

Wetland Mitigation Monitoring Report



Project Site:
Former Weber Property - US 20 (FAP 301) Freeport
Bypass West
Stephenson County, Illinois

IDOT Sequence Number: 10487



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Project Summary

A wetland survey was conducted on the former Weber property along US 20 (FAP 301) Bypass west of Freeport in Stephenson County, Illinois. This survey was conducted as a modified method of mitigation monitoring to track potential suitability as a wetland mitigation site. The condition of planted trees was assessed, and all potential wetlands within the specified project area were examined. Two sites met the three criteria of a wetland established in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* [U.S. Army Corps of Engineers (USACE) 2010] and were, therefore, determined to be wetlands. Summary information regarding the wetland determination sites is presented in the project report. Wetland determination forms are found in Appendix A and wetland plant species lists are included in Appendix B. Wetland boundaries were recorded using a Trimble Global Positioning System. The spatial data have been digitally uploaded to the Illinois Site Assessment Tracking System (http://froscopy.isgs.uiuc.edu/idot_extranet). Locations of determination sites were overlaid on a digital orthophoto quadrangle (DOQ) using ArcGIS; the resulting figure is included in Appendix C. Additional maps and figures are also included in Appendix C.

Signed: 

Date: January 15, 2013

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Cover Photo: Facing south overlooking wetland site 2.

Wetland Mitigation Monitoring Report

Former Weber Property, US 20 (FAP 301) Freeport Bypass West

Stephenson County, Illinois

Introduction

A wetland survey and tree count was conducted on August 29, 2012 as a modified method of mitigation monitoring for the former Weber property along US 20 (FAP 301) Bypass west of Freeport in Stephenson County, Illinois. The property is being monitored to assess potential suitability as a future wetland mitigation site. This site is located adjacent to the Pecatonica River and south US 20 Bypass, approximately three miles northwest of Freeport, Illinois. The site lies within the Pecatonica River drainage basin (Hydrologic Unit Code 07090003). The project site comprises 14.34 acres, with 0.7 acres comprised of previously existing forested wetland, 2.3 acres of planted trees for proposed forested wetland, and 7.6 acres excavated for a deep-water pond (Sunderland 2011). An upland berm partially surrounds the site and separates it from the river. The non-forested area of the site (approximately Site 2) was constructed and planted in 2010-2011 with five tree species (see Table 1 for species) and seeded for erosion control using an IDOT Class 7 (Special) grass mixture (Sunderland 2011). The only wetland mapped on the site by the National Wetlands Inventory was a linear seasonally flooded, emergent, palustrine wetland (PEMC) located in the northwest corner of the site (Figure 2).

Methods

All potential wetlands within the specified study area were examined. Characteristics of vegetation, soils, hydrology, and topography were evaluated during field investigation and on-site wetland determination. The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* [U.S. Army Corps of Engineers (USACE) 2010] was used as the reference for planning and monitoring the former Weber property in previous years. Re-evaluation of the site location revealed that it straddles both the Northcentral and Midwest Regions; however, the use of the Midwest Regional Supplement was continued for consistency. Additional sources were used while surveying the project corridor to determine wetland locations and boundaries, including aerial photographs, U.S. Geological Survey topographic map (Freeport West 7.5 minute quadrangle), National Wetlands Inventory (NWI) map (Freeport West 7.5 minute quadrangle) (U.S. Fish and Wildlife Service), Illinois Wetlands Inventory (U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, Illinois Natural History Survey 1996), *Soil Survey of Stephenson County, Illinois* (Gerard and Heisner 2008), and the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory

1987). Positional inaccuracies are known to occur with downloaded sources of digital data listed above. As presented on maps and figures in this report, data can be shifted from their actual position when compared to modern aerial photography.

Wetland determinations were conducted using definitions and guidelines established in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE 2010). Data from these determinations were recorded on USACE Wetland Determination Data Forms – Midwest Region (Appendix A); a data form was completed for each wetland sampling point. All potential wetlands, including all areas mapped as wetlands by the NWI, were described using at least one sampling point. Results of these determinations are summarized in the following text. Adjacent upland areas were also investigated; forms were not completed for these areas. Comprehensive plant species lists were compiled for each wetland site and are presented in Appendix B.

Each native plant species was assigned a “coefficient of conservatism” (C) (Taft et al. 1997), a subjective rating of species fidelity to undegraded natural communities, ranging from zero to ten. Conservative species - those more likely to be found in “pristine” natural areas - were assigned high numbers, whereas non-conservative species - those that occur in anthropogenically disturbed areas - were given lower numbers. Non-native species and those not identifiable to species level were not assigned a rating. The Floristic Quality Index (FQI) is computed as $FQI = (\text{mean } C) \times (\sqrt{N})$, where mean C is the mean coefficient of conservatism for all native plant species at a site and N is the total number of native plant species at the site. In very general terms, higher FQI values for plant communities indicate more similarity to “pristine” natural areas, as compared to those communities with lower FQI values. Botanical nomenclature follows *Vascular Flora of Illinois* (Mohlenbrock 2002), while wetland indicator status for each species follows *North American Digital Flora: National Wetland Plant List, version 2.4.0* (Lichvar and Kartesz 2009).

The Illinois State Geological Survey (ISGS) established monitoring wells to assess wetland hydrology across the entire project area (Appendix C - Figure 4). Wetland boundaries were determined based on soils, vegetation, and terrain and refined using ISGS data reported in their *Annual Report for Active IDOT Wetland Mitigation and Hydrologic Monitoring Sites* (Miner, et al. 2012). To provide historical trends, site determinations were performed as close as possible to the determination points collected in 2011. Wetland determination sites and tentative wetland boundaries were recorded using a Trimble Global Positioning System (either model Pathfinder Pro XR or Pathfinder Pro XRS), with a presumed accuracy of +/- 0.5 m under optimal field conditions. Locations of determination sites were overlaid on a digital orthophoto quadrangle (DOQ) and approximate area was determined for each wetland site using ArcGIS 10.0 software (ESRI 2010). Resulting areas are calculated in acres, reported to two decimal places. Site location, with respect to the nearest road, was measured from the edge of the pavement and is reported to the nearest foot.

Wetland Site Summaries

Site Number: 1

Community type: **Wet floodplain forest**

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

Site location: **Approximately 112 feet south of US 20 Bypass.**

Hydrophytic vegetation? **Yes** Hydric soils? **Yes** Wetland hydrology? **Yes**

Is this site a wetland? **Yes**

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

Total site area: **0.07 acres**

Mean Coefficient of Conservatism (mean C): **1.8** Floristic Quality Index (FQI): **8.0**

Site Number: 2

Community type: **Wet meadow**

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

Site location: **Approximately 242 feet south of US 20 Bypass.**

Hydrophytic vegetation? **Yes** Hydric soils? **Yes** Wetland hydrology? **Yes**

Is this site a wetland? **Yes**

Area of site occurring within the project corridor: **0.90 acres**

Total site area: **0.90 acres**

Mean Coefficient of Conservatism (mean C): **2.3** Floristic Quality Index (FQI): **13.5**

Remarks: The data point for this site was outside of the delineated wetland boundary, due to the presence of indicators of wetland hydrology in the field. It was determined not wetland by a lack of wetland hydrology as measured by the ISGS (see Appendix A – Form 2). Mean C and FQI calculations include planted tree species.

Threatened/Endangered Species and Natural Communities of Special Interest

No species listed as threatened or endangered federally or in Illinois were found during our wetland survey within the project corridor. Also, no natural communities of special interest were noted.

Tree Count

As part of the effort to assess this site for mitigation use, trees planted at this site were identified to species and survivorship was assessed. Table 1 presents data from the tree count.

Table 1. Tree survivorship at the former Weber property, US 20 Freeport Bypass West.

Species	Number Planted	Number Surviving	Percent Surviving
<i>Carya illinoensis</i>	29	23	79.3%
<i>Platanus occidentalis</i>	29	28	96.5%
<i>Quercus bicolor</i>	49	44	89.8%
<i>Quercus ellipsoidalis</i>	29	28	96.5%
<i>Quercus macrocarpa</i>	29	20	69.0%
Total	165	143	86.7%

Hydrology and Wetland Acreage

Dominant hydrophytic vegetation and hydric soils are present across much of the site; however, in 2012, wetland hydrology as measured by the ISGS was much more limited, much less than in 2011 (Zylka, *et al.* 2011). This region of the state experienced a moderate to severe drought throughout much of the growing season, undoubtedly causing this significant change. The extent of wetland hydrology, defined as “inundated or has a water table 12 inches or less below the surface for 14 or more consecutive days during the growing season” (USACE 2010), is shown in Appendix C – Figure 3. Delineated wetland acreage is shown in Appendix C – Figure 4 and corresponds with the acreage of wetland hydrology. Overall, 0.96 acres of wetland were delineated in 2012.

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APPENDIX A

Wetland Determination Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Weber Property - US 20 (FAP 301) Bypass West City/County: Stephenson Sampling Date 8/29/2012
 Applicant/Owner: IDOT District 2 State: IL Sampling Point 1A
 Investigator(s): McIntyre, Keene, Sivicek Section, Township, Range: Sec 15, T27N, R7E
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave
 Slope (%): < 1 Lat: 42.33076 Long: -89.68102 Datum: NAD 83
 Soil Map Unit Name: Sawmill silty clay loam NWI classification: U
 Are climatic/hydrologic conditions on the site typical for this time of year? No (If no explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>Yes</u>	Is the Sampled Area within a Wetland? <u>Yes</u>
Remarks: Community type is forested wetland. This area of the state is undergoing a moderate to severe drought this year, so some sites may display no indicators of wetland hydrology and still be wetlands.	

VEGETATION -Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30 ft radius</u>)					
1. <u>Acer saccharinum</u>	80	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
<u>80</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)					
1. <u>Acer saccharinum</u>	6	Yes	FACW		
2. _____					
3. _____					
4. _____					
5. _____					
<u>6</u> = Total Cover					
Herb Stratum (Plot size: <u>5 ft radius</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)					
1. _____				Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 ¹ <input type="checkbox"/> 4-Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. _____					
<u>0</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? <u>Yes</u>	
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 2/1	98	7.5YR 3/4	2	c	m	SICL	
8 - 20	10YR 2/1	100					SICL	
20 - 30	10YR 3/1	100					SICL	
30 - 40	10YR 4/1	100					SICL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

² Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed): Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present? <u>Yes</u></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (minimum of one is required: check all that apply)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (minimum of two is required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	<p>Wetland Hydrology Present? <u>Yes</u></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 ISGS monitoring wells measured wetland hydrology for 14 or more consecutive days during the growing season.

Remarks: ISGS well data support wetland hydrology (Miner, et al. 2012).

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Weber Property - US 20 (FAP 301) Bypass West City/County: Stephenson Sampling Date 8/29/2012
 Applicant/Owner: IDOT District 2 State: IL Sampling Point 2A
 Investigator(s): McIntyre, Keene, Sivcek Section, Township, Range: Sec 15, T27N, R7E
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave
 Slope (%): < 1 Lat: 42.33034 Long: -89.67896 Datum: NAD 83
 Soil Map Unit Name: NRCS mapped Huntsville sil, classified as Undetermined NWI classification: U
 Are climatic/hydrologic conditions on the site typical for this time of year? No (If no explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <u>Yes</u> Hydric Soil Present? <u>Yes</u> Wetland Hydrology Present? <u>No</u>	Is the Sampled Area within a Wetland? <u>No</u>
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Remarks: Community type is wet meadow. Although this point appeared to meet all three wetland criteria in the field, the ISGS well data did not support wetland hydrology (Miner et al. 2012). Wetland hydrology was present at this location in 2011, but this area of the state had undergone a moderate to severe drought throughout much of 2012.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 30 ft radius)				Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That are OBL, FACW, or FAC: _____ (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
5. _____	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft radius)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals _____ (A) _____ (B) Prevalence Index =B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
5. _____	0	= Total Cover		
Herb Stratum (Plot size: 5 ft radius)				Hydrophytic Vegetation Indicators <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is < or =3.0 ¹ <input type="checkbox"/> 4-Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Persicaria pensylvanica</u>	50	Yes	FACW	
2. <u>Agrostis gigantea</u>	30	Yes	FACW	
3. <u>Setaria faberi</u>	5	No	FACU	
4. <u>Acer saccharinum</u>	1	No	FACW	
5. <u>Asclepias incarnata</u>	1	No	OBL	
6. <u>Carex sp.</u>	1	No		
7. <u>Conyza canadensis</u>	1	No	FACU	
8. <u>Physalis sp.</u>	1	No		
9. _____				
10. _____				
Woody Vine Stratum (Plot size: 30 ft radius)				Hydrophytic Vegetation Present? <u>Yes</u>
1. _____				
2. _____				
_____ 0 = Total Cover				

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

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 15	10YR 2/1	98	7.5YR 5/4	2	c	m	SICL	
15 - 20	10YR 3/1	100					SICL	
20 - 30	10R 2/1	100					SICL	
30 - 40	10YR 2/1	96	7.5YR 4/4	2	c	m	SICL	
30 - 40			10YR 5/4	2	c	m		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? <u>Yes</u>
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Remarks: This area has been excavated.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two is required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations: Surface Water Present? <u>No</u> Depth (inches): _____ Water Table Present? <u>No</u> Depth (inches): _____ Saturation Present? <u>No</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>No</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
 According to the ISGS monitoring wells, this point did not meet hydrology for 14 days or more.

Remarks: Although numerous field indicators of wetland hydrology were present, ISGS well data did not support wetland hydrology (Miner et al. 2012)

APPENDIX B

Wetland Plant Species Lists

Site 1 – Wet floodplain forest

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<i>Acer saccharinum</i>	silver maple	HST	FACW	1
<i>Acer negundo</i>	box elder	HT	FAC	1
<i>Aster ontarionis</i>	Ontario aster	H	FAC	4
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Cirsium vulgare*</i>	bull thistle	H	FACU	-
<i>Conyza canadensis</i>	horseweed	H	FACU	0
<i>Daucus carota*</i>	Queen Anne's lace	H	UPL	-
<i>Elymus virginicus</i>	Virginia wild rye	H	FACW	4
<i>Gleditsia triacanthos*</i>	honey locust	H	FAC	-
<i>Hackelia virginiana</i>	stickseed	H	FACU	1
<i>Oxalis stricta</i>	common wood sorrel	H	FACU	0
<i>Persicaria amphibium</i>	water knotweed	H	OBL	3
<i>Persicaria hydropiper*</i>	water pepper	H	OBL	-
<i>Persicaria pennsylvanica</i>	pinkweed	H	FACW	1
<i>Persicaria punctata</i>	smartweed	H	OBL	3
<i>Phalaris arundinacea*</i>	reed canary grass	H	FACW	-
<i>Plantago rugelii</i>	red-stalked plantain	H	FAC	0
<i>Populus deltoides</i>	eastern cottonwood	T	FAC	2
<i>Potentilla simplex</i>	common cinquefoil	H	FACU	3
<i>Rorippa palustris</i>	marsh yellow cress	H	OBL	4
<i>Rumex sp.</i>	dock	H		-
<i>Salix interior</i>	sandbar willow	HS	FACW	1
<i>Salix nigra</i>	black willow	T	OBL	3
<i>Toxicodendron radicans</i>	poison ivy	H	FAC	1
<i>Vitis riparia</i>	riverbank grape	HW	FAC	2

*Non-native species **Dominant species and strata indicated by bold**

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

Mean C = 1.8

FQI = 8.0

Site 2 – Wet meadow

Scientific Name	Common Name	Strata	Wetland Indicator Status	Coefficient of Conservatism
<i>Agrostis gigantea</i>	red top	H	FACW	0
<i>Conyza canadensis</i>	horseweed	H	FACU	0
<i>Panicum dichotomiflorum</i>	fall panicum	H	FACW	0
<i>Persicaria pensylvanica</i>	pinkweed	H	FACW	1
<i>Abutilon theophrasti*</i>	buttonweed	H	FACU	-
<i>Acer negundo</i>	box elder	H	FAC	1
<i>Acer saccharinum</i>	silver maple	H	FACW	1
<i>Amaranthus tuberculatus</i>	tall waterhemp	H	OBL	1
<i>Ambrosia artemisiifolia</i>	common ragweed	H	FACU	0
<i>Ammannia coccinea</i>	long-leaved ammannia	H	OBL	5
<i>Apocynum cannabinum</i>	dogbane	H	FAC	2
<i>Asclepias incarnata</i>	swamp milkweed	H	OBL	4
<i>Asclepias syriaca</i>	common milkweed	H	UPL	0
<i>Asclepias verticillata</i>	horsetail milkweed	H	UPL	1
<i>Aster lanceolatus</i>	panicled aster	H	FACW	3
<i>Bidens frondosa</i>	common beggar's ticks	H	FACW	1
<i>Bidens sp.</i>	beggar's ticks	H		-
<i>Bromus inermis*</i>	Hungarian brome	H	UPL	-
<i>Carex sp.</i>	sedge	H		-
<i>Carya illinoensis</i>	pecan	S	FACW	6
<i>Cirsium vulgare*</i>	bull thistle	H	FACU	-
<i>Echinochloa muricata</i>	spiny barnyard grass	H	OBL	0
<i>Eleocharis ovata var. obtusa</i>	blunt spike rush	H	OBL	2
<i>Erigeron annuus</i>	annual fleabane	H	FACU	1
<i>Lepidium sp.</i>	peppergrass	H		-
<i>Melilotus sp.*</i>	sweet clover	H	FACU	-
<i>Persicaria amphibia</i>	water knotweed	H	OBL	3
<i>Persicaria punctata</i>	smartweed	H	OBL	3
<i>Phalaris arundinacea*</i>	reed canary grass	H	FACW	-
<i>Physalis sp.</i>	ground cherry	H		-
<i>Platanus occidentalis</i>	sycamore	HS	FACW	3
<i>Polygonum ramosissimum</i>	bushy knotweed	H	FAC	3
<i>Populus deltoides</i>	eastern cottonwood	HS	FAC	2
<i>Potentilla sp.</i>	cinquefoil	H		-
<i>Quercus bicolor</i>	swamp white oak	S	FACW	7
<i>Quercus ellipsoidalis</i>	Hill's oak	S	UPL	5
<i>Quercus macrocarpa</i>	burr oak	S	FACU	5
<i>Rorippa palustris</i>	marsh yellow cress	H	OBL	4
<i>Rumex crispus*</i>	curly dock	H	FAC	-
<i>Salix interior</i>	sandbar willow	H	FACW	1
<i>Salix nigra</i>	black willow	HS	OBL	3
<i>Setaria faberi*</i>	giant foxtail	H	FACU	-
<i>Setaria glauca*</i>	pigeon grass	H	FAC	-
<i>Solidago canadensis</i>	Canada goldenrod	H	FACU	1
<i>Solidago gigantea</i>	late goldenrod	H	FACW	3
<i>Solidago sempervirens*</i>	seaside goldenrod	H	FACW	-
<i>Sonchus arvensis*</i>	field sow thistle	H	FACU	-
<i>Spartina pectinata</i>	prairie cord grass	H	FACW	4
<i>Toxicodendron radicans</i>	poison ivy	H	FAC	1
<i>Urtica gracilis</i>	stinging nettle	H	FAC	2
<i>Vitis riparia</i>	riverbank grape	H	FAC	2

*Non-native species

Dominant species and strata indicated by bold

Mean C = 2.3

H = Herb, T = Tree, S = Sapling/Shrub, W = Woody Vine

FQI = 13.5

Note: Mean C and FQI calculations include planted tree species.

APPENDIX C

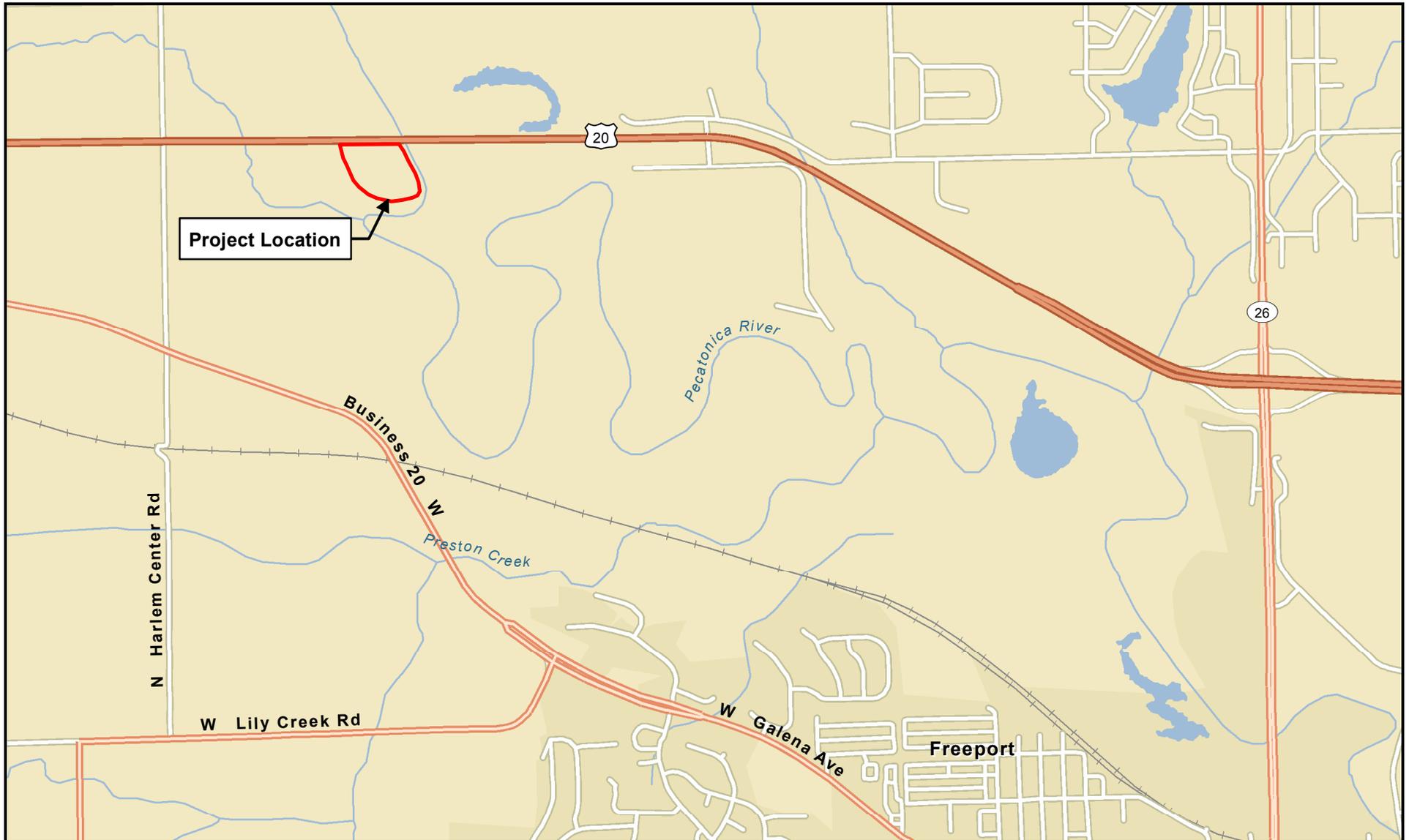
Figures

Figure 1 – Project Location Map

Figure 2 – National Wetlands Inventory Map

Figure 3 – ISGS Wetland Hydrology Map

Figure 4 – Delineated Wetland Acreage - 2012



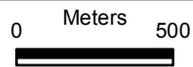
University of Illinois at Urbana-Champaign



Wetland Science Program
 1816 South Oak Street
 Champaign, Illinois 61820

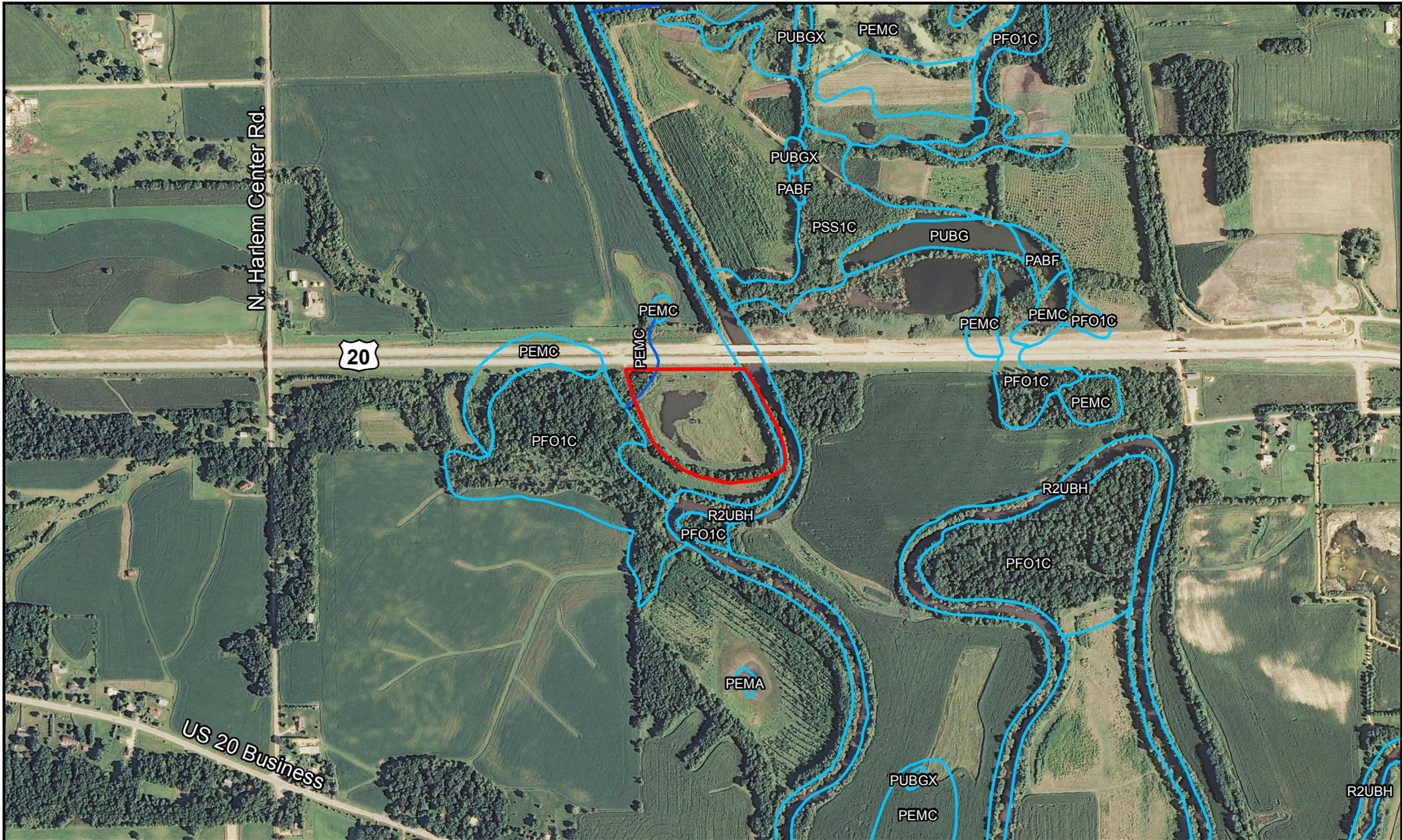
Figure 1
Project Location Map
Former Weber Property - US 20 (FAP 301) Freeport Bypass West
Stephenson County

Seq. No: 10487



January 2013





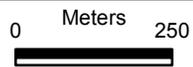
University of Illinois at Urbana-Champaign



Wetland Science Program
1816 South Oak Street
Champaign, Illinois 61820

Figure 2
National Wetlands Inventory Map
Former Weber Property - US 20 (FAP 301) Freeport Bypass West
Stephenson County

Seq. No: 10487



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- Project Boundary
- Wetlands
- Sampling Points

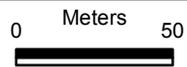
University of Illinois at Urbana-Champaign



Wetland Science Program
 1816 South Oak Street
 Champaign, Illinois 61820

Figure 4
Delineated Wetland Acreage - 2012
Former Weber Property - US 20 (FAP 301) Freeport Bypass West
Stephenson County

Seq. No: 10487



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