Map Unit Name: Morley silt loam, 2 to  Are climatic/hydrologic conditions on the site ty			No O	/If no ex	cplain in Remarks.)				
		ar? 103 c		• •					
	, ,, _	,			omar circumstances present.				
,	,	iturally problem		-	ded, explain any answers in Remarks.) ns, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes	s • No O								
	s • No O			e Sampled A in a Wetland					
'	s • No O		Within	In a Weuanu	<sup>1?</sup> Yes ● No ○				
Remarks:									
WETS analysis found conditions to be slightly dryer than normal. All three of the criteria are met indicating that this area is a wetland. Wetland ID: W-2. W-2 extends south of the boundary of the WWI mapped wetland that is located to the north of this sample point location.  VEGETATION - Use scientific names of plants.  Dominant Species?									
_Tree Stratum_(Plot size: 30' r	)	Absolute % Cover		Indicator Status	Dominance Test worksheet:				
1	,	0		Juli	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)				
2		0	0.0%		That are obly them, or their				
3.		0	0.0%		Total Number of Dominant Species Across All Strata: 1 (B)				
4.		0	0.0%						
5.		0	0.0%		Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)				
		0	= Total Cov	er	That Are OBL, FACW, or FAC: 100.0% (A/B)				
Sapling/Shrub Stratum (Plot size: 15' r	)				Prevalence Index worksheet:				
1		0	0.0%		Total % Cover of: Multiply by:				
2		0	0.0%		OBL species <u>100</u> x 1 = <u>100</u>				
3			0.0%		FACW species 0 x 2 = 0				
4. 5.			0.0%		FAC species $0 \times 3 = 0$				
5		0			FACU species 7 x 4 = 28				
Herb Stratum (Plot size: 5' r	)		= Total Cov	er	UPL species <u>2</u> x 5 = <u>10</u>				
1 Typha angustifolia		100	91.7%	OBL	Column Totals: <u>109</u> (A) <u>138</u> (B)				
2. Parthenocissus quinquefolia		5	4.6%	FACU	Prevalence Index = B/A = 1.266				
3. Rubus occidentalis		_2	1.8%	UPL	Hydrophytic Vegetation Indicators:				
4. Cirsium arvense		_2	1.8%	FACU	✓ 1 - Rapid Test for Hydrophytic Vegetation				
5		_0	0.0%		✓ 2 - Dominance Test is > 50%				
6. 7.		_0	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
8.			0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting				
9.			0.0%		data in Remarks or on a separate sheet)				
10.		0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
			0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology must				
Woody Vine Stratum (Plot size: 30' r	)	109	= Total Cov	er	be present, unless disturbed or problematic.				
1		0	0.0%						
2.		0	0.0%		Hydrophytic Vegetation				
		0	= Total Cov	er er	Present? Yes • No				
Remarks: (Include photo numbers here This is a shallow marsh dominated by N	·	•	on criterior	n is met.					

SOIL Sampling Point: SP-4 wtd

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		- Posterio							
(inches)	Color (moist)		Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks		
0-16	10YR 5/1	90	10YR 6/8	10		M	Silty Clay			
	-		· •				•			
-				-						
-				-		-				
<sup>1</sup> Type: C=Cond	centration, D=Deple	tion, RM=Reduced	d Matrix, CS=Covere	d or Coate	d Sand Grai	ns.	L2ocation: PL=Pore Lining. M=	=Matrix.		
Hydric Soil I							Indicators for Problem	atic Hydric Soils <sup>3</sup> :		
Histosol (			Sandy Gleyed		)		Coast Prairie Redox (A	A16)		
	pedon (A2)		Sandy Redox (				Dark Surface (S7)			
Black Hist	Sulfide (A4)		Stripped Matri	. ,			☐ Iron Manganese Mass	ses (F12)		
	Layers (A5)		Loamy Mucky				Very Shallow Dark Su	• •		
2 cm Muc	, , ,		Loamy Gleyed		2)		Other (Explain in Rem			
	Below Dark Surface	(A11)	✓ Depleted Matr				outer (Explain in Rein	idi Noy		
	k Surface (A12)		Redox Dark Su	٠,			3			
Sandy Mu	ck Mineral (S1)		Depleted Dark	•	-/)		<sup>3</sup> Indicators of hydrophyl wetland hydrology n			
5 cm Muc	ky Peat or Peat (S3)		Redox Depres	SIONS (FO)			unless disturbed or			
Restrictive La	ayer (if observed)									
Туре:										
Depth (incl	nes):						Hydric Soil Present?	Yes ● No ○		
Remarks:							•			
The hydric so	il criterion is met	hy indicator F3	(Depleted Matrix)							
ine nyane so	ii circoriori io mice	by marcator 15	(Depleted Fladin)	•						
HYDROLO	GY									
Wetland Hvd	rology Indicators:	1								
1	tors (minimum of o		eck all that apply)				Secondary Indicator	rs (minimum of two required)		
Surface W	•	, ,	☐ Water-Staine	ed Leaves	(B9)		Surface Soil Cra			
	er Table (A2)		Aquatic Faur		()		☐ Drainage Patter	` '		
✓ Saturation			True Aquation		14)		✓ Dry Season Wat			
☐ Water Ma	rks (B1)		Hydrogen Sı				Crayfish Burrow	ıs (C8)		
Sediment	Deposits (B2)		Oxidized Rhi	zospheres	on Living R	oots (C3)	Saturation Visib	le on Aerial Imagery (C9)		
☐ Drift Depo	sits (B3)		Presence of	Reduced I	ron (C4)		Stunted or Street	ssed Plants (D1)		
Algal Mat	or Crust (B4)		Recent Iron	Reduction	in Tilled So	ls (C6)	✓ Geomorphic Pos	sition (D2)		
☐ Iron Depo	sits (B5)		☐ Thin Muck S	urface (C7	)		✓ FAC-Neutral Tes	st (D5)		
Inundation	n Visible on Aerial In	nagery (B7)	☐ Gauge or W	ell Data (D	9)					
☐ Sparsely \	egetated Concave S	Surface (B8)	Other (Expla	in in Rema	arks)					
Field Observ										
Surface Water		es O No 💿	Depth (inc	hes):		-				
Water Table P	resent? Ye	es O No 💿	Depth (inc	hes):	15	.				
Saturation Pre	YE	s • No O	Depth (inc	hes):	2	Wet	land Hydrology Present?	Yes   No		
(includes capill	ary iringe)					cnoction	s) if available:			
Describe Rec	orueu Data (Strea	ııı yauye, moni	toring well, aerial	ριιοιος, β	n evious in	spections	o), ii avalidDle:			
Domarke										
Remarks:		Constitution of the Consti	t Oll Ma !!! !		les selves 1	taratta e		-dead-at-a-t-		
A water table	e is present at 15'	with saturation	ı at 2". Multiple se	econdary	nyarology	ınaıcatoı	rs are present as well. The	criterion is met.		

Project/Site: Amtrak Hiawatha	Cit	y/County:	Milwaukee/M	lilwaukee	Sam	pling Date:	24-Sep-15
Applicant/Owner: WisDOT			State:	WI	Sampling Poin	t:	SP-5 upl
Investigator(s): Mike Al-wathiqui, Geof Parish		Section, Tow	vnship, Range:	S 32 T	6N R	22E	
Landform (hillslope, terrace, etc.): Shoulder slope			Local relief (c	oncave, convex, n	ione): convex		
Slope: 20.0% / 11.3 ° Lat.:		Long.:				Datum:	
Soil Map Unit Name: Morley silt loam, 2 to 6 percent slopes (N	AzdB) not l				classification: E		
Are climatic/hydrologic conditions on the site typical for this time of year	(	● No ○	(If no, ex	plain in Remarks.)		110	
	inificantly dis	turbed?	Are "No	ormal Circumstance	es" nresent?	Yes (	No ○
	turally proble			ded, explain any a	•	rke )	
, , , ,			-			-	
SUMMARY OF FINDINGS - Attach site map show	ing sam	pling poi	int location	ns, transects	, importan	t feature	s, etc.
Hydrophytic Vegetation Present? Yes O No •							
Hydric Soil Present? Yes No   No			ne Sampled A nin a Wetland		No 💿		
Wetland Hydrology Present? Yes O No •				163 9 1			
Remarks:		•					
WETS analysis found conditions to be slightly dryer than no					that this area	is upland.	This area is on the
border of the mapped WWI which may be an artifact of ma	p scale and	the line th	nickness of th	e border.			
<b>VEGETATION -</b> Use scientific names of plant	ts.	Dominan					
		- Species?	· <del></del>	Dominance Te	est worksheet:		
<u>Tree Stratum</u> (Plot size: <u>30' r</u> )	% Cover	Rel.Strat Cover	Status	Number of Dom			
1	0	0.0%		That are OBL, F	ACW, or FAC:		(A)
2	0	0.0%		Total Number o	f Dominant		
3		0.0%		Species Across		_	<u>2</u> (B)
4. 5.		0.0%		Percent of do	minant Snacia	c	
J				That Are OBL			0.0% (A/B)
_Sapling/Shrub Stratum (Plot size: 15' r )		- Total Co	vei	Prevalence Inc	ley worksheet	••	
1.	0	0.0%			Cover of:	Multiply	hv:
2.	0	0.0%		OBL species		x 1 =	0
3.	0	0.0%		FACW specie		x 2 =	0
4	0	0.0%		FAC species	5	x 3 =	15
5	0	0.0%		FACU species	s <u>10</u>	x 4 =	40
Herb Stratum (Plot size: 5' r )	0	= Total Co	ver	UPL species	3	x 5 =	15
1. Cirsium arvense	10	<b>✓</b> 55.6%	FACU	Column Tota	ls: <u>18</u>	(A)	
2. Cornus racemosa	5	<b>✓</b> 27.8%	FAC	Prevalenc	e Index = B/A	<b>A</b> = 3	3.889_
3. Rubus occidentalis	3	16.7%	UPL	Hydrophytic V	egetation Indi		
4		0.0%			est for Hydrop		tation
5. 6.		0.0%		2 - Domina	nce Test is >	50%	
7.	0 0	0.0%		3 - Prevale	nce Index is ≤	3.0 <sup>1</sup>	
8.	0	0.0%					ovide supporting
9.	0	0.0%			marks or on a	•	•
10.	0	0.0%			ic Hydrophytic	_	` ' '
_Woody Vine Stratum_ (Plot size: 30' r )	18	= Total Co	ver	Indicators o     be present, un			hydrology must natic.
1.	0	0.0%					
2.	0	0.0%		Hydrophytic			
	0	= Total Cov	ver	Vegetation Present?	Yes 🔾 I	No 💿	
Remarks: (Include photo numbers here or on a separate sh	eet.)						
Vegetation is sparse do to construction activities related to a	new fence	e, but the p	oresent plant	community is d	lominated by	upland wee	ds. The
vegetation criterion is not met.							

SOIL Sampling Point: SP-5 upl

Profile Descr	ription: (Des	scribe to	the depth ne	eded to docu	ment the indi	cator or co	nfirm the	absence of indicators.)		
Depth Matrix					Redox Feat			_		
(inches)	Color (ı		%	Color (moist) % Type 1		Loc <sup>2</sup>	Texture	Remarks		
0-6	10YR	3/2	100					Silty Clay Loam		
6-10	10YR	4/3	70							
	10YR	3/2	20	10YR (	5/8 10	C	M	Silty Clay Loam		
<sup>1</sup> Type: C=Con	centration, D	=Depletion	n, RM=Reduce	ed Matrix, CS=C	Covered or Coat	ed Sand Gra	ins.	L2ocation: PL=Pore Lining. M=	Matrix.	
Hydric Soil I	indicators:							Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
Histosol (				Sandy G	ileyed Matrix (S	4)		Coast Prairie Redox (A	•	
	pedon (A2)			Sandy R	edox (S5)			Dark Surface (S7)	10)	
	☐ Black Histic (A3) ☐ Stripped Matrix (S6) ☐ Hydrogen Sulfide (A4) ☐ Learny Mude Microst (C1)							☐ Iron Manganese Masse	es (F12)	
Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  Stratified Layers (A5)								☐ Very Shallow Dark Sur		
2 cm Muc					Gleyed Matrix (F	2)		Other (Explain in Rem		
	Below Dark S	Surface (A1	11)		d Matrix (F3)			U Otilei (Expidiii iii Keiii	ai k5)	
	k Surface (A1	•	/		ark Surface (F6	•		2		
	ıck Mineral (S	,			d Dark Surface ( Depressions (F8)	` '		Indicators of hydrophyt wetland hydrology m		
5 cm Muc	ky Peat or Pe	eat (S3)		☐ Redox L		unless disturbed or				
Restrictive L	ayer (if obs	erved):								
Type:										
Depth (inc	hes):							Hydric Soil Present?	Yes ○ No •	
Remarks:										
The hydric so	il criterion i	is not me	t.							
, , , , , , ,										
HYDROLO	)GY									
Wetland Hyd	rology Indi	cators:								
Primary Indica	ators (minimu	um of one	is required; ch	eck all that app	oly)			Secondary Indicator	s (minimum of two required)	
Surface W	/ater (A1)			Water	-Stained Leaves	(B9)		Surface Soil Cra	cks (B6)	
High Wate	er Table (A2)			Aquat	ic Fauna (B13)			Drainage Patterns (B10)		
Saturation	n (A3)			True A	Aquatic Plants (E	314)		☐ Dry Season Wat	er Table (C2)	
Water Ma	rks (B1)			Hydro	gen Sulfide Odo	or (C1)		Crayfish Burrows	s (C8)	
Sediment	Deposits (B2	2)		Oxidiz	ed Rhizosphere	s on Living R	Roots (C3)	Saturation Visibl	e on Aerial Imagery (C9)	
Drift Depo					nce of Reduced			Stunted or Stres	` '	
	or Crust (B4)	)			t Iron Reduction		ils (C6)	Geomorphic Pos	• •	
☐ Iron Depo					1uck Surface (C	•		☐ FAC-Neutral Tes	t (D5)	
	n Visible on A	_			or Well Data (I	•				
☐ Sparsely \	egetated Co	ncave Surf	race (B8)	☐ Other	(Explain in Rem	narks)				
Field Observed							ı			
Field Observ		Yes	○ No ●	) Don	th (inches):					
Surface Water					th (inches):		- [			
Water Table P		Yes		-1	th (inches):		_ Wot	land Hydrology Present?	Yes ○ No •	
Saturation Pre (includes capil		Yes	O No 💿	Dept	th (inches):		_	, u. Jiogy i resent:		
		(stream	gauge, mor	itoring well, a	erial photos,	previous in	spections	s), if available:		
Remarks:										
There are no	indicators	of hydrol	ogy in this a	rea. The crite	erion is not me	et.				

Project/Site: Amtrak Hiawatha		City/County:	Milwaukee/N	Milwaukee Sampling Date: 24-Sep-15
Applicant/Owner: WisDOT			State:	: WI Sampling Point: SP-6 wtd
Investigator(s): _Mike Al-wathiqui, Geof Pa	ırish	Section, To	wnship, Range:	: S 32 T 6N R 22E
Landform (hillslope, terrace, etc.): Toeslo	pe		Local relief (d	concave, convex, none): concave
Slope: <u>2.0%</u> / <u>1.1</u> ° Lat.: _			-	 Datum:
Soil Map Unit Name: Morley silt loam,				WWI classification: E1K
Are climatic/hydrologic conditions on the si			) (If no. e:	explain in Remarks.)
	, or Hydrology	significantly disturbed?	,	ormal Circumstances" present?
		,		ormal circumstances present.
	, or Hydrology 🔽 tach site map sho	naturally problematic?  owing sampling po	•	eded, explain any answers in Remarks.) ons, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes  No			
Hydric Soil Present?	Yes   No		the Sampled A	
Wetland Hydrology Present?	Yes ● No ○	Wit	thin a Wetland	d? Yes   ● No ○
Remarks:				
WETS analysis found conditions to be indicating that this area is a wetland <b>VEGETATION -</b> Use scient	d. Wetland ID: W-4.		nt	f the railroad embankment. All three of the criteria are met
Tree Stratum_ (Plot size: 30' r	)	Absolute Rel.Stra % Cover Cover	t. Indicator	Dominance Test worksheet:
1	— ′			Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2		0 0.0%		That are obe, there, or the.
3.		0 0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4.		0 0.0%		Species Across Air Strata.
5.		0 0.0%	6	Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
		0 = Total C	over	That Are OBL, FACW, or FAC: 100.0% (A/B)
_Sapling/Shrub Stratum (Plot size: 15' i	)			Prevalence Index worksheet:
1. Sambucus nigra		5		Total % Cover of: Multiply by:
2		0		OBL species5 x 1 =5
3		00.0%		FACW species <u>84</u> x 2 = <u>168</u>
4. 5.		0		FAC species <u>10</u> x 3 = <u>30</u>
J		00.0%		FACU species <u>0</u> x 4 = <u>0</u>
Herb Stratum (Plot size: 5' r	)	5 = Total C	over	UPL species $0 \times 5 = 0$
1, Epilobium ciliatum		70 74.59	% FACW	Column Totals: 99 (A) 203 (B)
2. Rumex crispus		1010.69	% FAC	Prevalence Index = B/A = 2.051_
3. Asclepias incarnata		55.3%	6 OBL	Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
5. Euthamia graminifolia		3		✓ 2 - Dominance Test is > 50%
6. Bidens frondosa 7.		1		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		0		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.		0		data in Remarks or on a separate sheet)
10.		0		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
		0		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30' r	)		over	be present, unless disturbed or problematic.
1		00.0%	<u>′o</u>	
2		00.0%	<u>′o</u>	Hydrophytic Vegetation
		0 = Total C	over	Present? Yes No
				<u> </u>
Remarks: (Include photo numbers he This is a fresh (wet) meadow in a d	•	•	ent. The hydr	ophytic vegetation criterion is met.

SOIL Sampling Point: SP-6 wtd

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth									_		
(inches)	Color (n	noist)	%	Color (mo	ist)	<u>%</u>	Type 1	Loc <sup>2</sup>	Texture	Remarks	
0-3	10YR	3/2	100						Silt Loam		
3-8	10YR	5/1	80	10YR	6/8	20	C	M	Silty Clay		
8-18	10YR	2/1	90	10YR	6/6	10	С	М	Silty Clay Loam		
								-			
						-		-			
									· -		
									_		
<sup>1</sup> Type: C=Con	centration, D=	=Depletion	n, RM=Redu	ced Matrix, CS=	Covered	or Coate	ed Sand Gra	ains.	L2ocation: PL=Pore Lining. M=Matr	ix.	
Hydric Soil I	ndicators:								Indicators for Problematic	Hydric Soils <sup>3</sup> :	
Histosol (	•			Sandy	Gleyed N	Matrix (S4	1)		Coast Prairie Redox (A16)		
	pedon (A2)			Sandy	Redox (	S5)			Dark Surface (S7)		
	☐ Black Histic (A3) ☐ Stripped Matrix (S6) ☐ Hydrogen Sulfide (A4) ☐ Leave Made Misser (51)							☐ Iron Manganese Masses (F	12)		
	Layers (A5)				•	Mineral (F	•		☐ Very Shallow Dark Surface	•	
2 cm Muc	, , ,					Matrix (F	2)		Other (Explain in Remarks)		
	Below Dark Su	urface (A1	.1)		ed Matrix	. ,			Outer (Explain in Remarks)		
	k Surface (A12	•	,	✓ Redox		•	•		2		
Sandy Mu	ck Mineral (S1	1)				Surface (			Indicators of hydrophytic very wetland hydrology must be		
5 cm Muc	ky Peat or Pea	at (S3)		∟ кеаох	Depress	ions (F8)			unless disturbed or prob		
Restrictive L	ayer (if obse	rved):									
Туре:											
Depth (inc	hes):								Hydric Soil Present? Yes	● No ○	
Remarks:									-		
The hydric so	il criterion is	met hv	indicators	Δ11 (Denlete	d Relov	, Dark S	Surface) ar	nd F6 (Re	dox Dark Surface).		
The Hydric 30	iii Citteriori is	s friet by	indicators	ATT (Deplete	u belov	v Daik 3	dirace) ai	id i o (ite	dox bark surface).		
HYDROLO	GY										
Wetland Hyd		ators								<del></del>	
1			is required: (	check all that ap	(vlac				Secondary Indicators (mi	nimum of two required)	
Surface W		0. 0	o required,			d Leaves	(B9)		Surface Soil Cracks (	<u>, , , , , , , , , , , , , , , , , , , </u>	
	er Table (A2)			=	ntic Faun		(55)		Drainage Patterns (B	,	
✓ Saturation						Plants (B	314)		Dry Season Water Ta	•	
☐ Water Ma	` '				-	lfide Odo	-		Crayfish Burrows (C8	` ,	
Sediment	Deposits (B2)	)			-		s on Living I	Roots (C3)	Saturation Visible on	-	
☐ Drift Depo	osits (B3)			Prese	ence of F	Reduced :	Iron (C4)		Stunted or Stressed I		
Algal Mat	or Crust (B4)			Rece	nt Iron F	Reduction	n in Tilled S	oils (C6)	<b>✓</b> Geomorphic Position	(D2)	
☐ Iron Depo	osits (B5)			Thin	Muck Su	urface (C7	7)		✓ FAC-Neutral Test (D5	5)	
Inundatio	n Visible on A	erial Imag	ery (B7)	☐ Gaug	ge or We	ll Data (D	09)				
☐ Sparsely \	egetated Cor	ncave Surf	ace (B8)	Othe	r (Explai	n in Rem	arks)				
Field Observ	ations:		O (	_							
Surface Water	Present?	Yes		_	pth (inch	nes):		_			
Water Table P	resent?	Yes	● No	) De	pth (inch	nes):	8	_ [			
Saturation Pre		Yes	<ul><li>No (</li></ul>	De	pth (inch	nes):	6	Wet	land Hydrology Present? Ye	s • No O	
(includes capil								nsnection	s), if available:		
הפימוחה עבנו	orucu Dald	(Su Call	yauy <del>c</del> , IIIC	moning well,	acriai ļ	J110105,	PLEVIOUS II	i ispection:	ع <sub>ارا</sub> ۱۱ מימוומטוכ.		
Remarks:											
	o io procest	5+ O!!!*	h cat:::at:	n n+ C!! M.:.!+:	nlo ===	ondo:::.!	nudroles:	indicate:	a are present as well. The sub-un-	an is mot	
A water table	e is present	alő WIT	ม รสเนาสิโได้	ıı at O . MUİTI	pie seco	Jiluary I	iyurology	ıı ıuıCators	s are present as well. The criterion	או וא Hiet.	

Project/Site: Amtrak Hiawatha	City/County:	Milwaukee/M	filwaukee Sampling Date: 24-Sep-	15					
Applicant/Owner: WisDOT		State:	WI Sampling Point: SP-7 upl						
Investigator(s): Mike Al-wathiqui, Geof Parish	Section, Tov	wnship, Range:	S 32 T 6N R 22E						
Landform (hillslope, terrace, etc.): Shoulder slope		Local relief (c	concave, convex, none): convex						
Slope:24.0% /13.5_ ° Lat.:			Datum:						
Soil Map Unit Name: Morley silt loam, 2 to 6 percent slopes			WWI classification: None						
Are climatic/hydrologic conditions on the site typical for this time of y			xplain in Remarks.)						
	significantly disturbed?	Are "No	ormal Circumstances" present? Yes   No						
Are Vegetation 🔲 , Soil 🗌 , or Hydrology 🗹 r	naturally problematic?		ded, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map sho	wing sampling po	int locatio	ns, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes ○ No •									
Hydric Soil Present? Yes No •		the Sampled A thin a Wetland							
Wetland Hydrology Present? Yes O No •									
Remarks: WETS analysis found conditions to be slightly dryer than normal. None of the three criteria are met indicating that this area is upland.  VEGETATION - Use scientific names of plants.  Dominant									
	Species?		Dominance Test worksheet:						
<u>Tree Stratum</u> (Plot size: <u>30' r</u> )	% Cover Cover		Number of Dominant Species						
1	_ 0		That are OBL, FACW, or FAC:0(A	4)					
2			Total Number of Dominant						
3	_ 0		Species Across All Strata: 2 (B	3)					
5.	0		Percent of dominant Species						
J 5	0 = Total Co		That Are OBL, FACW, or FAC: 0.0%	A/B)					
_Sapling/Shrub Stratum (Plot size: 15' r )		/VCi	Prevalence Index worksheet:						
1.	0	)	Total % Cover of: Multiply by:						
2.	0 0.0%		OBL species x 1 =						
3.	0 0.0%		FACW species $3 \times 2 = 6$						
4.	0 0.0%	)	FAC species 5 x 3 = 15						
5.	0 0.0%	)	FACU species 15 x 4 = 60						
	0 = Total Co	over	UPL species 20 x 5 = 100						
1. Rubus occidentalis	20 🗹 46.5%	6 UPL	Column Totals: 43 (A) 181 (B	3)					
2. Cirsium arvense	10 23.3%			,					
3. Sonchus arvensis	5 11.6%								
4. Rhamnus cathartica	5 11.6%	6 FAC	Hydrophytic Vegetation Indicators:						
5. Phalaris arundinacea	3	FACW	1 - Rapid Test for Hydrophytic Vegetation						
6.	00.0%	<u> </u>	2 - Dominance Test is > 50%						
7.	0	<u> </u>	3 - Prevalence Index is ≤3.0 <sup>1</sup>						
8.	0		4 - Morphological Adaptations <sup>1</sup> (Provide suppor data in Remarks or on a separate sheet)	rting					
9. 10.	_ 0		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)						
10			<sup>1</sup> Indicators of hydric soil and wetland hydrology m	uist					
Woody Vine Stratum (Plot size: 30' r )	43 = Total Co	over	be present, unless disturbed or problematic.	lust					
1.	0 0.0%	o							
2.	0 0.0%	)	Hydrophytic Vegetation						
	0 = Total Co	over	Present? Yes No •						
Remarks: (Include photo numbers here or on a separate some strains area is dominated by upland weeds. The vegetation of	•								

SOIL Sampling Point: SP-7 upl

Profile Descr	iption: (Des	cribe to t	he depth ne	eded to documen	t the indic	ator or co	onfirm the	absence of indicators.)
Depth		Matrix			dox Featu		_	
(inches)	Color (m	oist)	%	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture Remarks
0-9	10YR	3/2						Silt Loam
9-17	10YR	4/3	80	10YR 4/6	10	C	M	Silty Clay Loam
	10YR	3/2	10					
				-			-	
					-		-	
-								
								_
<sup>1</sup> Type: C=Cond	centration, D=	Depletion	, RM=Reduce	ed Matrix, CS=Cover	ed or Coate	ed Sand Gra	ains.	Location: PL=Pore Lining. M=Matrix.
Hydric Soil I	ndicators:			i				Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (	A1)			Sandy Gleyed	l Matrix (S4	ł)		
	pedon (A2)			Sandy Redox		•		Coast Prairie Redox (A16)
Black Hist	. ,			Stripped Matr				☐ Dark Surface (S7)
Hydrogen	Sulfide (A4)			Loamy Mucky	/ Mineral (F	1)		☐ Iron Manganese Masses (F12)
Stratified	Layers (A5)			Loamy Gleye				☐ Very Shallow Dark Surface (TF12)
2 cm Muc	k (A10)			Depleted Mat		,		Other (Explain in Remarks)
Depleted	Below Dark Su	ırface (A1	1)	Redox Dark S	. ,	)		
Thick Darl	k Surface (A12	2)		Depleted Dar				Indicators of hydrophytic vegetation and
	ck Mineral (S1	,		Redox Depre	ssions (F8)	,		wetland hydrology must be present,
☐ 5 cm Muc	ky Peat or Pea	at (S3)		<u> </u>	. ,			unless disturbed or problematic.
Restrictive La	ayer (if obse	rved):						
Type:								
Depth (incl	hes):							Hydric Soil Present? Yes No   No
Remarks:								
The hydric so	il criterion is	not met						
HYDROLO	)GY							
Wetland Hyd	rology Indic	atore:						
_			s required: ch	neck all that apply)				Secondary Indicators (minimum of two required)
Surface W		ii oi one ii	o required, er	Water-Stair	and Leaver	(BQ)		Surface Soil Cracks (B6)
	er Table (A2)			Aquatic Fau		(09)		Drainage Patterns (B10)
Saturation				True Aquat		14)		Dry Season Water Table (C2)
Water Ma				Hydrogen S	•	,		Crayfish Burrows (C8)
	Deposits (B2)			Oxidized R			Poots (C3)	
Drift Depo	,			Presence of	-	_	Roots (C3)	Stunted or Stressed Plants (D1)
	or Crust (B4)			Recent Iror			oils (C6)	Geomorphic Position (D2)
Iron Depo							olis (Co)	FAC-Neutral Test (D5)
	n Visible on Ae	arial Imag	on/ (R7)	☐ Thin Muck	-	-		TAC-Neutral Test (D3)
	/egetated Con	-	, , ,	☐ Gauge or W	•	•		
Sparsely \	regetated Con	cave Suite	ace (bo)	☐ Other (Expl	ain in Rem	arks)		
Field Observe	ations:							
Field Observation Surface Water		Yes <sup>(</sup>	○ No ●	Depth (in	ches).			
		Yes (					_ [	
Water Table P					ches):		- Wet	tland Hydrology Present? Yes O No 💿
Saturation Pres (includes capill		Yes(	⊃ No ⊙	Depth (in	ches):		_	dand flydrology Fresence 163 9 110 9
		(stream	gauge, mon	itoring well, aeria	l photos, i	orevious i	nspections	ns), if available:
	·		- J.	_ ,			•	
Remarks:								
	indicators o	of hydrolo	nav in thic a	rea. The criterion	is not me	t		
crc arc no		,	- 97 III GIIS G	car The effection	.5 .100 1110			

Project/Site: Amtrak Hiawatha		City/	/County:	Milwaukee/M	filwaukee	Saı	mpling Date:	24-Sep-15
Applicant/Owner: WisDOT				State:	WI	Sampling Poi	int:	SP-8 wtd
Investigator(s): _Mike Al-wathiqui, Geof F	Parish	Se	ction, Tow	vnship, Range:	s 32 T	- 6N F	R 22E	
Landform (hillslope, terrace, etc.): Toesl	lope			Local relief (c	concave, convex, n	none): conca	ve	_
Slope: 0.0% / 0.0 ° Lat.:	·		Long.:				Datum	
		(M ID) I I			VADAIT			
Soil Map Unit Name: Morley silt loam			No 🔾	(If no ov		classification: _I	None	
Are climatic/hydrologic conditions on the		year.			rplain in Remarks.)	•	Yes <sup>(</sup>	● No ○
Are Vegetation, Soil		significantly distu		Are "No	ormal Circumstance	es" present?	TES \	9 NO C
Are Vegetation		naturally problem		-	ded, explain any a		-	_
SUMMARY OF FINDINGS - A		wing sampi	ing poi	nt locatio	ns, transects	s, importar	nt reature	s, etc.
Hydrophytic Vegetation Present?	Yes   No		Te th	ne Sampled A	rea			
Hydric Soil Present?	Yes   No			in a Wetland		No O		
Wetland Hydrology Present?	Yes   No							
Remarks: WETS analysis found conditions to  VEGETATION - Use scie	- , ,	nts.	Dominant Species?	t				Wetland ID: W-3.
<u>Tree Stratum</u> (Plot size: 30' r	)	Absolute % Cover	Rel.Strat.	. Indicator Status	Dominance Te		Ċ:	
1			0.0%		Number of Dom That are OBL, F			4 (A)
2.		0	0.0%		111dc a. 5,	ACII, 3	_	
3.		0	0.0%		Total Number o			4 (B)
4.		0	0.0%		Species richoss.	Ali Juan.	_	<u> </u>
5.		0	0.0%		Percent of do			00.0% (A/B)
			= Total Cov	ver	That Are OBL,	, FACW, OF FA	AC:	JU.U 70 (17) D)
Sapling/Shrub Stratum (Plot size: 15	<u>'r</u> )	_	_		Prevalence Inc	dex workshee	et:	
1. Salix fragilis			55.6%			Cover of:	Multiply	by:
2. Salix bebbiana			27.8%		OBL species		_	25
			16.7%		FACW specie		_	62
4. Cornus racemosa 5.		0 _	0.0%	FAC	FAC species		_	30
J		0			FACU species		_ x 4 =	20
Herb Stratum (Plot size: 5' r	)	18 =	= Total Cov	ver	UPL species	0	_ x 5 =	0
1. Scirpus cyperinus			37.7%	OBL	Column Tota	als: <u>71</u>	(A)	<u>137</u> (B)
2. Impatiens capensis		10	18.9%	FACW	Prevalenc	ce Index = B/	/A = !	1.930
3. Typha angustifolia		5	9.4%	OBL	Hydrophytic V			
		5	9.4%	FACU		Test for Hydro		tation
			9.4%	FACW	_	ance Test is >		ш
6. Salix discolor		5	9.4%	FACW	l	ence Index is:		
7. Ribes americanum			3.8%	FACW				ovide supporting
8. Bidens frondosa 9.			1.9%	FACW		marks or on a		
10.		0 _	0.0%		Problemati	ic Hydrophyti	ic Vegetation	ı <sup>1</sup> (Explain)
		0	0.0% - Total Cov					hydrology must
Woody Vine Stratum (Plot size: 30' r	r)		= Total Cov	ver	be present, un			
1			0.0%					
2			0.0%		Hydrophytic Vegetation			
		=	= Total Cov	ver	Present?	Yes 💿	No O	
					<u> </u>			
Remarks: (Include photo numbers	here or on a separate s	sheet.)						
This is a fresh (wet) meadowand s	shrub carr. The hydroph	ytic vegetation	criterion	is met.				

SOIL Sampling Point: SP-8 wtd

Profile Descrip	otion: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of indicators.)	
Depth _	Matrix		Red		_			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	100					Sandy Loam	
4-16	10YR 3/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
						-		
						-		
	<del></del>			-				
				-			<del></del>	
<sup>1</sup> Type: C=Conce	ntration, D=Depletio	n, RM=Reduc	ed Matrix, CS=Covere	d or Coate	ed Sand Gra	ins.	L2ocation: PL=Pore Lining. M=Ma	trix.
Hydric Soil Inc	dicators:						Indicators for Problematic	: Hydric Soils <sup>3</sup> :
Histosol (A1	•		Sandy Gleyed	Matrix (S4	ł)		Coast Prairie Redox (A16)	1
Histic Epipe	` '		Sandy Redox (	. ,			Dark Surface (S7)	
Black Histic Hydrogen S	` '		Stripped Matri	` '			☐ Iron Manganese Masses (	F12)
Stratified La	• •		Loamy Mucky	•	•		☐ Very Shallow Dark Surface	•
2 cm Muck	, , ,		Loamy Gleyed	-	2)		Other (Explain in Remarks	
	elow Dark Surface (A	11)	Depleted Matr	. ,			Other (Explain in Remark	<i>,</i>
	Surface (A12)	,	Redox Dark Su	•	•		2	
Sandy Muck	Mineral (S1)		☐ Depleted Dark ☐ Redox Depres	•	•		Indicators of hydrophytic v wetland hydrology must	
5 cm Mucky	Peat or Peat (S3)		☐ Redox Depres	SIONS (FO)			unless disturbed or pro	
Restrictive Lay	ver (if observed):							
Type:								
Depth (inche	es):						Hydric Soil Present? Ye	s • No O
Remarks:							•	
The hydric soil	criterion is met by	indicator F	6 (Redox Dark Surfa	ace).				
			o (i todon Daint Gain					
HYDROLOG	GY							
Wetland Hydro	ology Indicators:							
1	ors (minimum of one	is required; o	heck all that apply)				Secondary Indicators (r	ninimum of two required)
Surface Wat	-		Water-Staine	ed Leaves	(B9)		Surface Soil Cracks	
☐ High Water			Aquatic Faur		()		Drainage Patterns (	( -)
Saturation (			True Aquatio		14)		☐ Dry Season Water	· · · · ·
☐ Water Mark	s (B1)		Hydrogen Su	ulfide Odo	r (C1)		Crayfish Burrows (C	(8)
Sediment D	eposits (B2)		Oxidized Rhi			Roots (C3)	Saturation Visible o	n Aerial Imagery (C9)
☐ Drift Deposi	its (B3)		Presence of	Reduced 1	Iron (C4)		Stunted or Stressed	
Algal Mat or	r Crust (B4)		Recent Iron	Reduction	in Tilled Sc	oils (C6)	✓ Geomorphic Positio	n (D2)
☐ Iron Deposi	ts (B5)		☐ Thin Muck S	urface (C7	<b>'</b> )		▼ FAC-Neutral Test (□	05)
Inundation	Visible on Aerial Imag	gery (B7)	Gauge or W	ell Data (D	9)			
☐ Sparsely Ve	getated Concave Sur	face (B8)	Other (Expla	in in Rem	arks)			
Field Observat	.,	O 6						
Surface Water P				hes):		_		
Water Table Pre	sent? Yes	O No	Depth (inc	hes):		_		
Saturation Prese		O No @	Depth (inc	hes):		Wet	land Hydrology Present? Y	'es ● No O
(includes capillar	y milge)		nitoring well, aerial		nrevious ir	- I	s) if available	
Describe Recol	aca Data (Stredili	gauge, IIIO	noring wen, acrial	ριισισο,	previous II	Specions	on available.	
Remarks:								
	dary hydrology inc	licators are	present. The criteri	on ic mot	+			
Muluple Secon	uary nyurology INC	iicatois die	present. The Chieff	טוו וא ווופו				
I								

Project/Site: Amtrak Hiawatha	City/County:I	Milwaukee/Milw	vaukee Sampling Date: 24-Sep-15
Applicant/Owner: WisDOT		State:	WI Sampling Point: SP-9 upl
Investigator(s): Mike Al-wathiqui, Geof Parish	Section, Town	ship, Range: S	32 T_6N R_22E
Landform (hillslope, terrace, etc.): Footslope		_ocal relief (con	cave, convex, none): convex
Slope:			Datum:
Soil Map Unit Name: Morley silt loam, 2 to 6 percent slopes (			WWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of y			in in Remarks.)
	significantly disturbed?		,
	- ,		an en curistances present.
Are Vegetation	naturally problematic?  wing sampling poin	•	d, explain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes No •	<del></del>		<u> </u>
Hydric Soil Present? Yes No •		Sampled Are	
Wetland Hydrology Present? Yes No •	Within	n a Wetland?	Yes ○ No •
Remarks:			
WETS analysis found conditions to be slightly dryer than no  VEGETATION - Use scientific names of plan	nts. <b>Dominant</b>	: criteria are n	net indicating that this area is upland.
	Species? - Absolute Rel.Strat.	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r )	% Cover Cover	Status	Number of Dominant Species
1	0 0.0%		That are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
4.	0 0.0%		Species Across All Strata:1 (B)
5.	0 0.0%		Percent of dominant Species
	0 = Total Cove		That Are OBL, FACW, or FAC: 0.0% (A/B)
_Sapling/Shrub Stratum (Plot size: 15' r )		_	Prevalence Index worksheet:
1.	0	Ι.	Total % Cover of: Multiply by:
2.	0 0.0%		OBL species x 1 =
3.	0 0.0%		FACW species 0 x 2 = 0
4.	0 0.0%		FAC species $0 \times 3 = 0$
5.	0 0.0%		FACU species $111 \times 4 = 444$
· · · · · · /Distains 5'r	0 = Total Cove	er	UPL species $5 \times 5 = 25$
Herb Stratum (Plot size: 5' r )			
1 Lotus corniculatus 2. Daucus carota		UPL FACU	
3. Elymus repens	5 4.3%	FACU	Prevalence Index = B/A = 4.043
A Lacture corriele	$\frac{3}{3}$ $\boxed{}$ $\frac{4.3\%}{2.6\%}$	FACU	lydrophytic Vegetation Indicators:
5. Sonchus arvensis	3 2.6%	FACU	1 - Rapid Test for Hydrophytic Vegetation
6.	0 0.0%		2 - Dominance Test is > 50%
7.	0 0.0%		3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0 0.0%		4 - Morphological Adaptations 1 (Provide supporting
9.	0 0.0%		data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.	0 0.0%		- , , , , , , , , , , , , , , , , , , ,
	116 = Total Cove	er l	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0 006	F	76 present, unices distarbed or problematic.
12.	0 0.0%		Hydrophytic
Σ	00.0% 0 = Total Cove		Vegetation Present? Yes No •
	= 10tal COVE	:r	Present: 165 - 115 -
Remarks: (Include photo numbers here or on a separate si This area is dominated by upland weeds. The vegetation of	•		

SOIL Sampling Point: SP-9 upl

	absence of indicators.)
Depth Matrix Redox Features	_
(inches) Color (moist) % Color (moist) % Type 1 Loc2	Texture Remarks
0-10 10YR 3/2 70	Silt Loam
10YR 5/3 30	
10-18 10YR 4/3 60 10YR 5/1 10 D M	Silty Clay
10YR 3/2 20 10YR 6/8 10 C M	2007 2007
101K 3/2 20 101K 0/6 10 C M	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.	Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic Epipedon (A2) Sandy Redox (S5)	Dark Surface (S7)
Black Histic (A3)  Hydrogen Sulfide (A4)  Stripped Matrix (S6)	☐ Iron Manganese Masses (F12)
Loamy Mucky Mineral (F1)  Stratified Layers (A5)	☐ Very Shallow Dark Surface (TF12)
Loamy Gleyed Matrix (F2)	
Depleted Balow Dark Surface (A11)	Uther (Explain in Remarks)
Thick Dark Surface (A12)	
Sandy Muck Mineral (S1)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Muck Pinieral (31)  Redox Depressions (F8)  5 cm Mucky Peat or Peat (S3)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):	The state of the s
Type:	
Depth (inches):	Hydric Soil Present? Yes ○ No ●
Remarks:	
Redoximorphic features and depletions are present at depth, but not enough to meet an inc	dicator. The hydric soil criterion is not met.
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2) Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3) True Aquatic Plants (B14)	Dry Season Water Table (C2)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)	Stuffled of Stressed Flatits (D1)
□ Drift Deposits (B3)       □ Presence of Reduced Iron (C4)         □ Algal Mat or Crust (B4)       □ Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)	Geomorphic Position (D2)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Thin Muck Surface (C7)  Gauge or Well Data (D9)	Geomorphic Position (D2)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)	Geomorphic Position (D2)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)	Geomorphic Position (D2)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Water Table Present?  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)	Geomorphic Position (D2) FAC-Neutral Test (D5)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Ves No  Depth (inches):  Saturation Present?  Ves No  Depth (inches):  Wet	Geomorphic Position (D2)
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No  Depth (inches):  Saturation Present?  (includes capillary fringe)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)	Geomorphic Position (D2) FAC-Neutral Test (D5)  cland Hydrology Present? Yes No •
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Ves No  Depth (inches):  Saturation Present?  Ves No  Depth (inches):  Wet	Geomorphic Position (D2) FAC-Neutral Test (D5)  cland Hydrology Present? Yes No •
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5) Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9)  Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Pepth (inches):	Geomorphic Position (D2) FAC-Neutral Test (D5)  cland Hydrology Present? Yes No •
Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No  Depth (inches):  Saturation Present?  (includes capillary fringe)  Recent Iron Reduction in Tilled Soils (C6)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)	Geomorphic Position (D2) FAC-Neutral Test (D5)  cland Hydrology Present? Yes No •

Project/Site: Amtrak Hiawatha		City/	/County:	Milwaukee/M	iilwaukee	Sampling Date: 24-Sep-15
Applicant/Owner: WisDOT				State:	Samplir	ng Point: SP-10 wtd
Investigator(s): Mike Al-wathiqui, Geof F	Parish	Se	ection, Towr	nship, Range:	s 32 T 6N	R 22E
Landform (hillslope, terrace, etc.): Toes	slope			Local relief (c	concave, convex, none): co	oncave
Slope: 0.0% / 0.0 ° Lat.:			Long.:			Datum:
Soil Map Unit Name: Morley silt loam		(MzdB) not hy			WWI classificati	ion: None
Are climatic/hydrologic conditions on the			No O	(If no, ex	cplain in Remarks.)	None
Are Vegetation , Soil		significantly distu	urbed?	Are "No	· ormal Circumstances" preser	nt? Yes ● No ○
Are Vegetation , Soil ,		naturally problem			ded, explain any answers in	
SUMMARY OF FINDINGS - A	, , , , , , , , , , , , , , , , , , , ,			•		,
Hydrophytic Vegetation Present?	Yes   No					
Hydric Soil Present?	Yes ● No ○			e Sampled A in a Wetland		
Wetland Hydrology Present?	Yes ● No ○		Within	IN a Weuanu	I? Yes ● No ○	
Remarks:						
WETS analysis found conditions to extends east of the study area. All  VEGETATION - Use scie	I three of the criteria are	met indicating		s area is a we		
_Tree Stratum (Plot size: 30' r		Absolute	Rel.Strat.	Indicator	Dominance Test works	sheet:
	,	<b>% Cover</b> 0	<b>Cover</b> 0.0%	Status	Number of Dominant Spe	
1. 2.			0.0%		That are OBL, FACW, or I	FAC:1(A)
3.		ο Γ	0.0%		Total Number of Domina Species Across All Strata:	
4.		·	0.0%		Species Across Air Julia.	<u> </u>
5.		0	0.0%		Percent of dominant S	
			= Total Cove	er/er	That Are OBL, FACW,	Or FAC:
Sapling/Shrub Stratum (Plot size: 15	<u>5' r</u> )	_	<b>-</b>		Prevalence Index work	
1			0.0%		Total % Cover o	
2. 3.		0 [	0.0%			0
4.		0	0.0%		-	$\begin{array}{ccc} 125 & x & 2 & = & 250 \\ 0 & x & 3 & = & 0 \end{array}$
5.		0 [				
-			= Total Cove	– ver	UPL species	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Herb Stratum (Plot size: 5' r	)		_			
1. Phalaris arundinacea			80.0%		-	125 (A) <u>250</u> (B)
Juncus torreyi     Solidago sempervirens			16.0% 4.0%	FACW FACW	Prevalence Index	= B/A = <u>2.000</u>
4.		0	0.0%	_ FACVV	Hydrophytic Vegetation	
5.		0	0.0%			lydrophytic Vegetation
6.		0 [	0.0%		2 - Dominance Test	
7.		0	0.0%		<b>✓</b> 3 - Prevalence Inde	
8.		0	0.0%			Adaptations <sup>1</sup> (Provide supporting on a separate sheet)
9.		_ 0	0.0%			phytic Vegetation <sup>1</sup> (Explain)
10.			0.0%		_ , .	. , ,
_Woody Vine Stratum_ (Plot size: 30'	r )	125=	= Total Cove	er er		soil and wetland hydrology must turbed or problematic.
1.		0	0.0%			
2.		0	0.0%		Hydrophytic	
			= Total Cove	/er	Vegetation Present? Yes	● No ○
Remarks: (Include photo numbers	s here or on a separate s	heet.)				
This is a fresh (wet) meadow dom	ninated by a monotypic s	tand of reed C	Canary Gra	ass. The veg	etation criterion is met.	

SOIL Sampling Point: SP-10 wtd

Profile Descr	intion: (Des	cribe to t	the depth nee	ded to d	ocument	the indic	cator or co	nfirm the	absence of indicators.)	
		Matrix	ane department	aca to a		ox Featu			auscince of maleutoroly	
Depth (inches)	Color (n		%	Color (n		<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR	3/2	80	10YR	6/8	10	С	М	Silty Clay	
				10YR	4/1	10		М		
		4/2							Cile Class	
6-14	10YR	4/3		10YR	4/1	20	D	M	Silty Clay	
				10YR	5/6	20	C	M		
						-		-		
1 Type: C=Cond	centration D	=Depletion	RM=Reduced	I Matrix C	S=Covered	d or Coate	ed Sand Grai	ns		triy
Hydric Soil I	· · · · · · · · · · · · · · · · · · ·	-Берісцої	i, Ri i–Reduced	Triddix, C	5-covered	or coun	ca Sana Gra			
Histosol (				Sand	dy Gleyed I	Matriy (S4	1)		Indicators for Problematic	: Hydric Soils 3:
. – `	pedon (A2)			_	dy Redox (	-	1)		Coast Prairie Redox (A16)	)
☐ Black Hist	, ,			_	ped Matrix	•			Dark Surface (S7)	
Hydrogen	Sulfide (A4)			_ `	ny Mucky I	. ,	=1\		Iron Manganese Masses (	F12)
Stratified	Layers (A5)					•	•		☐ Very Shallow Dark Surface	e (TF12)
2 cm Muc	k (A10)				ny Gleyed		۷)		Other (Explain in Remarks	s)
Depleted	Below Dark S	urface (A1	.1)		leted Matri					•,
I — ·	k Surface (A1	•	,		ox Dark Su	-	-		2	
	ck Mineral (S	,			leted Dark	•			<sup>3</sup> Indicators of hydrophytic v	
	ky Peat or Pe	•		☐ Red	ox Depress	sions (F8)			wetland hydrology must unless disturbed or pro	
Restrictive La									<u> </u>	
Type:	.,c. ( oboc	z. vea j.								
Depth (incl	nes):								Hydric Soil Present? Ye	s • No O
Remarks:	103)1			_						
·		·				ŕ				
HYDROLO	GY									
Wetland Hyd	rology India	cators:								
			is required; che	ck all that	apply)				Secondary Indicators (r	minimum of two required)
Surface W			<u> </u>		ater-Staine	d Leaves	(B9)		Surface Soil Cracks	
	er Table (A2)				uatic Faun		()		Drainage Patterns (	` '
✓ Saturation					ue Aquatic		314)		☐ Dry Season Water <sup>-</sup>	•
Water Ma	` '				/drogen Su				Crayfish Burrows (C	
	Deposits (B2)	)			_		on Living R	nots (C3)		n Aerial Imagery (C9)
Drift Depo		,			esence of I			.0013 (C3)	Stunted or Stressed	
	or Crust (B4)						n in Tilled So	ils (C6)	✓ Geomorphic Positio	` '
Iron Depo					nin Muck Su			113 (CO)	FAC-Neutral Test (	
	n Visible on A	erial Imag	iery (R7)			-	•		TAC Neutral Test (L	75)
	egetated Cor	_			auge or We	-	-			
Sparsely \	regetated Col	ilcave Sui i	ace (DO)		her (Explai	in in Kem	arks)			
Field Observ	ations									
Surface Water		Yes	O No ●	ſ	Depth (inch	nes).				
Water Table P		Yes					11	-		
				L	Depth (inch	nes):	11	Wet	land Hydrology Present? Y	′es ● No O
Saturation Pre- (includes capil		Yes	● No ○	[	Depth (inch	nes):	10	-	, .,,	
Describe Rec	orded Data	(stream	gauge, monit	oring we	ell, aerial <sub>l</sub>	photos,	previous in	spection	s), if available:	
Remarks:										
A water table	e is present	at 11" w	ith saturation	at 10".	Multiple s	econdar	y hydrolog	y indicat	ors are present as well. The cri	terion is met.
					-					

Project/Site: Amtrak Hiawatha			Cit	y/County:	Milwaukee/M	1ilwaukee		Sampling Dat	e:24-Sep-15
Applicant/Owner: WisDOT					State:	WI	Samplir	ng Point:	SP-11 upl
Investigator(s): Mike Al-wathiqui, Geof F	'arish		S	Section, Tow	nship, Range:	s 32	T 6N	R 22E	
Landform (hillslope, terrace, etc.): Hillsio	le				Local relief (c	concave, conv	ex, none): C	onvex	
Slope: 20.0% / 11.3 ° Lat.:				Long.:				Datum:	
Soil Map Unit Name: Morley silt loam		nt slones (	MzdB) not l			W	VWI classificati	ion: None	
Are climatic/hydrologic conditions on the				● No ○	(If no, ex	xplain in Rema		None	
Are Vegetation 🗸 , Soil	, or Hydrology		ignificantly dist	turbed?	Are "No	· ormal Circums	stances" prese	nt? Ye	es • No O
Are Vegetation , Soil	, or Hydrology	<b>✓</b> n	aturally proble	matic?			any answers in		
SUMMARY OF FINDINGS - A	. ,				-		-	-	res, etc.
Hydrophytic Vegetation Present?	Yes   N	0 0							
Hydric Soil Present?	Yes O N	o			ne Sampled <i>A</i> nin a Wetland		○ No ●		
Wetland Hydrology Present?	Yes O N	o				103	C 110 C		
WETS analysis found conditions to due to planted Kentucky Blue Gras  VEGETATION - Use scie	s, but the soils	s and lack	of hydrology	Dominant Species?	hat this area	is upland.	e Amtrak sta		etation criterion is met
<u>Tree Stratum</u> (Plot size: 30' r	)		Absolute % Cover	Cover	. Indicator Status				
1			0	0.0%			Dominant Spe BL, FACW, or		1(A)
2			0	0.0%		Total Numb	har of Domina	nt	
3				0.0%			ber of Domina ross All Strata:		1(B)
4 5.				0.0%		Dawa and a	£ -l:	D	
J				0.0%			f dominant S OBL, FACW,		100.0% (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size: 15	'r )		0	= Total Cov	ver	Drovelone	e Index work	rahaat.	
1.			0	0.0%			al % Cover o		bly by:
2.			0	0.0%		OBL spe		0 x1=	
3.			0	0.0%		FACW sp		0 x 2 =	
4.			0	0.0%		FAC spec		100 x 3 =	= 300
5				0.0%		FACU sp	ecies	2 x 4 =	=8
Herb Stratum (Plot size: 5' r	)		0	= Total Cov	ver	UPL spec	cies	0 x 5 =	=0
1. Poa pratensis			100	98.0%	FAC	Column	Totals:	102 (A)	308 (B)
2. Cirsium arvense			2	2.0%	FACU	Preva	alence Index	= B/A =	3.020
3			0	0.0%				n Indicators:	
4			0	0.0%		1	-	n maicators. Tydrophytic Ve	egetation
5				0.0%		I — '	minance Test		
6. 7.				0.0%		l	valence Inde		
8.			0 0			4 - Moi	rphological A	Adaptations 1	(Provide supporting
9.			0	0.0%		_		on a separate	-
10.			0	0.0%		Proble	matic Hydro	phytic Vegetat	cion <sup>1</sup> (Explain)
(2)	,		102	= Total Cov	ver	1 Indicate	ors of hydric	soil and wetla turbed or prob	nd hydrology must
Woody Vine Stratum (Plot size: 30' r						be presen	t, uniess ais	turbea or prob	iematic.
1				0.0%		Hydrophy	rtic		
2						Vegetation Present?		● No ○	
			0	= Total Cov	ver	Present?	103	- NO -	
Remarks: (Include photo numbers	here or on a s	separate s	heet.)						
This area is part of the manicured				minated by	y planted Ke	ntucky Blue	Grass. The	vegetation crit	erion is met, but the
soils and lack of hydrology indicate						-			

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

SOIL Sampling Point: SP-11 upl

	-		or committee	e absence of indicators.)	
Depth Matrix (inches) Color (moist) 9	Color (moist)	ox Features _%Tv	pe 1 Loc²		Remarks
	00		<u> </u>	Silt Loam	Remarks
				_	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM:	=Reduced Matrix, CS=Covered	d or Coated Sa	nd Grains.	Location: PL=Pore Lining. M=Matrix.	
Hydric Soil Indicators:				Indicators for Problematic Hyd	dric Soils <sup>3</sup> :
Histosol (A1)	Sandy Gleyed	Matrix (S4)		_	
Histic Epipedon (A2)	Sandy Redox (	S5)		Coast Prairie Redox (A16)	
Black Histic (A3)	Stripped Matrix	(S6)		Dark Surface (S7)	
Hydrogen Sulfide (A4)	Loamy Mucky	Mineral (F1)		☐ Iron Manganese Masses (F12)	
Stratified Layers (A5)	Loamy Gleyed	Matrix (F2)			12)
2 cm Muck (A10)	Depleted Matri			Other (Explain in Remarks)	
Depleted Below Dark Surface (A11)	Redox Dark Su	ırface (F6)			
Thick Dark Surface (A12)	Depleted Dark	Surface (F7)		<sup>3</sup> Indicators of hydrophytic vegeta	ation and
Sandy Muck Mineral (S1)	Redox Depress	sions (F8)		wetland hydrology must be p	
5 cm Mucky Peat or Peat (S3)	·	. ,		unless disturbed or problem	natic.
Restrictive Layer (if observed):					
Type: <u>compact gravel</u>					
Depth (inches): 12				Hydric Soil Present? Yes	No 💿
Remarks:					
soil indicators. The criterion is not met			idii 12 . Howe	ver, the profile is deep enough to di	iscount any nyunc
soli indicators. The chieforns not med			an 12 . Howe	ver, the profile is deep enough to di	iscount any nyunc
				ver, the profile is deep enough to di	iscount any nyunc
	<u> </u>			ver, the profile is deep enough to di	iscount any nyunc
HYDROLOGY				Secondary Indicators (minim	
HYDROLOGY Wetland Hydrology Indicators:	uired; check all that apply)	ed Leaves (B9)			num of two required)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required)	uired; check all that apply)	ed Leaves (B9)		Secondary Indicators (minim	num of two required)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required in the surface Water (A1)	uired; check all that apply)    Water-Staine   Aquatic Faur	ed Leaves (B9)		Secondary Indicators (minim	num of two required)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required in the second in the seco	uired; check all that apply)    Water-Staine   Aquatic Faur	ed Leaves (B9) na (B13)		Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10)	num of two required)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required in the second in the seco	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su	ed Leaves (B9) na (B13) Plants (B14)		Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8)	num of two required) (C2)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required in the surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi	ed Leaves (B9) na (B13) Plants (B14)	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8)	num of two required)  (C2) rial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of	ed Leaves (B9) na (B13) Plants (B14) ulfide Odor (C1) zospheres on L	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer	(C2) rial Imagery (C9)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron	ed Leaves (B9) Ia (B13) Plants (B14) Iffide Odor (C1) Zospheres on L Reduced Iron ( Reduction in Ti	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan	(C2) rial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required by 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)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck S	ed Leaves (B9) la (B13) Plants (B14) lifide Odor (C1) zospheres on L Reduced Iron ( Reduction in Ti urface (C7)	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2	(C2) rial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We	ed Leaves (B9) la (B13) Plants (B14) lifide Odor (C1) zospheres on L Reduced Iron ( Reduction in Ti urface (C7)	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2	(C2) rial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required by 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 (Bath Imagery	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We	ed Leaves (B9) In (B13) I Plants (B14) Ilfide Odor (C1) Zospheres on L Reduced Iron ( Reduction in Ti urface (C7) Ill Data (D9)	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2	(C2) rial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required by 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 (Image)  Sparsely Vegetated Concave Surface (Image)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S B7) Gauge or We B8) Other (Expla	ed Leaves (B9) Ia (B13) Plants (B14) Ilfide Odor (C1) Zospheres on L Reduced Iron ( Reduction in Ti urface (C7) Ill Data (D9) In in Remarks)	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2	(C2) rial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required by 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 (Isolated Concave Surface (Isolated Concav	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We B8)  Other (Expla	ed Leaves (B9) Ia (B13) Plants (B14) Ilfide Odor (C1) Zospheres on L Reduced Iron ( Reduction in Ti urface (C7) Ill Data (D9) In in Remarks)	) iving Roots (C3)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2	(C2) rial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required 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 (Incomplete Sparsely Vegetated Concave Surface (Incomplete Sparsely Vegetated Concave Sparsely Veg	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S B7) Gauge or We B8) Other (Expla	ed Leaves (B9) In (B13) I Plants (B14) Ilfide Odor (C1) Zospheres on L Reduced Iron ( Reduction in Ti urface (C7) Illi Data (D9) In in Remarks) Ines):	) iving Roots (C3) C4) Iled Soils (C6)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2 FAC-Neutral Test (D5)	(C2) rial Imagery (C9) rts (D1)
HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required by 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 (Image) Sparsely Vegetated Concave Surface (Image)  Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck S B7) Gauge or We B8)  No Depth (incl	ed Leaves (B9) ha (B13) Plants (B14) elfide Odor (C1) zospheres on L Reduced Iron ( Reduction in Ti urface (C7) ell Data (D9) in in Remarks) mes):	) iving Roots (C3) C4) Iled Soils (C6)	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2	(C2) rial Imagery (C9) rts (D1)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required in primary Indicators)  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 (Image)  Sparsely Vegetated Concave Surface (Image)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  Saturation Present?  (includes capillary fringe)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We B8)  Other (Expla	ed Leaves (B9) na (B13) Plants (B14) Ilfide Odor (C1) zospheres on L Reduced Iron ( Reduction in Ti urface (C7) ell Data (D9) in in Remarks) nes): nes):	iving Roots (C3) C4) Iled Soils (C6)	Secondary Indicators (minimal Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2 FAC-Neutral Test (D5)	(C2) rial Imagery (C9) rts (D1)
HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required by 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 (Image) Sparsely Vegetated Concave Surface (Image)  Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We B8)  Other (Expla	ed Leaves (B9) na (B13) Plants (B14) Ilfide Odor (C1) zospheres on L Reduced Iron ( Reduction in Ti urface (C7) ell Data (D9) in in Remarks) nes): nes):	iving Roots (C3) C4) Iled Soils (C6)	Secondary Indicators (minimal Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2 FAC-Neutral Test (D5)	(C2) rial Imagery (C9) rts (D1)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required by 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 (IIII)  Sparsely Vegetated Concave Surface (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We B8)  Other (Expla	ed Leaves (B9) na (B13) Plants (B14) Ilfide Odor (C1) zospheres on L Reduced Iron ( Reduction in Ti urface (C7) ell Data (D9) in in Remarks) nes): nes):	iving Roots (C3) C4) Iled Soils (C6)	Secondary Indicators (minimal Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2 FAC-Neutral Test (D5)	(C2) rial Imagery (C9) rts (D1)
HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in 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 (I) Sparsely Vegetated Concave Surface (I)  Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? (includes capillary fringe)	uired; check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen Su Oxidized Rhi Presence of Recent Iron Thin Muck St Gauge or We B8)  Other (Expla	ed Leaves (B9) la (B13) Plants (B14) Iffide Odor (C1) Zospheres on L Reduced Iron ( Reduction in Ti urface (C7) lell Data (D9) in in Remarks)  hes): hes): hes): hes):	iving Roots (C3) C4) Illed Soils (C6)  We ous inspection	Secondary Indicators (minim Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table Crayfish Burrows (C8) Saturation Visible on Aer Stunted or Stressed Plan Geomorphic Position (D2 FAC-Neutral Test (D5)	(C2) rial Imagery (C9) rists (D1) 2)  No   No

Project/Site: Amtrak Hiawatha			Cit	y/County:	Milwaukee/M	lilwaukee	Sampling D	ate: 24-Sep-15
Applicant/Owner: WisDOT					State:	WI	Sampling Point:	SP-12 wtd
Investigator(s): Mike Al-wathiqui, Geof Pa	arish		5	Section, Towr	nship, Range:	S 32 T	6N R 22E	
Landform (hillslope, terrace, etc.): Toeslo					Local relief (c	oncave, convex, nor		
Slope:20.0%/11.3_ ° Lat.:	<u>'</u>			Long.:		•	Datum:	
		lance (M				WWI cla	assification: None	
Soil Map Unit Name: Morley silt loam,  Are climatic/hydrologic conditions on the si				No O	(If no ex	www cia plain in Remarks.)	ISSITICATION: NOTIE	
			nificantly dist		• •		"	Yes   No
	, or Hydrology	_ ,	,			ormal Circumstances'	p. coc	ies 🕔 ino 🔾
Are Vegetation	, or Hydrology tach site ma		urally proble ing samr			ded, explain any ans	•	tures etc.
	Yes  No		my same			15, transces,	Important rea-	
Hydrophytic Vegetation Present?	Yes No	_		Is the	e Sampled A			
Hydric Soil Present?	Yes No			withi	in a Wetland	l? Yes 💿 No	, 🔾	
Wetland Hydrology Present?	Yes 😇 INU	$\overline{}$						
Remarks: This appears to to be a constructed	l stormwater fe	atura Hov	vover all t	hroo critori:	a are met in:	dicating that this :	area is wetland W	otland ID: W-5
This appears to to be a constructed	Storniwater rea	ature. 110v	/evei, aii u	Afee Cincin	a are mec m	alcauliy ulaculis d	area is wedanu. vv	ellanu id. w-s.
<b>VEGETATION -</b> Use scien	itific names	of plant	5.	Dominant				
(51					Indicator	Dominance Test	t worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r	)		% Cover	Cover	Status	Number of Domin		
1				0.0%		That are OBL, FAC	CW, or FAC:	1(A)
2. 3.			0 0	0.0%		Total Number of D		. (5)
4.			0	0.0%		Species Across All	Strata:	1(B)
5.			0	0.0%		Percent of domi	inant Species	
			0	= Total Cove	 /er	That Are OBL, F		100.0% (A/B)
_Sapling/Shrub Stratum (Plot size: 15'	r )			- 1000		Prevalence Inde	worksheet:	
1.			0	0.0%		Total % C		tiply by:
2.			0	0.0%		OBL species	5 x 1	
3.			0	0.0%		FACW species		
4.			0	0.0%		FAC species		
5.			0	0.0%		FACU species	10 x 4	ł = <u>40</u>
_Herb Stratum_(Plot size: 5' r	)		0	= Total Cove	⁄er	UPL species	0 x 5	5 = 0
1 Juncus tenuis	—′		50	<b>✓</b> 57.5%	FAC	Column Totals:	:: 87 (A)	) 244 (B)
2. Erigeron annuus			10	11.5%	FACU			<del></del>
3. Euthamia graminifolia			10	11.5%			Index = B/A =	2.805_
4. Carex vulpinoidea			5	5.7%	FACW		getation Indicators	
5. Plantago major			5	5.7%	FAC		st for Hydrophytic	/egetation
6. Scirpus atrovirens			5	5.7%	OBL		ce Test is > 50%	
7. Verbena hastata			2	2.3%	FACW		ce Index is ≤3.0 1	1 (3
8.			0	0.0%			ogical Adaptations arks or on a separa	<sup>1</sup> (Provide supporting ite sheet)
9. 10.				0.0%			Hydrophytic Veget	•
10				0.0%		<sup>1</sup> Indicators of I	hydric soil and wet	land hydrology must
Woody Vine Stratum (Plot size: 30' r	)		87	= Total Cove	⁄er		ess disturbed or pro	
1.			_0_	0.0%				
2.			0	0.0%		Hydrophytic Vegetation		
			0	= Total Cove	/er	Present?	Yes   No	
Remarks: (Include photo numbers h	nere or on a se	parate she	et.)					
This is a fresh (wet) meadow. The	vegetation crite	erion is me	t.					

SOIL Sampling Point: SP-12 wtd

Drefile Descri	rintian. (Da	aniba ta 1			la a	Abo indi		meium tha	sheepes of indicators )	0. 12
	ription: (Des		tne aeptn n	eeaea to a				ntirm the	absence of indicators.)	
Depth (inches)	Color (ı	Matrix	%	Color (ı		ox Featu _%	res	Loc2	Texture	Remarks
				Coloi (I	IIIOISLI		Туре	LUC-	Silt Loam	Remarks
0-3	10YR	3/2	100							
3-5	10YR	4/2	60	10YR	6/8	10	C	M	Silty Clay Loam	
	10YR	4/3	30						_	
5-12	10YR	4/3	60	10YR	6/8	10	С	М	Silty Clay	
-	10YR	4/2	30			-				
-						-				
<sup>1</sup> Type: C=Con	centration, D	=Depletion	n, RM=Reduc	ed Matrix, (	CS=Covere	d or Coate	ed Sand Gra	ins.	Location: PL=Pore Lining. M	=Matrix.
Hydric Soil 1		•	•							
Histosol (				San	dy Gleyed	Matrix (Se	4)		Indicators for Problen	natic Hydric Solis :
· - ·	pedon (A2)				idy Redox (	-	.,		Coast Prairie Redox (	A16)
☐ Black Hist				_	pped Matrix				Dark Surface (S7)	
Hydrogen	Sulfide (A4)				my Mucky	. ,	=1\		☐ Iron Manganese Mas	ses (F12)
Stratified	Layers (A5)				my Gleyed	•	•		☐ Very Shallow Dark Su	ırface (TF12)
2 cm Muc	ck (A10)				oleted Matri	-	۷)		Other (Explain in Ren	narks)
<b>✓</b> Depleted	Below Dark S	Surface (A1	.1)		lox Dark Su	. ,	`			•
☐ Thick Dar	k Surface (A1	2)				•	•		3 Indicators of hydrophy	
Sandy Mu	ıck Mineral (S	51)			oleted Dark		. ,		Indicators of hydrophy wetland hydrology	
5 cm Muc	ky Peat or Pe	eat (S3)		∟ кес	lox Depress	sions (F8)	1		unless disturbed o	
Restrictive L	aver (if obs	erved):								
Type:	.,	,								
Depth (inc	hes):								Hydric Soil Present?	Yes   No
Remarks:							_			
The hydric so	oil criterion i	s met by	indicator A	11 (Deplet	ted Below	Dark Su	ırface).			
HYDROLO	OGY									
Wetland Hyd	lrology Indi	cators:								
Primary Indica	ators (minimu	ım of one i	is required; c	heck all tha	t apply)				Secondary Indicato	rs (minimum of two required)_
Surface V	Vater (A1)			□ w	/ater-Staine	ed Leaves	(B9)		Surface Soil Cra	acks (B6)
High Wat	er Table (A2)				quatic Faur		,		☐ Drainage Patte	
Saturation	n (A3)				rue Aquatio		314)		☐ Dry Season Wa	iter Table (C2)
Water Ma					ydrogen Su	-	•		Crayfish Burrov	` '
	Deposits (B2	2)					s on Living F	Roots (C3)		ple on Aerial Imagery (C9)
Drift Depo	-	,			resence of		_	(,		essed Plants (D1)
	or Crust (B4)	)					n in Tilled So	oils (C6)	✓ Geomorphic Po	
☐ Iron Depo		•			hin Muck S			J5 (66)	FAC-Neutral Te	
	n Visible on A	Aerial Imag	iery (B7)		auge or We	•	•		The neutral re	SC (55)
	Vegetated Co	_			_	-	-			
эригэсгу	vegetatea eo	ricave Suri	acc (bo)		ther (Expla	III III Keiii	idi KS)			
Field Observe										
Field Observ		Yes	O No @		Donth (incl	200):				
Surface Water					Depth (incl	ics):		-		
Water Table P	resent?	Yes	O No (	<b>9</b>	Depth (incl	nes):		_   ,	dand Dudu-Lange 12	Yes   No
Saturation Pre		Yes	O No @	)	Depth (incl	nes):		Wet	land Hydrology Present?	IES UNU U
(includes capil							nrevious ir	nenection	s), if available:	
Describe Ket	Joinea Dala	(su call)	gauge, IIIO	morning We	un, actial	priotos,	PI CVIOUS II	ispection:	o), ii avaiiabic.	
<u> </u>										
Remarks:										
Multiple seco	ondary hydr	ology ind	icators are	present. T	he criterio	on is me	t.			

Project/Site: Amtrak Hiawatha		Ci	ity/County:	Milwaukee/M	lilwaukee	Sampling Date: 24-Sep-:	15
Applicant/Owner: WisDOT				State:	_WISan	mpling Point: SP-13 upl	
Investigator(s): Mike Al-wathiqui, Geof P	arish		Section, Tow	vnship, Range:	s 32 T 6N	R 22E	
Landform (hillslope, terrace, etc.): Foots	lope			Local relief (o	oncave, convex, none):	: convex	
Slope:10.0%/5.7° Lat.:			Long.:			Datum:	
Soil Map Unit Name: Morley silt loam		slones (MzdB) not				fication: None	
Are climatic/hydrologic conditions on the s			No	(If no, ex	plain in Remarks.)	None	
Are Vegetation 🗸 , Soil	, or Hydrology	significantly dis	sturbed?		· ormal Circumstances" pr	resent? Yes • No •	
Are Vegetation , Soil .	, or Hydrology	✓ naturally proble			ded, explain any answer		
SUMMARY OF FINDINGS - A		,,		•		,	
Hydrophytic Vegetation Present?	Yes O No	•					
Hydric Soil Present?	Yes O No			he Sampled A			
Wetland Hydrology Present?	Yes O No		With	nin a Wetland	l? Yes O No 🧐	•	
Remarks:							
WETS analysis found conditions to area is upland.  VEGETATION - Use scien			Dominant	t	awn. None of the thr	ee criteria are met indicating that	t this
				Indicator	Dominance Test we	orksheet:	
<u>Tree Stratum</u> (Plot size: 30' r	)	% Cover	Cover	Status	Number of Dominant		
1			0.0%		That are OBL, FACW,	, or FAC:1 (A	1)
2. 3.		0	0.0%		Total Number of Dom		
Δ			0.0%		Species Across All Str	rata: <u>2</u> (B	3)
5.			0.0%		Percent of domina	int Species	
			= Total Cov		That Are OBL, FAC		A/B)
_Sapling/Shrub Stratum (Plot size: 15'	r)		*		Prevalence Index w	worksheet:	
1.			0.0%		Total % Cov		
2.		0	0.0%		OBL species	0 x 1 = 0	
3.		0	0.0%		FACW species	0 x 2 = 0	
4			0.0%		FAC species	102 x 3 = 306	
5			0.0%		FACU species	32 x 4 = 128	
_Herb Stratum_(Plot size: 5' r	)	0	= Total Cov	ver	UPL species	<u>1</u> x 5 = <u>5</u>	
1. Poa pratensis		100	<b>✓</b> 74.1%	FAC	Column Totals:	135 (A)439 (B)	)
2 =			22.2%		Prevalence Inc		
2 51			1.5%			·	
4. Sonchus arvensis		2	1.5%	FACU	Hydrophytic Vegeta	ation Indicators: for Hydrophytic Vegetation	
5. Daucus carota		1	0.7%	UPL	2 - Dominance	, , , ,	
6.			0.0%		3 - Prevalence I		
7			0.0%			Index is ≤3.0 ° cal Adaptations ¹ (Provide suppor	
8. 9.			0.0%_			cal Adaptations + (Provide suppor is or on a separate sheet)	ting
10.			0.0%		Problematic Hye	drophytic Vegetation <sup>1</sup> (Explain)	
10		0_			<sup>1</sup> Indicators of hyd	dric soil and wetland hydrology m	ust
Woody Vine Stratum (Plot size: 30' r	)	135	= Total Cov	ver		disturbed or problematic.	<b>u</b> o.
1.			0.0%				
2.		0	0.0%		Hydrophytic Vegetation		
		0	= Total Cov	ver	Present? Ye	es O No 💿	
_							
Remarks: (Include photo numbers	here or on a sep	parate sheet.)					
This area is part of a manicured law	wn. Despite a do	ominance of planted	Kentucky I	Blue Grass, tl	he vegetation criterio	on is not met.	

SOIL Sampling Point: SP-13 upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth		Matrix		Red	lox Featu			_			
(inches)	Color (ı	moist)	<u>%</u>	Color (moist)	%	Type 1	Loc <sup>2</sup>	Texture	Remarks		
0-5	10YR	3/2	100					Silty Clay Loam			
5-8	10YR	2/1	100					Sand	fill material		
8-14	10YR	5/6	100					Sand	gravel present		
							-				
				и-	-		_	-			
					-						
					-		-				
1.5		Danishia		- CC Course	1 C1	- 1 6 1 6		12- antiana DI Dana Lin	in a M. Makita		
Hydric Soil 1		=Depletion	i, RM=Reduce	d Matrix, CS=Covere	d or Coate	eu Sanu Grai	ns.	l²ocation: PL=Pore Lir			
Histosol (				Sandy Gleyed	Matrix (S	4)		Indicators for P	roblematic Hydric Soils <sup>3</sup> :		
· ·	pedon (A2)			Sandy Redox	-	7)		Coast Prairie Redox (A16)			
Black Hist				Stripped Matri				Dark Surface (S7)			
Hydrogen	Sulfide (A4)			Loamy Mucky	` '	=1)		☐ Iron Manganese Masses (F12)			
Stratified	Layers (A5)			Loamy Gleyed	•	•		☐ Very Shallow Dark Surface (TF12)			
2 cm Muc	k (A10)			Depleted Matr		-/		Other (Explain	in Remarks)		
Depleted	Below Dark S	Surface (A1	11)	Redox Dark Si	. ,	)					
Thick Dar	k Surface (A1	12)		Depleted Dark	•	•		3 Indicators of h	drophytic vagatation and		
Sandy Mu	ıck Mineral (S	51)		Redox Depres	`	,		Indicators of hydrophytic vegetation and wetland hydrology must be present,			
5 cm Muc	ky Peat or Pe	eat (S3)						unless distu	urbed or problematic.		
Restrictive L	ayer (if obs	erved):									
Type:								Hydric Soil Prese	nt? Yes ○ No ●		
Depth (inc	hes):							Hydric Soli Presei	nt? Yes O No 🖲		
Remarks:											
The soil profi	le is domina	ated by sa	and, gravel a	nd fill material. Th	ne hydric	soil criteri	on is not	met.			
LIVERGLA	NCV										
HYDROLO											
Wetland Hyd	• • •										
		ım of one	is required; ch	eck all that apply)					indicators (minimum of two required)		
	/ater (A1)			Water-Stain		(B9)			Soil Cracks (B6)		
	High Water Table (A2)			Aquatic Fauna (B13)				Dru Sessen Water Table (C3)			
Saturation (A3)			☐ True Aquatic Plants (B14) ☐ Hydrogen Sulfide Odor (C1)				☐ Dry Season Water Table (C2) ☐ Crayfish Burrows (C8)				
☐ Water Ma							(63)				
Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots (C3)						.00ts (C3)		on Visible on Aerial Imagery (C9)			
☐ Drift Depo				Presence of			:1- (CC)		or Stressed Plants (D1)		
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)						ils (C6)		rphic Position (D2)			
☐ Iron Depo		N 1 T	(DZ)	☐ Thin Muck S	-	-		☐ FAC-Nei	utral Test (D5)		
☐ Inundation Visible on Aerial Imagery (B7) ☐ Gauge or Well Data (D9) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Other (Explain in Remarks)											
Sparsely	vegetated Co	ilicave Suri	ace (Do)	U Other (Expla	in in Rem	iarks)					
Field Observ	ations:										
Surface Water		Yes	O No •	Depth (inc	hes):						
				, ,			-				
						Wet	land Hydrology Prese	ent? Yes O No 💿			
(includes capil		Yes	O No 💿	Depth (inc	hes):		-				
Describe Rec	orded Data	(stream	gauge, mon	itoring well, aerial	photos,	previous in	spection	s), if available:			
Remarks:											
There are no	indicators	of hydrol	ogy in this a	rea. The criterion i	is not me	et.					

Project/Site: Amtrak Hiawatha	City/County:	Milwaukee/M	ilwaukee Sampling Date: 24-Sep-15
Applicant/Owner: WisDOT		State:	WI Sampling Point: SP-14 wtd
Investigator(s): Mike Al-wathiqui, Geof Parish	Section, Town	nship, Range:	S 32 T 6N R 22E
Landform (hillslope, terrace, etc.): Toeslope		Local relief (c	oncave, convex, none): concave
Slope: 0.0% / 0.0 ° Lat.:	Long.:		 Datum:
			WWI classification: None
Soil Map Unit Name: Morley silt loam, 2 to 6 percent slop		(If no ex	plain in Remarks.)
Are climatic/hydrologic conditions on the site typical for this time  Are Vegetation , Soil , or Hydrology	or year.		
			milar directifications present.
Are Vegetation	, p	•	ded, explain any answers in Remarks.)
			is, transces, important reactives, etc.
	Is th	e Sampled A	rea
,		in a Wetland	
Wetland Hydrology Present? Yes   No			
WETS analysis found conditions to be slightly dryer that However, all three criteria are met indicating that this at <b>VEGETATION -</b> Use scientific names of p	plants.  Dominant Species?	9: W-6.	
_Tree Stratum_(Plot size: 30' r)	Absolute Rel.Strat. % Cover Cover	Indicator Status	Dominance Test worksheet:
1			Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2.	0 00/		
3	00.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4	00.0%		
5.	0 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
(0) 1 (1) 45 (1)	0 = Total Cov	er	That the obe, there, or the
Sapling/Shrub Stratum (Plot size: 15' r )			Prevalence Index worksheet:
1	0 0.0%		Total % Cover of: Multiply by:
3.	0 0.0%		OBL species $0 \times 1 = 0$
4.	0 0.0%		FACW species 34 x 2 = 68 FAC species 50 x 3 = 150
5.	0 0.0%		
(5)	0 = Total Cov	er	FACU species $0 \times 4 = 0$ UPL species $0 \times 5 = 0$
Herb Stratum (Plot size: 5' r )			
1, Juncus tenuis	5059.5%	_ FAC	Column Totals: <u>84</u> (A) <u>218</u> (B)
2. Juncus torreyi	30 2 35.7%	FACW	Prevalence Index = $B/A = 2.595$
S. Phragmites australis     4. Euthamia graminifolia	2 2.4%	_ <u>FACW</u> FACW	Hydrophytic Vegetation Indicators:
5.		_ FACVV	✓ 1 - Rapid Test for Hydrophytic Vegetation
6.	0 0.0%		✓ 2 - Dominance Test is > 50%
7.	0 0.0%		<b>✓</b> 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0 0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9	0 0.0%		data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10.	0 0.0%		
Woody Vine Stratum (Plot size: 30' r )	84 = Total Cov	er	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0 0.0%		To proceeding amount and an arrangement of
1 2.	0 0.0%		Hydrophytic
<del></del> ;	0 = Total Cov		Vegetation Present?  Yes   No ○
		C1	
Remarks: (Include photo numbers here or on a separar This is a fresh (wet) meadow. The vegetation criterion	ŕ		

SOIL Sampling Point: SP-14 wtd

	puon: (Describ		needed to document	the maid	ator or cor		absence of indicators.)		
Depth Matrix Redox Features									
(inches)	Color (mois		Color (moist)	<u>%</u>	Type 1	Loc <sup>2</sup>	Texture	Remarks	
0-6		95	7.5YR 5/6	5	C	М	Sandy Clay Loam		
6-14	10YR 5	/6 100		-			Sand		
	<del></del> -			-					
				-					
		oletion, RM=Redu	iced Matrix, CS=Covere	d or Coate	ed Sand Grai	ns.	Legion: PL=Pore Lining. Ma	=Matrix.	
Hydric Soil In							Indicators for Problem	natic Hydric Soils <sup>3</sup> :	
Histosol (A:	•			Sandy Gleyed Matrix (S4)			Coast Prairie Redox (A16)		
Histic Epipe Black Histic			Sandy Redox (				Dark Surface (S7)		
	Sulfide (A4)		Stripped Matri	. ,			☐ Iron Manganese Masses (F12)		
Stratified La			Loamy Mucky	•	•		Very Shallow Dark Surface (TF12)		
2 cm Muck			Loamy Gleyed		2)				
	Below Dark Surface	ce (A11)	Depleted Matr	. ,			Uther (Explain in Remarks)		
	Surface (A12)	()	Redox Dark Su	•	•		2		
	ck Mineral (S1)		Depleted Dark	,	,		<sup>3</sup> Indicators of hydrophytic vegetation and		
	xy Peat or Peat (S	53)	Redox Depres	sions (F8)			wetland hydrology must be present, unless disturbed or problematic.		
	yer (if observe							<u>·</u>	
Type:	, (								
Depth (inche	es):						Hydric Soil Present? Yes ● No ○		
Remarks:							<u>I</u>		
			F6 (Redox Dark Surf	ace).					
			TO (NEUOX DAIN SUITA	ace).					
HYDROLO(	GY		o (Redux Daix Suin	ace).					
	GY rology Indicato	rs:	o (Redux Daix Suite	ace).					
Wetland Hydro	ology Indicato		check all that apply)	ace).			_Secondary Indicato	rs (minimum of two required)	
Wetland Hydro	rology Indicato tors (minimum of				(B9)		Secondary Indicato  Surface Soil Cra		
Wetland Hydro Primary Indicate Surface Wa High Water	rology Indicato tors (minimum of ater (A1) r Table (A2)		check all that apply)	ed Leaves	(B9)		Surface Soil Cra	ns (B10)	
Wetland Hydro Primary Indicate Surface Wa	rology Indicato tors (minimum of ater (A1) r Table (A2)		check all that apply)	ed Leaves na (B13)	. ,		Surface Soil Cra Drainage Patter Dry Season Wa	ncks (B6) rns (B10) ter Table (C2)	
Wetland Hydro Primary Indicate Surface Wa High Water	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3)		check all that apply)  Water-Staine Aquatic Faur	ed Leaves na (B13) c Plants (B	14)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow	ncks (B6) ns (B10) ter Table (C2) s (C8)	
Wetland Hydro Primary Indicate Surface Wa W High Water Saturation of Water Mark Sediment D	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)		check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St	ed Leaves na (B13) : Plants (B ulfide Odo (zospheres	s14) r (C1) s on Living R	oots (C3)	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib	ncks (B6) rns (B10) ter Table (C2) vs (C8) le on Aerial Imagery (C9)	
Wetland Hydro Primary Indicate Surface Wa  High Water Saturation ( Water Mark Sediment D Drift Depos	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)		check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of	ed Leaves na (B13) : Plants (B ulfide Odo izospheres Reduced I	i14) r (C1) s on Living R Iron (C4)		☐ Surface Soil Cra ☐ Drainage Patter ☐ Dry Season Wa ☐ Crayfish Burrow ✔ Saturation Visib ☐ Stunted or Stre	acks (B6) rns (B10) ter Table (C2) vs (C8) ele on Aerial Imagery (C9) ssed Plants (D1)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)		check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of	ed Leaves na (B13) : Plants (B ulfide Odo izospheres Reduced I	s14) r (C1) s on Living R		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos	rology Indicator tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	f one is required;	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduced I Reduction	i14) r (C1) s on Living R Iron (C4) n in Tilled So		☐ Surface Soil Cra ☐ Drainage Patter ☐ Dry Season Wa ☐ Crayfish Burrow ✔ Saturation Visib ☐ Stunted or Stre	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	f one is required;	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduced I Reduction urface (C7	s14) r (C1) s on Living R Iron (C4) n in Tilled So		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation	rology Indicator tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	f one is required;	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduction urface (C7 ell Data (D	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Primary Indicate Surface Wa High Water Saturation ( Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial egetated Concav	f one is required;	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or We	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduction urface (C7 ell Data (D	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Wetland Hydroman Primary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	rology Indicator tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial egetated Concav	f one is required; I Imagery (B7) e Surface (B8)	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or W	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduced i Reduction urface (C7 ell Data (E	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Primary Indicate Surface Wa High Water Saturation of Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	rology Indicator tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial egetated Concav	I Imagery (B7) e Surface (B8)	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or Wo Other (Explain	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduced i Reduction urface (C7 ell Data (E	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7)		Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Primary Indicate Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve	rology Indicator tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) I Visible on Aerial egetated Concav	f one is required; I Imagery (B7) e Surface (B8)	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or Wo Other (Explain	ed Leaves na (B13) : Plants (B ulfide Odo izospheres Reduced I Reduction urface (C7 ell Data (D in in Rem	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7)	ils (C6)	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	acks (B6) rns (B10) ter Table (C2) us (C8) ele on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation of Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve Field Observar Surface Water P Water Table Pressaturation Presse	rology Indicator tors (minimum of ater (A1) ar Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) for Crust (B4) sits (B5) a Visible on Aerial egetated Concavations:  Present? esent? ent?	I Imagery (B7) e Surface (B8)  Yes No (Yes No (No (No (No (No (No (No (No (No (No	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves na (B13) : Plants (B ulfide Odo zospheres Reduced Reduction urface (C7 ell Data (E lain in Rem hes):	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7) D9)	ils (C6)	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po	acks (B6) rns (B10) ter Table (C2) s (C8) le on Aerial Imagery (C9) ssed Plants (D1) sition (D2)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation of Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve Field Observat Surface Water P Water Table Pres Saturation Prese (includes capilla	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) a Visible on Aerial egetated Concav ations: Present? esent? ent? ary fringe)	I Imagery (B7) e Surface (B8)  Yes No (Yes Yes No (Yes No (Yes No (Yes No (Yes No (Yes Yes No (Yes No (Yes No (Yes Yes Yes No (Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves na (B13) : Plants (B ulfide Odo izospheres Reduced I Reduction urface (C7 ell Data (D in in Rem hes): hes):	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7) 09) arks)	Wet	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	acks (B6) rns (B10) ter Table (C2) us (C8) ele on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation of Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve Field Observat Surface Water P Water Table Pres Saturation Prese (includes capilla	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) a Visible on Aerial egetated Concav ations: Present? esent? ent? ary fringe)	I Imagery (B7) e Surface (B8)  Yes No (Yes Yes No (Yes No (Yes No (Yes No (Yes No (Yes Yes No (Yes No (Yes No (Yes Yes Yes No (Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves na (B13) : Plants (B ulfide Odo izospheres Reduced I Reduction urface (C7 ell Data (D in in Rem hes): hes):	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7) 09) arks)	Wet	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	acks (B6) rns (B10) ter Table (C2) us (C8) ele on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation of Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve Field Observat Surface Water P Water Table Pres Saturation Press (includes capilla) Describe Reco	rology Indicato tors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) a Visible on Aerial egetated Concav ations: Present? esent? ent? ary fringe)	I Imagery (B7) e Surface (B8)  Yes No (Yes Yes No (Yes No (Yes No (Yes No (Yes No (Yes Yes No (Yes No (Yes No (Yes Yes Yes No (Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves na (B13) : Plants (B ulfide Odo izospheres Reduced I Reduction urface (C7 ell Data (D in in Rem hes): hes):	s14) r (C1) s on Living R Iron (C4) n in Tilled So 7) 09) arks)	Wet	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	acks (B6) rns (B10) ter Table (C2) us (C8) ele on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)	
Wetland Hydro Primary Indicate Surface Wa High Water Saturation of Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve Field Observat Surface Water P Water Table Pre Saturation Prese (includes capilla Describe Reco	rology Indicator tors (minimum of ater (A1) ar Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) for Crust (B4) sits (B5) a Visible on Aerial egetated Concavantions:  Present?  esent?  ent?  enty fringe)  orded Data (str	I Imagery (B7) e Surface (B8)  Yes No (Yes No (Yes No (Yes No (Yes Ram gauge, mo	check all that apply)  Water-Staine Aquatic Faur True Aquatic Hydrogen St Oxidized Rhi Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves ha (B13) Plants (B lifide Odo zospheres Reduced I Reduction urface (C7 ell Data (D hes): hes): photos,	stat) r (C1) s on Living R Iron (C4) n in Tilled So 7) p9) arks)  6 4 previous in	Wet	Surface Soil Cra Drainage Patter Dry Season Wa Crayfish Burrow Saturation Visib Stunted or Stre Geomorphic Po FAC-Neutral Te	ricks (B6) rins (B10) ter Table (C2) ris (C8) rile on Aerial Imagery (C9) ssed Plants (D1) sition (D2) st (D5)  Yes  No	



# APPENDIX F Site Photographs



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



#### Photo #: 1

#### **Direction of View:**

\_

#### Comment:

Upland sample point SP-1 in upland U -3.



#### Photo #: 2

#### **Direction of View:**

\_

#### Comment:

Wetland sample point SP-2 in wetland W-1.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 3

**Direction of View:** 

North

Comment:

Wetland W-1, a fresh (wet) meadow at the base of the railroad embankment.



Photo #: 4

**Direction of View:** 

\_

Comment:

Upland sample point SP-3 in upland U -1.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 5

**Direction of View:** 

\_

Comment:

Wetland sample point SP-4 in wetland W-2C.



Photo #: 6

**Direction of View:** 

north

Comment:

Wetland W-2C Cattail marsh.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 8/24/2015



Photo #: 7

**Direction of View:** 

-

Comment:

Upland sample point SP-5 in upland U -1.



Photo #: 8

**Direction of View:** 

\_

Comment:

Wetland sample point SP-6 in wetland W-4.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 9

**Direction of View:** 

North

Comment:

Wetland W-4.



Photo #: 10

**Direction of View:** 

\_

Comment:

Upland sample point SP-7 in upland U



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 11

**Direction of View:** 

-

Comment:

Wetland sample point SP-8 in wetland W-3.



Photo #: 12

**Direction of View:** 

East

Comment:

Wetland W-4, a fresh (wet) meadow and shrub carr at the base of the railroad embankment.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 13

**Direction of View:** 

-

Comment:

Upland sample point SP-9 in upland U -2



Photo #: 14

**Direction of View:** 

\_

Comment:

Wetland sample point SP-10 in wetland W-2B.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 15

**Direction of View:** 

northeast

Comment:

Wetland W-2B, a fresh (wet) meadow dominated by reed Canary Grass and Phragmites.



Photo #: 16

**Direction of View:** 

\_

Comment:

Upland sample point SP-11 in upland U-3.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 17

**Direction of View:** 

-

Comment:

Wetland sample point SP-12 in wetland W-5.



Photo #: 18

**Direction of View:** 

northwest

Comment:

Overview of wetland W-5. This is likely an excavated stormwater feature, based on grading and historic aerials.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 19

**Direction of View:** 

-

Comment:

Upland sample point SP-13 in upland U-3.



Photo #: 20

**Direction of View:** 

\_

Comment:

Wetland sample point SP-14 in wetland W-6.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 21

**Direction of View:** 

south

Comment:

Overview of wetland W-6. This is possibly a graded stormwater feature.



Photo #: 22

**Direction of View:** 

north

Comment:

Upland U-4 south of Greenfield Avenue.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 23

**Direction of View:** 

south

Comment:

Upland U-4 south fo Greenfield Avenue on the east side of the railroad.



Photo #: 24

**Direction of View:** 

south

Comment:

Upland U-5, north of National Avenue.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 25

**Direction of View:** 

north

Comment:

Upland U-5, north of National Avenue.



Photo #: 26

**Direction of View:** 

west

Comment:

Upland U-6, east of 6th Street.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 27

**Direction of View:** 

east

Comment:

Upland U-6, east of 6th Street.



Photo #: 28

**Direction of View:** 

west

Comment:

Upland U-6.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 29

**Direction of View:** 

west

Comment:

Upland U-7.



Photo #: 30

**Direction of View:** 

east

Comment:

Upland U-7.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 31

**Direction of View:** 

west

Comment:

Upland U-8.



Photo #: 32

**Direction of View:** 

east

Comment:

Upland U-8.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 33

**Direction of View:** 

north

Comment:

Upland U-8 at the railroad river crossing.



Photo #: 34

**Direction of View:** 

west

Comment:

Upland U-8, east of the 16th street bridge.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 35

**Direction of View:** 

east

Comment:

Upland U-8, east of the 16th Street Bridge.



Photo #: 36

**Direction of View:** 

east

Comment:

Upland U-9, south of Canal Street.



Amtrak Hiawatha Milwaukee County, Wisconsin

Photos Taken by GRAEF on 8/13/2015 and 8/24/2015



Photo #: 37

**Direction of View:** 

west

Comment:

Upland U-10,.



Photo #: 38

**Direction of View:** 

east

Comment:

Upland U-10.



# **APPENDIX G**

# **Upland and Wetland Summary Tables**





		, ,														
Wetland ID	Size (Acres)	C-value	FQI vaue	Wetland Sample Point(s)	e Adjacent Upland Sample Point(s)		Wetland Plant Community Description(s)	Dominant Wetland Vegetation (Based on FQA or Determination Data Form)	Adjacent Upland Vegetation	Mapped Wetland Soil Type	Mapped Soils Hydric Classification †	Hydric Soil Field Indicator(s)	Hydrology Field Indicators	Comments on Apparent Connectivity to Surface Waters ‡	Comments on Boundary Determination	ADID Status
W-1	0.32	2.8	13.3	SP-2	SP-1	None	Shallow Marsh, Wet Meadow	Typha angustifolia, Typha X glauca	Elaegnus angustifolia, Coronilla varia	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non hydric	F6	A2, A3, D2, D5	None	Differences in vegetation soils and topography	No
W-2A, W-2B	0.22	2.6	11.6	SP-10	SP-9	None	Shallow Marsh, Wet Meadow	Phragmites australis, Typha angustifolia	Lotus corniculatus	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non Hydric	F6	A2, A3, D2, D5	Intermittent stream, ditch, and additional wetlands	Differences in vegetation , soils and hydrology	No
W-2C	0.32	2.6	9.4	SP-4	SP-3	None	Shallow Marsh, Shrub Carr	Sambucus nigra, Typha angustifolia	Solidago canadensis, Cornus racemosa	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non Hydric	F3	A3, C2, D2, D5	Intermittent stream, ditch, and additional wetlands	Differences in vegetation, soils and hydrology	No
W-3	0.17	3	12.7	SP-8	SP-7	None	Wet Meadow, Shrub Carr	Phalaris arundinacea, Typha angustifolia, Cornus racemosa	Rubus occidentalis, Cirsium arvense	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non Hydric	F6	D2, D5	None	Differences in vegetation, soils and hydrology	No
W-4	0.06	2.9	10.5	SP-6	SP-5	E1K	Wet Meadow, Shrub Carr	Sambucus nigra	Cirsium arvense, Cornus racemosa	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non Hydric	A11, F6	A2, A3, D2, D5	None	Differences in vegetation, soils and hydrology	No
W-5	0.17	3	9.9	SP-12	SP-11	None	Atypical (stormwater feature)	Phragmites australis	Poa pratensis	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non Hydric	A11	C9, D2	Likely a constructed stormwater feature	Differences in soils and hydrology	No
W-6	0.07	1.9	6	SP-14	SP-13	None	Atypical (stormwater feature)	Juncus tenuis, Juncus torreyi	Poa pratensis, Festuca rubra	Morley silt loam, 2 to 6 percent slopes (MzdB)	Non Hydric	F6	A2, A3, C9, D2, D5	Likely a constructed stormwater feature	Differences in vegetation, soils and hydrology	No

<sup>† &</sup>quot;Hydric" means that all components listed for a given map unit are rated as hydric. "Predominantly hydric" means components that comprise 66 to 99 percent of the map unit are rated as hydric. "Predominantly hydric" means components that comprise 66 to 99 percent of the map unit are rated as hydric. "Predominantly hydric" means components that comprise up to 33 percent of the map unit are rated as hydric. "Nonhydric" means that none of the components are rated as hydric or nonhydric in the underlying database. A "Not rated or not available" map unit rating is displayed when none of the components within a map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rating is displayed when none of the components of the map unit rate rated as hydric. "Predominantly hydric" means components that comprise up to 33 percent of the map unit are rated as hydric. "Predominantly hydric" means components that components that comprise of the map unit are rated as hydric. "Predominantly hydric" means components that components that components of the map unit are rated as hydric. "Predominantly hydric" means components that components that components of the map unit are rated as hydric. "Predominantly hydric" means components of the map unit are rated as hydric. "Predominantly hydric" means components of the map unit are rated as hydric. "Predominantly hydric" means components of the map unit are rated as hydric. "Predominantly hydric" means components of the map unit are rated as hydric. "Predominantly hydric" means components of the map unit are rated as hydric. "Predom

<sup>‡</sup> Comments on connectivity are the professional oppinion of the investigator based on general field observations at the time of the field wisit and occasionally map resources. The ability to evaluate connectivity in the field may often be limited by public ROW access and private land access limitations. These oppinions are not a juriscitional determination nor a significant nexus determination.





Upland ID	C-value	FQI vaue	Upland Community Description(s)	Characteristic Vegetation (Based on FQA)	General Comments
U-1	2.4	7.3	upland (weedy)	Cornus racemosa, Rhamnus cathartica	Weedy area, recently disturbed
U-2	2.8	10.3	upland (weedy)	Rhamnus cathartica	Weedy area, historically disturbed
U3	1.9	8	upland (weedy)	Frangula alnus, Solidago canadensis	Weedy area, likely historically disturbed, some areas of managed lawn
U-4	1.7	5.7	upland (weedy)	Daucus carota	Weedy area, historically disturbed
U-5	2.6	5.8	upland (weedy)	Rhamnus cathartica	Weedy area, historically disturbed
U-6	0.3	0.5	upland (weedy)	Centaurea biebersteinii, Daucus carota, Solidago canadensis	Weedy area, historically disturbed
U-7	2.6	7.4	upland (weedy)	Ambrosia artemisiifolia, Daucus carota	Weedy area, mostly concrete
U-8	1.4	4.3	upland (weedy)	Conyza canadensis, Daucus carota, Solidago canadensis	Weedy area, mostly gravel



**Table 4. Upland Summary Table** 

Upland ID	C-value	FQI vaue	Upland Community Description(s)	Characteristic Vegetation (Based on FQA)	General Comments
U-9	2.3	4.5	upland (weedy)	Centaurea biebersteinii, Solidago canadensis	Weedy area, mostly gravel
U-10	1	2.2	upland (weedy)	Daucus carota, Solidago canadensis	Weedy area, mostly gravel



# **APPENDIX H**

**Plants Lists** 



# **Natural Resource Review**

#### 2014-0041.39

8-13-2015

Plant Community ID: W-1 Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

<u>WisDOT</u> Shallow Marsh and Wet Meadow

<u>Eggers and Reed</u> Shallow Marsh and Fresh Meadow

Ambrosia artemisiifolia annual bur-sage  Ambrosia trifida giant ragweed  Cornus racemosa gray dogwood  Dipsacus laciniatus cut-leaved teasel  Eleocharis obtusa blunt spike-rush  Euthamia graminifolia grass-leaved goldenrod  Fraxinus pennsylvanica green ash  Juncus canadensis Canadian rush  Juncus tenuis path rush  Juncus torreyi Torrey's rush  Lycopus americanus  American water-horehound	FACU FAC  OBL FACW OBL FACW OBL FACW OBL OBL	0 0 2 3 4 2 7 1 4 4
□       Cornus racemosa       gray dogwood         □       Dipsacus laciniatus       cut-leaved teasel         □       Eleocharis obtusa       blunt spike-rush         □       Euthamia graminifolia       grass-leaved goldenrod         □       Fraxinus pennsylvanica       green ash         □       Juncus canadensis       Canadian rush         □       Juncus tenuis       path rush         □       Juncus torreyi       Torrey's rush	FAC  OBL  FACW  OBL  FACW  OBL  FACW  OBL	2 3 4 2 7 1 4
□       Dipsacus laciniatus       cut-leaved teasel         □       Eleocharis obtusa       blunt spike-rush         □       Euthamia graminifolia       grass-leaved goldenrod         □       Fraxinus pennsylvanica       green ash         □       Juncus canadensis       Canadian rush         □       Juncus tenuis       path rush         □       Juncus torreyi       Torrey's rush	OBL FACW OBL FAC FACW OBL	3 4 2 7 1 4
☐       Eleocharis obtusa       blunt spike-rush         ☐       Euthamia graminifolia       grass-leaved goldenrod         ☐       Fraxinus pennsylvanica       green ash         ☐       Juncus canadensis       Canadian rush         ☐       Juncus tenuis       path rush         ☐       Juncus torreyi       Torrey's rush	FACW FACW OBL FAC FACW OBL	4 2 7 1 4
Euthamia graminifolia grass-leaved goldenrod  Fraxinus pennsylvanica green ash  Juncus canadensis Canadian rush  Juncus tenuis path rush  Juncus torreyi Torrey's rush	FACW FACW OBL FAC FACW OBL	4 2 7 1 4
☐ Fraxinus pennsylvanica green ash   ☐ Juncus canadensis Canadian rush   ☐ Juncus tenuis path rush   ☐ Juncus torreyi Torrey's rush	FACW OBL FACW OBL	2 7 1 4
☐ Juncus canadensis Canadian rush   ☐ Juncus tenuis path rush   ☐ Juncus torreyi Torrey's rush	OBL FAC FACW OBL	7 1 4
<ul><li>☐ Juncus tenuis</li><li>☐ Juncus torreyi</li><li>☐ Torrey's rush</li></ul>	FAC FACW OBL	1
☐ Juncus torreyi Torrey's rush	FACW OBL	4
	OBL	
Lycanic americanus		4
Lycopus americanus American water-horehound	OBL	
☐ Lythrum salicaria purple loosestrife		
Oenothera biennis bastard evening-primrose	FACU	1
☐ Parthenocissus quinquefolia Virginia creeper	FACU	5
☐ Populus deltoides plains cottonwood	FAC	2
Rhamnus cathartica common buckthorn	FAC	
Rubus occidentalis black-cap		2
☐ Sambucus nigra black elder	FACW	3
☐ Scirpus atrovirens dark-green bulrush	OBL	3
☐ Solidago canadensis Canadian goldenrod	FACU	1
☐ Solidago gigantea giant goldenrod	FACW	3
☐ Solidago sempervirens seaside goldenrod	FACW	
☐ Spartina pectinata prairie cord grass	FACW	5
Symphyotrichum lateriflorum Farewell-Summer	FACW	
Symphyotrichum novae-angliae New England aster	FACW	3
☐ Toxicodendron radicans common eastern poison-ivy	FAC	4
✓ Typha angustifolia narrow-leaved cat-tail	OBL	
✓ Typha X glauca hybrid cat-tail	OBL	
☐ Verbena hastata blue vervain	FACW	3



#### **Natural Resource Review**

2014-0041.39 8-13-2015

Plant Community ID: W-1 Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

**WisDOT** Shallow Marsh and Wet Meadow Shallow Marsh and Fresh Meadow Eggers and Reed

Vitis riparia river-bank grape FACW 2

> $FQI = \overline{C} \quad \overline{N}$ TOTAL = 64 23 Where: FQI = Floristic Quality Index <u>C</u> =

C = Mean C Value N = Number of native taxa

FQI = 13.3

2.8



# **Natural Resource Review**

#### 2014-0041.39

8-13-2015

Plant Community ID: W-2A and W-2B Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

<u>WisDOT</u> Shallow Marsh and Wet Meadow

<u>Eggers and Reed</u> Shallow Marsh and Fresh Meadow

Dominant	Scientific Name	Common Name	Ind. Status	WI C Value
	Acer negundo	box elder	FAC	0
	Agrostis gigantea	redtop	FACW	
	Ambrosia artemisiifolia	annual bur-sage	FACU	0
	Bidens frondosa	Devil's-Pitchfork	FACW	1
	Carex vulpinoidea	brown fox sedge	FACW	2
	Centaurium pulchellum	branching centaury	FACU	
	Conium maculatum	poison-hemlock	FACW	
	Daucus carota	Queen Anne's-lace		
	Dipsacus laciniatus	cut-leaved teasel		
	Eleocharis obtusa	blunt spike-rush	OBL	3
	Equisetum arvense	common horsetail	FAC	1
	Euthamia graminifolia	grass-leaved goldenrod	FACW	4
	Geum aleppicum	yellow avens	FACW	3
	Hordeum jubatum	foxtail barley	FAC	
	Juncus canadensis	Canadian rush	OBL	7
	Juncus tenuis	path rush	FAC	1
	Juncus torreyi	Torrey's rush	FACW	4
	Lycopus americanus	American water-horehound	OBL	4
	Lythrum salicaria	purple loosestrife	OBL	
	Panicum virgatum	switch grass	FAC	4
	Phalaris arundinacea	reed canary grass	FACW	
✓	Phragmites australis	common reed	FACW	1
	Rhamnus cathartica	common buckthorn	FAC	
	Sambucus nigra	black elder	FACW	3
	Schoenoplectus tabernaemontani	soft-stem bulrush	OBL	4
	Scirpus atrovirens	dark-green bulrush	OBL	3
	Solidago canadensis	Canadian goldenrod	FACU	1
	Solidago gigantea	giant goldenrod	FACW	3
	Solidago sempervirens	seaside goldenrod	FACW	



# **Natural Resource Review**

#### 2014-0041.39

8-13-2015

Plant Con	nmunity ID:	W-2A and W-2B	Observer(s):	Geof Parish and M	ike Al-wathiqui	
Communi	ity Classific	eation:				
WisDo	<u>OT</u>	Shallow Marsh and Wet Meadow				
Eggers :	and Reed	Shallow Marsh and Fresh Meadow				
	Sonchus ar	vensis	field sow-t	histle	FACU	
<b>✓</b>	Typha angu	ustifolia	narrow-lea	aved cat-tail	OBL	
	Typha X gla	auca	hybrid cat-	-tail	OBL	
	Verbena ha	astata	blue verva	in	FACW	3
		$FQI = \overline{C}  \bigvee$	N		TOTAL =	52
		<u>N</u> =	20			
		C = Mean C	C Value er of native tax	<b>40</b>	C =	2.6
		N = Numbe	er or native tax	Ka	FQI =	11.6



# **Natural Resource Review**

#### 2014-0041.39

8-24-2015

Plant Community ID: W-2C Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

<u>WisDOT</u> Shallow Marsh and Shrub Scrub

<u>Eggers and Reed</u> Shallow Marsh and Shrub Carr

<u>Dominant</u>	Scientific Name Agrostis gigantea	Common Name redtop	Ind. Status FACW	WI C Value
	Alisma subcordatum	common water-plantain	OBL	3
	Ambrosia artemisiifolia	annual bur-sage	FACU	0
	Bidens frondosa	Devil's-Pitchfork	FACW	1
	Eleocharis obtusa	blunt spike-rush	OBL	3
	Equisetum arvense	common horsetail	FAC	1
	Impatiens capensis	orange jewelweed	FACW	2
	Juncus tenuis	path rush	FAC	1
	Juncus torreyi	Torrey's rush	FACW	4
	Lycopus americanus	American water-horehound	OBL	4
	Parthenocissus quinquefolia	Virginia creeper	FACU	5
	Phalaris arundinacea	reed canary grass	FACW	
	Rhamnus cathartica	common buckthorn	FAC	
•	Sambucus nigra	black elder	FACW	3
	Schoenoplectus tabernaemontani	soft-stem bulrush	OBL	4
•	Typha angustifolia	narrow-leaved cat-tail	OBL	
	Verbena hastata	blue vervain	FACW	3

FQI = C Ŋ N	TOTAL =	34
Where: FQI = Floristic Quality Index	N =	13
C = Mean C Value	<u>C</u> =	2.6
N = Number of native taxa	FQI =	9.4



#### **Natural Resource Review**

#### 2014-0041.39

8-24-2015

Plant Community ID: W-3 Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

WisDOT Wet Meadow and Shrub Scrob

Eggers and Reed Fresh (Wet) Meadow and Shrub Carr

Dominant	Scientific Name Bidens frondosa	Common Name Devil's-Pitchfork	Ind. Status FACW	WI C Value
	Carex stricta	common tussock sedge	OBL	7
	Conium maculatum	poison-hemlock	FACW	
	Cornus racemosa	gray dogwood	FAC	2
	Euthamia graminifolia	grass-leaved goldenrod	FACW	4
	Impatiens capensis	orange jewelweed	FACW	2
	Juncus effusus	common rush	OBL	4
	Juncus tenuis	path rush	FAC	1
	Lycopus americanus	American water-horehound	OBL	4
	Phalaris arundinacea	reed canary grass	FACW	
	Populus deltoides	plains cottonwood	FAC	2
	Populus deltoides	plains cottonwood	FAC	2
	Rhamnus cathartica	common buckthorn	FAC	
	Ribes americanum	American black currant	FACW	4
	Rubus occidentalis	black-cap		2
	Salix bebbiana	beaked willow	FACW	7
	Salix discolor	pussy willow	FACW	2
	Salix fragilis	brittle willow	FAC	
	Salix interior	Sandbar Willow	FACW	2
	Sambucus nigra	black elder	FACW	3
	Scirpus cyperinus	wool-grass	OBL	4
	Solidago canadensis	Canadian goldenrod	FACU	1
	Sonchus arvensis	field sow-thistle	FACU	
	Typha angustifolia	narrow-leaved cat-tail	OBL	

 $FQI = \overline{C} N$ 

Where:  $\underline{F}QI = Floristic Quality Index$ 

C = Mean C Value

N = Number of native taxa

TOTAL = 54 N = 18

 $\frac{N}{C} = 18$   $\frac{1}{C} = 3.0$ 

FQI = 12.7



# **Natural Resource Review**

#### 2014-0041.39

8-24-2015

Plant Community ID: W-4

Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

WisDOT Wet Meadow and Shrub Scrob

Eggers and Reed Fresh (Wet) Meadow and Shrub Carr

<u>Dominant</u>	Scientific Name Asclepias incarnata	Common Name swamp milkweed	Ind. Status OBL	WI C Value
	Bidens frondosa	Devil's-Pitchfork	FACW	1
	Carex stricta	common tussock sedge	OBL	7
	Cirsium arvense	Canada thistle	FACU	
	Cornus racemosa	gray dogwood	FAC	2
	Eupatorium maculatum	spotted Joe-Pye-weed		4
	Euthamia graminifolia	grass-leaved goldenrod	FACW	4
	Impatiens capensis	orange jewelweed	FACW	2
	Rhamnus cathartica	common buckthorn	FAC	
	Rubus occidentalis	black-cap		2
	Rumex crispus	curly dock	FAC	
	Salix interior	Sandbar Willow	FACW	2
•	Sambucus nigra	black elder	FACW	3
	Solidago canadensis	Canadian goldenrod	FACU	1
	Solidago gigantea	giant goldenrod	FACW	3
	Typha angustifolia	narrow-leaved cat-tail	OBL	
	Vitis riparia	river-bank grape	FACW	2

FQI = C <b>V</b> N	TOTAL =	38
Where: FQI = Floristic Quality Index	N =	13
C = Mean C Value	<u>C</u> =	2.9
N = Number of native taxa	FQI =	10.5



#### **Natural Resource Review**

#### 2014-0041.39

8-24-2015

Plant Community ID: W-5 Observer(s): Geof Parish and Mike Al-wathiqui Community Classification: WisDOT Atypical (stormwater feature) Eggers and Reed **Scientific Name** WI C Value **Dominant Common Name** Ind. Status **FACW** Ш Carex vulpinoidea brown fox sedge 2 Coronilla varia crown-vetch Queen Anne's-lace Daucus carota FACU 2 Erigeron strigosus daisy fleabane Euthamia graminifolia grass-leaved goldenrod **FACW** 4 **FACW** Helenium autumnale common sneezeweed 4 FAC Hordeum jubatum foxtail barley FACW Juncus torreyi Torrey's rush 4 **✓** Phragmites australis common reed **FACW** 1 Plantago major broad-leaved plantain FAC Rudbeckia hirta black-eyed Susan FACU 4 Rumex crispus curly dock FAC Scirpus atrovirens dark-green bulrush OBL 3 Silphium perfoliatum cup-plant FACW 4 Solidago sempervirens seaside goldenrod FACW Typha X glauca hybrid cat-tail OBL Verbena hastata FACW 3 blue vervain FACW Vitis riparia river-bank grape 2 FQI = C N TOTAL = 33 N = 11 Where: FQI = Floristic Quality Index C = Mean C Value C = 3.0 N = Number of native taxa FQI = 9.9



# **Natural Resource Review**

#### 2014-0041.39

8-24-2015

Plant Community ID: W-6 Observer(s): Geof Parish and Mike Al-wathiqui
Community Classification:

<u>WisDOT</u> Atypical (stormwater feature)

Eggers and Reed

Dominant	Scientific Name Ambrosia artemisiifolia	<u>Common Name</u> annual bur-sage	Ind. Status FACU	WI C Value
	Coronilla varia	crown-vetch		
	Cyperus strigosus	false nut sedge	FACW	1
	Daucus carota	Queen Anne's-lace		
	Elaeagnus angustifolia	oleaster	FACU	
	Euthamia graminifolia	grass-leaved goldenrod	FACW	4
<b>✓</b>	Juncus tenuis	path rush	FAC	1
<b>✓</b>	Juncus torreyi	Torrey's rush	FACW	4
	Phragmites australis	common reed	FACW	1
	Prunella vulgaris	heal-all	FAC	1
	Rhamnus cathartica	common buckthorn	FAC	
	Rhus hirta	staghorn sumac		2
	Schoenoplectus tabernaemontani	soft-stem bulrush	OBL	4
	Solidago canadensis	Canadian goldenrod	FACU	1
	Solidago sempervirens	seaside goldenrod	FACW	
	Sonchus arvensis	field sow-thistle	FACU	
	Symphyotrichum lateriflorum	Farewell-Summer	FACW	
	Typha angustifolia	narrow-leaved cat-tail	OBL	

FQI=C <b>V</b> N	TOTAL =	19
Where: FQI = Floristic Quality Index	N =	10
C = Mean C Value	<u>C</u> =	1.9
N = Number of native taxa	FQI =	6.0



# **Natural Resource Review**

**2014-0041.39** 8-24-15

Plant Community ID: U-1 Observer(s): Geof Parish and Mike Al-wathiqui Community Classification: **WisDOT** Upland Eggers and Reed Upland **Scientific Name Common Name** Ind. Status WI C Value **Dominant ✓** FACU Cirsium arvense Canada thistle **✓** Cornus racemosa gray dogwood FAC 2 Eupatorium rugosum white snakeroot 1 grass-leaved goldenrod Euthamia graminifolia FACW 4 Lonicera X bella showy bush honeysuckle **FACU** Monarda fistulosa FACU bee balm 3 **V** common buckthorn FAC Rhamnus cathartica FACW Ribes americanum American black currant 4 Rubus occidentalis black-cap 2 Sambucus nigra black elder FACW 3 Solidago canadensis Canadian goldenrod FACU 1 FACW 2 Vitis riparia river-bank grape  $FQI = \overline{C} \sqrt{N}$ TOTAL = 22 Where: FQI = Floristic Quality Index N = 9

C = Mean C Value

N = Number of native taxa

<u>C</u> =

FQI =

2.4

7.3



# **Natural Resource Review**

2014-0041.39 8-24-15

Plant Community ID: U-2 Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

<u>WisD</u>	·				
Eggers	and Reed Upland				
<b>Dominant</b>	Scientific Name Acer negundo		Common Name box elder	<u>Ind. Status</u> FAC	WI C Value
	Asparagus officinalis		asparagus	FACU	O .
	Cirsium vulgare		bull thistle	FACU	
	Coronilla varia		crown-vetch	17.00	
	Daucus carota		Queen Anne's-lace		
	Elymus canadensis		Canada wild-rye	FACU	4
	Euthamia graminifolia		grass-leaved goldenrod	FACW	4
	Hypericum prolificum		shrubby St. John's-wort	FACU	5
	Juniperus virginiana		eastern red-cedar	FACU	3
<b>✓</b>	Lotus corniculatus		bird's-foot deer-vetch	FACU	
	Oenothera biennis		bastard evening-primrose	FACU	1
	Phalaris arundinacea		reed canary grass	FACW	
	Phragmites australis		common reed	FACW	1
	Prunella vulgaris		heal-all	FAC	1
	Quercus alba		white oak	FACU	7
<b>✓</b>	Rhamnus cathartica		common buckthorn	FAC	
	Rhus hirta		staghorn sumac		2
	Rudbeckia hirta		black-eyed Susan	FACU	4
	Rumex crispus		curly dock	FAC	
✓	Solidago canadensis		Canadian goldenrod	FACU	1
	Sonchus arvensis		field sow-thistle	FACU	
	Toxicodendron radicans		common eastern poison-ivy	FAC	4
		FQI = C N	_	TOTAL =	37
	v	Vhere: <u>F</u> QI = Floristic (		<u>N</u> =	13
		C = Mean C Val N = Number of		C =	2.8
		–		FQI =	10.3



# **Natural Resource Review**

**2014-0041.39** 8-24-15

Plant Community ID: U-3 Observer(s): Geof Parish and Mike Al-wathiqui

Community Classification:

WisDOT Upland

Eggers a	and Reed Upland			
Dominant	Scientific Name Acer negundo	Common Name box elder	Ind. Status FAC	WI C Value
	Ambrosia artemisiifolia	annual bur-sage	FACU	0
	Asclepias syriaca	common milkweed	FACU	1
	Conyza canadensis	Canadian horseweed	FACU	0
	Coronilla varia	crown-vetch		
	Cyperus strigosus	false nut sedge	FACW	1
	Daucus carota	Queen Anne's-lace		
	Dipsacus laciniatus	cut-leaved teasel		
	Elaeagnus angustifolia	oleaster	FACU	
	Equisetum arvense	common horsetail	FAC	1
	Erigeron strigosus	daisy fleabane	FACU	2
	Euthamia graminifolia	grass-leaved goldenrod	FACW	4
	Fragaria virginiana	thick-leaved wild strawberry	FACU	1
	Geum aleppicum	yellow avens	FACW	3
	Hypericum perforatum	common St. John's-wort	FACU	
	Juncus tenuis	path rush	FAC	1
	Juniperus virginiana	eastern red-cedar	FACU	3
	Lotus corniculatus	bird's-foot deer-vetch	FACU	
	Melilotus albus	white sweet-clover		
	Panicum virgatum	switch grass	FAC	4
	Parthenocissus quinquefolia	Virginia creeper	FACU	5
	Phleum pratense	common timothy	FACU	
•	Poa pratensis	Kentucky bluegrass	FAC	
•	Rhamnus frangula	European alder buckthorn		
	Rumex crispus	curly dock	FAC	
	Setaria faberi	Chinese foxtail	FACU	
<b>✓</b>	Solidago canadensis	Canadian goldenrod	FACU	1
	Solidago sempervirens	seaside goldenrod	FACW	
	Sonchus arvensis	field sow-thistle	FACU	



# **Natural Resource Review**

#### 2014-0041.39

8-24-15

Plant Community ID: U-3	Observer(s): Geof Parish and Mike	e Al-wathiqui					
Community Classification:							
WisDOT Upland							
Eggers and Reed Upland							
Symphyotrichum novae-angliae	New England aster	FACW	3				
☐ Verbascum thapsus	common mullein						
Verbena hastata	blue vervain	FACW	3				
$FQI = \overline{C}  N \qquad TOTAL = 33$							
	Floristic Quality Index	<u>N</u> =	17				
C = Mean C Value		C =	1.9				
N = N	lumber of native taxa	FQI =	8.0				



# **Natural Resource Review**

#### 2014-0041.39

8-13-2015

Plant Con	nmunity ID: U-4	Observ	ver(s): Geof Parish and I	Mike Al-wathiqui	
Communi	ty Classification:				
WisDO	<u>OT</u> Upland				
Eggers a	and Reed Upland				
Dominant	Scientific Name Acer negundo	<del>-</del>	ommon Name ox elder	<u>Ind. Status</u> FAC	WI C Value
	Acer platanoides	N	orway maple		
	Acer saccharinum	Si	lver maple	FACW	2
	Achillea millefolium	c	ommon yarrow	FACU	1
	Bromus inermis	SI	mooth brome	FACU	
	Centaurea biebersteinii	S	potted knapweed		
	Cichorium intybus	bl	ue chicory	FACU	
	Conyza canadensis	С	anadian horseweed	FACU	0
•	Daucus carota	Q	ueen Anne's-lace		
	Eupatorium rugosum	w	hite snakeroot		1
	Fraxinus americana	w	hite ash	FACU	5
	Fraxinus pennsylvanica	g	reen ash	FACW	2
	Hypericum perforatum	C	ommon St. John's-wort	FACU	
	Lotus corniculatus	bi	rd's-foot deer-vetch	FACU	
	Melilotus albus	w	hite sweet-clover		
	Mentha arvensis	fic	eld mint	FACW	3
	Plantago lanceolata	E	nglish plantain	FACU	
	Poa pratensis	К	entucky bluegrass	FAC	
	Populus deltoides	pl	ains cottonwood	FAC	2
	Solidago canadensis	С	anadian goldenrod	FACU	1
	Verbascum thapsus	c	ommon mullein		
	Vitis riparia	ri	ver-bank grape	FACW	2
		FQI = C N		TOTAL =	19
		Where: <u>F</u> QI = Floristic Qu		<u>N</u> =	11
		C = Mean C Value N = Number of na		C =	1.7
		N = Number of ha	uve laka	FQI =	5.7



## **Natural Resource Review**

2014-0041.39

Plant Con	nmunity ID: U-5	Observer(s	Geof Parish and Mil	ke Al-wathiqui	
Communi	ty Classification:				
WisDe	OT Upland				
Eggers	and Reed Upland				
<u>Dominant</u>	Scientific Name Centaurea biebersteinii		on Name I knapweed	Ind. Status	WI C Value
<b>✓</b>	Daucus carota	Queen	Anne's-lace		
	Fraxinus pennsylvanica	green a	ash	FACW	2
	Hypericum perforatum	commo	on St. John's-wort	FACU	
	Juniperus virginiana	easterr	red-cedar	FACU	3
	Linaria vulgaris	butter-a	and-eggs		
	Parthenocissus quinquefolia	Virginia	creeper	FACU	5
	Poa pratensis	Kentuc	ky bluegrass	FAC	
<b>✓</b>	Rhamnus cathartica	commo	n buckthorn	FAC	
<b>✓</b>	Solidago canadensis	Canadi	an goldenrod	FACU	1
	Vitis riparia	river-ba	ank grape	FACW	2
		FQI = C N		TOTAL =	13
Where: <u>FQI</u> = Floristic Quality Index			N =	5	
	C = Mean C Value N = Number of native taxa			C =	2.6
				FQI =	5.8



#### **Natural Resource Review**

#### 2014-0041.39

8-13-2015

Plant Community ID: U-6 Observer(s): Geof Parish and Mike Al-wathiqui Community Classification: WisDOT Upland Eggers and Reed Upland **Scientific Name** Ind. Status WI C Value **Dominant Common Name** Achillea millefolium Ш common yarrow FACU 1 Ambrosia artemisiifolia annual bur-sage FACU 0 Arctium minus FACU common burdock **✓** Centaurea biebersteinii spotted knapweed Chenopodium album common lamb's-quarters FACU 0 Cichorium intybus blue chicory **FACU** FACU Cirsium arvense Canada thistle FACU Conyza canadensis Canadian horseweed 0 Daucus carota Queen Anne's-lace Lotus corniculatus bird's-foot deer-vetch **FACU FACU** Medicago lupulina black medick Melilotus albus white sweet-clover Phleum pratense **FACU** common timothy Poa pratensis Kentucky bluegrass FAC Rumex acetosella common sheep sorrel **FACU ✓** Solidago canadensis Canadian goldenrod FACU 1 Trifolium arvense rabbit-foot clover  $FQI = \overline{C} \ N$ 2 TOTAL = Where: FQI = Floristic Quality Index N = 5 C = Mean C Value C = 0.4 N = Number of native taxa FQI = 0.9



## **Natural Resource Review**

## 2014-0041.39

Plant Con	nmunity ID: U-7	Obse	erver(s): Geof Parish and Mike	e Al-wathiqui	
Communi	ty Classification:				
WisDo	<u>OT</u> Upland				
Eggers :	and Reed Upland				
Dominant	Scientific Name Acer negundo		Common Name box elder	Ind. Status FAC	WI C Value
<b>✓</b>	Ambrosia artemisiifolia		annual bur-sage	FACU	0
	Bromus inermis		smooth brome	FACU	
	Capsella bursa-pastoris		shepherd's-purse	FACU	
	Convolvulus arvensis		field bindweed		
	Conyza canadensis		Canadian horseweed	FACU	0
<b>✓</b>	Daucus carota		Queen Anne's-lace		
	Elymus repens		quackgrass	FACU	
	Euthamia graminifolia		grass-leaved goldenrod	FACW	4
	Linaria vulgaris		butter-and-eggs		
	Melilotus albus		white sweet-clover		
	Nepeta cataria		catnip	FACU	
	Phleum pratense		common timothy	FACU	
	Poa pratensis		Kentucky bluegrass	FAC	
	Rhus hirta		staghorn sumac		2
	Setaria faberi		Chinese foxtail	FACU	
	Solanum dulcamara		bittersweet nightshade	FAC	
	Solidago canadensis		Canadian goldenrod	FACU	1
	Solidago gigantea		giant goldenrod	FACW	3
	Symphyotrichum pilosum		White Oldfield American-Aster	FACU	
	Thuja occidentalis		eastern arborvitae	FACW	9
	Vitis riparia		river-bank grape	FACW	2
		FQI = C N	_	TOTAL =	21
	W	/here: <u>F</u> QI = Floristic G C = Mean C Val	ue	<u>N</u> = C =	9 2.3
		N = Number of I	native taxa	FQI =	7.0



## **Natural Resource Review**

2014-0041.39

Plant Con	nmunity ID: U-8	Observer(s): Geof Parish and Mil	ke Al-wathiqui	
Communi	ty Classification:			
WisDe	<u>OT</u> Upland			
Eggers :	and Reed Upland			
Dominant	Scientific Name	Common Name	Ind. Status	WI C Value
	Acer negundo	box elder	FAC	0
	Ambrosia artemisiifolia	annual bur-sage	FACU	0
	Asclepias syriaca	common milkweed	FACU	1
	Centaurea biebersteinii	spotted knapweed		
	Cirsium arvense	Canada thistle	FACU	
	Convolvulus arvensis	field bindweed		
<b>✓</b>	Conyza canadensis	Canadian horseweed	FACU	0
<b>✓</b>	Daucus carota	Queen Anne's-lace		
	Melilotus albus	white sweet-clover		
	Mentha arvensis	field mint	FACW	3
	Oenothera biennis	bastard evening-primrose	FACU	1
	Parthenocissus quinquefolia	Virginia creeper	FACU	5
	Populus deltoides	plains cottonwood	FAC	2
	Setaria faberi	Chinese foxtail	FACU	
•	Solidago canadensis	Canadian goldenrod	FACU	1
	FQ	el = C N	TOTAL =	13
	Where: FQ	I = Floristic Quality Index	N =	9
	<u>C</u> =	: Mean C Value	<u>C</u> =	1.4
	N =	Number of native taxa	FQI =	4.3



## **Natural Resource Review**

2014-00041.39

Plant Con	nmunity ID: U-9	Obse	erver(s): Geof	Parish and Mike Al-v	vathiqui	
Communi	ty Classification:					
WisDO	<u>OT</u> Upland					
Eggers a	and Reed Upland					
<u>Dominant</u>	Scientific Name Achillea millefolium		Common Name common yarrow		Ind. Status FACU	WI C Value
	Artemisia absinthium		absinth sage-wort			
•	Centaurea biebersteinii		spotted knapweed			
	Cirsium vulgare		bull thistle		FACU	
	Euthamia graminifolia		grass-leaved golde	nrod	FACW	4
	Linaria vulgaris		butter-and-eggs			
	Mentha arvensis		field mint		FACW	3
	Poa pratensis		Kentucky bluegrass	5	FAC	
•	Solidago canadensis		Canadian goldenro	d	FACU	1
	Symphyotrichum pilosum		White Oldfield Ame	erican-Aster	FACU	
		FQI = C N	<u> </u>		TOTAL =	9
		Where: FQI = Floristic G	Quality Index		N =	4
		C = Mean C Val	ue		<u>C</u> =	2.3
		N = Number of i	native taxa		FQI =	4.5



## **Natural Resource Review**

2014-00041.39

Plant Con	nmunity ID: U-10	Observer(s):	Geof Parish and Mike	Al-wathiqui	
Communi	ty Classification:				
<u>WisD</u>	OT Upland				
Eggers :	and Reed Upland				
<u>Dominant</u>	Scientific Name	<u>Common</u> box elder	<u>Name</u>	Ind. Status FAC	WI C Value
	Acer negundo				0
	Ambrosia artemisiifolia	annual bu	r-sage	FACU	0
	Cichorium intybus	blue chico	ory	FACU	
	Cirsium arvense	Canada th	nistle	FACU	
•	Daucus carota	Queen Ar	nne's-lace		
	Lolium perenne	English ry	re grass	FACU	
	Lotus corniculatus	bird's-foot	deer-vetch	FACU	
	Mentha arvensis	field mint		FACW	3
	Oenothera biennis	bastard e	vening-primrose	FACU	1
<b>✓</b>	Solidago canadensis	Canadian	goldenrod	FACU	1
	Symphyotrichum pilosum	White Old	lfield American-Aster	FACU	
	Verbascum thapsus	common i	mullein		
		FQI = C N		TOTAL =	5
	Wher	e: FQI = Floristic Quality In	ndex	N =	5
		C = Mean C Value		<u>C</u> =	1.0
		N = Number of native tax	xa	FQI =	2.2



## **APPENDIX I**

WDNR Threatened and Endangered Species Review and IPaC Results

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Southeast Region Headquarters
2300 N. Dr. Martin Luther King Jr. Dr.
Milwaukee, WI 53212

Scott Walker, Governor Cathy Stepp, Secretary Eric Nitschke, Regional Director Telephone 414-263-8570



December 23, 2014

Melanie K. Johnson, P.E. Quandel Consultants 2000 Auburn Drive, Suite 291 Beachwood, OH 44122

Subject: **DNR Initial Project Review**:

Hiawatha Passenger Rail

Chicago-Milwaukee Environmental Assessment & Service Development Plan

Kenosha, Racine and Milwaukee Counties

Dear Ms. Johnson:

The Department has received the information you provided for the proposed above-referenced project on November 5<sup>th</sup>, 2014. According to your proposal, the purpose of this project is to increase passenger rail service from 7 trips per day to 10 trips per day. Proposed improvements include:

- 1. A new platform, with elevator towers and overhead walkway, across from the existing General Mitchell International Airport Rail Station
- 2. New signalization equipment at the Muskego Rail Yard (Menomonee Valley, I-43 to 43rd St.). Rehabilitation or replacement of deteriorated Muskego Rail Yard bridges over the Menomonee River may be added to the signalization project
- 3. Upgraded signals near the Milwaukee Intermodal Station cut-off point

Preliminary information has been reviewed by DNR staff for the project under the DOT/DNR Cooperative Agreement. Initial comments on the project as proposed are included below and assume that additional information will be provided that addresses all resource concerns identified.

#### A. Project-Specific Resource Concerns

#### Wetlands & Waterways

There is potential for wetland impacts to occur as a result of this project and therefore wetland impacts must be avoided and/or minimized to the greatest extent possible. Unavoidable wetland impacts must be mitigated for in accordance with the DOT/DNR Cooperative Agreement and the Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline. The Department requests information regarding the amount and type of unavoidable wetland impacts.

## **Endangered Resources (ER)**

Based upon a review of the Natural Heritage Inventory (NHI) and other Department records on December 23, 2014 no Endangered Resources or suitable habitat that could be impacted by this project are known or likely to occur in the project area or its vicinity.

#### Fisheries/Stream work

The Menomonee River is a navigable waterway. In order to protect developing fish eggs and substrate for aquatic organisms, all in-stream work that could adversely impact water quality should be undertaken between June 15<sup>th</sup> and February 28<sup>th</sup> of the calendar year.

## **Migratory birds**

Based on the information provided/based on site review, there is evidence of past migratory bird nesting on the existing structure. Under the U.S. Migratory Bird Treaty Act, destruction of swallows and other migratory birds or their nests is unlawful unless a permit has been obtained from the U.S. Fish & Wildlife Service. Therefore, the project should either utilize measures to prevent nesting (e.g., remove unoccupied nests during the non-nesting season and install barrier netting prior to May 1), or should occur only between August 30 and May 1 (non-nesting season). (If netting is used, ensure it is properly maintained, then removed as soon as the nesting period is over.) If neither of these options is practicable then the U.S. Fish & Wildlife Service must be contacted to apply for a depredation permit.

## **Invasive species & VHS**

Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under NR 40, Wis. Administrative Code. This website provides further information and lists those species classified as Restricted or Prohibited under NR 40: http://dnr.wi.gov/topic/Invasives/classification.html

The Department will work with project managers to help identify specific locations of problem areas across the project site and to recommend preventive measures. The following Best Management Practices (BMPs) for rights-of-way provide a series of measures that will ensure reasonable precautions are taken throughout the stages of construction: <a href="http://council.wisconsinforestry.org/invasives/transportation/pdf/ROW-Manual.pdf">http://council.wisconsinforestry.org/invasives/transportation/pdf/ROW-Manual.pdf</a>

In particular, the following measures will be important for this project: <a href="http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection\_protocols.pdf">http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection\_protocols.pdf</a>

#### For work involving waterbodies:

All equipment must be properly cleaned and disinfected to address the spread of invasive species and viruses. Special provisions should require contractors to implement the following measures before and after mobilizing inwater equipment to prevent the spread of Viral Hemorrhagic Septicemia (VHS), Zebra Mussel<sub>2</sub> and other invasive species. Follow **STSP 107-055** Environmental Protection – Aquatic Exotic Species Control, which includes the protocol found here:

For up to date information on invasive species and infested waters go to <a href="http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx">http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx</a>

## **Floodplains**

A determination must be made as to whether the project lies within a mapped/zoned floodplain. In order to meet the standards of NR 116, Floodplain Management, a hydraulic and hydrologic analysis must be conducted for the 100-year flood event for any new structures. Plans for the structure must comply with the provisions of the local community's floodplain zoning ordinance. DNR requires submittal of the results of a 100-year flood analysis for the structure(s).

If the new structure(s) will create an increase of 0.01 feet or more in the 100-year backwater condition, DNR requires that all affected upstream landowners be notified, appropriate legal arrangements made, and the local floodplain ordinance must be amended. For areas lying outside mapped/zoned floodplain, DNR may request the results of DOT flow and backwater calculations.

## **Other Issues/Unique Features**

#### **Emerald Ash Borer**

This project has the potential for spreading the Emerald Ask Borer (EAB) beetle. It is illegal to move or transport ash material, the emerald ash borer, and hardwood debris (i.e. firewood) from EAB quarantined areas to a non-quarantined area without a compliance agreement issued by WI Department of Agriculture, Trade and Consumer Protection. Regulated items include cut hardwood (non-coniferous) firewood, ash logs, ash mulch or bark fragments larger than on inch in diameter, or ash nursery stock (DATCP statute 21).

For more information regarding the EAB and quarantine areas please follow the links below.

http://datcpservices.wisconsin.gov/eab/article.isp?topicid=20

## **B.** Construction Site Considerations

The following issues may be addressed in the Special Provisions and the contractor will be required to outline their construction methods in the Erosion Control Implementation Plan (ECIP).

#### **Erosion control/Stormwater**

Erosion control devices should be specified on the construction plans. All disturbed bank areas should be adequately protected and restored as soon as feasible.

An adequate erosion control implementation plan (ECIP) for the project must be developed by the contractor and submitted to this office for review at least 14 days prior to the preconstruction conference.

If erosion mat is used along stream banks, the department recommends that biodegradable and non-netted mat be used (e.g., Class I Type A Urban, Class I Type B Urban, or Class II Type C). Long-term netted mats may cause animals to become entrapped while moving in and out of the stream. Avoid the use of fine mesh matting that is tied or bonded at the mesh intersection such that the openings in the mesh are fixed in size.

## Structure removal/Bridge demolition

Due to the characteristics of this section of the Menomonee River, STSP 203-020, *Removing Old Structure Over Waterway With Minimal Debris*, will be adequate for this project. Please coordinate with DNR early in the design phase of the project if the bridge must be dropped into the waterway before removal.

#### **Asbestos**

A Notification of Demolition and/or Renovation and Application for Permit Exemption, DNR form 4500-113 (NR 406, 410, and 447 Wis. Adm. Code) may be required. Please refer to DOT FDM 21-35-45 and the DNR's notification requirements web page: <a href="http://dnr.wi.gov/topic/Demo/Asbestos.html">http://dnr.wi.gov/topic/Demo/Asbestos.html</a> for further guidance on asbestos inspections and notifications. Contact Mark Davis, Air Management Specialist 608-266-3658, with questions on the form. The DNR's online notification system is available at <a href="http://dnr.wi.gov/topic/Demo/Asbestos.html">http://dnr.wi.gov/topic/Demo/Asbestos.html</a> . The notification must be submitted 10 working days in advance of demolition projects.

The above comments represent the Department's initial concerns for the proposed project and do not constitute final concurrence. Final concurrence will be granted after review of plans and further consultation if necessary. If any of the concerns or information provided in this letter requires further clarification, please contact this office 414.881.5633.

Sincerely,

Kristina Betzold

Kistina Betzobl

Environmental Analysis & Review Specialist

Southeast Region

## **Amtrak Hiawatha NRPP**

## IPaC Trust Resource Report

Generated October 26, 2015 09:59 AM MDT

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

## IPaC Trust Resource Report



## **Project Description**

NAME

Amtrak Hiawatha NRPP

PROJECT CODE

OCUXG-JXI6N-EGNFX-LYOPE-XZHS3U

LOCATION

Milwaukee County, Wisconsin

DESCRIPTION

No description provided



## U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

**Green Bay Ecological Services Field Office** 

2661 Scott Tower Drive New Franken, WI 54229-9565 (920) 866-1717

## **Endangered Species**

Proposed, candidate, threatened, and endangered species that are managed by the <u>Endangered Species Program</u> and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

## **Mammals**

Northern Long-eared Bat Myotis septentrionalis

**Threatened** 

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

## **Critical Habitats**

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

## Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Bittern Botaurus lentiginosus

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus

Bird of conservation concern

Year-round

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black Tern Chlidonias niger

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09F

Black-billed Cuckoo Coccyzus erythropthalmus

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus

Bird of conservation concern

Season: Breeding

**Bobolink** Dolichonyx oryzivorus

Season: Breeding

Bird of conservation concern

Brown Thrasher Toxostoma rufum Season: Breeding

Canada Warbler Wilsonia canadensis

Bird of conservation concern Bird of conservation concern

Season: Breeding

Cerulean Warbler Dendroica cerulea

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09I

Common Tern Sterna hirundo

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09G

Dickcissel Spiza americana

Bird of conservation concern

Season: Breeding

Golden-winged Warbler Vermivora chrysoptera

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G4

Bird of conservation concern

Bird of conservation concern

Henslow's Sparrow Ammodramus henslowii

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09D

Least Bittern Ixobrychus exilis

Season: Breeding

Marsh Wren Cistothorus palustris

Bird of conservation concern

Season: Breeding

Pied-billed Grebe Podilymbus podiceps

Bird of conservation concern

Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus

Bird of conservation concern

Season: Breeding

Rusty Blackbird Euphagus carolinus

Bird of conservation concern

Season: Wintering

Short-eared Owl Asio flammeus Bird of conservation concern

Season: Wintering

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Upland Sandpiper Bartramia longicauda

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Willow Flycatcher Empidonax traillii Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina Bird of conservation concern

Season: Breeding

## Refuges

Any activity proposed on <u>National Wildlife Refuge</u> lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

## Wetlands

Impacts to <u>NWI wetlands</u> and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate <u>U.S. Army Corps of Engineers District</u>.

#### **DATA LIMITATIONS**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Riverine R2UBH R2UBFd

1490.0 acres

17.5 acres

# Amtrak Hiawatha (Mitchell) NRPP

## IPaC Trust Resource Report

Generated October 26, 2015 10:00 AM MDT

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

## IPaC Trust Resource Report



## **Project Description**

NAME

Amtrak Hiawatha (Mitchell) NRPP

PROJECT CODE

MILQC-6RCFF-F77F6-ZBTTS-BX7AIM

LOCATION

Milwaukee County, Wisconsin

DESCRIPTION

No description provided



## U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

**Green Bay Ecological Services Field Office** 

2661 Scott Tower Drive New Franken, WI 54229-9565 (920) 866-1717

## **Endangered Species**

Proposed, candidate, threatened, and endangered species that are managed by the <u>Endangered Species Program</u> and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under <u>Section 7</u> of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

## **Mammals**

Northern Long-eared Bat Myotis septentrionalis

**Threatened** 

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

## **Critical Habitats**

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

## Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Bittern Botaurus lentiginosus

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus

Bird of conservation concern

Year-round

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black Tern Chlidonias niger

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09F

Black-billed Cuckoo Coccyzus erythropthalmus

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus

Bird of conservation concern

Bird of conservation concern

Season: Breeding

**Bobolink** Dolichonyx oryzivorus

Brown Thrasher Toxostoma rufum

Season: Breeding

Season: Breeding

Canada Warbler Wilsonia canadensis

Bird of conservation concern

Bird of conservation concern

Season: Breeding

Cerulean Warbler Dendroica cerulea

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09I

Common Tern Sterna hirundo

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09G

Dickcissel Spiza americana

Bird of conservation concern

Season: Breeding

Golden-winged Warbler Vermivora chrysoptera

Bird of conservation concern

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G4

Henslow's Sparrow Ammodramus henslowii

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09D

Least Bittern Ixobrychus exilis

Marsh Wren Cistothorus palustris

Season: Breeding

Season: Breeding

Pied-billed Grebe Podilymbus podiceps

Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus

Season: Breeding

Rusty Blackbird Euphagus carolinus

Season: Wintering

Short-eared Owl Asio flammeus

Season: Wintering

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Upland Sandpiper Bartramia longicauda

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Willow Flycatcher Empidonax traillii

Season: Breeding

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina

Season: Breeding

Bird of conservation concern

## Refuges

Any activity proposed on <u>National Wildlife Refuge</u> lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

## Wetlands

Impacts to <u>NWI wetlands</u> and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate <u>U.S. Army Corps of Engineers District</u>.

#### **DATA LIMITATIONS**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### **DATA EXCLUSIONS**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

## Freshwater Emergent Wetland PEMC PEM1C

5.49 acres

3.21 acres