RAPID ASSESSMENT OF WETLAND FUNCTIONAL VALUES FOR THE WAUKESHA WEST BYPASS ALTERNATIVE ROUTES
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Section 1

RAPID ASSESSMENTS FOR WETLAND FUNCTIONAL VALUES
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: **Plant Community Area No. 1**

Owner(s): Waukesha County Parks & Land Use – Tax Key No. WAKT1361976004
Robert F. & Carol O. Smart Revocable Trust – Tax Key No. WAKT1361975
Merlyn Minster & Gary Lagon – Tax Key No. WAKT1364998001

Location: Waukesha County; NE ¼ & SE ¼, Section 17, Township 6N, Range 19E

Project Name: **Proposed Waukesha West Bypass**

Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission

Date(s) of Site Visit(s): August 4 and 25, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): **Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.**

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: **S3/E2K**

- Wetland Type: shallow open water
- deep marsh
- shallow marsh
- seasonally flooded basin
- bog
- floodplain forest
- alder thicket
- sedge meadow
- coniferous swamp
- fen
- wet meadow
- shrub-carr
- low prairie
- hardwood swamp

Estimated size of wetland in acres: **Study area wetland = 1.6 acres**

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
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<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/“Red Flags”: **Longear sunfish (Lepomis megalotis)**, a State-designated Threatened species, has been recorded by the Commission staff along this segment of Pebble
Effective management of wetlands and mitigation of impacts from human activities are critical for species recovery and protection. The Commission staff utilizes the bridge under CTH X to monitor for Little brown bat (Myotis lucifugus), a State-designated Threatened species, and Butler’s gartersnake (Thamnophis butleri), also a State-designated Threatened species. Blanding’s turtle (Emydoidea blandingii), another State-designated Threatened species, has been recorded by Retzer Nature Center staff. Additionally, the Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), with potential to contain Rough rattlesnake root (Prenanthes aspera), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

### I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. \( Y \) \( N \) Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

Past CTH X construction through wetland complex impeding & redirecting (ditching) natural flows under CTH X bridge

C. \( Y \) \( N \) Does the wetland have an inlet, outlet, or both (circle those that apply)?

Pebble Creek inlet from the northwest & outlet under CTH X bridge

D. \( Y \) \( N \) Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres? (circle those that apply)? Water marks observed in culvert under CTH X. Saturation at 8 inches & water table at 18 inches. Located in part within the Pebble Creek floodway. Geomorphic position.

E. \( Y \) \( N \) Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

No standing water observed at sample site. However, surface water flow within Pebble Creek channel observed. Parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [ ] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. \( Y \) \( N \) Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

Pebble Creek, which flows through the subject plant community area, is navigable. There is a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>Emergent community</td>
<td>Typha angustifolia &amp; Phalaris arundinacea</td>
</tr>
<tr>
<td>Shrub community</td>
<td>Salix spp. &amp; Cornus spp. (No individual shrub species listed as dominant)</td>
</tr>
<tr>
<td>Deciduous broad-leaved tree</td>
<td>Salix nigra</td>
</tr>
<tr>
<td>Coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community</td>
<td></td>
</tr>
</tbody>
</table>

X: Vegetation community is present.

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Brookston silt loam (BsA) – poorly drained; Wet alluvial land (Ww); and Gravel pit (Gp)

B. Field description: Recorded August 4, 2011

Organic (histosol)? If so, is it a muck or a peat? Muck (Histic Epipedon)

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: See below
- Depth of mottling/gleying: Starts at surface
- Depth of A Horizon: 14 inches
- Munsell Color of matrix and mottles
  - Matrix below the A horizon: N1/0
  - Mottles: 7.5YR 4/6 Common/Prominent

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>N1/0</td>
<td>7.5YR 4/6</td>
<td>Common/Prominent</td>
<td>Muck</td>
</tr>
<tr>
<td>14-18</td>
<td>N1/0</td>
<td>7.5YR 4/6</td>
<td>Common/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>18-24</td>
<td>10YR 2/1</td>
<td>7.5YR 4/6</td>
<td>Common/Prominent</td>
<td>Clay</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? **70**

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>39</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>10</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>3</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>5</td>
</tr>
<tr>
<td>Other (specify): Wetland</td>
<td>13</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - [ ] Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - [ ] Lakes Michigan and Superior and the Mississippi River
   - [ ] State or federal designated wild and scenic river
   - [ ] Designated state riverway
   - [ ] Designated state scenic urban waterway
   - [ ] Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Primary environmental corridor; ADID wetland
   - [ ] Calcareous fen
   - [ ] State park, forest, trail or recreation area
   - [ ] State and federal fish and wildlife refuges and fish and wildlife management areas
   - [ ] State or federal designated wilderness area
   - [ ] Designated or dedicated state natural area
   - [ ] Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - [ ] Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Longear sunfish** (Lepomis megalotis), a State-designated Threatened species, has been recorded by the Commission staff along this segment of Pebble Creek. **Little brown bat** (Myotis lucifugus), a State-designated Threatened species, has been observed by the Commission staff utilizing the culvert under CTH X. **Butler’s gartersnake** (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff upstream of this location. **Blanding’s turtle** (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff upstream of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain **Rough rattlesnake root** (Prenanthes aspera), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y N** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)? **Western, more degraded portion of wetland dominated by Reed canary grass. Eastern part near Pebble Creek more diverse.**

2. **Y N** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Northern pike determined by the Commission staff to be a resident fish species in this segment of Pebble Creek. Total of 29 species of fish recorded at this location including primary coldwater, secondary coolwater, andwarmwater fish assemblages. Macroinvertebrate abundance and diversity are indicative of very good water quality in this reach.**
2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types? Higher quality wetland adjacent to Pebble Creek

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 5% - Open water in creek bed

4. Y N Does the surrounding upland habitat likely support a variety of animal species? Class I Wildlife Habitat

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? Class I Wildlife Habitat & Primary Environmental Corridor

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife? Important wetlands for wildlife along the Pebble Creek corridor

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? Pebble Creek supports a resident population of Northern pike and portions of this area are within the modeled 2-year floodplain which is likely to support spawning habitat.

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? Roadways, driveways, and structures associated with residential development

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? Runoff velocity is significantly reduced when stormwater enters the subject wetland

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? A rock-spillway was constructed to protect the bridge abutment footings at CTH X. That is causing an approximate 4-foot backwater effect within the stream and wetland. This structure is maintaining the deepwater pool habitats for Northern pike in this reach, and this should be protected when this bridge is replaced.

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] But it is important to note that portions of this wetland are within the modeled 100-year floodplain and floodway.
6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? Portions of this wetland are within the modeled 100-year floodplain and floodway.

**Water Quality Protection**

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Primary source of water from Pebble Creek

2. N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt and sediments from CTH X & nutrient loading from surrounding residential development

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter “not applicable” for this function. If YES, then answer the applicable questions.

2. N Y Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. N Y Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. N Y Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. N Y Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek watershed

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? A portion of Plant Community Area No. 1 is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential. (See map)
Aesthetics/Recreation/Education and Science

1. **Yes** **No** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Yes** **No** Is the wetland in or near any population centers? **City of Waukesha**

3. **Yes** **No** Is any part of the wetland in public or conservation ownership? **Waukesha County Parks & Land Use**

4. **Yes** **No** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) Direct access limited to portion of wetland owned by Waukesha County and by canoe via Pebble Creek.

5. **Yes** **No** Is the wetland itself relatively free of obvious human influences, such as:
   - a. **Yes** **No** Buildings?
   - b. **Yes** **No** Roads?
   - c. **Yes** **No** Other structures?
   - d. **Yes** **No** Trash?
   - e. **Yes** **No** Pollution?
   - f. **Yes** **No** Filling?
   - g. **Yes** **No** Dredging/drainage?
   - h. **Yes** **No** Domination by non-native vegetation?

6. **Yes** **No** Is the surrounding viewshed relatively free of obvious human influences, such as:
   - a. **Yes** **No** Buildings?
   - b. **Yes** **No** Roads?
   - c. **Yes** **No** Other structures?

7. **Yes** **No** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Yes** **No** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. **Yes** **No** Long views within the wetland?
   - b. **Yes** **No** Long views in the viewshed adjacent to the wetland?
   - c. **Yes** **No** Convoluted edges within and/or around the wetland border?
   - d. **Yes** **No** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Yes** **No** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Yes** **No** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 2
Owner(s): Waukesha County Parks & Land Use – Tax Key No. WAKT1361974
St. John Neumann Congregation – Tax Key No. WAKC1364999002
Location: Waukesha County; NE ¼ Section 17, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist;
Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): August 25, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current
hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during
spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal
precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2
to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: E2K
Wetland Type: shallow open water  deep marsh   shallow marsh    seasonally flooded basin   bog
floodplain forest   alder thicket   sedge meadow   coniferous swamp   fen
wet meadow   shrub-carr   low prairie   hardwood swamp

Estimated size of wetland in acres: Study area wetland = 0.3 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional
values for the subject wetland and check the appropriate box. Complete the table as a summary.

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<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td></td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td></td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
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<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Longear sunfish (Lepomis megalotis), a State-designated
Threatened species, has been recorded by the Commission staff along this segment of Pebble
Creek. Little brown bat (Myotis lucifugus), a State-designated Threatened species, has been
observed by the Commission staff “hunting” over the wetland and creek area in and adjacent to this
plant community area. They have also been observed utilizing cavity trees (nursery?) in this plant community area. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff upstream of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff upstream of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [X] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. Has the wetland hydrology been altered by ditching, tiles, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

   - [ ] Past CTH X construction through wetland complex impeding natural flows from northwest directing flows directly into stream channel

C. Does the wetland have an inlet, outlet, or both (circle those that apply)?

   - [ ] Pebble Creek inlet from under bridge at CTH X and outlet downstream

D. Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

   - [ ] Saturation at 8 inches & water table at 11.5 inches. Located within Pebble Creek floodway. Geomorphic position.

E. Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

   - [ ] No standing water observed at sample site. However, surface water flow within Pebble Creek channel observed. Parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

   - [ ] Permanently Flooded
   - [X] Seasonally Flooded (water absent at end of growing season)
   - [ ] Saturated (surface water seldom present)
   - [ ] Artificially Flooded
   - [ ] Artificially Drained

G. Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

   - [X] Pebble Creek, which flows through the subject plant community area, is navigable. There is a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>Emergent community</td>
<td>Phalaris arundinacea</td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Shrub community</td>
<td>Salix interior</td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree</td>
<td></td>
</tr>
<tr>
<td>Coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>Other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Wet alluvial land (Ww)

B. Field description: Recorded August 25, 2011

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?

  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description: See below
  - Depth of mottling/gleying: 9.5 inches
  - Depth of A Horizon: 9.5 inches
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon: 10Y 2.5/1
    - Mottles: 10YR 4/6 Common/Prominent

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9.5</td>
<td>5Y 2.5/1</td>
<td></td>
<td></td>
<td>Clay loam</td>
</tr>
<tr>
<td>9.5-21</td>
<td>10Y 2.5/1</td>
<td>10YR 4/6</td>
<td>Common/Prominent</td>
<td>Silty clay loam</td>
</tr>
<tr>
<td>21-29</td>
<td>10Y 2.5/1</td>
<td>10YR 4/6</td>
<td>Common/Prominent</td>
<td>Silt loam</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 8

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>--</td>
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<tr>
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<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>1</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>4.5</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>1</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>1.5</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH
See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Primary environmental corridor; ADID wetland**
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

- Longear sunfish (*Lepomis megalotis*), a State-designated Threatened species, has been recorded by the Commission staff along this segment of Pebble Creek. Little brown bat (*Myotis lucifugus*), a State-designated Threatened species, has been observed by the Commission staff “hunting” over the wetland and creek area in and adjacent to this plant community area. They have also been observed utilizing cavity trees (nursery?) in this plant community area. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff just upstream of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff upstream of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y(N)** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

**Floral Diversity**

1. **Y(N)** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y(N)** Is the wetland plant community regionally scarce or rare?
Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Northern pike determined by the Commission staff to be a resident fish species in this segment of Pebble Creek. Total of 29 species of fish recorded at this location including primary coldwater, secondary coolwater, and warmwater fish assemblages. Macroinvertebrate abundance and diversity are indicative of very good water quality in this reach. Blue-winged teal and Mallard duck observed in this reach of the creek in the past; raccoon and muskrat associated with the creek. Red-winged blackbird nesting, Kingbird, White-tailed deer, and Little brown bat observed in the recent past.

2. **Y** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **5% - Open water in creek bed**

4. **Y** Does the surrounding upland habitat likely support a variety of animal species?
   - Class II Wildlife Habitat

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
   - Class I Wildlife Habitat & Primary environmental corridor

6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?
   - Important wetlands for wildlife along the Pebble Creek and Fox River corridors

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **Pebble Creek supports a resident population of Northern pike and portions of this area are within the modeled 2-year floodplain which is likely to support spawning habitat.**

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Steep shoulders and large impervious surfaces along CTH X**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Runoff velocity is significantly reduced when stormwater runoff enters the subject wetland**

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?
5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland’s storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] But it is important to note that portions of this wetland are within the modeled 100-year floodplain and floodway.

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? Portions of this wetland are within the modeled 100-year floodplain and floodway.

Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Primary source of water contribution to wetland is from Pebble Creek

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from CTH X

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek watershed

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?
3. \( \text{Y}\ N \) Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

**Aesthetics/Recreation/Education and Science**

1. \( \text{Y}\ N \) Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. \( \text{Y}\ N \) Is the wetland in or near any population centers? **City of Waukesha**

3. \( \text{Y}\ N \) Is any part of the wetland in public or conservation ownership? **Waukesha County Parks & Land Use**

4. \( \text{Y}\ N \) Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Direct access to the portion of wetland owned by Waukesha County and by canoe via Pebble Creek.**

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. \( \text{Y}\ N \) Buildings?
   b. \( \text{Y}\ N \) Roads?
   c. \( \text{Y}\ N \) Other structures?
   d. \( \text{Y}\ N \) Trash?
   e. \( \text{Y}\ N \) Pollution?
   f. \( \text{Y}\ N \) Filling?
   g. \( \text{Y}\ N \) Dredging/drainage?
   h. \( \text{Y}\ N \) Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. \( \text{Y}\ N \) Buildings?
   b. \( \text{Y}\ N \) Roads?
   c. \( \text{Y}\ N \) Other structures?

7. \( \text{Y}\ N \) Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. \( \text{Y}\ N \) Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. \( \text{Y}\ N \) Long views within the wetland?
   b. \( \text{Y}\ N \) Long views in the viewshed adjacent to the wetland?
   c. \( \text{Y}\ N \) Convoluted edges within and/or around the wetland border?
   d. \( \text{Y}\ N \) The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. \( \text{Y}\ N \) Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. \( \text{Y}\ N \) Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

| Name of Wetland: Plant Community Area No. 3 |
| Owner(s): Appears to be contained entirely in CTH X right-of-way |
| Location: Waukesha County; NE ¼ Section 17, Township 6N, Range 19E |
| Project Name: Proposed Waukesha West Bypass |
| Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission |
| Date(s) of Site Visit(s): August 25, 2011 |

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: E2K

| Wetland Type: shallow open water | deep marsh | shallow marsh | seasonally flooded basin | bog |
| floodplain forest | alder thicket | sedge meadow | coniferous swamp | fen |
| wet meadow | shrub-carr | low prairie | hardwood swamp |

Estimated size of wetland in acres: Study area wetland = 0.1 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td></td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
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<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
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<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, observed by Commission staff in connected wetlands northwest of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough
rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [x] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [x] Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Past CTH X construction through wetland complex.

C. [x] Does the wetland have an inlet, outlet, or both? Roadside ditch acts as an inlet & outlet.

D. [x] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Although none recorded specifically, this wetland plant community area is part of the larger Pebble Creek/Fox River floodplain/wetland complex.

E. [x] Does the wetland have standing water, and if so what is the average depth in inches? No standing water observed during field inspection. However, parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [x] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland plant community area is part of the larger Pebble Creek wetland complex and is approximately 400 feet from the navigable portion of Pebble Creek.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

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<td></td>
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</tbody>
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B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: **Houghton muck (HtA) – Very Poorly Drained**

B. Field description: **None recorded**

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?
  
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
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    - Mottles:
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A. What is the estimated area of the wetland watershed in acres? 2

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See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
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   - State or federal designated wild and scenic river
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   - Calcareous fen
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   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, observed by Commission staff in connected wetlands northwest of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (Prenanthes aspera), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Raccoon and muskrat associated with nearby Pebble creek. Red-winged blackbird nesting, Kingbird, and White-tailed deer observed in the recent past.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? Standing water limited to early growing season.
4. **Y** No Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** Yes Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? *Class I Wildlife Habitat & Primary environmental corridor*

6. **Y** Yes Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g., bear, woodland passerines)?

7. **Y** Yes Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Yes Are there other wetland areas near the subject wetland that may be important to wildlife? *Important wetlands for wildlife along the Pebble Creek & Fox River corridor*

9. **Y** Yes Can the wetland provide significant food base for fish and wildlife (e.g., insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)? *This plant community area is located along the northwestern edge of the Pebble Creek wetland complex that provides this function.*

10. **Y** Yes Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? *This plant community area is located along the northwestern edge of the Pebble Creek wetland complex that provides this function.*

11. **Y** Yes Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Yes Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. **Y** Yes Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? *Large impervious surfaces along CTH X*

2. **Y** Yes Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? *Runoff velocity is significantly reduced when stormwater enters the subject wetland*

3. **Y** Yes Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Yes Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** Yes Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e., the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] *But it is important to note that this wetland is within the modeled 100-year floodplain.*

6. **Y** Yes Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e., is the wetland located in the mid or lower reaches of the watershed)? *This wetland is within the modeled 100-year floodplain.*
Water Quality Protection

1. **Y** N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? *Road salt from CTH X*

3. **Y** N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. **Y** N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. *This wetland plant community area is located along the northwestern edge of a wetland complex associated with the confluence of Pebble Creek with the Fox (Illinois) River*

2. **Y** N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? *This wetland plant community area is part of a wetland complex that provides this function.*

4. **Y** N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? *This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.*

5. **Y** N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? *This wetland plant community area is part of a wetland complex that provides this function.*

Groundwater Recharge and Discharge

1. **Y** N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? *Springs reported and observed throughout Pebble Creek watershed*

2. **Y** N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Aesthetics/Recreation/Education and Science

1. **Y** N Is the wetland visible from any of the following kinds of vantage points: *roads, public lands, houses, and/or businesses?* (Circle all that apply.)
2. **Y** N Is the wetland in or near any population centers? *City of Waukesha*

3. **Y** N Is any part of the wetland in public or conservation ownership? *Public road right-of-way*

4. **Y** N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **N** Other structures?
   - d. **N** Trash?
   - e. **Y** N Pollution?
   - f. **Y** N Filling?
   - g. **Y** N Dredging/dRAINing?
   - h. **N** Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **Y** N Other structures?

7. **Y** N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)? *This wetland plant community area is part of a larger wetland complex that is organized into a variety of separated areas of similar vegetation.*

8. **Y** N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. **Y** N Long views within the wetland?
   - b. **Y** N Long views in the viewshed adjacent to the wetland?
   - c. **Y** N Convolved edges within and/or around the wetland border?
   - d. **Y** N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Robert F. &amp; Carol O. Smart Revocable Trust – Tax Key No. WAKT1361975</td>
</tr>
<tr>
<td></td>
<td>Christine K. Whitstone – Tax Key No. WAKT1362981</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; NW ¼ Section 17, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>August 4 and 25, 2011; April 3, 2012</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August. Precipitation records for 2012 indicate normal precipitation (-0.5 to +0.5 inches) for February and slightly above normal (+0.5 to +1 inches) for March.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification: S3/E2K &amp; T3/S3K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type: shallow open water deep marsh shallow marsh seasonally flooded basin bog</td>
</tr>
<tr>
<td>floodplain forest alder thicket sedge meadow coniferous swamp fen</td>
</tr>
<tr>
<td>wet meadow shrub-carr low prairie hardwood swamp</td>
</tr>
</tbody>
</table>

| Estimated size of wetland in acres: Study area wetland = 2.2 acres |

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Part of this plant community area is identified as a Natural Area of local significance (NA-3) known as Pebble Creek Wetlands. Butler's gartersnake (Thamnophis butleri), a State-designated Threatened species, observed by Commission staff at this location.
Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

## SITE DESCRIPTION

### I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [Y] Has the wetland hydrology been altered by ditching, tiles, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? **Residential development along western fringe of this wetland.**

C. [Y] Does the wetland have an inlet, outlet, or both (circle those that apply)? **Spring fed wetland. Inlet includes a roadside ditch.**

D. [Y] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? **Groundwater discharge area. Soil saturation at surface as well as a high water table (see sample site data numbers 6, 8, 10 and 11)**

E. [Y] Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? **No standing water observed during field inspection. However, parts of wetland likely inundated in early growing season.**

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [Y] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. **This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland is part of the larger Pebble Creek wetland complex and is approximately 800 feet from the navigable portion of Pebble Creek.**
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community Type</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>Emergent community</td>
<td>Phalaris arundinacea; Typha latifolia present in scattered shallow marsh areas but not listed as dominant in this plant community area</td>
</tr>
<tr>
<td>Shrub community</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community</td>
<td>Populus tremuloides, Acer negundo and Impatiens capensis</td>
</tr>
<tr>
<td>Coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community</td>
<td>Carex stricta</td>
</tr>
<tr>
<td>Other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification:
   - Wallkill silt loam (Wa) - Poorly Drained
   - Houghton muck (HtB) - Very Poorly Drained
   - Brookston silt loam (BsA) - Poorly Drained
   - Lamartine silt loam (LmB) - Somewhat Poorly Drained
   - Pistakee silt loam (PrA) - Somewhat Poorly Drained

B. Field description:
   Four sample sites recorded in this plant community area with varying results—see Sample Site Nos. 6, 8, 10 and 11

   - Organic (histosol)? If so, is it a muck or a peat?
   - Mineral soil?
     - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
     - Soil Description:
     - Depth of mottling/gleying:
     - Depth of A Horizon:
     - Munsell Color of matrix and mottles
       - Matrix below the A horizon:
       - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 87

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>48</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>22</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>4</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>13</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

   See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. ☑️ ☐ Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Part of subject plant community area identified as a Natural Area of local significance (NA-3) known as the Pebble Creek Wetlands; contained entirely within a Primary environmental corridor; and ADID wetland**
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. ☑️ ☐ According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler’s gartersnake (Thamnophis butleri)**, a State-designated Threatened species, observed by Commission staff at this location. **Blanding’s turtle (Emydoidea blandingii)**, a State-designated Threatened species, recorded by Retzer Nature Center staff upstream of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain **Rough rattlesnake root (Prenanthes aspera)**, a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. ☑️ ☐ Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

### Floral Diversity

1. ☑️ ☐ Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. ☐ ☑️ Is the wetland plant community regionally scarce or rare?

### Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon and White-tailed deer; female Marsh hawk observed on a “kill” during the field inspection. Redwinged black bird, Green heron, and Gold finch also observed.**

2. ☑️ ☐ Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?
3. **Y N** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? Outside of narrow, spring-fed ditch entering wetland, standing water is limited to early growing season.

4. **Y N** Does the surrounding upland habitat likely support a variety of animal species? 
   - Class I Wildlife Habitat

5. **Y N** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
   - Class I Wildlife Habitat & Primary environmental corridor

6. **Y N** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y N** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y N** Are there other wetland areas near the subject wetland that may be important to wildlife?
   - Important wetlands for wildlife along the Pebble Creek corridor

9. **Y N** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? This plant community area is located along the western edge of the Pebble Creek wetland complex that provides this function.

10. **Y N** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bul reeds, arrowhead, smartweeds, millets...)?

11. **Y N** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y N** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y N** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? Impervious surfaces due to suburban development including subdivision roadways to west of wetland

2. **Y N** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? Runoff velocity is reduced when stormwater enters the subject wetland

3. **Y N** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y N** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y N** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y N** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?
Water Quality Protection

1. \( \text{Y} \) N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Largely groundwater fed with some discharge of stormwater from roadside ditches.

2. \( \text{Y} \) N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from subdivision roads and nutrient loading from adjacent residential development

3. \( \text{Y} \) N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. \( \text{Y} \) N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. \( \text{Y} \) N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. \( \text{Y} \) N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. \( \text{Y} \) N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. This wetland plant community area is located along the western edge of a wetland complex associated with Pebble Creek.

2. \( \text{Y} \) N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. \( \text{Y} \) N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? This wetland plant community area is part of a wetland complex that provides this function.

4. \( \text{Y} \) N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.

5. \( \text{Y} \) N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? This wetland plant community area is part of a wetland complex that provides this function.

Groundwater Recharge and Discharge

1. \( \text{Y} \) N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek watershed. Specifically, Commission staff observed that part of this wetland may have been a peat mound at one time – an area where ground water wells up to the surface significantly slowing the decay of plant matter which forms a mound. Plants present which are indicators of groundwater discharge include Ciliated brome grass, Skunk cabbage, Water-cress, and Angelica.

2. \( \text{Y} \) N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. \( \text{Y} \) N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? A portion of Plant Community Area No. 4 is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).
Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.) Waukesha County park lands nearby.

2. Y N Is the wetland in or near any population centers? City of Waukesha

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) This plant community area is entirely in private ownership.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)? This plant community area is currently in private ownership. However, the potential is there for these activities.
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Leesley &amp; Joan Hardy Trust – Tax Key No. WAKT1362995</td>
</tr>
<tr>
<td></td>
<td>Christine K. Whitstone – Tax Key No. WAKT1362981</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; NW ¼ Section 17, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>August 4 and 25, 2011; January 12 and April 3, 2012</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August. Precipitation records for 2012 indicate normal precipitation (-0.5 to +0.5 inches) for February and slightly above normal (+0.5 to +1 inches) for March.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification:</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type: shallow open water</td>
<td>deep marsh</td>
</tr>
<tr>
<td>floodplain forest</td>
<td>shallow marsh</td>
</tr>
<tr>
<td>seasonally flooded basin</td>
<td>bog</td>
</tr>
<tr>
<td>wet meadow</td>
<td>shrub-carr</td>
</tr>
<tr>
<td>coniferous swamp</td>
<td>fen</td>
</tr>
<tr>
<td>alder thicket</td>
<td>low prairie</td>
</tr>
<tr>
<td>sedge meadow</td>
<td>hardwood swamp</td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 0.3 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td></td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler's gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff in adjacent plant community area (PCA No. 4). Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by...
Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☒ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ Yes ☐ No Has the wetland hydrology been altered by ditching, tiles, culverts, well pumping, or changes to runoff within the watershed (circle those that apply)?

☒ Constructed pond immediately upstream of this wetland has impounded water (likely spring-fed); adjacent residential development including roadside ditches have diverted flows to subject wetland.

C. ☑ Yes ☐ No Does the wetland have an inlet, outlet, or both (circle those that apply)?

☒ Inlet from a drainage channel during high water levels from pond; outlet via drainage channel passing through wetland.

D. ☑ Yes ☐ No Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

☒ Soil saturation observed at surface as well as a water table at a depth of 17 inches below surface.

E. ☑ Yes ☐ No Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

☒ No standing water observed during field inspection. However, parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☑ Yes ☐ No Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland plant community area is part of the larger Pebble Creek wetland complex and is approximately 1000 feet from the navigable portion of Pebble Creek.

This plant community area portion of the wetland complex is not part of a navigable body of water. This plant community area is part of the larger Pebble Creek wetland complex and is approximately 1000 feet from the navigable portion of Pebble Creek.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community dominated by</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community dominated by</td>
<td></td>
</tr>
<tr>
<td>Emergent community dominated by</td>
<td></td>
</tr>
<tr>
<td>Shrub community dominated by</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by</td>
<td><em>Populus tremuloides, Rhamnus cathartica, and Phalaris arundinacea</em>. Quercus macrocarpa and Alliaria officinalis listed as sub-dominant species.</td>
</tr>
<tr>
<td>Coniferous tree community dominated by</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by</td>
<td></td>
</tr>
<tr>
<td>Other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Lamartine silt loam (LmB) – Somewhat Poorly Drained, and Pistakee silt loam (PrA) – Somewhat Poorly Drained

B. Field description: Recorded August 25, 2011

- Organic (histosol)? If so, is it a muck or a peat? **Muck**

- Mineral soil?

  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description: See Below
  - Depth of mottling/gleying: **At Surface**
  - Depth of A Horizon: **4 inches**
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon: **2.5Y 2.5/1**
    - Mottles: **7.5YR ¼ Common/Prominent, 5YR 5/8 Common/Prominent & 7.5YR 4/6 Common/Prominent**

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations</th>
<th>Redox Concentrations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Color</td>
<td>Abundance/Contrast</td>
</tr>
<tr>
<td>0-4</td>
<td>5Y 2.5/1</td>
<td>7.5YR 3/4</td>
<td>Common/Prominent</td>
</tr>
<tr>
<td>4-13</td>
<td>2.5Y 2.5/1</td>
<td>5YR 5/8</td>
<td>Common/Prominent</td>
</tr>
<tr>
<td>13-23</td>
<td>N 2.5/0</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Texture:
- Muck
- Silty clay loam
- Clay loam
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 11

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>7.5</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>2</td>
</tr>
<tr>
<td>Grassted recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>1</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>0.5</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Contained entirely within a primary environmental corridor; and ADID wetland
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed in adjacent plant community area. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Raccoon, White-tailed deer, and passerine birds utilize this wetland complex.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types? Yes, when considering the larger wetland complex that this plant community area is part of.
3. **Y** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **Outside of a narrow intermittent drainage way passing through this sloped wetland, standing water not present.**

4. **Y** Does the surrounding upland habitat likely support a variety of animal species? **Class II Wildlife Habitat**

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **Class II Wildlife Habitat & Primary environmental corridor**

6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **N** Are there other wetland areas near the subject wetland that may be important to wildlife? **Important wetlands for wildlife along the Pebble Creek corridor**

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **This plant community area is located along the western edge of the Pebble Creek wetland complex that provides this function.**

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Impervious surfaces due to suburban development including subdivision roadways**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Runoff velocity is reduced by upstream pond impoundment to west of subject plant community area.**

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)? **Likely that upstream pond intercepts much of stormwater and releases it slowly unless a significant storm event occurs.**

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **Upstream pond impedes drainage to the wetland**

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? **For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.**

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?
Water Quality Protection

1. **Y** N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Discharge of stormwater from upstream pond via a drainage channel

2. **Y** N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from subdivision roads and nutrient loading from adjacent residential development

3. **Y** N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)? Largely handled by upstream pond.

4. **Y** N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials? Sloped wetland

5. **Y** N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. **Y** N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. This wetland plant community area is located along the western edge of a wetland complex associated with Pebble Creek.

2. **Y** N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? This wetland plant community area is part of a wetland complex that provides this function.

4. **Y** N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.

5. **Y** N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? This wetland plant community area is part of a wetland complex that provides this function.

Groundwater Recharge and Discharge

1. **Y** N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? No evidence observed in immediate plant community area, although adjacent pond is likely groundwater fed.

2. **Y** N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? A portion of Plant Community Area No. 5 is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).
Aesthetics/Recreation/Education and Science

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** Is any part of the wetland in public or conservation ownership?

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. **Y** Buildings?
   b. **Y** Roads?
   c. **Y** Other structures?
   d. **Y** Trash?
   e. **Y** Pollution?
   f. **Y** Filling?
   g. **Y** Dredging/draining?
   h. **Y** Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. **Y** Buildings?
   b. **Y** Roads?
   c. **Y** Other structures?

7. **Y** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. **Y** Long views within the wetland?
   b. **Y** Long views in the viewshed adjacent to the wetland?
   c. **Y** Convoluted edges within and/or around the wetland border?
   d. **Y** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **This plant community area is entirely in private ownership.**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)? **This plant community area is currently in private ownership. However, the potential is there for such activity.**
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 6
Owner(s): Leesley B. & Joan J. Hardy Living Trust – Tax Key No. WAKT1362999003
Location: Waukesha County; NW ¼ Section 17, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): August 4, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):
Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: None

<table>
<thead>
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<th>Wetland Type</th>
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</thead>
<tbody>
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<td>shallow open water</td>
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</tr>
<tr>
<td>deep marsh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shallow marsh</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>seasonally flooded</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>basin</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>floodplain forest</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>alder thicket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sedge meadow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coniferous swamp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wet meadow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shrub-carr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>low prairie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hardwood swamp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 0.1 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/“Red Flags”: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff in plant community area southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough
rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. ☑ Does the wetland have an inlet, outlet, or both (circle those that apply)?

Inlet from an intermittent drainage channel & outlet via drainage channel passing through wetland.

D. ☑ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Drainage patterns.

E. ☐ Does the wetland have standing water, and if so what is the average depth in inches? No standing water observed during field inspection. However, parts of wetland may be inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☑ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>emergent community dominated by:</td>
<td></td>
</tr>
<tr>
<td>shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>X deciduous broad-leaved tree community</td>
<td><em>Fraxinus pennsylvanica</em> and <em>Pilea pumila.</em></td>
</tr>
<tr>
<td>coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: *No hydric soils identified by NRCS – would likely qualify as a hydric inclusion in a larger upland soil unit.*

B. Field description: *None recorded*

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? **17**

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>13</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>0.5</td>
</tr>
<tr>
<td>Other (specify): Wetland</td>
<td>0.5</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **YN** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Contained entirely within a primary environmental corridor**
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **YN** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

- Butler’s gartersnake (**Thamnophis butleri**), a State-designated Threatened species, observed in plant community area southeast of this location.
- Blanding’s turtle (**Emydoidea blandingii**), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (**Prenanthes aspera**), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **YN** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **YN** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **YN** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or **expected** to utilize the wetland: Raccoon and White-tailed deer, passerine bird usage.

2. **YN** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **YN** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **Outside of intermittent drainage way passing through this sloped wetland, standing water not present.**
4. **Y** N Does the surrounding upland habitat likely support a variety of animal species?
   **Class II Wildlife Habitat**

5. **Y** N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
   **Class II Wildlife Habitat & Primary environmental corridor**

6. **Y** N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** N Are there other wetland areas near the subject wetland that may be important to wildlife?
   **Important wetlands for wildlife along the Pebble Creek corridor**

9. **Y** N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y** N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. **Y** N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y** N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)? **Erosion evident along drainage channel**

4. **Y** N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. **Y** N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? **Discharge of stormwater from via intermittent drainage channel**

2. **Y** N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?
3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow setting of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? Plant Community Area No. 6 is contained in an area identified in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2*, as having a high groundwater recharge potential (See map).

**Aesthetics/Recreation/Education and Science**

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? City of Waukesha

3. **Y** Is any part of the wetland in public or conservation ownership?

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Buildings?  e. Pollution?
   b. Roads?  f. Filling?
   c. Other structures?  g. Dredging/draining?
   d. Trash?  h. Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Buildings?
   b. Roads?
   c. Other structures?

7. Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Long views within the wetland?
   b. Long views in the viewshed adjacent to the wetland?
   c. Convoluted edges within and/or around the wetland border?
   d. The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) This plant community area is entirely in private ownership

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)? This plant community area is currently in private ownership. However, the potential is there for such activity.
Rapid Assessment Methodology for Evaluating Wetland Functional Values

General Information

Name of Wetland: Plant Community Area No. 7
Owner(s): Leesley B. & Joan J. Hardy Living Trust – Tax Key No. WAKT1362999003
Location: Waukesha County; NW ¼ Section 17, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): August 4, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

Wetland Description

Wisconsin Wetlands Inventory classification: None

Wetland Type: shallow open water  deep marsh   shallow marsh    seasonally flooded basin bog
depth  forest   alder thicket sedge meadow coniferous swamp fen

Wet meadow  shrub-carr low prairie hardwood swamp

Estimated size of wetland in acres: Study area wetland = 0.8 acres

Summary of Functional Values

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>Function</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Floral Diversity</td>
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<td>Flood/Stormwater Attenuation</td>
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</tbody>
</table>

List any Special Features/“Red Flags”: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff in plant community area southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough
rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Riverine
- Lake Fringe
- Extensive Peatland

B. Yes Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. Yes Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. Yes Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Groundwater seepage evident during field inspection.

E. Yes Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

   - No standing water observed during field inspection. However, large portions of subject wetland with soils saturated at surface.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Permanently Flooded
- Seasonally Flooded (water absent at end of growing season)
- Saturated (surface water seldom present)
- Artificially Flooded
- Artificially Drained

G. Yes Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland is part of the larger Pebble Creek wetland complex and is approximately 1000 feet from the navigable portion of Pebble Creek.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
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</thead>
<tbody>
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</tr>
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<td></td>
</tr>
<tr>
<td>emergent community</td>
<td>Phalaris arundinacea</td>
</tr>
<tr>
<td>shrub community</td>
<td>Salix interior</td>
</tr>
<tr>
<td>deciduous broad-leaved tree</td>
<td>Impatiens capensis; various tree species recorded, none of which was dominant</td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Lamartine silt loam (LmB) – Somewhat Poorly Drained

B. Field description: None recorded

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 11

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
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<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
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<td>--</td>
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<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>8.5</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>--</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>1</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH
See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
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- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler’s gartersnake (Thamnophis butleri)**, a State-designated Threatened species, observed in plant community area southeast of this location. **Blanding’s turtle (Emydoidea blandingii)**, a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (**Prenanthes aspera**), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y** N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon, White-tailed deer, and passerine birds use this area.**

2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **Lower portions of wetland may have standing water early in growing season.**
4. Y N Does the surrounding upland habitat likely support a variety of animal species?
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5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
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6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

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8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?
   **Important wetlands for wildlife along the Pebble Creek corridor**

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **This plant community area is located along the western edge of the Pebble Creek wetland complex that provides this function.**

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bull reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

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1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

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6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? **Primary source from groundwater discharge**

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?
3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. *This wetland plant community area is located along the western edge of a wetland complex associated with Pebble Creek.*

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? *This wetland plant community area is part of a wetland complex that provides this function.*

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? *This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.*

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? *This wetland plant community area is part of a wetland complex that provides this function.*

**Groundwater Recharge and Discharge**

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? *Groundwater discharge evident on slopes.*

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? *Plant Community Area No. 7 is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).*

**Aesthetics/Recreation/Education and Science**

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? *City of Waukesha*

3. **Y** Is any part of the wetland in public or conservation ownership?

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Buildings?   e. Pollution?
   b. Roads?       f. Filling?
   c. Other structures?   g. Dredging/draining?
   d. Trash?       h. Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Buildings?
   b. Roads?
   c. Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) This plant community area is entirely in private ownership

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)? This plant community area is currently in private ownership. However, the potential is there for such activity.
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Leesley B. &amp; Joan J. Hardy Living Trust – Tax Key No. WAKT1362999003</td>
</tr>
<tr>
<td></td>
<td>Deborah Thiem Rollo – WAKT1362998</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; NW ¼ Section 17, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>August 4, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: S3/E2K

<table>
<thead>
<tr>
<th>Wetland Type:</th>
<th>shallow open water</th>
<th>deep marsh</th>
<th>shallow marsh</th>
<th>seasonally flooded basin</th>
<th>bog</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>floodplain forest</td>
<td>alder thicket</td>
<td>sedge meadow</td>
<td>coniferous swamp</td>
<td>fen</td>
</tr>
<tr>
<td></td>
<td>wet meadow</td>
<td>shrub-carr</td>
<td>low prairie</td>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 1.1 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/“Red Flags”: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff in plant community area southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI)
identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [ ] Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. [ ] Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. [ ] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? **Groundwater seepage evident during field inspection.**

E. [ ] Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

   - [ ] No standing water observed during field inspection. However, large portions of subject wetland with soils saturated at surface.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

   - [ ] Permanently Flooded
   - [ ] Seasonally Flooded (water absent at end of growing season)
   - [x] Saturated (surface water seldom present)
   - [ ] Artificially Flooded
   - [ ] Artificially Drained

G. [ ] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. **This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland is part of the larger Pebble Creek wetland complex and is approximately 1200 feet from the navigable portion of Pebble Creek.**
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>emergent community</td>
<td></td>
</tr>
<tr>
<td>shrub community</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community</td>
<td><em>Fraxinus pennsylvanica, Impatiens capensis,</em> and <em>Phalaris arundinacea</em></td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>Fen community</td>
<td><em>Symplocarpus foetidus</em></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: *Brookston silt loam (BsA) – Poorly Drained*

B. Field description: None recorded. Although muck soil observed at the surface.

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:

- Open sphagnum mat or bog

- Sedge meadow/wet prairie community dominated by:

- Fen community dominated by *Symplocarpus foetidus*
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 22

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>9</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>10</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>2</td>
</tr>
<tr>
<td>Other (specify): Wetland</td>
<td>1</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

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2. Y N Is the wetland plant community regionally scarce or rare? In general fens are considered a rare plant community area. Although this is not considered a calcareous fen.

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5. **Y N** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? **This wetland plant community area is part of a wetland complex that provides this function.**

### Groundwater Recharge and Discharge

1. **Y N** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? **Groundwater discharge evident on slopes. Skunk cabbage listed as a sub-dominant species.**

2. **Y N** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y N** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **Plant Community Area No. 8 is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).**

### Aesthetics/Recreation/Education and Science

1. **Y N** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y N** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y N** Is any part of the wetland in public or conservation ownership?
4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. **Is the wetland itself relatively free of obvious human influences, such as:**
   - **Y** Buildings?
   - **Y** Roads?
   - **Y** Other structures?
   - **Y** Trash?
   - **Y** Pollution?
   - **Y** Filling?
   - **Y** Dredging/draining?
   - **Y** Domination by non-native vegetation?

6. **Is the surrounding viewshed relatively free of obvious human influences, such as:**
   - **Y** Buildings?
   - **Y** Roads?
   - **Y** Other structures?

7. **Y** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. **Does the wetland encourage exploration because any of the following factors are present:**
   - **Y** Long views within the wetland?
   - **Y** Long views in the viewshed adjacent to the wetland?
   - **Y** Convoluted edges within and/or around the wetland border?
   - **Y** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **This plant community area is entirely in private ownership**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
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<td>Hunting/fishing/trapping</td>
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<td>X</td>
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<td></td>
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<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)? **This plant community area is currently in private ownership. However, the potential is there for these types of activity**
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 9
Owner(s): Waukesha County Parks & Land Use – Tax Key No. WAKT1361976005
        Leesley B. & Joan J. Hardy Living Trust – Tax Key No. WAKT1362999003
        Gibson Fund LLP – Tax Key No. WAKT1361976002

Location: Waukesha County; NE ¼ & NW ¼, Section 17, Township 6N, Range 19E

Project Name: Proposed Waukesha West Bypass

Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist;
        Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission

Date(s) of Site Visit(s): August 4 and 30, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: S3/E2K

Wetland Type: shallow open water  deep marsh  shallow marsh    seasonally flooded basin  bog
        floodplain forest  alder thicket  sedge meadow  coniferous swamp  fen
        wet meadow  shrub-carr  low prairie  hardwood swamp

Estimated size of wetland in acres: Study area wetland = 1.4 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
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<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
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<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Part of this plant community area is identified as a Natural Area of local significance (NA-3) known as Pebble Creek Wetlands. Longear sunfish (*Lepomis megalotis*),
a State-designated Threatened species, has been recorded by the Commission staff along this segment of Pebble Creek. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☒ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

Past CTH D (Sunset Drive) construction through wetland complex impeding & redirecting (ditching) natural flows under CTH D bridge. Fill and a culvert placed at farm access driveway at west side of wetland.

C. ☑ Does the wetland have an inlet, outlet, or both (circle those that apply)?

Pebble Creek inlet from north from bridge under CTH D & outlet to south

D. ☑ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

Wetland hydrology indicators observed at Sample Site No. 14 include Saturation at surface, hydrogen sulfide odor, geomorphic position, and positive FAC-Neutral Test. Also observed organic soils – a histosol (muck).

E. ☑ Does the wetland have standing water, and if so what is the average depth in inches?

Approximately how much of the wetland is inundated?

No standing water observed at sample site. However, surface water flow within Pebble Creek channel observed. Parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☑ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

Pebble Creek, which flows through the subject plant community area, is navigable. There is a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Floating leaved community dominated by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submerged aquatic community dominated by:</td>
</tr>
<tr>
<td>Emerging community dominated by: Phalaris arundinacea</td>
</tr>
<tr>
<td>Shrub community dominated by: Salix bebbiana</td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by: While no tree species were listed as dominant, Fraxinus pennsylvanica, Ulmus Americana, and Acer negundo are present.</td>
</tr>
<tr>
<td>Coniferous tree community dominated by:</td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by: Carex stricta</td>
</tr>
<tr>
<td>Other (explain)</td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Brookston silt loam (BsA) – poorly drained; Lamartine silt loam (LmB) – Somewhat poorly drained; Sebewa silt loam (Sm) – Poorly drained; Palms muck (Pa) – Wet alluvial land (Ww); and Mundelein silt loam (MzfA) – Somewhat poorly drained.

B. Field description: Recorded August 4, 2011

Organic (histosol)? If so, is it a muck or a peat? Muck – Histosol

Mineral soil?

- Mottling, gleying, sulfidic materials: iron or manganese concretions, organic streaking (circle those that apply) Hydrogen sulfide odor
- Soil Description: See below
- Depth of mottling/gleying: NA
- Depth of A Horizon: NA
- Munsell Color of matrix and mottles
  - Matrix below the A horizon: --
  - Mottles: --

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>5Y 2.5/1</td>
<td>--</td>
<td>--</td>
<td>Muck</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 14

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>2</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>1</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>11</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y  N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Part of this plant community area is identified as a Natural Area of local significance (NA-3) known as Pebble Creek Wetlands. Also Primary environmental corridor and ADID wetland.
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y  N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Longear sunfish (Lepomis megalotis), a State-designated Threatened species, has been recorded by the Commission staff along this segment of Pebble Creek. Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, observed by Commission staff south of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. Accordingly, it is very unlikely that this plant community area would support this species.

3. Y  N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y  N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y  N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Northern pike determined by the Commission staff to be a resident fish species in this segment of Pebble Creek. Total of 29 species of fish recorded in this reach including primary coldwater, secondary coolwater, and warmwater fish assemblages. Macroinvertebrate abundance and diversity are indicative of very good water quality in this reach. Raccon, White-tailed deer, passerine birds, and waterfowl utilize this plant community area.
2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **5% - Open water in creek bed**

4. **Y** N Does the surrounding upland habitat likely support a variety of animal species? **Class II Wildlife Habitat**

5. **Y** N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **Class I Wildlife Habitat & Primary environmental corridor**

6. **Y** N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** N Are there other wetland areas near the subject wetland that may be important to wildlife? **Important wetlands for wildlife along the Pebble Creek corridor.**

9. **Y** N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **Pebble Creek supports a resident population of Northern pike and portions of this area are within the modeled 2-year floodplain which is likely to support spawning habitat.**

10. **Y** N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Steep slopes to west and CTH D is a large impervious area.**

2. **Y** N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Runoff velocity is significantly reduced when stormwater enters the subject wetland**

3. **Y** N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] **But it is important to note that portions of this wetland are within the modeled 100-year floodplain and floodway.**

6. **Y** N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed) ? **Portions of this wetland are within the modeled 100-year floodplain and floodway.**
Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Primary source of water contribution to wetland is from Pebble Creek

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from CTH D

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek watershed

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? A portion of Plant Community Area No. 9 is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? City of Waukesha
3. **YN** Is any part of the wetland in public or conservation ownership? **Waukesha County Parks & Land Use**

4. **YN** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Direct access limited to portion of wetland owned by Waukesha County**

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. **YN** Buildings?
   - b. **YN** Roads?
   - c. **YN** Other structures?
   - d. **YN** Trash?
   - e. **YN** Pollution?
   - f. **YN** Filling?
   - g. **YN** Dredging/daining?
   - h. **YN** Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   - a. **YN** Buildings?
   - b. **YN** Roads?
   - c. **YN** Other structures?

7. **YN** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **YN** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. **YN** Long views within the wetland?
   - b. **YN** Long views in the viewshed adjacent to the wetland?
   - c. **YN** Convolted edges within and/or around the wetland border?
   - d. **YN** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **YN** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

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<td>Others (list)</td>
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<td></td>
</tr>
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</table>

11. **YN** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Waukesha County Parks &amp; Land Use - Tax Key No. WAKT1361976005 Robert Knuth Rick Knuth et al – Tax Key No. WAKT1361020</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; NE ¼ Section 17, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>August 4, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification:</th>
<th>S3/E2K &amp; T3K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type:</td>
<td>shallow open water</td>
</tr>
<tr>
<td>Estimated size of wetland in acres:</td>
<td>Study area wetland = 0.2 acres</td>
</tr>
</tbody>
</table>

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

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<th>SIGNIFICANCE</th>
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<td></td>
<td>Low</td>
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<td>Wildlife Habitat</td>
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</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler's gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff in connected wetlands south of this location. Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI)
identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [x] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [x] Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Past CTHFD construction through wetland complex including roadside ditches & culverts.

C. [x] Does the wetland have an inlet, outlet, or both (circle those that apply)? Roadside ditch acts as an inlet & outlet.

D. [x] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Geomorphic Position and positive FAC-Neutral Test

E. [x] Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

- No standing water observed during field inspection. However, parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [x] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. **This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland is part of the larger Pebble Creek wetland complex and is approximately 850 feet from the navigable portion of Pebble Creek.**
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>emergent community dominated by:</td>
<td><em>Typha latifolia</em>, <em>Helianthus grosseserratus</em>, and <em>Solidago altissima</em></td>
</tr>
<tr>
<td>shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
<tr>
<td>other (explain): Atypical (mowed) wetland – A residential lawn with <em>Poa pratensis</em> (not listed as dominant due to relative size of this wetland)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Mundelein silt loam (MzfA) – Somewhat poorly drained

B. Field description: Recorded August 4, 2011

Organic (histosol)? If so, is it a muck or a peat?

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: See below
- Depth of mottling/gleying: 12 inches
- Depth of A Horizon: 13.5 inches
- Munsell Color of matrix and mottles
  - Matrix below the A horizon: 2.5Y 4/2 (80%) & 2.5Y 3/1 (20%)
  - Mottles: 7.5YR 4/6

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12</td>
<td>N 2.5/0</td>
<td>--</td>
<td>--</td>
<td>Silty clay loam</td>
</tr>
<tr>
<td>12-13.5</td>
<td>2.5 2.5/1</td>
<td>5Y 4/6</td>
<td>Common/prominent</td>
<td>Clay loam</td>
</tr>
<tr>
<td>13.5-16</td>
<td>2.5Y 4/2 (80%)</td>
<td>7.5YR 4/6</td>
<td>Common/prominent</td>
<td>Clay loam</td>
</tr>
<tr>
<td>16-20</td>
<td>10YR 5/3</td>
<td>7.5YR 4/6</td>
<td>Common/prominent</td>
<td>Silt</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 13

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>10.5</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>0.5</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>1.5</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>0.5</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Primary environmental corridor; ADID wetland
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, observed by Commission staff south of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (Prenanthes aspera), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Raccoon, White-tailed deer, muskrat, marsh birds and song birds utilize this area.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types? Area is recovering from past plowing.

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? Standing water limited to early growing season.
4. Y N Does the surrounding upland habitat likely support a variety of animal species?

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?  
   Class II Wildlife Habitat & Primary environmental corridor

6. Y N Is the surrounding habitat and/or the wetland itself a tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?  
   Important wetlands for wildlife along the Pebble Creek corridor

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?  This plant community area is part of a wetland-floodplain complex adjacent to Pebble Creek

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews; wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?  Large impervious surfaces along CTH D

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?  Runoff velocity is significantly reduced when stormwater enters the subject wetland

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)?  [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]  But it is important to note that portions of this wetland are within the modeled 100-year floodplain.

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?  Portions of this wetland are within the modeled 100-year floodplain.

**Water Quality Protection**

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?  Approximately equal sources from overland flow & discharge from roadside ditches that drain residential lands to east.
2. 🟢 N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? *Road salt from CTH D and fertilizers from residential development*

3. 🟢 N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. 🟢 N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. 🟢 N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. 🟢 N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. 🟢 N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter “not applicable” for this function. If YES, then answer the applicable questions. *This wetland plant community area is located along the eastern edge of a wetland complex associated with Pebble Creek.*

2. 🟢 N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. 🟢 N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? *This wetland plant community area is part of a wetland complex that provides this function.*

4. 🟢 N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? *This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.*

5. 🟢 N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? *This wetland plant community area is part of a wetland complex that provides this function.*

**Groundwater Recharge and Discharge**

1. 🟢 N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? *Springs reported and observed throughout Pebble Creek watershed*

2. 🟢 N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. 🟢 N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

**Aesthetics/Recreation/Education and Science**

1. 🟢 N Is the wetland visible from any of the following kinds of vantage points: **roads**, **public lands**, **houses**, and/or **businesses**? (Circle all that apply.)

2. 🟢 N Is the wetland in or near any population centers? *City of Waukesha*

3. 🟢 N Is any part of the wetland in **public** or conservation ownership? *Waukesha County Parks & Land Use*
4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. **Y** Buildings?
   b. **Y** Roads?
   c. **N** Other structures?
   d. **N** Trash?
   e. **Y** Pollution?
   f. **Y** Filling?
   g. **Y** Dredging/draining?
   h. **Y** Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. **Y** Buildings?
   b. **Y** Roads?
   c. **Y** Other structures?

7. **Y** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)? This wetland plant community area is part of a larger wetland complex that is organized into a variety of separated areas of similar vegetation.

8. **Y** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. **Y** Long views within the wetland?
   b. **Y** Long views in the viewshed adjacent to the wetland?
   c. **Y** Convoluted edges within and/or around the wetland border?
   d. **Y** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 11
Owner(s): City of Waukesha – Tax Key No. WAKC1328996
Waukesha County Parks & Land Use – Tax Key No. WAKT1327996
Christoph Family Trust – Tax Key No. WAKT1327998
Location: Waukesha County; SE ¼ & SW ¼, Section 8, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist;
Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): August 30 and November 8, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September, below normal (-1 to -2 inches) for October, and normal (-0.5 to +0.5 inches) for November.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: S3/E1K

Wetland Type: shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog
floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen
wet meadow, shrub-carr, low prairie, hardwood swamp

Estimated size of wetland in acres: Study area wetland = 8.9 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Part of this plant community area is identified as a Natural Area
of local significance (NA-3) known as Pebble Creek Wetlands. Longear sunfish (*Lepomis megalotis*), a State-designated Threatened species, has been recorded by the Commission staff just south of CTH D in Pebble Creek. Seaside buttercup (*Ranunculus cymbalaria*), a State-designated Threatened species, was identified by the Commission staff within this plant community area. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [X] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. **Y** **N** Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

Past CTH D (Sunset Drive) construction through wetland complex impeding & redirecting (ditching) natural flows under CTH D bridge. Fill and a culvert placed at eastern edge of wetland.

C. **Y** **N** Does the wetland have an inlet, outlet, or both (circle those that apply)?

Pebble Creek inlet from north to CTH D bridge outlet to south

D. **Y** **N** Is there any field evidence of wetland hydrology such as buttressed trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

Wetland hydrology indicators observed at Sample Site No. 18 include crayfish burrows, geomorphic position, and a positive FAC-Neutral test. At Sample Site No. 20, indicators include saturation at surface, geomorphic position, a positive FAC-Neutral test, and organic soil (muck), a histosol. At Sample Site No. 22, indicators include saturation at the surface, dry season water table at 20 inches, water-stained leaves, and shallow roots and/or buttressing. At Sample Site No. 24, indicators include a high water table at 11 inches below surface, saturation at the surface, water-stained leaves, oxidized rhizospheres on living roots, and a positive FAC-Neutral test.

E. **Y** **N** Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

No standing water observed at sample sites. However, surface water flow within Pebble Creek channel observed. Parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [X] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained
G. Y N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. Pebble Creek, which flows through the subject plant community area, is navigable. There is a surface water connection to other wetlands.

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>floating leaved community dominated by:</td>
</tr>
<tr>
<td></td>
<td>submerged aquatic community dominated by:</td>
</tr>
<tr>
<td>X</td>
<td>emergent community dominated by: Phalaris arundinacea</td>
</tr>
<tr>
<td>X</td>
<td>shrub community dominated by: Salix bebbiana</td>
</tr>
<tr>
<td>X</td>
<td>deciduous broad-leaved tree community dominated by: While no tree species were listed as dominant, Fraxinus pennsylvanica, Ulmus Americana, and Acer negundo are present.</td>
</tr>
<tr>
<td></td>
<td>coniferous tree community dominated by:</td>
</tr>
<tr>
<td></td>
<td>open sphagnum mat or bog</td>
</tr>
<tr>
<td>X</td>
<td>sedge meadow/wet prairie community dominated by: Carex stricta</td>
</tr>
<tr>
<td></td>
<td>other (explain)</td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Lamartine silt loam (LmB) – Somewhat poorly drained; Sebewa silt loam (Sm) – Poorly drained; Palms muck (Pa) - Wet alluvial land (Ww); and Mundelein silt loam (MzfA) – Somewhat poorly drained.

B. Field description:
4 Sample Sites recorded in this plant community area – See Sample Site Nos. 18, 20, 22 & 24.

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon: --
    - Mottles: --
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 126

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>67%</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>1%</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Grasped recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>2%</td>
</tr>
<tr>
<td>Highways or roads</td>
<td>2%</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>28%</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH
See attached aerial map exhibit

FUNCTIONAL ASSESSMENT
The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** **N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- [x] Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- [ ] Lakes Michigan and Superior and the Mississippi River
- [ ] State or federal designated wild and scenic river
- [ ] Designated state riverway
- [ ] Designated state scenic urban waterway
- [x] Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Part of this plant community area is identified as a Natural Area of local significance (NA-3) known as Pebble Creek Wetlands. Also Primary environmental corridor and ADID wetland**
- [ ] Calcareous fen
- [ ] State park, forest, trail or recreation area
- [ ] State and federal fish and wildlife refuges and fish and wildlife management areas
- [ ] State or federal designated wilderness area
- [ ] Designated or dedicated state natural area
- [ ] Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- [x] Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** **N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

- Longear sunfish (*Lepomis megalotis*), a State-designated Threatened species, has been recorded by the Commission staff just south of CTH D in Pebble Creek. Seaside buttercup (*Ranunculus cymbalaria*), a State-designated Threatened species, was identified by the Commission staff within this plant community area. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y** **N** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** **N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** **N** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Northern pike determined by the Commission staff to be a resident fish species in Pebble Creek. Total of 20 species of fish recorded at this location including primary coldwater, secondary coolwater, and warmwater fish assemblages. Macroinvertebrate**
abundance and diversity are indicative of very good water quality in this reach. Raccon, White-tailed deer, passerine birds, marsh birds, waterfowl, and muskrat to utilize this plant community area.

2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **5% - Open water in creek bed**

4. **Y** N Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **Class I Wildlife Habitat & Primary environmental corridor**

6. **Y** N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** N Are there other wetland areas near the subject wetland that may be important to wildlife? **Important wetlands for wildlife along the Pebble Creek corridor.**

9. **Y** N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **Pebble Creek supports a resident population of Northern pike and portions of this area are within the modeled 2-year recurrence interval floodplain which is likely to support spawning habitat.**

10. **Y** N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Large impervious areas in developed industrial lands to east and CTH D bordering the south edge of this plant community area. Row crops occur to the west.**

2. **Y** N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Runoff velocity is significantly reduced when stormwater enters the subject wetland**

3. **Y** N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **CTH D roadbed impedes natural southward flows. Ditches carry these flows to bridge under CTH D.**

5. **Y** N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]
6. **Y** N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? Portions of this area are within the modeled 100-year floodplain and floodway.

**Water Quality Protection**

1. **Y** N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Primary source of water contribution to wetland is from Pebble Creek, although stormwater from developed lands to east is significant.

2. **Y** N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from CTH D and other roads and parking lots to east. Sediments & fertilizers come from agricultural lands to west. Fertilizers come from manicured turf grass to the east.

3. **Y** N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y** N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek watershed

2. **Y** N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? A large portion of this wetland area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).
Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? City of Waukesha

3. Y N Is any part of the wetland in public or conservation ownership? City of Waukesha & Waukesha County Parks & Land Use

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) Direct access to portion of wetland owned by City of Waukesha & Waukesha County.

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 12
Owner(s): Christoph Family Trust – Tax Key No. WAKT1327998
Location: Waukesha County; SW ¼, Section 8, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): November 8 & 15, 2011; April 3, 2012

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): End of growing season field inspection in 2011 – verified findings at start of growing season in 2012. Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September, below normal (-1 to -2 inches) for October, and normal (-0.5 to +0.5 inches) for November. Precipitation records for 2012 indicate normal precipitation (-0.5 to +0.5 inches) for February and slightly above normal (+0.5 to +1 inches) for March.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: FOKf
Wetland Type: shallow open water deep marsh shallow marsh seasonally flooded basin bog floodplain forest alder thicket sedge meadow coniferous swamp fen atypical (farmed) wetland wet meadow shrub-carr low prairie hardwood swamp
Estimated size of wetland in acres: Study area wetland = 11.0 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td></td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td></td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>
SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ ☐ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Drainage attempts through conversion to agriculture has resulted in lower water levels.

C. ☐ ☑ Does the wetland have an inlet, outlet, or both (circle those that apply)? Drainage ditch inlet from west; may have a drain tile outlet to east

D. ☐ ☑ Is there any field evidence of wetland hydrology such as buttressed trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Wetland hydrology indicators observed at Sample Site No. 25 include saturation at the surface and a dry-season water table at 15 inches below surface. At Sample Site No. 26, indicators include saturation at surface, inundation visible on aerial imagery, dry-season water table at 19 inches below surface, and geomorphic position. At Sample Site No. 27, indicators include saturation at the surface, inundation visible on aerial imagery, and geomorphic position.

E. ☐ ☑ Does the wetland have standing water, and if so what is the average depth in inches?

Approximately how much of the wetland is inundated?

No standing water observed at sample sites. Parts of wetland inundated in early growing season per aerial imagery.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☐ Seasonally Flooded (water absent at end of growing season)
☒ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☑ ☐ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland is part of the larger Pebble Creek wetland complex and is approximately 50 feet from a navigable portion of Pebble Creek.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Floating leaved community dominated by:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>X Emergent community dominated by: Phalaris arundinacea</td>
<td></td>
</tr>
<tr>
<td>Shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
<tr>
<td>X Other (explain): Atypical (farmed) wetland – crops rotated, no dominant species</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Lamartine silt loam (LmB) – Somewhat poorly drained; Sebewa silt loam (Sm) – Poorly drained; and Matherton silt loam (MmA) – Somewhat poorly drained.

B. Field description: 3 Sample Sites recorded in this plant community area – See Sample Site Nos. 25, 26, 27.

- Organic (histosol)? If so, is it a muck or a peat?
- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
  - Matrix below the A horizon: --
  - Mottles: --
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 30

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>7%</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>51%</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td></td>
</tr>
<tr>
<td>Highways or roads</td>
<td>2%</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>40%</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N  Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)?  If so, check those that apply:

- ❑ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ❑ Lakes Michigan and Superior and the Mississippi River
- ❑ State or federal designated wild and scenic river
- ❑ Designated state riverway
- ❑ Designated state scenic urban waterway
- ❑ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Part of this plant community area is identified as a Primary environmental corridor and ADID wetland.**
- ❑ Calcareous fen
- ❑ State park, forest, trail or recreation area
- ❑ State and federal fish and wildlife refuges and fish and wildlife management areas
- ❑ State or federal designated wilderness area
- ❑ Designated or dedicated state natural area
- ❑ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ❑ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N  According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands?  If so, list the species of concern:

- Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species. In addition, other species documented in the area including Blanding’s turtle and Butler’s garter snake are unlikely to use this actively farmed wetland area.

3. **Y** N  Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** N  Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N  Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland:  **White-tailed deer, Raccoon, and various bird species may feed on agricultural crops.**

2. **Y** N  Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N  Is the estimated ratio of open water to cover between 30 and 70 percent?  What is the estimated ratio?  **Temporary inundation during early growing season but no permanent open water or cover**
4. **Y** Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?  
   - **Primary environmental corridor in part**

6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?  
   - **Important wetlands for wildlife along the Pebble Creek corridor.**

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?  
   - **While this wetland is contiguous with the Pebble Creek floodplain-wetland complex, it is actively farmed.**

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, or areas with severe overgrazing within the watershed (circle those that apply)?

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)?  
   - [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?  
   - **The eastern portion of this plant community area is contained within the 100-year floodplain & floodway.**

**Water Quality Protection**

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?  
   - **Sediments & fertilizers from agricultural lands.**
3. **Y/N** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y/N** Does the wetland have significant vegetative density to decrease water energy and allow setting of suspended materials?

5. **Y/N** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y/N** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y/N** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. This wetland plant community area is located along the western edge of a wetland-floodplain complex associated with Pebble Creek.

2. **Y/N** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y/N** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? This wetland plant community area is part of a wetland complex that provides this function.

4. **Y/N** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.

5. **Y/N** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? This wetland plant community area is part of a wetland complex that provides this function.

**Groundwater Recharge and Discharge**

1. **Y/N** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Sloped wetlands indicative of groundwater seepage.

2. **Y/N** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y/N** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? This plant community area is identified in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2*, as having a high groundwater recharge potential (See map).

**Aesthetics/Recreation/Education and Science**

1. **Y/N** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y/N** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y/N** Is any part of the wetland in public or conservation ownership?
4. \( \boxed{\begin{array}{c} Y \end{array}}\) Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. \( \boxed{\begin{array}{c} Y \end{array}}\) Buildings?
   b. \( \boxed{\begin{array}{c} N \end{array}}\) Roads?
   c. \( \boxed{\begin{array}{c} N \end{array}}\) Other structures?
   d. \( \boxed{\begin{array}{c} N \end{array}}\) Trash?
   e. \( \boxed{\begin{array}{c} N \end{array}}\) Pollution?
   f. \( \boxed{\begin{array}{c} N \end{array}}\) Filling?
   g. \( \boxed{\begin{array}{c} Y \end{array}}\) Dredging/dRAINing?
   h. \( \boxed{\begin{array}{c} N \end{array}}\) Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. \( \boxed{\begin{array}{c} N \end{array}}\) Buildings?
   b. \( \boxed{\begin{array}{c} N \end{array}}\) Roads?
   c. \( \boxed{\begin{array}{c} N \end{array}}\) Other structures?

7. \( \boxed{\begin{array}{c} N \end{array}}\) Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. \( \boxed{\begin{array}{c} Y \end{array}}\) Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. \( \boxed{\begin{array}{c} N \end{array}}\) Long views within the wetland?
   b. \( \boxed{\begin{array}{c} Y \end{array}}\) Long views in the viewshed adjacent to the wetland?
   c. \( \boxed{\begin{array}{c} Y \end{array}}\) Convoluted edges within and/or around the wetland border?
   d. \( \boxed{\begin{array}{c} Y \end{array}}\) The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. \( \boxed{\begin{array}{c} N \end{array}}\) Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) Entirely in private ownership with no indication that agriculture will cease.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
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<tr>
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</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. \( \boxed{\begin{array}{c} N \end{array}}\) Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Christoph Family Trust – Tax Key No. WAKT1327998</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; SW ¼, Section 8 &amp; SE ¼, Section 7, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
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<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>November 15, 2011; April 3, 2012</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): End of growing season field inspection in 2011 – verified findings at start of growing season in 2012. Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September, below normal (-1 to -2 inches) for October, and normal (-0.5 to +0.5 inches) for November. Precipitation records for 2012 indicate normal precipitation (-0.5 to +0.5 inches) for February and slightly above normal (+0.5 to +1 inches) for March.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification:</th>
<th>FOKf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type: shallow open water deep marsh shallow marsh seasonally flooded basin bog floodplain forest alder thicket sedge meadow coniferous swamp fen atypical (farmed) wetland wet meadow shrub-carr low prairie hardwood swamp</td>
<td></td>
</tr>
<tr>
<td>Estimated size of wetland in acres:</td>
<td>Study area wetland = 10.6 acres</td>
</tr>
</tbody>
</table>

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": See page 5.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Riverine
- Lake Fringe
- Extensive Peatland

B. Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

   Drainage attempts through conversion to agriculture has resulted in lower water levels.

C. Does the wetland have an inlet, outlet, or both (circle those that apply)?

   Drainage swale inlet from southwest; outlet at culvert under tracks to north.

D. Is there any field evidence of wetland hydrology such as buttressed trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

   Wetland hydrology indicators observed at Sample Site No. 29 include saturation at the surface, inundation visible on aerial imagery, and a dry-season water table at 17 inches below surface. At Sample Site No. 31 indicators include saturation at 6 inches below the surface, inundation visible on aerial imagery, dry-season water table at 17.5 inches below surface, and geomorphic position. At Sample Site No. 32 indicators include saturation at 2 inches below the surface, inundation visible on aerial imagery, dry-season water table at 20 inches below the surface, and geomorphic position. At Sample Site No. 34 indicators include saturation at the surface, a dry-season water table at 21 inches below surface, geomorphic position, and a positive FAC-Neutral test. At Sample Site No. 36 indicators include inundation visible on aerial imagery. At Sample Site No. 37 indicators include inundation visible on aerial imagery and geomorphic position.

E. Does the wetland have standing water, and if so what is the average depth in inches?

   No standing water observed at sample sites. Parts of wetland inundated in early growing season per aerial imagery.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

   - Permanently Flooded
   - Seasonally Flooded (water absent at end of growing season)
   - Saturated (surface water seldom present)
   - Artificially Flooded
   - Artificially Drained

G. Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

   This plant community area portion of the wetland complex is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland is part of the larger Pebble Creek wetland complex and is approximately 200 feet from a navigable portion of Pebble Creek.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community dominated by</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community dominated by</td>
<td></td>
</tr>
<tr>
<td>Emergent community dominated by</td>
<td></td>
</tr>
<tr>
<td>Shrub community dominated by</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by</td>
<td></td>
</tr>
<tr>
<td>Coniferous tree community dominated by</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by</td>
<td></td>
</tr>
<tr>
<td>Other (explain): Atypical (farmed) wetland with Panicum dichotomiflorum as a dominant species</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification:

- Matherton silt loam (MmA) – Somewhat poorly drained;
- Lamartine silt loam (LmB) – Somewhat poorly drained;
- Sebewa silt loam (Sm) – Poorly drained;
- Casco loam (CeB) – Well drained;
- Fox silt loam (FsB) – Well drained;
- Hochheim loam (HmB2) – Well drained;
- Warsaw loam (WeA) – Well drained.

B. Field description:

- 6 Sample Sites recorded in this plant community area – See Sample Site Nos. 29, 31, 32, 34, 36, and 37.

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?

  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon: --
    - Mottles: --
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 29

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>6%</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>55%</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways &amp; railroads</td>
<td>2%</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>37%</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

   See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N  Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Part of this plant community area is identified as a Primary environmental corridor and ADID wetland.**
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (Prenanthes aspera), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species. In addition, other species documented in the area including Blanding’s turtle and Butler’s garter snake are unlikely to use this actively farmed wetland area.**

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N  Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N  Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1.  List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **White-tailed deer, Raccoon, and various bird species may feed on agricultural crops.**

2. Y N  Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N  Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **Portions of this wetland plant community area are often temporarily inundated during the early growing season. But no permanent open water occurs in this plant community area.**
4. **Y** Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? 
   **Primary environmental corridor in part**

6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife? 
   **Important wetlands for wildlife along the Pebble Creek corridor.**

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **While this wetland is contiguous with the Pebble Creek floodplain-wetland complex, it is actively farmed.**

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

### Flood and Stormwater Storage/Attenuation

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **Railroad bed impedes natural drainage to north.**

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? **The eastern portion of this plant community area is contained within the 100-year floodplain.**

### Water Quality Protection

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Sediments & fertilizers from agricultural lands.**
3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)? **This plant community area is actively farmed.**

4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. **This wetland plant community area is located along the western edge of a wetland-floodplain complex associated with Pebble Creek.**

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? **This wetland plant community area is part of a wetland complex that provides this function.**

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? **This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.**

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? **This wetland plant community area is part of a wetland complex that provides this function.**

**Groundwater Recharge and Discharge**

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? **Sloped wetlands indicative of groundwater seepage.**

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **This plant community area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).**

**Aesthetics/Recreation/Education and Science**

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? **(Circle all that apply.)**

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** Is any part of the wetland in public or conservation ownership?
4. **N** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. **N** Buildings?  
   b. **Y** Roads?  
   c. **N** Other structures?  
   d. **Y** Trash?  
   e. **N** Pollution?  
   f. **Y** Filling?  
   g. **Y** Dredging/draining?  
   h. **Y** Domination by non-native vegetation?

   **Other structures includes the railroad on the north side of the wetland.**

6. Is the surrounding viewshed relatively free of obvious human influences, such as:

   a. **Y** Buildings?  
   b. **Y** Roads?  
   c. **N** Other structures?

7. **N** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:

   a. **N** Long views within the wetland?  
   b. **Y** Long views in the viewshed adjacent to the wetland?  
   c. **N** Convoluted edges within and/or around the wetland border?  
   d. **Y** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **N** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **This plant community area is entirely in private ownership with no indication that agriculture will cease.**

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<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **N** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 14</th>
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<tbody>
<tr>
<td>Owner(s):</td>
<td>State of Wisconsin Dept. of Natural Resources - Tax Key No. WAKC1329988</td>
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<tr>
<td>Location:</td>
<td>Waukesha County; SE ¼ Section 7, Township 6N, Range 19E</td>
</tr>
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<td>Project Name:</td>
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</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>August 30, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification:</th>
<th>S3/E2K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type:</td>
<td>shallow open water  deep marsh  shallow marsh  seasonally flooded basin  bog  floodplain forest  alder thicket  sedge meadow  coniferous swamp  fen  wet meadow  shrub-carr  low prairie  hardwood swamp</td>
</tr>
</tbody>
</table>

| Estimated size of wetland in acres: | Study area wetland = 0.3 acres |

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td></td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td></td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td></td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": This plant community area is identified as a Natural Area of local significance (NA-3) known as Pebble Creek Railroad Prairie. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, was observed by Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural
Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [Y] N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

- Old fill at Railroad and bike trail interrupted natural flows from south to Pebble Creek

C. [Y] N Does the wetland have an inlet, outlet, or both (circle those that apply)?

- East of the plant community area, a culvert under the railroad and under the bike trail carries flows from lands south of the railroad to Pebble Creek to the north.

D. [Y] N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

- Low-lying area supporting low prairie plants.

E. [N] Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

- No standing water observed during field inspection. However, parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [Y] N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. **This plant community area is not part of a navigable body of water. Nor is it below the Ordinary High Water Mark. However, this wetland drains eastward and then northward through a culvert under the Bike Trail and then north to Pebble Creek. The plant community area is about 300 feet from the navigable portion of Pebble Creek.**
## II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>Emergent community</td>
<td></td>
</tr>
<tr>
<td>Shrub community</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community</td>
<td></td>
</tr>
<tr>
<td>Coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community</td>
<td>Andropogon gerardii and Dipsacus laciniatus</td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

*See attached species list*

## III. SOILS

A. NRCS Soil Map Classification: Matherton silt loam (MmA) – Somewhat poorly drained; and Sebewa silt loam (Sm) – Poorly drained

B. Field description: **None recorded**

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 1

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Upland prairie</td>
<td>35%</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, railroads</td>
<td>35%</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>30%</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH
See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **YN** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Subject plant community area identified as a Natural Area of local significance (NA-3) known as the Pebble Creek Railroad Prairie; contained entirely within a Primary environmental corridor; and ADID wetland
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **YN** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, observed by Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff northwest of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **YN** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **YN** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **YN** Is the wetland plant community regionally scarce or rare? Much of pre-settlement wet to wet-mesic prairie occurring in this area has been drained and converted to agricultural uses.

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **YN** Songbirds utilize this plant community area.

2. **YN** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?
3. **Y** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **Inundation is limited to early growing season.**

4. **Y** Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **Primary environmental corridor**

6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife? **Important wetlands for wildlife along the Pebble Creek corridor**

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **This plant community area is located just south of and connected via a culvert to the Pebble Creek wetland complex that provides this function.**

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews) wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Impervious paved surfaces include CTH TT & the bike trail**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Small size and somewhat isolated**

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **Bike Trail**

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland’s storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] **But it is important to note that part of this wetland is located within the modeled 100-year floodplain.**

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? **A portion of this wetland is located within the modeled 100-year floodplain.**
Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from CTH TT

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. This plant community area is located just south of and connected via a culvert to the Pebble Creek wetland complex

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? This wetland plant community area is connected to a wetland complex that provides this function.

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? This wetland plant community area is connected to a wetland complex which may experience ice flows.

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? This wetland plant community area is connected to a wetland complex that provides this function.

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek Watershed.

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? This plant community area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).
Aesthetics/Recreation/Education and Science

1. **Y** N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.) **Public lands include the bike trail.**

2. **Y** N Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** N Is any part of the wetland in public or conservation ownership? **Wisconsin Dept. of Natural Resources**

4. **Y** N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Also have access from bike trail**

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. **Y** N Buildings?
   b. **Y** N Roads?
   c. **Y** N Other structures?
   d. **Y** N Filling?
   e. **Y** N Pollution?
   f. **Y** N Dredging/draining?
   g. **Y** N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. **Y** N Buildings?
   b. **Y** N Roads?
   c. **Y** N Other structures? **Bike trail & railroad**

7. **Y** N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. **Y** N Long views within the wetland?
   b. **Y** N Long views in the viewshed adjacent to the wetland?
   c. **Y** N Convoluted edges within and/or around the wetland border?
   d. **Y** N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 15
Owner(s): Ronald J. Pietrowiak – Tax Key No. WAKT1324997
Mary E. Kawatski – Tax Key No. WAKC1324999

Location: Waukesha County; SE ¼ Section 7, Township 6N, Range 19E

Project Name: Proposed Waukesha West Bypass

Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission

Date(s) of Site Visit(s): August 30, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: E2K

<table>
<thead>
<tr>
<th>Wetland Type: shallow open water</th>
<th>deep marsh</th>
<th>shallow marsh</th>
<th>seasonally flooded basin</th>
<th>bog</th>
</tr>
</thead>
<tbody>
<tr>
<td>floodplain forest</td>
<td>alder thicket</td>
<td>sedge meadow</td>
<td>coniferous swamp</td>
<td>fen</td>
</tr>
<tr>
<td>wet meadow</td>
<td>shrub-carr</td>
<td>low prairie</td>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 0.4 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
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<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Longear sunfish (Lepomis megalotis), a State-designated Threatened species, has been recorded by the Commission staff in Pebble Creek downstream of this location. Butler's gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding's turtle (Emydoidea
blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (Prenanthes aspera), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Riverine
- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Extensive Peatland

B. Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

- Past CTH TT construction to west and bike trail/railroad construction to south has impeded natural flows into the subject wetland and concentrated them under a the CTH TT bridge and through a culvert under the bike trail & railroad.

C. Does the wetland have an inlet, outlet, or both (circle those that apply)?

- Pebble Creek inlet from under bridge at CTH TT and outlet downstream

D. Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

- Hydrology indicators at Sample Site No. 38 include a high water table/saturation at surface, water stained leaves, within a mapped floodway, geomorphic position, and a positive FAC-Neutral test.

E. Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

- No standing water observed at sample site. However, surface water flow within Pebble Creek channel observed. Parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Seasonally Flooded (water absent at end of growing season)
- Artifically Flooded
- Artificially Drained

G. Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

- Pebble Creek, which flows through the subject plant community area, is navigable. There is a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>X Emergent community dominated by:</td>
<td>Typha angustifolia &amp; Phalaris arundinacea</td>
</tr>
<tr>
<td>X Shrub community dominated by:</td>
<td>While no dominants were listed, Cornus spp. and Salix</td>
</tr>
<tr>
<td>X Deciduous broad-leaved tree community</td>
<td>while no dominants were listed, Cornus spp. and Salix</td>
</tr>
<tr>
<td>X Coniferous tree community dominated by:</td>
<td>While no dominants were listed, Cornus spp. and Salix</td>
</tr>
<tr>
<td>X Sedge meadow/wet prairie community</td>
<td>While no dominants were listed, Cornus spp. and Salix</td>
</tr>
<tr>
<td>Other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Wet alluvial land (Ww); Sebewa silt loam (Sm) – Poorly drained

B. Field description: Recorded August 30, 2011

Organic (histosol)? If so, is it a muck or a peat? Muck

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description:
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
  - Matrix below the A horizon:
  - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>N 1/0</td>
<td></td>
<td></td>
<td>Muck</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? **3.9**

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
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<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>14</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>7</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>22</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>57</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
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- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

   Longear sunfish (*Lepomis megalotis*), a State-designated Threatened species, has been recorded by the Commission staff in Pebble Creek downstream of this location. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y** N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

**Floral Diversity**

1. **Y** N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N Is the wetland plant community regionally scarce or rare?

**Wildlife and Fishery Habitat**

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Northern pike determined by the Commission staff to be a resident fish species in Pebble Creek**. Total of 20 species of fish recorded at this location including primary coldwater, secondary coolwater, and warmwater fish assemblages. Macroinvertebrate abundance and diversity are indicative of very good water quality in this reach. Raccon, White-tailed deer, passerine birds, marsh birds, waterfowl, and muskrat utilize this wetland.
2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 5% - **Open water in creek bed**

4. **Y** N Does the surrounding upland habitat likely support a variety of animal species?  
   **No mapped wildlife habitat**

5. **Y** Y Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?  
   **Class I & II Wildlife Habitat & Primary environmental corridor**

6. **Y** Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Y N Are there other wetland areas near the subject wetland that may be important to wildlife?  
   **Important wetlands for wildlife along the Pebble Creek corridor**

9. **Y** Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?  
   **Pebble Creek supports a resident population of Northern pike and the majority of this area is within the modeled 2-year recurrence interval floodplain which likely supports spawning habitat.**

10. **Y** Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Y N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?  
   **Steep shoulders and impervious surfaces along CTH TT and the bike trail**

2. **Y** Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?  
   **Runoff velocity is significantly reduced when stormwater runoff enters the subject wetland**

3. **Y** Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)?  
   [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?  
   **Portions of this area are within the modeled 100-year floodplain and floodway.**
Water Quality Protection

1. **Y** N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water? **Primary source of water contribution to wetland is from Pebble Creek**

2. **Y** N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from CTH TT and potential nutrient loads if turf grass area to north is fertilized.**

3. **Y** N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. **Y** N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. **Y** N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? **Springs reported and observed throughout Pebble Creek watershed**

2. **Y** N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **A large portion of this area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).**

Aesthetics/Recreation/Education and Science

1. **Y** N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)
2. **Y** N Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** N Is any part of the wetland in public or conservation ownership?

4. **Y** N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **Y** N Other structures?
   - d. **Y** N Trash?
   - e. **Y** N Pollution?
   - f. **Y** N Filling?
   - g. **Y** N Dredging/draining?
   - h. **Y** N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **Y** N Other structures?

7. **Y** N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. **Y** N Long views within the wetland?
   - b. **Y** N Long views in the viewshed adjacent to the wetland?
   - c. **Y** N Convoluted edges within and/or around the wetland border?
   - d. **Y** N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 16
Owner(s): Richard Hase – Tax Key No. WAKT1324995
Location: Waukesha County; SE ¼ Section 7, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): August 30, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: T3/E2K

<table>
<thead>
<tr>
<th>Wetland Type:</th>
<th>shallow open water</th>
<th>deep marsh</th>
<th>shallow marsh</th>
<th>seasonally flooded basin</th>
<th>bog</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>floodplain forest</td>
<td>alder thicket</td>
<td>sedge meadow</td>
<td>coniferous swamp</td>
<td>fen</td>
</tr>
<tr>
<td></td>
<td>wet meadow</td>
<td>shrub-carr</td>
<td>low prairie</td>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 1.8 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
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<td>Water Quality Protection</td>
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</tr>
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<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Longear sunfish (*Lepomis megalotis*), a State-designated Threatened species, has been recorded by the Commission staff in Pebble Creek downstream of this location and Brown trout were observed in this reach. Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species,
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SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [X] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [Y] N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Past CTH TT construction to east and bike trail/railroad construction to south has impeded natural flows into the subject wetland and concentrated them under the CTH TT bridge.

C. [Y] N Does the wetland have an inlet, outlet, or both (circle those that apply)? Pebble Creek inlet from west and outlet downstream under CTH TT bridge.

D. [Y] N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Hydrology indicators at Sample Site No. 40 include a high water table at 9 inches below the surface, saturation at the surface, water stained leaves, geomorphic position, a positive FAC-Neutral test, and muck soils (histosol).

E. [Y] N Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Standing water observed in the Pebble Creek channel. Significant parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [X] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [Y] N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. Pebble Creek, which flows through the subject plant community area, is navigable. There is a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td>dominated by:</td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td>dominated by:</td>
</tr>
<tr>
<td>X emergent community</td>
<td>dominated by: <strong>Phalaris arundinacea</strong></td>
</tr>
<tr>
<td>shrub community</td>
<td>dominated by:</td>
</tr>
<tr>
<td>X deciduous broad-leaved</td>
<td><em>Acer negundo &amp; Populus tremuloides</em></td>
</tr>
<tr>
<td>tree community</td>
<td>dominated by:</td>
</tr>
<tr>
<td>coniferous tree community</td>
<td>dominated by:</td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>X sedge meadow/wet prairie</td>
<td>dominated by: **While no dominants were listed, Carex</td>
</tr>
<tr>
<td>community</td>
<td>stricta &amp; Carex trichocarpa are present**</td>
</tr>
<tr>
<td>other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

*See attached species list*

III. SOILS

A. NRCS Soil Map Classification: **Wet alluvial land (Ww)**

B. Field description: **Recorded August 30, 2011**

- Organic (histosol)? If so, is it a muck or a peat? **Muck (histosol)**

- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>N 1/0</td>
<td></td>
<td></td>
<td>Muck</td>
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4. **Y** Does the surrounding upland habitat likely support a variety of animal species?  
   - **Class I & II wildlife habitat**

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?  
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6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?  
   - **Important wetlands for wildlife along the Pebble Creek corridor**

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?  
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12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?  
   - **Steep shoulders and impervious surfaces along CTH TT and the bike trail**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?  
   - **Runoff velocity is significantly reduced when stormwater runoff enters the subject wetland**

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?  
   - **Construction of CTH TT roadbed through wetland has impeded flows & re-directed them to bridge under CTH TT.**

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)?  
   - [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?  
   - **Large portions of this area are within the modeled 100-year recurrence interval floodplain and floodway boundary.**
Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? **Primary source of water contribution to wetland is from Pebble Creek.**

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from CTH TT to east and parking lot to north; and potential nutrient loads if turf grass area to north is fertilized.**

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? **Springs reported and observed throughout Pebble Creek watershed.**

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **A small portion of this area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map). Also, this area is adjacent to lands with high groundwater recharge potential.**

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)
2. **Y** N Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** N Is any part of the wetland in public or conservation ownership?

4. **Y** N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **Y** N Other structures?
   - d. **Y** N Trash?
   - e. **N** Pollution?
   - f. **Y** N Filling?
   - g. **Y** N Dredging/draining?
   - h. **Y** N Domination by non-native vegetation?

6. Is the surrounding viewsheild relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **Y** N Other structures?

7. **Y** N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. **Y** N Long views within the wetland?
   - b. **Y** N Long views in the viewshed adjacent to the wetland?
   - c. **Y** N Convoluted edges within and/or around the wetland border?
   - d. **Y** N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 17
Owner(s): Richard Hase – Tax Key No. WAKT1324995
Location: Waukesha County; SE ¼ Section 7, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 6, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: WOHx

<table>
<thead>
<tr>
<th>Wetland Type</th>
<th>Shallow Open Water</th>
<th>Deep Marsh</th>
<th>Shallow Marsh</th>
<th>Seasonally Flooded Basin</th>
<th>Bog</th>
<th>Floodplain Forest</th>
<th>Alder Thicket</th>
<th>Sedge Meadow</th>
<th>Coniferous Swamp</th>
<th>Fen</th>
<th>Wet Meadow</th>
<th>Shrub-Carr</th>
<th>Low Prairie</th>
<th>Hardwood Swamp</th>
</tr>
</thead>
</table>

Estimated size of wetland in acres: Study area wetland = 0.7 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Longear sunfish (Lepomis megalotis), a State-designated Threatened species, has been recorded by the Commission staff in Pebble Creek downstream of this location. Butler's gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding's turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff west of
this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

### SITE DESCRIPTION

#### I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. **Y** Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

North-South ditch runs through wetland. Also, a pond was excavated in this wetland, including an earthen berm to contain water.

C. **Y** Does the wetland have an inlet, outlet, or both (circle those that apply)?

Ditch runs through wetlands carrying flows southward toward Pebble Creek.

D. **Y** Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

Hydrology indicators at Sample Site No. 41 include surface water nine inches deep, water marks, algal mat or crust, inundation visible on aerial imagery, aquatic fauna, thin muck surface, geomorphic position, and a positive FAC-Neutral test. At Sample Site No. 43 indicators include geomorphic position and a positive FAC-Neutral test.

E. **Y** Does the wetland have standing water, and if so what is the average depth in inches?

Approximately how much of the wetland is inundated?

Standing water observed at Sample Site No. 41 at the pond edge. Parts of wetland likely inundated in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. **Y** Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

Ditch which flows through the subject plant community area may not be navigable. The constructed pond, however, may be navigable. Pebble Creek, a navigable stream, is about 200 feet away from this plant community area. There is a surface water connection to other wetlands via the ditch which drains to Pebble Creek.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th></th>
<th>Dominated by</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>emergent community</td>
<td>Phalaris arundinacea</td>
</tr>
<tr>
<td>shrub community</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community</td>
<td></td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>other (explain)</td>
<td>Open water – No dominants listed.</td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Wet alluvial land (Ww); Mundelein silt loam (MzfA) – Somewhat poorly drained

B. Field description: Recorded September 6, 2011. See Sample Site Nos. 41 and 43

Organic (histosol)? If so, is it a muck or a peat?

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description:
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
  - Matrix below the A horizon:
  - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 6.2

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>23</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>6</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>54</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>2</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>15</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N  Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Primary environmental corridor; ADID wetland
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N  According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

- Longear sunfish (*Lepomis megalotis*), a State-designated Threatened species, has been recorded by the Commission staff in Pebble Creek downstream of this location.
- Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location.
- Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.
- Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. Y N  Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

**Floral Diversity**

1. Y N  Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N  Is the wetland plant community regionally scarce or rare?

**Wildlife and Fishery Habitat**

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Northern pike and Brown trout along with 21 species of cold, cool, and warmwater fish species determined by the Commission staff to be resident fish species in Pebble Creek, connected to this wetland by a ditch/unnamed tributary. Raccon, White-tailed deer, passerine birds, marsh birds, waterfowl, and muskrat utilize this wetland.
2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 5% - Open water in ditch in early growing season

4. Y N Does the surrounding upland habitat likely support a variety of animal species?
   Class I wildlife habitat

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
   Class I & Wildlife Habitat & Primary environmental corridor

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?
   Important wetlands for wildlife along the Pebble Creek corridor

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?
   The ditch/tributary to Pebble Creek and/or the pond may provide habitat for fish, particularly for Northern pike, because most of this area is within the modeled 2-year recurrence interval floodplain boundary of Pebble Creek which is likely to support spawning habitat.

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? Impervious surfaces to east drain to this wetland.

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? Runoff velocity is significantly reduced when stormwater runoff enters the subject wetland

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? Construction of pond berm impedes natural flows to Pebble Creek.

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? The majority of this area is within the modeled 100-year recurrence interval floodplain and floodway boundary.
Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)? Primary source of water likely contributed to wetland from ditch.

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from CTH TT and parking lot to east; potential nutrient loads from nursery operation and from turf grass area to east. Agricultural lands to north may contribute nutrient & sediment loads via the ditch.

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water? This function, however, is somewhat diminished because of the drainage ditch.

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. This wetland plant community area is part of a wetland complex associated with Pebble Creek.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces? This wetland plant community area is part of a wetland complex that provides this function.

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes? This wetland plant community area is part of a wetland complex, the shoreline edge of which may experience ice flows.

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability? This wetland plant community area is part of a wetland complex that provides this function.

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Springs reported and observed throughout Pebble Creek watershed; pond may be spring-fed

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? The majority of this wetland and lands adjacent to this wetland are identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).
Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? City of Waukesha

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/dRAINING?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) Currently privately-owned

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td>X</td>
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<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
**Wisconsin Department of Natural Resources**

**RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES**

**GENERAL INFORMATION**

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Richard Hase – Tax Key No. WAKT1324995</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; SE ¼ Section 7, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>September 6, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

**WETLAND DESCRIPTION**

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification: None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type:</td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: **Study area wetland = 0.3 acres**

**SUMMARY OF FUNCTIONAL VALUES**

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
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<tr>
<td>Floral Diversity</td>
<td></td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough...
rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Riverine
- Lake Fringe
- Extensive Peatland

B. **Y** [ ] Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

Alterations to hydrology due to agricultural activities to north and landscaping/nursery business.

C. **Y** [ ] Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. **Y** [ ] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Appears to receive flows from lands to north during high-water events which spill over into this low area.

E. **Y** [ ] Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated?

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Permanently Flooded
- Seasonally Flooded (water absent at end of growing season)
- Saturated (surface water seldom present)
- Artificially Flooded
- Artificially Drained

G. **Y** [ ] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

No parts of this wetland are navigable. Pebble Creek, a navigable stream, is about 600 feet southeast of this plant community area. This wetland does not have a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
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<td>emergent community dominated by:</td>
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<tr>
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<td>coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community dominated</td>
<td></td>
</tr>
<tr>
<td>other (explain):</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
   See attached species list

III. SOILS

A. NRCS Soil Map Classification: Colwood silt loam (Cw) – Poorly drained

B. Field description: No Sample Sites in this plant community area
   - Organic (histosol)? If so, is it a muck or a peat?
   - Mineral soil?
     - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
     - Soil Description:
     - Depth of mottling/gleying:
     - Depth of A Horizon:
     - Munsell Color of matrix and mottles
       - Matrix below the A horizon:
       - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 1.9

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>8</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>32</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>44</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>--</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>16</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N  Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N  According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler’s gartersnake** (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. **Blanding’s turtle** (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain **Rough rattlesnake root** (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y** N  Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

**Floral Diversity**

1. **Y** N  Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N  Is the wetland plant community regionally scarce or rare?

**Wildlife and Fishery Habitat**

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon**, **White-tailed deer**, and **song birds utilize this wetland**.

2. **Y** N  Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N  Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%
4. **Y** Is the surrounding upland habitat likely support a variety of animal species?
   - No wildlife habitat mapped here.
5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
   - No environmental corridor mapped here.
6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?
7. **Y** Are the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?
8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?
   - Important wetlands for wildlife along the Pebble Creek corridor
9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?
10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?
11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?
12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?
   - Moderate slopes with row cropping north of this wetland.
2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?
3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?
4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?
5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] But is important to note that a portion of this wetland plant community area is within the 100-year floodplain.
6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? While a portion of this wetland is within the 100-year floodplain, the size and somewhat isolated nature of this wetland lessen its importance in this function.

**Water Quality Protection**

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?
2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Potential nutrient loads from nursery operation. Agricultural lands to north may contribute nutrient & sediment loads.**

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **This plant community area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).**

**Aesthetics/Recreation/Education and Science**

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? **City of Waukesha**

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) Currently privately-owned

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 19
Owner(s): School District of Waukesha – Tax Key No. WAKT1321995012
Richard Hase – Tax Key No. WAKT1324995
Location: Waukesha County; NE ¼ & SE ¼ Section 7, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 6 and November 29, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September, below normal (-1 to -2 inches) for October, and normal (-0.5 to +0.5 inches) for November.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: None

<table>
<thead>
<tr>
<th>Wetland Type: shallow open water</th>
<th>deep marsh</th>
<th>shallow marsh</th>
<th>seasonally flooded basin</th>
<th>bog</th>
<th>floodplain forest</th>
<th>alder thicket</th>
<th>sedge meadow</th>
<th>coniferous swamp</th>
<th>fen</th>
<th>wet meadow</th>
<th>shrub-carr</th>
<th>low prairie</th>
<th>hardwood swamp</th>
</tr>
</thead>
</table>

Estimated size of wetland in acres: Study area wetland = 1.3 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
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<th>MEDIUM</th>
<th>HIGH</th>
<th>EXCEPTIONAL</th>
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<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td>X</td>
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<td>Flood/Stormwater Attenuation</td>
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<td>Aesthetics/Recreation/Education</td>
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</table>

List any Special Features/“Red Flags”: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by
Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Riverine
- Lake Fringe
- Extensive Peatland

B. □ N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to surrounding agricultural activities.

C. □ N Does the wetland have an inlet, outlet, or both (circle those that apply)? Drainage ditch carries flows southward from this wetland.

D. □ N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 44, hydrology indicators include saturation at the surface, inundation visible on aerial imagery, dry-season water table at 17 inches below surface, crayfish burrows, geomorphic position, and a positive FAC-Neutral test.

E. □ N Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? No standing water observed late in growing season. However, standing water is evident on aerial photos taken in early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Permanently Flooded
- Seasonally Flooded (water absent at end of growing season)
- Saturated (surface water seldom present)
- Artificially Flooded
- Artificially Drained

G. □ N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No parts of this wetland are navigable. Pebble Creek, a navigable stream, is about 600 feet southeast of this plant community area. This wetland has a surface water connection via a ditch to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community Type</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community</td>
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</tr>
<tr>
<td>Submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>Emergent community</td>
<td>Phalaris arundinacea &amp; Typha latifolia</td>
</tr>
<tr>
<td>Shrub community</td>
<td>Salix interior</td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community</td>
<td></td>
</tr>
<tr>
<td>Coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>Other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Mundelein silt loam (MzfA) – Somewhat poorly drained

B. Field description:

- Sample Site No. 44 recorded on November 29, 2011
- Organic (histosol)? If so, is it a muck or a peat?

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: See below
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
  - Matrix below the A horizon:
  - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>N 2.5/0</td>
<td>--</td>
<td>--</td>
<td>Clay loam</td>
</tr>
<tr>
<td>9-18</td>
<td>10Y 5/1</td>
<td>7.5YR 5/8</td>
<td>Common/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>18-22</td>
<td>10Y 5/1</td>
<td>10GY 5/1</td>
<td>Common/Prominent</td>
<td>Clay</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 21.9

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>5</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>71</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>1</td>
</tr>
<tr>
<td>Grasped recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>3</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>2</td>
</tr>
<tr>
<td>Other (specify): Wetland</td>
<td>18</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y** N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon, White-tailed deer, marsh birds, and song birds utilize this wetland.**

2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%
6. \( \text{Y} \) \( \text{N} \) Does the surrounding upland habitat likely support a variety of animal species?

   **No wildlife habitat mapped here.**

5. \( \text{Y} \) \( \text{N} \) Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

   **No environmental corridor mapped here.**

6. \( \text{Y} \) \( \text{N} \) Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. \( \text{Y} \) \( \text{N} \) Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. \( \text{Y} \) \( \text{N} \) Are there other wetland areas near the subject wetland that may be important to wildlife?

   **Important wetlands for wildlife along the Pebble Creek corridor**

9. \( \text{Y} \) \( \text{N} \) Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. \( \text{Y} \) \( \text{N} \) Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. \( \text{Y} \) \( \text{N} \) Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. \( \text{Y} \) \( \text{N} \) Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. \( \text{Y} \) \( \text{N} \) Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Moderate slopes with row cropping adjacent to this wetland.**

2. \( \text{Y} \) \( \text{N} \) Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. \( \text{Y} \) \( \text{N} \) Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. \( \text{Y} \) \( \text{N} \) Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. \( \text{Y} \) \( \text{N} \) Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland’s storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] **But it is important to note that portions of this wetland are within the modeled 100-year floodplain.**

6. \( \text{Y} \) \( \text{N} \) Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? **Portions of this wetland are within the modeled 100-year floodplain.**

**Water Quality Protection**

1. \( \text{Y} \) \( \text{N} \) Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?
2. **Y N** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? *Agricultural lands contribute nutrient & sediment loads.*

3. **Y N** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y N** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y N** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y N** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y N** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter “not applicable” for this function. If YES, then answer the applicable questions.

2. **Y N** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y N** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y N** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y N** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y N** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? *Springs reported and observed throughout Pebble Creek watershed*

2. **Y N** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y N** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? *This plant community area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).*

**Aesthetics/Recreation/Education and Science**

1. **Y N** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y N** Is the wetland in or near any population centers? *City of Waukesha*

3. **Y N** Is any part of the wetland in public or conservation ownership?

4. **Y N** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) *While the land is owned by the School District of Waukesha, this land is rented for agricultural purposes and not open for public use.*
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Buildings?  
   b. Roads?  
   c. Other structures?  
   d. Trash?  
   e. Pollution?  
   f. Filling?  
   g. Dredging/draining?  
   h. Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Buildings?  
   b. Roads?  
   c. Other structures?

7. Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?
8. Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Long views within the wetland?  
   b. Long views in the viewshed adjacent to the wetland?  
   c. Convoluted edges within and/or around the wetland border?  
   d. The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area Nos. 20 & 21
Owner(s): School District of Waukesha – Tax Key No. WAKT1321995012
Location: Waukesha County; NE ¼ Section 7, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): November 29, 2011; April 3, 2012

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):
Post-growth season field inspection in 2011 – verified findings at start of growing season in 2012. Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September, below normal (-1 to -2 inches) for October, and normal (-0.5 to +0.5 inches) for November. Precipitation records for 2012 indicate normal precipitation (-0.5 to +0.5 inches) for February and slightly above normal (+0.5 to +1 inches) for March.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: None

Wetland Type: shallow open water deep marsh shallow marsh seasonally flooded basin bog floodplain forest alder thicket sedge meadow coniferous swamp fen atypical (farmed) wetland
wet meadow shrub-carr low prairie hardwood swamp

Estimated size of wetland in acres: Study area wetland = 0.6 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": None
SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☑ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ ☐ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to surrounding agricultural activities.

C. ☐ ☑ Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. ☑ ☐ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 45, hydrology indicators include saturation at the surface, inundation visible on aerial imagery, dry-season water table at 20 inches below surface, and geomorphic position.

E. ☑ ☐ Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? No standing water observed late in growing season. Standing water limited to early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☐ Seasonally Flooded (water absent at end of growing season)
☒ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☑ ☐ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No parts of this wetland are navigable. Pebble Creek, a navigable stream, is about 800 feet southeast of these plant community areas.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>emergent community dominated by:</td>
<td></td>
</tr>
<tr>
<td>shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
</tbody>
</table>

X other (explain): Atypical (farmed) wetland – no dominants listed

B. Other plant species identified during site visit:  
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Mundelein silt loam (MzfA) – Somewhat poorly drained

B. Field description: Sample Site No. 45 recorded on November 29, 2011

Organic (histosol)? If so, is it a muck or a peat?

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: See below
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
- Matrix below the A horizon:
- Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-11</td>
<td>2.5Y 2.5/1</td>
<td>7.5YR 3/4 2.5Y 3/2</td>
<td>Common/Prominent Common/Faint</td>
<td>Clay loam</td>
</tr>
<tr>
<td>11-13.5</td>
<td>2.5Y 3/1</td>
<td>7.5YR 4/6</td>
<td>Common/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>13.5-22</td>
<td>2.5Y 5/2</td>
<td>7.5YR 5/8</td>
<td>Many/Prominent</td>
<td>Clay</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 19.2

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>83</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>3</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>14</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

   Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species. In addition, other species documented in the area including Blanding’s turtle and Butler’s garter snake are unlikely to use this actively farmed wetland area.

3. **Y** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: White-tailed deer, Raccoon, and various bird species may feed on agricultural crops.

2. **Y** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%

4. **Y** Does the surrounding upland habitat likely support a variety of animal species? _No wildlife habitat mapped here._
5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?  
   *No environmental corridor mapped here.*

6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?  
   *Important wetlands for wildlife along the Pebble Creek corridor*

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

### Flood and Stormwater Storage/Attenuation

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping or areas with severe overgrazing within the watershed (circle those that apply)?  
   *Moderate slopes with row cropping adjacent to & within this wetland.*

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?  
   *Would be important if allowed to re-vegetate*

### Water Quality Protection

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?  
   *Agricultural lands contribute nutrient & sediment loads.*

3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? **Springs reported and observed throughout Pebble Creek watershed. Because of the landscape position, these plant community areas may support seasonal groundwater seepages.**

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **This plant community area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).**

**Aesthetics/Recreation/Education and Science**

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? **City of Waukesha**

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **While the land is owned by the School District of Waukesha, this land is rented for agricultural purposes and not open for public use.**
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/drainage?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)  Not currently used but has potential given that the School District of Waukesha owns the property

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area Nos. 22
Owner(s): FHB Investments, LLC – Tax Key No. WAKC1317002
Waukesha County Parks & Land Use – Tax Key No. WAKT1319999
Location: Waukesha County; NE ¼ & SE ¼ Section 6, Township 6N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist;
Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): August 30 & September 6, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: E2H

<table>
<thead>
<tr>
<th>Wetland Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>shallow open water wetland</td>
<td></td>
</tr>
<tr>
<td>deep marsh</td>
<td></td>
</tr>
<tr>
<td>shallow marsh</td>
<td></td>
</tr>
<tr>
<td>seasonally flooded basin</td>
<td></td>
</tr>
<tr>
<td>bog</td>
<td></td>
</tr>
<tr>
<td>floodplain forest</td>
<td></td>
</tr>
<tr>
<td>alder thicket</td>
<td></td>
</tr>
<tr>
<td>sedge meadow</td>
<td></td>
</tr>
<tr>
<td>coniferous swamp</td>
<td></td>
</tr>
<tr>
<td>fen</td>
<td></td>
</tr>
<tr>
<td>atypical (farmed) wetland</td>
<td></td>
</tr>
<tr>
<td>wet meadow</td>
<td></td>
</tr>
<tr>
<td>shrub-carr</td>
<td></td>
</tr>
<tr>
<td>low prairie</td>
<td></td>
</tr>
<tr>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 1.9 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td></td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td></td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td></td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/“Red Flags”: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center and Waukesha County staff west of this location. In addition, Natural Heritage
Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

**I. HYDROLOGIC SETTING**

A. Describe the geomorphology of the wetland:

- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Riverine
- Lake Fringe
- Extensive Peatland

B. **Y** N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due surrounding residential development

C. **Y** N Does the wetland have an inlet, outlet, or both (circle those that apply)? A tributary to Pebble Creek passes through this wetland.

D. **Y** N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water-stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 49, hydrology indicators include saturation at the surface, water-stained leaves, dry-season water table at 14 inches below surface, geomorphic position, and positive FAC-Neutral test. At Sample Site No. 51, indicators include geomorphic position and a positive FAC-Neutral test.

E. **Y** N Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Other than stream channel itself, standing water limited to early growing season. Approximately 1 % of wetland inundated when measuring stream channel area.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Permanently Flooded
- Seasonally Flooded (water absent at end of growing season)
- Saturated (surface water seldom present)
- Artificially Flooded
- Artificially Drained

G. **Y** N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This tributary to Pebble Creek which runs through the subject wetland is likely navigable. This tributary provides a surface water connection to other wetlands.
## II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Floating Leaved Community</th>
<th>Emergent Community</th>
<th>Submerged Aquatic Community</th>
<th>Shrub Community</th>
<th>Deciduous Broad-leaved Tree Community</th>
<th>Coniferous Tree Community</th>
<th>Open Sphagnum Mat or Bog</th>
<th>Sedge Meadow/Wet Prairie Community</th>
<th>Other (Explain)</th>
</tr>
</thead>
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<td>Emergent Community</td>
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<td>Coniferous Tree Community</td>
<td>Open Sphagnum Mat or Bog</td>
<td>Sedge Meadow/Wet Prairie Community</td>
<td>Other (Explain)</td>
</tr>
<tr>
<td>Dominated by:</td>
<td>Typha latifolia, Phalaris arundinacea, and Solidago altissima</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Carex stricta</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

## III. SOILS

A. NRCS Soil Map Classification: Wallkill silt loam (Wa) – Poorly drained; Pella silt loam (Ph) – Poorly drained; and Houghton muck (HtA) – Very poorly drained

B. Field description: See Sample Site Nos. 49 and 51 recorded on August 30 and September 6, 2011, respectively.

- Organic (histosol)? If so, is it a muck or a peat?
- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? **155**

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>64</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>11</td>
</tr>
<tr>
<td>Old field</td>
<td>2</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>13</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>10</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N  Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study - Primary environmental corridor; ADID wetland
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N  According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (Prenanthes aspera), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. Y N  Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N  Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N  Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1.  List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: An unnamed tributary connects this wetland to the Upper Pebble Creek Reach – 1 (UP-1) that contains a total of 11 species of fishes including primary coldwater (Mottled sculpin), secondary coolwater, and warmwater assemblages. Macroinvertebrate abundance and diversity are indicative of fair water quality conditions in this UP-1 reach. Raccon, White-tailed deer, passerine birds, marsh birds, waterfowl, and muskrat utilize this plant community area.
2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 5% - Open water in creek bed

4. Y N Does the surrounding upland habitat likely support a variety of animal species? Class II & III wildlife habitat mapped in surrounding uplands.

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? Primary environmental corridor & Class I wildlife habitat.

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passersines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife? Important wetlands for wildlife along this corridor following tributary to Pebble Creek.

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? **Although this area is outside the 100-year recurrence interval floodplain boundary for Pebble Creek, it is important for attenuating & storing flood & stormwater peaks for this sub-basin.**
Water Quality Protection

1. Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Residential development contributes nutrient loads when lawn fertilizers are applied. In addition, road salt runoff occurs from the many impervious surfaces which drain to this wetland.

3. Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs? Sloped wetlands within this plant community area likely contain groundwater seepage areas.

2. Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Aesthetics/Recreation/Education and Science

1. Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Is the wetland in or near any population centers? City of Waukesha
3. Y N Is any part of the wetland in public or conservation ownership? **Waukesha County owns a portion.**

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Access from CTH TT and Madison Street through Waukesha County-owned properties.**

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. Y N Buildings?
   - b. Y N Roads?
   - c. Y N Other structures?
   - d. Y N Trash?
   - e. Y N Pollution?
   - f. Y N Filling?
   - g. Y N Dredging/draining?
   - h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   - a. Y N Buildings?
   - b. Y N Roads?
   - c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. X N Long views within the wetland?
   - b. Y N Long views in the viewshed adjacent to the wetland?
   - c. Y N Convoluted edges within and/or around the wetland border?
   - d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **Potential use on Waukesha County-owned properties**

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<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
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</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area Nos. 23
Owner(s): City of Waukesha - Tax Key No. WAKC1315999
Christoph Family Trust – Tax Key No. WAKT1320998

Location: Waukesha County; NE ¼ & SE ¼ Section 6, Township 6N, Range 19E

Project Name: Proposed Waukesha West Bypass

Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission

Date(s) of Site Visit(s): September 6, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: S3/E2K

Wetland Type: shallow open water deep marsh shallow marsh seasonally flooded basin bog floodplain forest alder thicket sedge meadow coniferous swamp fen atypical (farmed) wetland wet meadow shrub-carr low prairie hardwood swamp

Estimated size of wetland in acres: Study area wetland = 0.3 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

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</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI)
identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. See page 5 for details.

**SITE DESCRIPTION**

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Riverine
- Extensive Peatland

B. **Y** N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due surrounding residential development

C. **Y** N Does the wetland have an inlet, outlet, or both (circle those that apply)? A tributary to Pebble Creek passes through this wetland.

D. **Y** N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? Drift lines observed adjacent to creek.

E. **Y** N Does the wetland have standing water, and if so what is the average depth in inches? Other than stream channel itself, no standing water observed late in growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Permanently Flooded
- Seasonally Flooded (water absent at end of growing season)
- Saturated (surface water seldom present)
- Artificially Flooded
- Artificially Drained

G. **Y** N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This tributary to Pebble Creek which runs through the subject wetland is likely navigable. This tributary provides a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Emergent community dominated by: Phalaris arundinacea</td>
<td></td>
</tr>
<tr>
<td>Shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by:</td>
<td>Acer negundo &amp; Fraxinus pennsylvanica</td>
</tr>
<tr>
<td>Coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Other (explain):</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
   See attached species list

III. SOILS

A. NRCS Soil Map Classification: Lamartine silt loam (LmB) - Somewhat poorly drained; and Pistakee silt loam (PrA) – Somewhat poorly drained

B. Field description: No sample sites recorded for this plant community area
   - Organic (histosol)? If so, is it a muck or a peat?
   - Mineral soil?
     - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
     - Soil Description:
     - Depth of mottling/gleying:
     - Depth of A Horizon:
     - Munsell Color of matrix and mottles
       - Matrix below the A horizon:
       - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 127

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>66</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>13</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>11</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>10</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler's gartersnake (Thamnophis butleri)**, a State-designated Threatened species, has been identified by the Commission staff southeast of this location. **Blanding's turtle (Emydoidea blandingii)**, a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root (**Prenanthes aspera**), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y N** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y N** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **An unnamed tributary connects this wetland to the Upper Pebble Creek Reach – 1 (UP-1) that contains a total of 11 species of fishes including primary coldwater (Mottled sculpin), secondary coolerwater, and warmwater assemblages. Macroinvertebrate abundance and diversity are indicative of fair water quality conditions in this UP-1 reach. Raccon, White-tailed deer, and passerine birds utilize this plant community area.**
2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 5% - Open water in creek bed

4. Y N Does the surrounding upland habitat likely support a variety of animal species? 
   Mostly surrounded by residential development

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? 
   Class I wildlife habitat; no environmental corridor.

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife? The wetland itself is important as a wildlife corridor within an urbanized area.

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife? 
   Important wetlands for wildlife immediately west of this area.

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)? Drift lines observed along stream channel

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? CTH TT road bed blocks natural flows and redirects to bridge under roadway.

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? Although this area is outside the 100-year recurrence interval floodplain boundary for Pebble Creek, it is important for attenuating & storing flood & stormwater peaks for this sub-basin.
Water Quality Protection

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Residential development contributes nutrient loads when lawn fertilizers are applied.** Agricultural lands to south contribute nutrients from fertilizers and sediments. In addition, road salt runoff occurs from the many impervious surfaces which drain to this wetland.

3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Aesthetics/Recreation/Education and Science

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**
3. **Y** N Is any part of the wetland in public or conservation ownership? **City of Waukesha owns a portion.**

4. **Y** N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Access from CTH TT through City-owned property.**

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. **Y** N Buildings? e. **Y** N Pollution?
   - b. **Y** N Roads? f. **Y** N Filling?
   - c. **Y** N Other structures? g. **Y** N Dredging/daining?
   - d. **Y** N Trash? h. **Y** N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   - a. **Y** N Buildings?
   - b. **Y** N Roads?
   - c. **Y** N Other structures?

7. **Y** N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   - a. **Y** N Long views within the wetland?
   - b. **Y** N Long views in the viewshed adjacent to the wetland?
   - c. **Y** N Convoluted edges within and/or around the wetland border?
   - d. **Y** N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **Potential use on City-owned property**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Waukesha County – CTH TT Right-of-Way</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; NE ¼ Section 6, Township 6N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>September 8, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

| Wisconsin Wetlands Inventory classification: | None |
| Wetland Type: | shallow open water  deep marsh  shallow marsh  seasonally flooded basin  bog  floodplain forest  alder thicket  sedge meadow  coniferous swamp  fen  wet meadow  shrub-carr  low prairie  hardwood swamp |
| Estimated size of wetland in acres: | Study area wetland = 0.2 acres |

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
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<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain Rough rattlesnake root.
(Prenanthes aspera), a State-designated Endangered species. See page 5 for details.

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ ☐ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to road construction and surrounding residential and commercial development.

C. ☑ ☐ Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. ☑ ☐ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? *At Sample Site No. 53, hydrology indicators include drift deposits, water-stained leaves, oxidized rhizospheres, crayfish burrows, geomorphic position, and a positive FAC-Neutral test.*

E. ☑ ☐ Does the wetland have standing water, and if so what is the average depth in inches? Likely only standing water in the early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☑ ☐ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No part of this wetland is navigable. This wetland does not have a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved</td>
<td>community dominated by:</td>
</tr>
<tr>
<td>submerged aquatic</td>
<td>community dominated by:</td>
</tr>
<tr>
<td>emergent community dominated by:</td>
<td></td>
</tr>
<tr>
<td>shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td><strong>X</strong> deciduous broad-leaved tree community dominated by:</td>
<td><em>Populus deltoides, Ulmus americana, and Acer negundo</em></td>
</tr>
<tr>
<td>coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
<tr>
<td>other (explain):</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

   See attached species list

III. SOILS

A. NRCS Soil Map Classification: Lamartine silt loam (LmB) – Somewhat poorly drained

B. Field description: Sample Site No. 53 recorded on September 8, 2011

   Organic (histosol)? If so, is it a muck or a peat?

   Mineral soil?

   - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
   - Soil Description: See below
   - Depth of mottling/gleying:
   - Depth of A Horizon:
   - Munsell Color of matrix and mottles
     - Matrix below the A horizon:
     - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>N 2.5/0</td>
<td>7.5YR 4/6</td>
<td>Common/Prominent</td>
<td>Silt loam</td>
</tr>
<tr>
<td>9-19</td>
<td>5Y 2.5/1</td>
<td>5B 7/1</td>
<td>Few/Prominent Common/Prominent</td>
<td>Clay loam</td>
</tr>
<tr>
<td>19-21</td>
<td>2.5Y 3/1</td>
<td>7.5YR 4/6</td>
<td>Many/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>21-27</td>
<td>2.5Y 4/1</td>
<td>7.5YR 5/4 - 5/6</td>
<td>Many/Prominent</td>
<td>Silty clay</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 17.4

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>79</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>17</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>4</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler's gartersnake** (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. **Blanding's turtle** (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. In addition, Natural Heritage Inventory (NHI) identifies a broad area (Waukesha Township, T6N R19E), as having the potential to contain **Rough rattlesnake root** (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for this species typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this species.

3. **Y** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon, White-tailed deer, and song birds utilize this wetland.**

2. **Y** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%
4. Y N Does the surrounding upland habitat likely support a variety of animal species?
   Class II wildlife habitat mapped just east of this area.

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
   No environmental corridor mapped here.

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? Substantial impervious surfaces related to surrounding development

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? CTH TT road bed impedes natural drainage to east – culvert carries higher flows under CTH TT.

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland’s storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?
2. **Y N** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from roadways. Surrounding development contributes fertilizer loads.**

3. **Y N** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y N** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y N** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y N** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y N** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y N** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y N** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y N** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y N** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y N** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y N** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y N** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? **This plant community area is identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).**

**Aesthetics/Recreation/Education and Science**

1. **Y N** Is the wetland visible from any of the following kinds of vantage points: **roads, public lands, houses, and/or businesses**? (Circle all that apply.)

2. **Y N** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y N** Is any part of the wetland in public or conservation ownership?

4. **Y N** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color,
   and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or
   texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment
      from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following
    recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or
    scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Waukesha County – CTH TT Right-of-Way</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; SW ¼ Section 32, Township 7N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>September 8, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification:</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type:</td>
<td>shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen, wet meadow, shrub-carr, low prairie, hardwood swamp</td>
</tr>
<tr>
<td>Estimated size of wetland in acres:</td>
<td>Study area wetland = 0.1 acres</td>
</tr>
</tbody>
</table>

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [X] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. Y N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to road construction and surrounding residential development.

C. Y N Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. Y N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 54, hydrology indicators include drift deposits, sediment deposits, water marks, water-stained leaves, and a positive FAC-Neutral test.

E. Y N Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Likely only standing water in the early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [X] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. Y N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No part of this wetland is navigable. This wetland does not have a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Emergent community dominated by:</td>
<td>Phalaris arundinacea</td>
</tr>
<tr>
<td>Shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by:</td>
<td>Populus deltoides</td>
</tr>
<tr>
<td>Coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Other (explain):</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: Pella silt loam (Ph) – Poorly drained

B. Field description: Sample Site No. 54 recorded on September 8, 2011

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?

Data form for Sample Site No. 54 indicates that it is very similar to Sample Site No. 53, which is shown in tabular form below.

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description:
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
  - Matrix below the A horizon:
  - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>N 2.5/0</td>
<td>7.5YR 4/6</td>
<td>Common/Prominent</td>
<td>Silt loam</td>
</tr>
<tr>
<td>9-19</td>
<td>5Y 2.5/1</td>
<td>5B 7/1</td>
<td>Few/Prominent</td>
<td>Clay loam</td>
</tr>
<tr>
<td>19-21</td>
<td>2.5Y 3/1</td>
<td>7.5YR 4/6</td>
<td>Many/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>21-27</td>
<td>2.5Y 4/1 N 3/0</td>
<td>7.5YR 5/4 - 5/6</td>
<td>Many/Prominent</td>
<td>Silty clay</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 12.6

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>23</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>67</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>7</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>3</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH
See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler's gartersnake** (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.

3. **Y** N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

**Floral Diversity**

1. **Y** N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N Is the wetland plant community regionally scarce or rare?

**Wildlife and Fishery Habitat**

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon**, **White-tailed deer**, and **song birds utilize this wetland.**

2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **0%**

4. **Y** N Does the surrounding upland habitat likely support a variety of animal species? **Class II wildlife habitat**

5. **Y** N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **No environmental corridor mapped here.**
6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Steeply sloped woodland area to SE of this wetland.**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from roadways. Surrounding development contributes fertilizer loads.**

3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? This plant community area is identified in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2*, as having a high groundwater recharge potential (See map).

Aesthetics/Recreation/Education and Science

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** Is any part of the wetland in public or conservation ownership?

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   
   a. **Y** Buildings?   e. **Y** Pollution?
   b. **Y** Roads?   f. **Y** Filling?
   c. **Y** Other structures?   g. **Y** Dredging/daining?
   d. **Y** Trash?   h. **Y** Domination by non-native vegetation?
6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s):</td>
<td>Waukesha County – CTH TT Right-of-Way</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; SE ¼ Section 31, Township 7N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>September 8, 2011; September 28, 1999</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: E2K

<table>
<thead>
<tr>
<th>Wetland Type:</th>
<th>shallow open water</th>
<th>deep marsh</th>
<th>shallow marsh</th>
<th>seasonally flooded basin</th>
<th>bog</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>floodplain forest</td>
<td>alder thicket</td>
<td>sedge meadow</td>
<td>coniferous swamp</td>
<td>fen</td>
</tr>
<tr>
<td></td>
<td>wet meadow</td>
<td>shrub-carr</td>
<td>low prairie</td>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 0.2 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☒ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

☒ Alterations to hydrology due to road construction and surrounding commercial development including construction of an elevated parking lot over part of the wetland.

C. Does the wetland have an inlet, outlet, or both (circle those that apply)?

☐ Y ☐ N

D. Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water-stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

☒ At Sample Site No. 56, hydrology indicators include sediment deposits, water-stained leaves, geomorphic position and a positive FAC-Neutral test. During a field inspection of the subject wetland on September 28, 1999, soils were saturated at the surface and a positive FAC-Neutral test was noted for Sample Site Nos. 1 & 2.

E. Does the wetland have standing water, and if so what is the average depth in inches?

☒ Likely only standing water in the early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☒ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

☒ No part of this wetland is navigable. This wetland does not have a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community type</th>
<th>Dominant species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>emergent community</td>
<td>Phalaris arundinacea &amp; Typha latifolia</td>
</tr>
<tr>
<td>shrub community</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community</td>
<td></td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
   See attached species list

III. SOILS

A. NRCS Soil Map Classification: Pella silt loam (Ph) – Poorly drained

B. Field description: See Sample Site No. 56 recorded on September 8, 2011; See also sample site data from September 28, 1999 (Sample Site Nos. 1 and 2 from that date are wetland samples)

- Organic (histosol)? If so, is it a muck or a peat?
- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 6.9

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>60</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forsted (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field – undeveloped lot</td>
<td>23</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>14</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>3</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler’s gartersnake** (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. **Blanding’s turtle** (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.

3. **Y** N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Marsh birds may occasionally utilize this wetland to a limited extent.**

2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%

4. **Y** N Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **No environmental corridor mapped here.**
6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?  
   Class II wildlife habitat to east across CTH TT

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Large parking lot elevated over the subject wetland**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **CTH TT road bed impedes drainage to east**

5. Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from roadways & parking lots. Surrounding development contributes fertilizer loads.**

3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4. **Y** N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y** N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? This plant community area is identified in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2*, as having a high groundwater recharge potential (See map).

**Aesthetics/Recreation/Education and Science**

1. **Y** N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** N Is the wetland in or near any population centers? City of Waukesha

3. **Y** N Is any part of the wetland in public or conservation ownership?

4. **Y** N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   
   a. **Y** N Buildings?  
   b. **Y** N Roads?  
   c. **Y** N Other structures?  
   d. **Y** N Trash?  
   e. **Y** N Pollution?  
   f. **Y** N Filling?  
   g. **Y** N Dredging/dRAINING?  
   h. **Y** N Domination by non-native vegetation?
6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

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<thead>
<tr>
<th>ACTIVITY</th>
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<th>POTENTIAL USE</th>
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<tbody>
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</tr>
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<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Name of Wetland:</th>
<th>Plant Community Area No. 27</th>
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<tbody>
<tr>
<td>Owner(s):</td>
<td>Waukesha County – CTH TT Right-of-Way</td>
</tr>
<tr>
<td></td>
<td>Good Times Summer Day Camp – Tax Key No. WAKC0991001</td>
</tr>
<tr>
<td>Location:</td>
<td>Waukesha County; SW ¼ Section 32, Township 7N, Range 19E</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Proposed Waukesha West Bypass</td>
</tr>
<tr>
<td>Evaluator(s):</td>
<td>Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</td>
</tr>
<tr>
<td>Date(s) of Site Visit(s):</td>
<td>September 8, 2011</td>
</tr>
</tbody>
</table>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

<table>
<thead>
<tr>
<th>Wisconsin Wetlands Inventory classification:</th>
<th>T3/E1K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Type:</td>
<td>shallow open water  deep marsh  shallow marsh  seasonally flooded basin  bog  floodplain forest  alder thicket  sedge meadow  coniferous swamp  fen  wet meadow  shrub-carr  low prairie  hardwood swamp</td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 1.0 acre

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
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</tr>
<tr>
<td>Wildlife Habitat</td>
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<td>Fishery Habitat</td>
<td></td>
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<td>Flood/Stormwater Attenuation</td>
<td></td>
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<td>Water Quality Protection</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

List any Special Features/“Red Flags”: Butler's gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☒ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☒ ☐ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to road construction

C. ☒ ☐ Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. ☒ ☐ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer or oxidized rhizospheres (circle those that apply)? At Sample Site No. 55, hydrology indicators include saturation at the surface, water-stained leaves, oxidized rhizospheres, dry-season water table at 14.5 inches below the surface, geomorphic position, and a positive FAC-Neutral test.

E. ☒ ☐ Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Likely only standing water in the early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☒ ☐ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No part of this wetland is navigable. This wetland does not have a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominated by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic</td>
<td></td>
</tr>
<tr>
<td>Emergent</td>
<td>Typha latifolia</td>
</tr>
<tr>
<td>X Shrub</td>
<td>Salix interior</td>
</tr>
<tr>
<td>X Deciduous broad-leaved tree</td>
<td>Populus deltoides</td>
</tr>
<tr>
<td>Coniferous tree</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie</td>
<td></td>
</tr>
<tr>
<td>Other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Pella silt loam (Ph) – Poorly drained

B. Field description:
Sample Site No. 55 recorded on September 8, 2011.

- Organic (histosol)? If so, is it a muck or a peat?
- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description: See table below
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-11</td>
<td>N 2.5/0</td>
<td>7.5YR 4/4</td>
<td>Common/Prominent</td>
<td>Muck</td>
</tr>
<tr>
<td>11-17</td>
<td>5Y 4/1</td>
<td>7.5YR 4/4</td>
<td>Many/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>17</td>
<td>Refusal</td>
<td></td>
<td></td>
<td>Dolomite Bedrock?</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 48.7

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>15</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>12</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>43</td>
</tr>
<tr>
<td>Old field</td>
<td>14</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>3</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>13</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Isolated Natural Resource Area
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Raccoon, White-tailed deer, and song and marsh birds utilize this wetland.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y(N) Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%

4. Y(N) Does the surrounding upland habitat likely support a variety of animal species? Somewhat isolated from other habitat areas.
5.  ☐ N  Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?  
   **Class II wildlife habitat and isolated natural resource area mapped here.**

6.  ☐ Y  Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7.  ☐ Y  Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8.  ☐ N  Are there other wetland areas near the subject wetland that may be important to wildlife?

9.  ☐ N  Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10.  ☐ Y  Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11.  ☐ Y  Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12.  ☐ Y  Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1.  ☐ Y  Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?  **CTH TT and USH 18 border wetland as well as a parking lot/playground along SE edge of wetland.**

2.  ☐ Y  Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3.  ☐ Y  Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4.  ☐ Y  Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?  **CTH TT road bed impedes natural drainage to west**

5.  ☐ Y  Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland’s storage capacity (i.e. the level of easily observable wetland vegetation)?  [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6.  ☐ Y  Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1.  ☐ Y  Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2.  ☐ Y  Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?  **Road salt from roadways & parking lots. Surrounding development contributes fertilizer loads.**
3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

**Aesthetics/Recreation/Education and Science**

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses. (Circle all that apply.) Also camp facility.

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** Is any part of the wetland in public or conservation ownership?

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) Also, part of the Good Times Summer Day Camp.

5. Is the wetland itself relatively free of obvious human influences, such as:
   - a. **Y** Buildings?
   - b. **Y** Roads?
   - c. **Y** Other structures?
   - d. **Y** Trash?
   - e. **Y** Pollution?
   - f. **Y** Filling?
   - g. **Y** Dredging/draining?
   - h. **Y** Domination by non-native vegetation?
6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) Currently privately-owned day camp. However, public acquisition would allow for nature study.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 28
Owner(s): Waukesha County – CTH TT Right-of-Way
Location: Waukesha County; SE ¼ Section 31, Township 7N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 8, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: None

Wetland Type: shallow open water  deep marsh  shallow marsh  seasonally flooded basin  bog
floodplain forest  alder thicket  sedge meadow  coniferous swamp  fen
wet meadow  shrub-carr  low prairie  hardwood swamp

Estimated size of wetland in acres: Study area wetland = 0.1 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.
SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☒ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☐ ☐ ☐ ☐ ☐ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to road construction and surrounding commercial development.

C. ☐ ☐ ☐ ☐ ☐ Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. ☐ ☐ ☐ ☐ ☐ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water-stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 57, hydrology indicators include sediment deposits, algal mat or crust, water-stained leaves, geomorphic position and a positive FAC-Neutral test.

E. ☐ ☐ ☐ ☐ ☐ Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Likely only standing water in the early growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☒ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☐ Artificially Flooded
☐ Artificially Drained

G. ☐ ☐ ☐ ☐ ☐ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No part of this wetland is navigable. This wetland does not have a surface water connection to other wetlands.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community Type</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>emergent community dominated by Typha angustifolia</td>
<td></td>
</tr>
<tr>
<td>shrub community dominated by</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community</td>
<td></td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>other (explain):</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:  
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Hochheim loam (HmC2) – Well drained. Although, the soils have been altered on this site.

B. Field description: See Sample Site No. 57 recorded on September 8, 2011. Profile description not recorded due to refusal at a gravel layer just below surface. 1 inch of muck at soil surface.

- Organic (histosol)? If so, is it a muck or a peat?
- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 1.9

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>59</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grasped recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>36</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>5</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
   - Calcereous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:
   - Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Due to size, it’s unlikely that any significant utilization by wildlife occurs in this wetland.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%

4. Y N Does the surrounding upland habitat likely support a variety of animal species?

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? No wildlife habitat or environmental corridor mapped here.
6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? Roadways, driveways, parking lots, and buildings.

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Road salt from roadways & parking lots. Surrounding development contributes fertilizer loads.

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? This plant community area is identified in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2*, as having a high groundwater recharge potential (See map).

**Aesthetics/Recreation/Education and Science**

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? City of Waukesha

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) Entirely within the CTH TT right-of-way.

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/drainage?
   h. Y N Domination by non-native vegetation?
6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Buildings?  
   b. Roads?  
   c. Other structures?

7. **Y** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. **Y** Long views within the wetland?  
   b. **Y** Long views in the viewshed adjacent to the wetland?  
   c. **Y** Convoluted edges within and/or around the wetland border?  
   d. **N** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Y** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area Nos. 29
Owner(s): Waukesha County – CTH TT Right-of-Way
Location: Waukesha County; SE ¼ Section 31, Township 7N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 8, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: T3K

<table>
<thead>
<tr>
<th>Wetland Type: shallow open water</th>
<th>deep marsh</th>
<th>shallow marsh</th>
<th>seasonally flooded basin</th>
<th>bog</th>
</tr>
</thead>
<tbody>
<tr>
<td>floodplain forest</td>
<td>alder thicket</td>
<td>sedge meadow</td>
<td>coniferous swamp</td>
<td>fen</td>
</tr>
<tr>
<td>wet meadow</td>
<td>shrub-carr</td>
<td>low prairie</td>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

Estimated size of wetland in acres: Study area wetland = 0.1 acre

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
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<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
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<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler's gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location. See page 5 for details.
# SITE DESCRIPTION

## I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [x] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [ ] [Y] Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

Alterations to hydrology due to road construction & surrounding commercial development

C. [ ] [Y] Does the wetland have an inlet, outlet, or both (circle those that apply)? **Pebble Creek passes through this wetland.**

D. [ ] [Y] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water-stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? **At Sample Site No. 59, hydrology indicators include water-stained leaves, geomorphic position, and a positive FAC-Neutral test.**

E. [ ] [Y] Approximately how much of the wetland is inundated? Other than stream channel itself, no standing water observed late in growing season.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [ ] [Y] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

**This segment of Pebble Creek which runs through the subject wetland is likely navigable. There is a surface water connection to other wetlands.**
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Vegetation Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating Leaved</td>
<td></td>
</tr>
<tr>
<td>Submerged Aquatic</td>
<td></td>
</tr>
<tr>
<td>Emergent</td>
<td></td>
</tr>
<tr>
<td>Shrub</td>
<td></td>
</tr>
<tr>
<td>Deciduous Broad-Leaved Tree</td>
<td>Acer negundo</td>
</tr>
<tr>
<td>Coniferous Tree</td>
<td></td>
</tr>
<tr>
<td>Open Sphagnum Mat</td>
<td></td>
</tr>
<tr>
<td>Sedge Meadow/Wet Prairie</td>
<td></td>
</tr>
<tr>
<td>Other (Explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
See attached species list

III. SOILS

A. NRCS Soil Map Classification: Pella silt loam (Pm) - Poorly drained

B. Field description:
Sample site no. 59 recorded for this plant community area on 9/8/2011.
Organic (Histosol)? If so, is it a muck or a peat?
Mineral soil?
- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: See below
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
  - Matrix below the A horizon:
  - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-13</td>
<td>2.5Y 2.5/1</td>
<td></td>
<td></td>
<td>Clay</td>
</tr>
<tr>
<td>13-24</td>
<td>7.5Y 2.5/1</td>
<td>10YR 5/6</td>
<td>Common/Prominent</td>
<td>Clay</td>
</tr>
<tr>
<td>24-30</td>
<td>10YR 4/1</td>
<td>10YR 5/6</td>
<td>Many/Prominent</td>
<td>Clay</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 247

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>28</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>15</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>22</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>1</td>
</tr>
<tr>
<td>Old field</td>
<td>9</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>12</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>13</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N  Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – Secondary Environmental Corridor
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N  According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff west of this location.

3. Y N  Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N  Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N  Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: This reach was identified by Commission staff to contain a total of four fish species classified as very tolerant of pollution. Macroinvertebrate abundance and diversity are indicative of very poor to fair water quality conditions. Raccoon, White-tailed deer, Song birds, and waterfowl utilize this plant community area.

2. Y N  Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N  Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 5% - Open water in creek bed

4. Y N  Does the surrounding upland habitat likely support a variety of animal species? Surrounded by active agricultural lands and commercial & residential development
5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? **Secondary environmental corridor.**

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife? **The wetland itself is important as a wildlife corridor along the Pebble Creek corridor.**

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife? **Important wetlands for wildlife upstream and downstream on Pebble Creek.**

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? **A portion of this area is within the modeled 2-year recurrence interval floodplain boundary. Therefore, it may provide spawning habitat.**

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Stream channel straightened – water moves quickly.**

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)? **Drift lines observed along stream channel**

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **Culvert carrying flows under USH 18 may reach capacity during high flows.**

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland’s storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? **While a portion of this wetland area is within the modeled 100-year recurrence interval floodplain and floodway, past creek channel modifications including straightening have reduced attenuation and storing functions.**

**Water Quality Protection**

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?
2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Residential development contributes nutrient loads when lawn fertilizers are applied. Agricultural lands contribute nutrients from fertilizers and sediments. In addition, road salt runoff occurs from the many impervious surfaces which drain to this wetland.

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter “not applicable” for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? The majority of this wetland and lands adjacent to this wetland are identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).

**Aesthetics/Recreation/Education and Science**

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? City of Waukesha

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) Access from USH 18.
5. Is the wetland itself relatively free of obvious human influences, such as:

- a. Buildings?  
- b. Roads?  
- c. Other structures?  
- d. Trash?  
- e. Pollution?  
- f. Filling?  
- g. Dredging/daining?  
- h. Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:

- a. Buildings?  
- b. Roads?  
- c. Other structures?

7. Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:

- a. Long views within the wetland?  
- b. Long views in the viewshed adjacent to the wetland?  
- c. Convoluted edges within and/or around the wetland border?  
- d. The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **Potential use if acquired**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
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<th>POTENTIAL USE</th>
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</thead>
<tbody>
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<tr>
<td>Others (list)</td>
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<td></td>
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</tbody>
</table>

11. Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area No. 30
Owner(s): Waukesha Memorial Hospital, Inc. – Tax Key No. WAKC0985300
Location: Waukesha County; NE ¼ Section 31, Township 7N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 8, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, and below normal (-2 to -3 inches) for August.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: T3K

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<tr>
<th>Wetland Type</th>
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<th>Seasonally flooded basin</th>
<th>Bog</th>
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<th>Alder thicket</th>
<th>Sedge meadow</th>
<th>Coniferous swamp</th>
<th>Fen</th>
<th>Wet meadow</th>
<th>Shrub-carr</th>
<th>Low prairie</th>
<th>Hardwood swamp</th>
</tr>
</thead>
</table>

Estimated size of wetland in acres: Study area wetland = 0.1 acres

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

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</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
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List any Special Features/“Red Flags”: Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threated species, has been identified by the Commission staff south of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff southwest of this location.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☒ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☐ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☐ ☑ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to detention pond construction & surrounding commercial development.

C. ☐ ☑ Does the wetland have an inlet, outlet, or both (circle those that apply)? Stormwater input(s) from development to northwest.

D. ☐ ☑ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 60, hydrology indicators include surface water at 7 inches deep, inundation visible on aerial imagery, geomorphic position, and a positive FAC-Neutral test.

E. ☐ ☑ Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Standing water measured at 7 inches deep on September 8, 2011. Water would be deeper in early growing season. About 98 percent of the wetland is inundated.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☐ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☒ Artificially Flooded
☐ Artificially Drained

G. ☐ ☑ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. No part of this artificial pond is considered to be navigable. This wetland does not have a surface water connection to other wetlands or surface waters.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>emergent community</td>
<td><em>Phragmites australis</em> and <em>Scirpus validus</em></td>
</tr>
<tr>
<td>shrub community</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community</td>
<td></td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
<tr>
<td>other (explain)</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: *Hochheim loam (HmB2) – Well drained*

B. Field description: *Sample Site No. 60 recorded on September 8, 2011. Profile description not recorded – hydric by definition due to inundation (NRCS Criteria No. 3).*

- Organic (histosl)? If so, is it a muck or a peat?

- Mineral soil?

  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 9.5

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>82</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>9</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>4</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>5</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH
See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. Y N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

Butler’s gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff south of this location. Blanding’s turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff southwest of this location.

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: Raccoon, White-tailed deer, marsh birds, and waterfowl utilize this area.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 98%

4. Y N Does the surrounding upland habitat likely support a variety of animal species?

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? No wildlife habitat or environmental corridor mapped here.
6. **Y** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** Are there other wetland areas near the subject wetland that may be important to wildlife?

9. **Y** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeat, bulrushes, but reeds, arrowhead, smartweeds, millets...) To a limited extent.

11. **Y** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Roadways, driveways, parking lots, and buildings.**

2. **Y** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Constructed detention pond designed to hold stormwater.**

3. **Y** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **Y** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? **A berm is constructed around the detention pond to hold water.**

5. **Y** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. **Y** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from roadways & parking lots and fertilizer loads from landscaped areas.**

3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4. Y N Does the wetland have significant vegetative density to decrease water energy and allow setting of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? This wetland and lands adjacent to this wetland are identified in SEWRPC Planning Report No. 52, *A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2*, as having a high groundwater recharge potential (See map).

**Aesthetics/Recreation/Education and Science**

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers? City of Waukesha

3. Y N Is any part of the wetland in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/drainage?
   h. Y N Domination by non-native vegetation?
6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area Nos. 31
Owner(s): Robert F. Smart – Tax Key No. WAKC0985300
Location: Waukesha County; SE ¼ Section 31, Township 7N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 8, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: T3K

<table>
<thead>
<tr>
<th>Wetland Type</th>
<th>Estimated size of wetland in acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>shallow open water</td>
<td>Study area wetland = 0.2 acre</td>
</tr>
<tr>
<td>deep marsh</td>
<td></td>
</tr>
<tr>
<td>shallow marsh</td>
<td></td>
</tr>
<tr>
<td>seasonally flooded basin</td>
<td></td>
</tr>
<tr>
<td>bog</td>
<td></td>
</tr>
<tr>
<td>floodplain forest</td>
<td></td>
</tr>
<tr>
<td>alder thicket</td>
<td></td>
</tr>
<tr>
<td>sedge meadow</td>
<td></td>
</tr>
<tr>
<td>coniferous swamp</td>
<td></td>
</tr>
<tr>
<td>fen</td>
<td></td>
</tr>
<tr>
<td>atypical (farmed) wetland</td>
<td></td>
</tr>
<tr>
<td>wet meadow</td>
<td></td>
</tr>
<tr>
<td>shrub-carr</td>
<td></td>
</tr>
<tr>
<td>low prairie</td>
<td></td>
</tr>
<tr>
<td>hardwood swamp</td>
<td></td>
</tr>
</tbody>
</table>

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Floral Diversity</td>
<td></td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td></td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td></td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td></td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td></td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td></td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td></td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler's gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding's turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff southwest of this location.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [ ] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [x] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. [x] Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow or changes to runoff within the watershed (circle those that apply)? 
**Alterations to hydrology due to road construction & surrounding residential development**

C. [x] Does the wetland have an inlet, outlet, or both (circle those that apply)? **A tributary to Pebble Creek passes through this wetland.**

D. [x] Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? **At Sample Site No. 62, hydrology indicators include drift deposits, geomorphic position, and a positive FAC-Neutral test.**

E. [x] Does the wetland have standing water, and if so what is the average depth in inches? 
**Approximately how much of the wetland is inundated? Other than stream channel itself, no standing water observed late in growing season.**

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [ ] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. [x] Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? **List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.**
**This tributary to Pebble Creek runs through the subject wetland is likely navigable. There is a surface water connection to other wetlands.**
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>floating leaved community</td>
<td></td>
</tr>
<tr>
<td>submerged aquatic community</td>
<td></td>
</tr>
<tr>
<td>emergent community</td>
<td></td>
</tr>
<tr>
<td>shrub community</td>
<td></td>
</tr>
<tr>
<td>deciduous broad-leaved tree community</td>
<td>Acer negundo</td>
</tr>
<tr>
<td>coniferous tree community</td>
<td></td>
</tr>
<tr>
<td>open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>sedge meadow/wet prairie community</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:

See attached species list

III. SOILS

A. NRCS Soil Map Classification: **Knowles silt loam (KwB) - Well drained**

B. Field description:

Sample site no. 59 recorded for this plant community area on 9/8/2011.

- Organic (histosol)? If so, is it a muck or a peat?

- Mineral soil?

  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description: See below
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color</th>
<th>Redox Concentrations Color</th>
<th>Redox Concentrations Abundance/Contrast</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>2.5Y 2.5/1</td>
<td></td>
<td></td>
<td>Silt loam</td>
</tr>
<tr>
<td>7-15</td>
<td>7.5YR 3/1</td>
<td></td>
<td></td>
<td>Silt loam</td>
</tr>
<tr>
<td>15-20</td>
<td>7.5YR 3/2</td>
<td>10YR 3/1</td>
<td>Common/Faint</td>
<td>Clay loam</td>
</tr>
</tbody>
</table>
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 160

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>37</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>30</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>17</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>2</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>6</td>
</tr>
<tr>
<td>Other (specify): Wetland</td>
<td>8</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
1. **Y** N Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- Lakes Michigan and Superior and the Mississippi River
- State or federal designated wild and scenic river
- Designated state riverway
- Designated state scenic urban waterway
- Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Secondary Environmental Corridor**
- Calcareous fen
- State park, forest, trail or recreation area
- State and federal fish and wildlife refuges and fish and wildlife management areas
- State or federal designated wilderness area
- Designated or dedicated state natural area
- Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler's gartersnake (Thamnophis butleri), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding's turtle (Emydoidea blandingii), a State-designated Threatened species, recorded by Retzer Nature Center staff southwest of this location.**

3. **Y** N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **This unnamed tributary flows into the Upper Reach of Pebble Creek which contains a total of four fish species classified as very tolerant of pollution. Raccon, White-tailed deer, and Song birds utilize this area.**

2. **Y** N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **5% - Open water in creek bed**

4. **Y** N Does the surrounding upland habitat likely support a variety of animal species? **Part of a Class II wildlife habitat area**
5. **Y** N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor? Class II wildlife habitat area and a secondary environmental corridor.

6. **Y** N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **Y** N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **Y** N Are there other wetland areas near the subject wetland that may be important to wildlife? Important wetlands for wildlife upstream and downstream on this Pebble Creek tributary.

9. **Y** N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y** N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y** N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y** N Is the wetland providing habitat that is scarce to the region?

**Flood and Stormwater Storage/Attenuation**

1. **Y** N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. **Y** N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? Tributary channel carries flows relatively quickly.

3. **Y** N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)? Drift lines observed along stream channel

4. **Y** N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? Culvert carrying flows under CTH TT may reach capacity during high flows.

5. **Y** N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. **Y** N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. **Y** N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. **Y** N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? Residential development contributes nutrient loads when lawn fertilizers are applied. Agricultural lands contribute nutrients from fertilizers and sediments. In addition, road salt runoff occurs from the impervious surfaces which drain to this wetland.
3. **Y** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **N** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

**Shoreline Protection**

1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

**Groundwater Recharge and Discharge**

1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)? *The majority of this wetland and lands adjacent to this wetland are identified in SEWRPC Planning Report No. 52, A Regional Water Supply Plan for Southeastern Wisconsin, Volumes 1 and 2, as having a high groundwater recharge potential (See map).*

**Aesthetics/Recreation/Education and Science**

1. **Y** Is the wetland visible from any of the following kinds of vantage points: **roads**, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** Is any part of the wetland in public or conservation ownership? **Just CTH TT right-of-way**

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Access from CTH TT.**
5. Is the wetland itself relatively free of obvious human influences, such as:
   a. Buildings?
   b. Roads?
   c. Other structures?
   d. Trash?
   e. Pollution?
   f. Filling?
   g. Dredging/draining?
   h. Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Buildings?
   b. Roads?
   c. Other structures?

7. Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Long views within the wetland?
   b. Long views in the viewshed adjacent to the wetland?
   c. Convoluted edges within and/or around the wetland border?
   d. The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) Potential use if acquired

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CURRENT USE</th>
<th>POTENTIAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature study/photography</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hiking/biking/skiing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hunting/fishing/trapping</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Boating/canoeing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Food harvesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: Plant Community Area Nos. 32
Owner(s): Windings Maintenance Corp. – Tax Key No. WAKC0978341
Location: Waukesha County; NW ¼ Section 29, Township 7N, Range 19E
Project Name: Proposed Waukesha West Bypass
Evaluator(s): Donald M. Reed, PhD., Chief Biologist; Lawrence A. Leitner, PhD., Principal Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission
Date(s) of Site Visit(s): September 8, 2011

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Precipitation records in 2011 indicate normal to below normal precipitation (0 to -1 inches) for June, below normal (-1 to -2 inches) for July, below normal (-2 to -3 inches) for August, above normal (+1 to +2 inches) for September.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: None

<table>
<thead>
<tr>
<th>Wetland Type</th>
<th>Floodplain Forest</th>
<th>Alder Thicket</th>
<th>Deep Marsh</th>
<th>Shallow Marsh</th>
<th>Seasonally Flooded Basin</th>
<th>Bog</th>
<th>Sedge Meadow</th>
<th>Coniferous Swamp</th>
<th>Fen</th>
<th>Atypical (farmed) Wetland</th>
<th>Wet Meadow</th>
<th>Shrub-carr</th>
<th>Low Prairie</th>
<th>Hardwood Swamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated size of wetland in acres:              Study area wetland = 0.1 acre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Diversity</td>
<td>X</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Fishery Habitat</td>
<td>X</td>
</tr>
<tr>
<td>Flood/Stormwater Attenuation</td>
<td>X</td>
</tr>
<tr>
<td>Water Quality Protection</td>
<td>X</td>
</tr>
<tr>
<td>Shoreline Protection</td>
<td>X</td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
</tr>
<tr>
<td>Aesthetics/Recreation/Education</td>
<td>X</td>
</tr>
</tbody>
</table>

List any Special Features/"Red Flags": Butler’s gartersnake (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. Blanding’s turtle (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff southwest of this location.
I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
☒ Riverine
☐ Lake Fringe
☐ Extensive Peatland

B. ☑ ☐ Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)? Alterations to hydrology due to road construction & surrounding residential development

C. ☑ ☐ Does the wetland have an inlet, outlet, or both (circle those that apply)? Drainage ditch acts as an outlet.

D. ☑ ☐ Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? At Sample Site No. 63, hydrology indicators include surface water at 15” deep, drift deposits, water-stained leaves, geomorphic position, and a positive FAC-Neutral test.

E. ☑ ☐ Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? Depth of water in stream channel measured at 15 inches. Approx. 50% of wetland is inundated.

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

☐ Permanently Flooded
☐ Seasonally Flooded (water absent at end of growing season)
☐ Saturated (surface water seldom present)
☒ Artificially Flooded
☐ Artificially Drained

G. ☑ ☐ Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands. This drainage ditch may be navigable. There is a surface water connection to other wetlands via the drainage ditch.
II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

<table>
<thead>
<tr>
<th>Community</th>
<th>Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floating leaved community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Submerged aquatic community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Emergent community dominated by:</td>
<td><strong>Typha latifolia &amp; Phalaris arundinacea</strong></td>
</tr>
<tr>
<td>Shrub community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Deciduous broad-leaved tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Coniferous tree community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Open sphagnum mat or bog</td>
<td></td>
</tr>
<tr>
<td>Sedge meadow/wet prairie community dominated by:</td>
<td></td>
</tr>
<tr>
<td>Other (explain):</td>
<td></td>
</tr>
</tbody>
</table>

B. Other plant species identified during site visit:
   See attached species list

III. SOILS

A. NRCS Soil Map Classification: **Lamartine silt loam (LmB) - Somewhat poorly drained**

B. Field description: Sample site no. 63 recorded for this plant community area on 9/8/2011. Profile description not recorded – hydric by definition due to 15 inches of standing water.

- Organic (histosol)? If so, is it a muck or a peat?
- Mineral soil?
  - Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
  - Soil Description:
  - Depth of mottling/gleying:
  - Depth of A Horizon:
  - Munsell Color of matrix and mottles
    - Matrix below the A horizon:
    - Mottles:
V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 117

B. What are the surrounding land uses?

<table>
<thead>
<tr>
<th>LAND-USE</th>
<th>ESTIMATED % OF WETLAND WATERSHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed (Industrial/Commercial/Residential)</td>
<td>83</td>
</tr>
<tr>
<td>Agricultural/cropland</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/grazing</td>
<td>--</td>
</tr>
<tr>
<td>Forested (Upland)</td>
<td>--</td>
</tr>
<tr>
<td>Grassed recreation areas/parks</td>
<td>--</td>
</tr>
<tr>
<td>Old field</td>
<td>--</td>
</tr>
<tr>
<td>Highways, roads, bike trails</td>
<td>15</td>
</tr>
<tr>
<td>Other (specify) : Wetland</td>
<td>2</td>
</tr>
</tbody>
</table>

VI. SITE SKETCH

See attached aerial map exhibit

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.
SPECIAL FEATURES/"RED FLAGS"

1. **Y** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
   - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
   - Lakes Michigan and Superior and the Mississippi River
   - State or federal designated wild and scenic river
   - Designated state riverway
   - Designated state scenic urban waterway
   - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
   - Calcareous fen
   - State park, forest, trail or recreation area
   - State and federal fish and wildlife refuges and fish and wildlife management areas
   - State or federal designated wilderness area
   - Designated or dedicated state natural area
   - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
   - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Butler's gartersnake** (*Thamnophis butleri*), a State-designated Threatened species, has been identified by the Commission staff southeast of this location. **Blanding's turtle** (*Emydoidea blandingii*), a State-designated Threatened species, recorded by Retzer Nature Center staff southwest of this location.

3. **Y** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon**, **White-tailed deer**, **amphibians**, **marsh birds**, and **song birds** utilize this area.

2. **Y** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **Y** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **50% - Open water in drainage ditch**

4. **Y** Does the surrounding upland habitat likely support a variety of animal species?

5. **Y** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

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1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Drainage ditch carries flows relatively quickly.**

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)? **Drift lines observed along drainage ditch.**

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

**Water Quality Protection**

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Residential development contributes nutrient loads when lawn fertilizers are applied. In addition, road salt runoff occurs from the impervious surfaces which drain to this wetland.**

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4. **Y** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. **Y** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. **Y** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

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1. **Y** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. **Y** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. **Y** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. **Y** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. **Y** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

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1. **Y** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. **Y** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. **Y** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

**Aesthetics/Recreation/Education and Science**

1. **Y** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y** Is the wetland in or near any population centers? **City of Waukesha**

3. **Y** Is any part of the wetland in public or conservation ownership? **Just CTH TT right-of-way**

4. **Y** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.) **Access from CTH TT.**

5. Is the wetland itself relatively free of obvious human influences, such as:
   
a. **Y** Buildings?

b. **Y** Roads?

c. **Y** Other structures?

d. **Y** Trash?

e. **Y** Pollution?

f. **Y** Filling?

g. **Y** Dredging/draining?

h. **Y** Domination by non-native vegetation?
6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) Potential use if acquired

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<tr>
<td>Others (list)</td>
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<td></td>
</tr>
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</table>

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?
Section 2

PLANT COMMUNITY AREA MAPS
Proposed Waukesha West Bypass
Sections 5, 6, 7, 8 and 17, T06N-R19E
Sections 29, 30, 31, and 32, T07N-R19E
City and Town of Waukesha, and City of Pewaukee, Waukesha County

Legend
- Project Area
- Primary Environmental Corridor
- Secondary Environmental Corridor
- Isolated Natural Resource Area
- Natural Area
- Wetland
- Plant Community Boundary
- Plant Community Number

Source: SEWRPC
Date of Photography: 2010
CAP031-706

Section 3

PEBBLE CREEK GROUNDWATER RECHARGE AREAS
WATER RECHARGE WITHIN THE PEBBLE CREEK WATERSHED

INSET 1

INSET 2

PROJECT AREA

GROUNDWATER
RECHARGE

LOW

MODERATE

HIGH

VERY HIGH

UNDEFINED

2005 STREAM LINE

2010 ORTHOPHOTOGRAPHY

Source: SEWRPC Water Supply Plan.
Project Area

Groundwater Recharge:
- Low
- Moderate
- High
- Very High
- Undefined

2005 Stream Line
Surface Water
Watershed Boundary

Source: SEWRPC Water Supply Plan.
INSET 2

PROJECT AREA
PLANT COMMUNITY BOUNDARY
PLANT COMMUNITY NUMBER
GROUNDWATER RECHARGE
LOW
MODERATE
HIGH
VERY HIGH
UNDEFINED
2005 STREAM LINE
SURFACE WATER
SUBWatershed Boundary
Source: SEWRPC Water Supply Plan.