Stantec Consulting Services Inc.
209 Commerce Parkway
Cottage Grove, WI 53527

October 20, 2016
File: #193704735

Mrs. Debbie Hatfield
Montgomery Associates Resource Solutions, LLC
119 South Main Street
Cottage Grove, WI 53527

Dear Mrs. Hatfield:

**Reference: Wetland Delineation for Terravessa Project; City of Fitchburg, Dane County, Wisconsin**

Stantec Consulting Services Inc. (Stantec) performed a wetland determination and delineation of the Fitchburg Lands portion of the NE Neighborhood, now called Terravessa ("Terravessa" or "the Property"), which is approximately 250 acres and is located northwest of the intersection of CTH MM and Goodland Park Road, in Sections 1 and 12 of Township 6 North, Range 9 East, City of Fitchburg, Dane County, Wisconsin (Figure 1). The determination and delineation was completed by Jeff Kraemer of Stantec on September 15, 2016. The work was done to verify or update previously delineated wetland boundaries delineated by Jeff Kraemer of Stantec on October 29, 2007 (see attached 2007 report) because of a regulatory agency policy that a wetland delineation may only be relied upon for up to five years. Mr. Kraemer is an assured delineator qualified via the Wisconsin Department of Natural Resources (WDNR) Wetland Delineation Assurance Program. Three wetland areas were identified within the Property in 2016, corresponding to the delineated wetland boundaries located by Mr. Kraemer in 2007.

**Methods**

The objective of the wetland determination and delineation was to verify the extent and spatial arrangement of wetlands if they exist within the Property. Wetland determinations were based on the criteria and methods outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual,* Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplements to the *Corps of Engineers Wetland Delineation Manual*.

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

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

On-site wetland determinations were made using the three (3) criteria (vegetation, soil, and hydrology) and technical approach defined in the USACE 1987 Manual and the 2012 Northcentral and Northeast Regional Supplement. According to procedures described in these manuals, areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g. inundated or saturated soils) are considered wetlands.

A review of U.S. Department of Agriculture Farm Service Agency (FSA) annual aerial slides and other available aerial imagery was conducted for the Study Area to assist in the wetland determination

because farmed areas with mapped poorly drained or somewhat poorly drained soils are present within the Study Area. The aerial imagery was reviewed for the appearance of wetland signatures. Areas within agricultural fields are typically identified as wetland if they contain hydric soils and 50% or more of the aerial images taken in the five (or more) most recent normal precipitation years show any of the wetland signatures listed above. However, while the focus of the analysis is on wetland signatures visible in normal precipitation years, years considered wet or dry for received precipitation were also analyzed.

**Results**

The topography slopes predominately to the southeast across most of the Property and slopes northwest from a small moraine located in the southeast corner. The highest elevations are located in the northern portion of the site at approximately 960 feet above mean sea level (msl) and the lowest elevations occur within W-3 at approximately 860 feet above msl (Figure 1). Slopes range from approximately 1 to 12 percent.

The Wisconsin Wetland Inventory map does not identify any wetland areas within the Property (Figure 3).

Soils mapped by NRCS within the Property and their hydric status are summarized in the Table below and mapped on Figure 2 (Appendix A). Areas investigated were located primarily within areas mapped as possessing hydric soils (Figure 3, Appendix A).

## Summary of Soils Identified within the Property

| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status |
|---|---|---|---|---|
| DnB: Dodge silt loam, 2 to 6 percent slopes | Dodge | 80-95 | Drumlins | No |
| | St. Charles | 3-10 | Drumlins | No |
| | Mayville | 2-7 | Drumlins | No |
| | Lamartine | 0-3 | Drumlins | No |
| DnC2: Dodge silt loam, 6 to 12 percent slopes, eroded | Dodge-Eroded | 80-90 | Drumlins | No |
| | St. Charles-Eroded | 7-13 | Till plains | No |
| | McHenry | 3-7 | Drumlins | No |
| MdC2: McHenry silt loam, 6 to 12 percent slopes, eroded | McHenry-Eroded | 85-95 | Moraines | No |
| | Kendall | 2-7 | Drainageways | No |
| | Kidder-Eroded | 3-8 | Moraines | No |
| MdD2: McHenry silt loam, 12 to 20 percent slopes, eroded | McHenry-Eroded | 85-95 | Moraines | No |
| | Dodge-Eroded | 3-6 | Moraines | No |
| | Wyocena | 1-5 | Moraines | No |
| | Lapeer | 1-4 | Moraines | No |
| MhC2: Military loam, 6 to 12 percent slopes, eroded | Military | 100 | Hills | No |
| PnB: Plano silt loam, till substratum, 2 to 6 percent slopes | Plano | 80-90 | Till plains | No |
| | Griswold | 5-11 | Till plains | No |
| | Elburn | 5-9 | Till plains | No |
| RaA: Radford silt loam, 0 to 3 percent slopes | Radford | 100 | Drainageways on stream terraces | No |
| | Sable | | Depressions | Yes |
| | Otter | | Depressions | Yes |
| RnB: Ringwood silt loam, 2 to 6 percent slopes | Ringwood | 100 | Moraines | No |
| ScB: St. Charles silt loam, 2 to 6 percent slopes | St. Charles | 80-90 | Till plains | No |
| | St. Charles-Moderately well drained | 5-10 | Till plains | No |
| | Virgil | 3-5 | Till plains | No |
| | Pella | 2-5 | Drainageways | Yes |
| ScC2: St. Charles silt loam, 6 to 12 percent slopes, eroded | St. Charles-Eroded | 85-95 | Till plains | No |
| | Dodge | 5-15 | Till plains | No |
| TrB: Troxel silt loam, 1 to 3 percent slopes | Troxel | 100 | Alluvial fans,drainageways | No |
| | Endoaquoll | | Depressions | Yes |
| VrB: Virgil silt loam, 1 to 4 percent slopes | Virgil | 100 | Till plains | No |
| | Wetter soils | | Depressions | Yes |

Average precipitation for the investigation area was obtained from the Madison Regional Airport, WI National Weather Service (NWS) weather station (NWS station #WI837) and used for the WETS analysis. A total of 18.45 inches of precipitation occurred in the three full months (June, July and August) in 2016 compared to the average of 12.31 inches. Based on the WETS analysis, antecedent moisture conditions were in the normal range (see attached WETS).

A review of the National Agriculture Imagery Program ("NAIP") aerial photographs from 2008 to 2015 supports the previous conclusions concerning the wetland boundaries within the agricultural areas (see attached NAIP photos).

Field work was completed on September 15, 2016, by Jeff Kraemer of Stantec. Sample points were taken in similar locations as those for the 2007 wetland delineation, although sampling in 2016 was less extensive than 2007 given that site conditions have not changed.

| Water Resource ID | Description | Acreage (on-site) |
|---|---|---|
| Wetland 1 (W-1) | Excavated Pond | 0.12 acres |
| Wetland 2 (W-2) | Farmed Wetland | 0.25 acres |
| Wetland 3 (W-3) | Farmed Wetland | 7.49 acres |

Wetland W-1

Wetland W-1 is associated with an excavated, linear pond within an active agricultural field. The margins along the ordinary high water mark (OHWM) were vegetated with shrubs and trees, including eastern cottonwood (*Populus deltoides,* FAC), black willow (*Salix nigra*, OBL), and sandbar willow (*S. interior,* FACW), while the area below the OHWM was sparsely vegetated or bare. The dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

W-1 contains occasionally to permanently saturated to inundated soils and is influenced primarily by surface water runoff from the adjacent upland areas which is perched above fine textured, low permeability soils. The OHWM lies approximately 3 feet below the upper banks of the pond. Primary wetland hydrology indicators observed included saturation within the upper 12 inches of the ground surface. Secondary indicators included positive FAC-neutral tests. Therefore, the wetland hydrology criterion was met.

The soils within W-1 are mapped primarily as Radford silt loam, which may contain hydric inclusions of Sable and Otter soils series. The soils were disturbed by the pond excavation and exhibited the F3-Depleted Matrix hydric soil indicator. Therefore, the hydric soil criterion was met.

Wetland W-2

Wetland 2 (W-2) is a 0.25-acre farmed wetland located in the west-central portion of the Property. The wetland lies within an active agricultural field and extends into an unfarmed segment of tree line. Review of Farm Service Agency (FSA) crop history slides confirm the presence of a consistent wetland signature within this area (Appendix B). The wetland is in a depression, and contains a seasonally saturated and inundated hydroperiod that is influenced primarily by surface water runoff from the adjacent upland areas. This area meets three secondary wetland hydrology indicators: C9-Saturation visible on aerial imagery, D3-Geomorphic Positions, and D5-FAC Neutral Test.

The wetland was most recently planted with soybeans. Unfarmed portions of the wetland within the tree line are dominated by hydrophytic vegetation: reed canary grass (*Phalaris arundinacea,* FACW) and silver maple (*Acer saccharinum*, FACW), and meet the hydrophytic vegetation criterion.

The soils within W-2 are mapped as Troxel and Plano silt loam (Figure 2). The Troxel series is listed on the NRCS Hydric Soil List to contain wet hydric inclusions and the Plano series is not listed as hydric. The field evaluated soils within W-2 confirmed the presence of a hydric inclusion and did not match the typical profile of the Plano series. The hydric soil indicator A12-Thick Dark Surface was observed, and therefore the hydric soil criterion was met.

Wetland W-3

Wetland 3 (W-3) is a 7.49 acre farmed wetland located in the east-central portion of the Property. The wetland lies within an active agricultural field most recently planted with a corn crop. Minor crop stress (stunting) was observed. A Review of Farm Service Agency (FSA) crop history slides confirm the presence of consistent and distinct wetland signatures within this area (Appendix B). W-3 generally contains a seasonally saturated and inundated hydroperiod that is influenced primarily by surface water runoff from the adjacent upland areas which becomes perched within the less permeable soils of the wetland. This wetland is in a depression and displays three secondary wetland hydrology indicators: C9-Saturation Visible on Aerial Imagery, D1-Stunted or Stressed Plants, and D2-Geomorphic position. Therefore, the wetland hydrology criterion was met.

Vegetation within the wetland was comprised mostly of the corn crop, with only sparse cover of yellow nutsedge (*Cyperus esculentus,* FACW). The hydrophytic vegetation criterion was not met, however ongoing agricultural use, a significant vegetation disturbance, of the wetland precludes the development of hydrophytic vegetation.

The soils within W-3 are mapped primarily as Radford and Virgil silt loam, both listed as containing hydric inclusions (Figures 2 and 3). The hydric soil field indicator, F6-Redox Dark Surface, was observed at the soil profiles within W-3. The dark soil surface is comprised of thick alluvial sediment, up to a thickness of 24 inches, deposited from upslope erosional activities. The underlying buried A-horizon is comprised of black, organically rich soil but is relatively thin, ranging from 6 to 12 inches thick. It is evident that this area was excavated historically and the surface horizon was partially removed. Examination of the FSA crop history slides reveal a signature that is consistent with excavation and grading activities especially pronounced in 1981. Therefore, the hydric soil criterion was met.

**Conclusions**

In summary, three wetlands were delineated on the Terravessa Property in September 2016, matching and confirming the results of the previous 2007 delineation (available upon request). Wetland 1 (W-1) is an excavated linear shaped pond that is confined within the ordinary high water mark. Wetland 2 (W-2) is a small farmed wetland depression situated at the edge of a wooded fence line. Wetland 3 (W-3) is a relatively large farmed wetland depression that contains up to two feet of alluvium material covering the surface from upslope erosion.

The information provided by Stantec regarding wetland boundaries and determinations presented are the best estimates of the conditions at the time the site was viewed. The ultimate decision on wetland boundaries and determinations rests with the USACE and, in some cases, the Wisconsin Department of Natural Resources, or a local unit of government. As a result, there may be adjustments to determinations based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to,

recent precipitation patterns and the season of the year. In addition, the physical characteristics of the site can change with time, depending on the weather, vegetation patterns, drainage, activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands on the site. If the Client proceeds to change, modify or utilize the property in question without obtaining authorization from the regulating governmental agency, it will be done at the Client's own risk and Stantec will not be responsible or liable for any resulting damages.

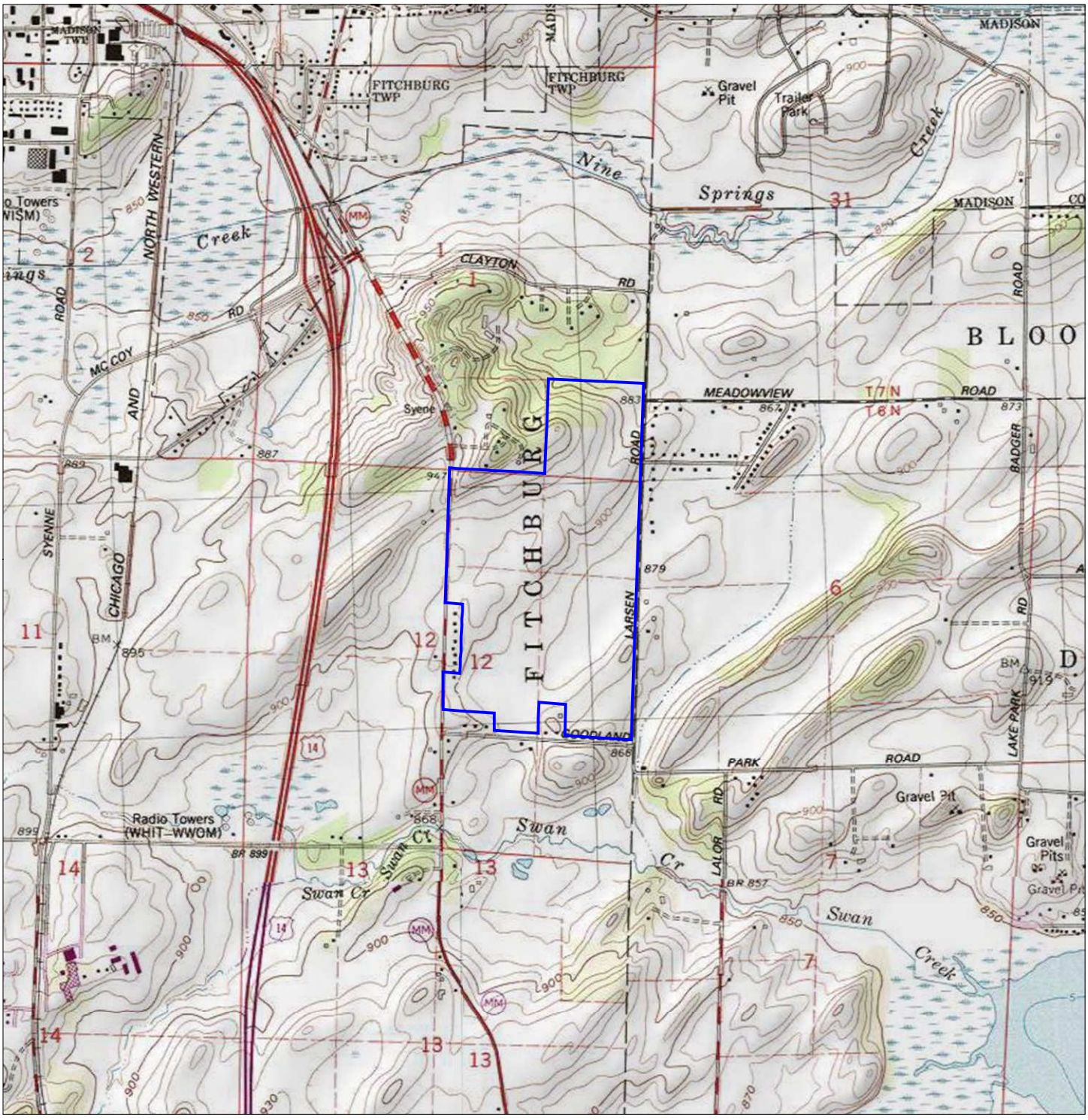
If you have questions or require additional information, I can be contacted at (608) 839-2030.

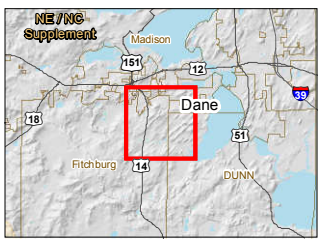
Sincerely,

**STANTEC CONSULTING SERVICES INC.**

Jeff Kraemer
Principal

Attachments: Figure 1: Project Location and Topography (USGS Map)
Figure 2: NRCS Soil Survey Data Hydric Ratings
Figure 3: NRCS Soil Survey Data Wetland Indicator Soils
Figure 4: Wisconsin Wetland Inventory
Figure 5: Field Collected Data
2007 Wetland Delineation (available upon request)
Wetland Data Forms
Site Photographs
WETS Analysis
Wetland Functional Value Worksheets




Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDOT, WDNR, NRCS
3. Orthophotography: 2015 NAIP



Legend

Approximate Project Boundary

Figure No.
1

Title
**Project Location and Topography**

Client/Project
Sveum Enterprises, Ltd.
Terravessa
Wetland Delineation

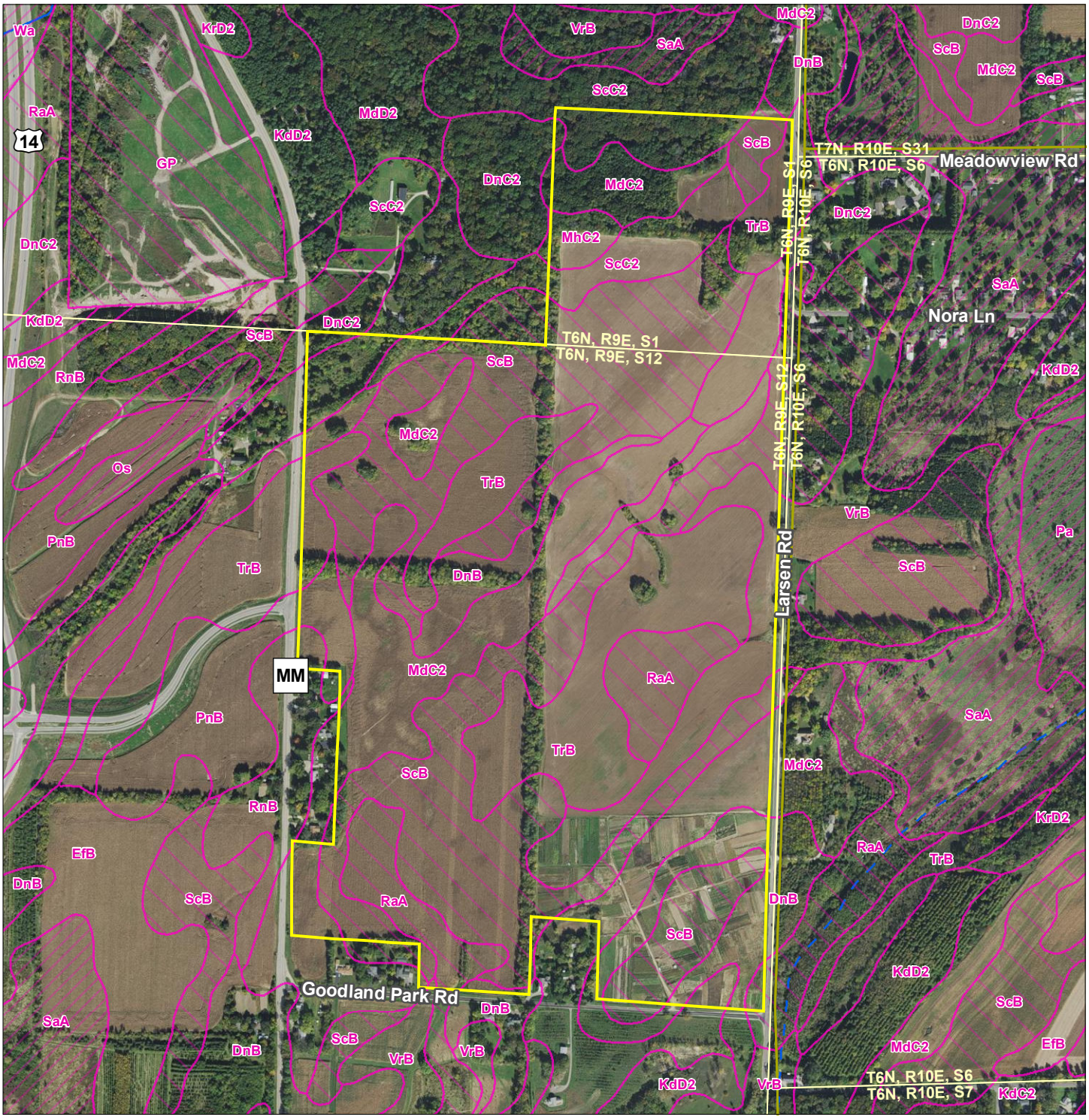
Project Location
T6N, R9E, S1 and 12
C. of Fitchburg,
Dane Co., WI

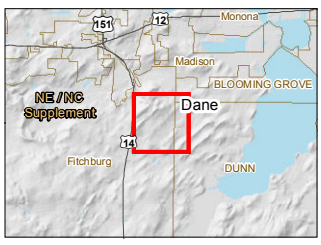
193704735
Prepared by JD on 2016-10-19
Technical Review by MP on 2016-10-19
Independent Review by JK on 2016-10-30

0 1,000 2,000 Feet
1:24,000 (at original document size of 8.5x11)

N

Stantec




## Legend

- Approximate Project Boundary

NRCS Soil Survey Data

Hydric Rating

- Predominantly Hydric Soils
- Partially Hydric Soils
- Non-Hydric Soils

DNR 24k Hydrography

- Perennial Stream
- Intermittent Stream
- Waterbody

**Notes**

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDOT, WDNR, NRCS
3. Orthophotography: 2015 NAIP



Figure No.
**2**

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

Client/Project
Sveum Enterprises, Ltd.
Terravessa
Wetland Delineation

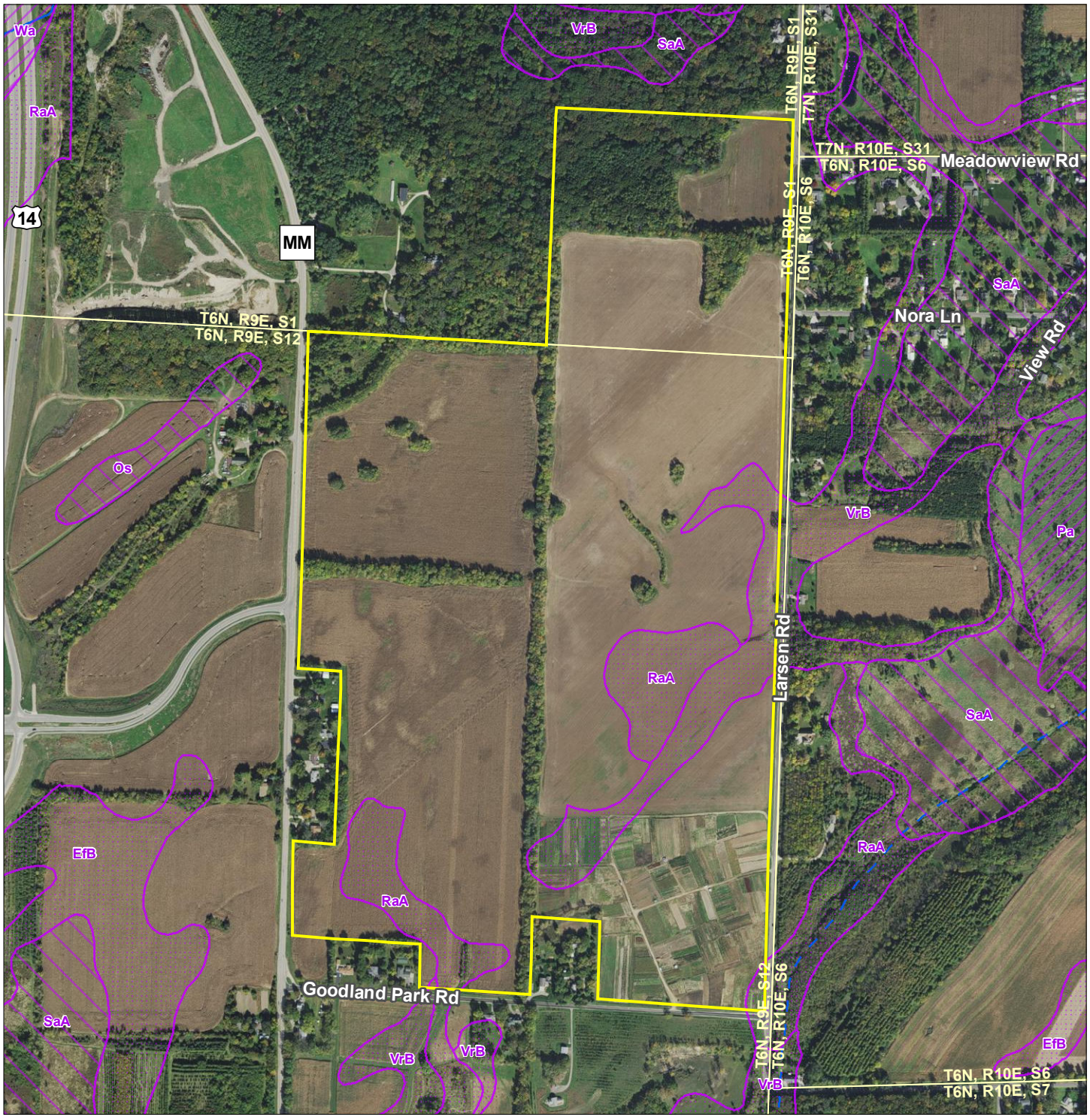
Project Location
T6N, R9E, S1 and 12
C. of Fitchburg,
Dane Co., WI

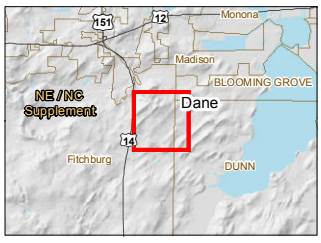
193704735
Prepared by JD on 2016-10-19
Technical Review by MP on 2016-10-19
Independent Review by JK on 2017-02-01

0 400 800 Feet
1:9,600 (at original document size of 8.5x11)

N

Stantec




## Legend

- Approximate Project Boundary
- NRCS Soil Survey Data
- Wetland Indicator Soils
  - Very Poorly Drained
  - Poorly Drained
  - Somewhat Poorly Drained

DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody

**Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDOT, WDNR, NRCS
3. Orthophotography: 2015 NAIP



Figure No.
**3**

Title
**NRCS Soil Survey Data**
**Wetland Indicator Soils**

Client/Project
Sveum Enterprises, Ltd.
Terravessa
Wetland Delineation

Project Location
T6N, R9E, S1 and 12
C. of Fitchburg,
Dane Co., WI

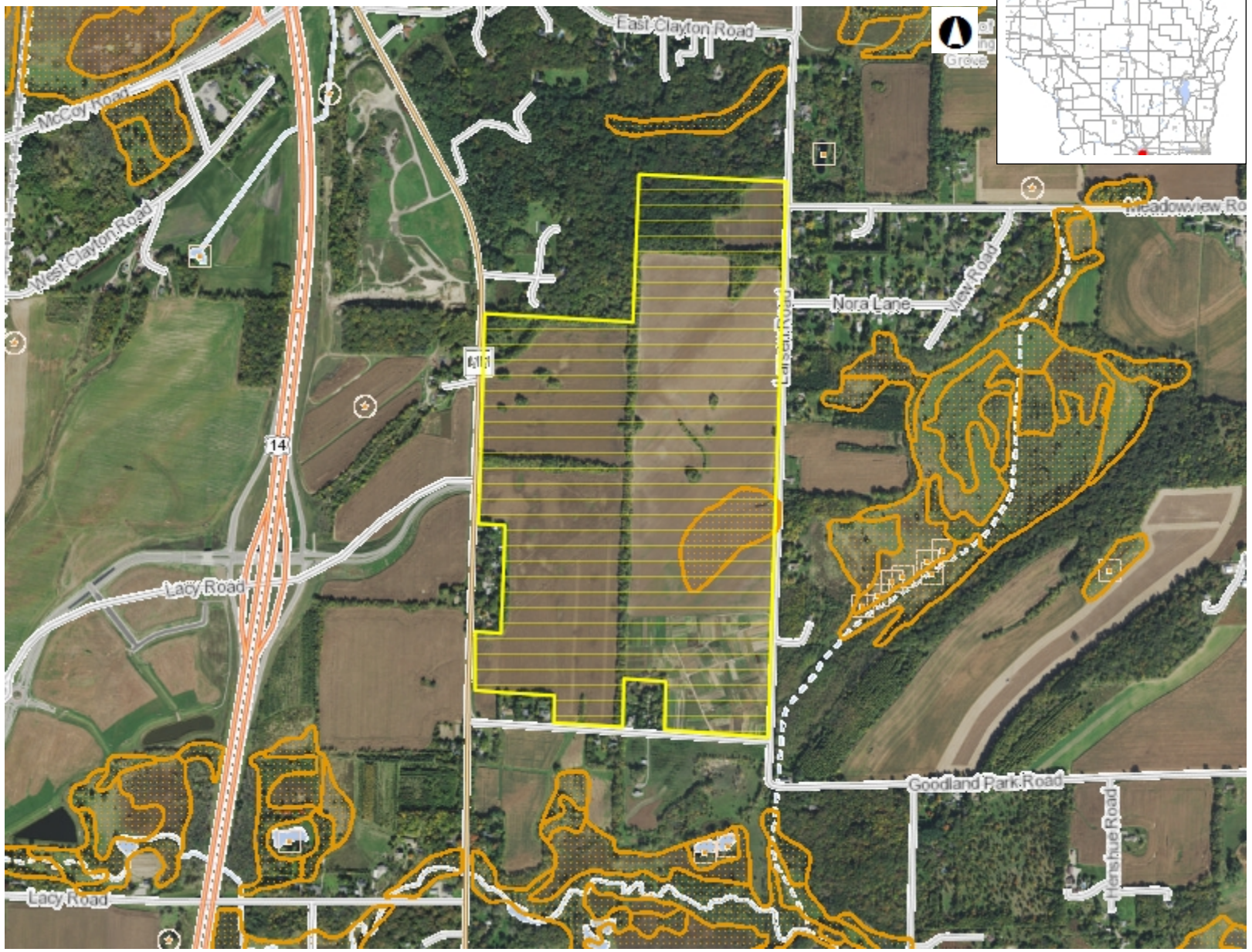
193704735
Prepared by JD on 2016-10-19
Technical Review by MP on 2016-10-19
Independent Review by JK on 2017-02-01

0 400 800 Feet
1:9,600 (at original document size of 8.5x11)

N

Stantec

# Figure 4. WI Wetland Inventory




## Legend

- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
- Filled Points
- Wetland Class Areas
  - Wetland
  - Upland
- Filled Areas
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

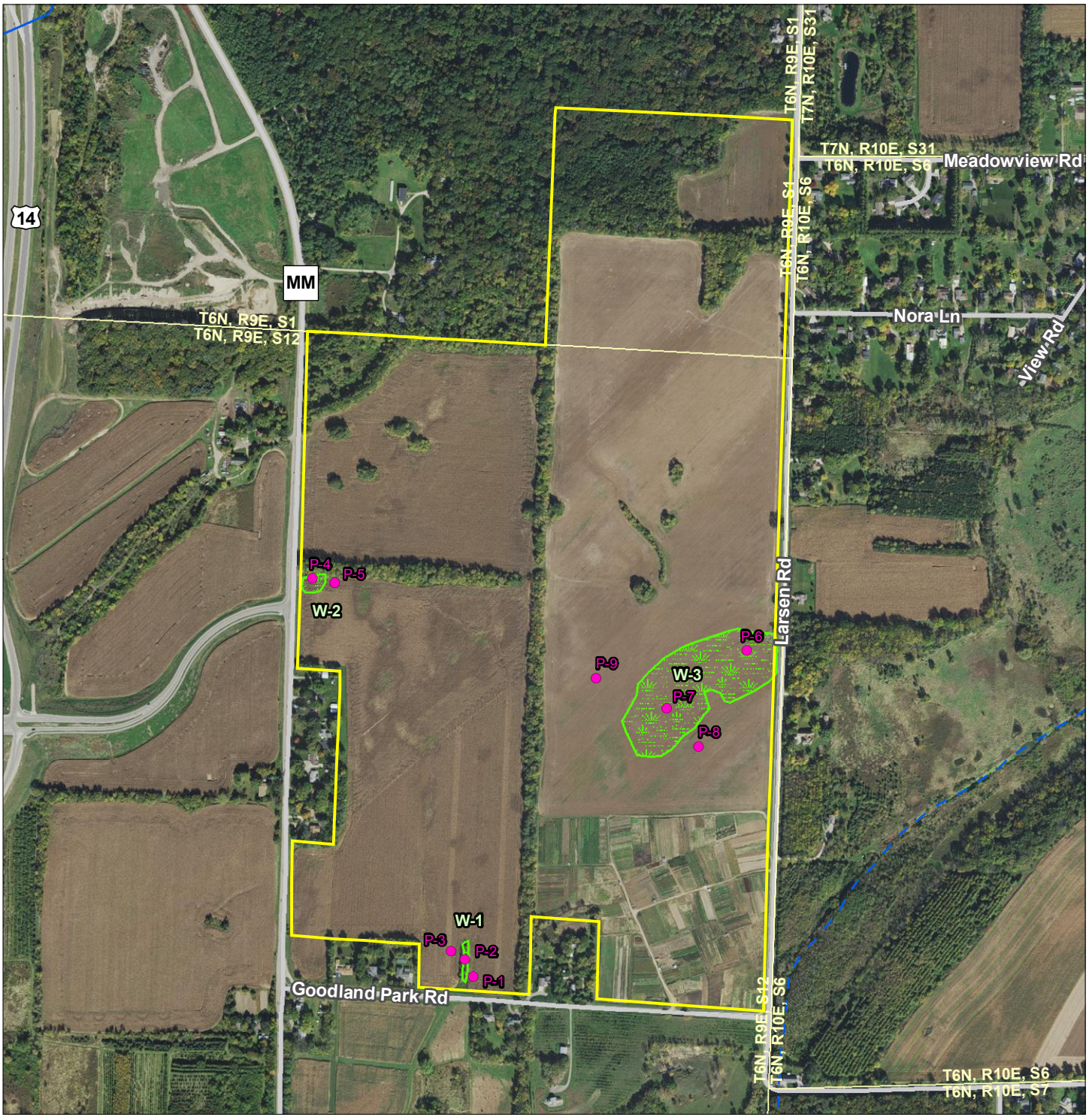
## Notes

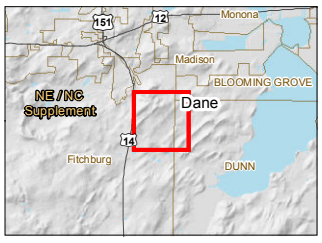
0.5 0 0.25 0.5 Miles

NAD_1983_HARN_Wisconsin_TM



1: 15,840




## Legend

- Approximate Project Boundary
- Sample Point
- Field Delineated Wetland (2007) and Reconfirmed 2016
- 2ft Elevation Contour

DNR 24k Hydrography

- Perennial Stream
- Intermittent Stream
- Waterbody

**Notes**

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDOT, WDNR
3. Orthophotography: 2015 NAIP



Figure No.
**5**

Title
**Field Collected Data**

Client/Project
Sveum Enterprises, Ltd.
Terravessa
Wetland Delineation

Project Location
T6N, R9E, S1 and 12
C. of Fitchburg,
Dane Co., WI

193704735
Prepared by JD on 2016-10-19
Technical Review by MP on 2016-10-19
Independent Review by JK on 2017-01-31

0 400 800 Feet
1:9,600 (at original document size of 8.5x11)

N

Stantec

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Radford silt loam | NWI/WWI Classification: | N/A |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | -- |
| Sample Point: | P1 |
| Community ID: | Upland Pond Edge |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | >26 | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | >26 | (in.) |

**Wetland Hydrology Present?** ☐ Yes ☑ No

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

Remarks:

## SOILS

Map Unit Name: Radford silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Fluvaquentic Hapludolls

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 26 | 1 | 10YR 2/1 | 100 | -- -- | -- | -- | -- | silt loam |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☐ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☐ Yes ☑ No

Remarks: Soils are disturbed from the pond excavation. B-horizon not observed. Soils likely contain a depleted matrix below the upper horizon and may meet NRCS Hydric Indicator A12. Thick Dark Surface.

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: -- | Sample Point: P1

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *GLYCINE MAX* | 80 | Y | UPL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 80 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Soybean field. No weeds present, no crop stress.

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 80 (A) | | 400 (B) |

Prevalence Index = B/A = *5.000*

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Radford silt loam | NWI/WWI Classification: | N/A |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-1 |
| Sample Point: | P2 |
| Community ID: | Wooded Ditch |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wooded ditch with a nearly closed canopy. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☑ D5 - FAC-Neutral Test

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | ☐ Yes | ☑ No | Depth: | (in.) |
| Water Table Present? | ☑ Yes | ☐ No | Depth: 4 | (in.) |
| Saturation Present? | ☑ Yes | ☐ No | Depth: 0 | (in.) |

**Wetland Hydrology Present?** ☑ Yes ☐ No

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

Remarks: Sample point near the edge of the excavated ditch, which is primarily open water. The ditch is approximately 12 feet wide, water depth is about 0.5-1 feet and is excavated approximately 5 feet. There is no inlet or outlet connected to the ditch.

## SOILS

Map Unit Name: Radford silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Fluvaquentic Hapludolls

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 1 | 10YR 3/1 | 100 | -- | -- | -- | -- | silty clay loam |
| 4 | 16 | 2 | 10YR 4/1 | 95 | 10YR 5/6 | 5 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☐ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☑ Yes ☐ No

Remarks: Soils are disturbed from the pond excavation.

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: W-1 | Sample Point: P2

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Populus deltoides* | 15 | Y | FAC |
| 2. | *Salix nigra* | 10 | Y | OBL |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 25 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Salix interior* | 40 | Y | FACW |
| 2. | *Populus deltoides* | 20 | Y | FAC |
| 3. | *Salix nigra* | 5 | N | OBL |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 65 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Nearly closed canopy over open water ditch. No herbaceous vegetation or woody vine.

### Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 15 | x 1 = | 15 |
| FACW spp. | 40 | x 2 = | 80 |
| FAC spp. | 35 | x 3 = | 105 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 90 (A) | | 200 (B) |

Prevalence Index = B/A = ***2.222***

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☑ Yes ☐ No

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | | | |
|---|---|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 | Date: | 09/15/16 |
| Applicant: | Sveum Enterprises, Ltd. | | | County: | Dane |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - | State: | Wisconsin |
| Soil Unit: | Radford silt loam | NWI/WWI Classification: | N/A | Wetland ID: | -- |
| Landform: | -- | Local Relief: | -- | Sample Point: | P3 |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A | Datum: N/A | Community ID: Upland Pond Edge |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | | ☐ Yes ☑ No | Section: | 12 |
| Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? | | Are normal circumstances present? | | Township: | 6 N |
| Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? | | ☑ Yes ☐ No | | Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | ☐ Yes ☑ No | Hydric Soils Present? | ☐ Yes ☑ No |
| Wetland Hydrology Present? | ☐ Yes ☑ No | Is This Sampling Point Within A Wetland? | ☐ **Yes** ☑ **No** |

Remarks: Agricultural field with no signs of crop stress, adjacent to a pond/ditch. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | >24 | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | >24 | (in.) |

**Wetland Hydrology Present?** ☐ Yes ☑ No

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

Remarks: No hydric indicators observed.

## SOILS

Map Unit Name: Radford silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Fluvaquentic Hapludolls

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 24 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☐ Yes ☑ No

Remarks: Soils are disturbed from the pond excavation. B-horizon not observed. Soils likely contain a depleted matrix below the upper horizon and may meet NRCS Hydric Indicator A12. Thick Dark Surface.

Stantec

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: -- | Sample Point: P3

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *GLYCINE MAX* | 80 | Y | UPL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 80 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Soybean field. No weeds present, no crop stress.

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 80 (A) | | 400 (B) |

Prevalence Index = B/A = ***5.000***

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Plano silt loam | NWI/WWI Classification: | N/A |
| Landform: | Depression | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-2 |
| Sample Point: | P4 |
| Community ID: | Farmed Wetland |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Partially farmed wetland. This sample point is in an unfarmed portion of the wetland with a wet meadow and wooded wetland component. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☑ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☑ D5 - FAC-Neutral Test

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | (in.) |

**Wetland Hydrology Present?** ☑ Yes ☐ No

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

Remarks: Wetland is in a depression. Aerial photos indicate historic wetland signature.

## SOILS

Map Unit Name: Plano silt loam — Series Drainage Class: moderately well to well
Taxonomy (Subgroup): Typic Argiudolls

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 8 | 1 | 10YR 2/1 | 100 | -- | -- | -- | -- | silt loam |
| 8 | 16 | 2 | 10YR 2/1 | 95 | 10YR 4/2 | 5 | C | M | silt loam |
| 16 | 22 | 3 | 10YR 4/2 | 95 | 10YR 4/4 | 5 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☐ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☑ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☑ Yes ☐ No

Remarks:

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: W-2 | Sample Point: P4

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Acer saccharinum* | 25 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 25 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *PHALARIS ARUNDINACEA* | 70 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 70 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Wet meadow/wooded wetland. Farmed portion of wetland has soybeans, demonstrating minimal stress.

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 95 | x 2 = | 190 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 95 (A) | | 190 (B) |

Prevalence Index = B/A = ***2.000***

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☑ Yes ☐ No

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | St. Charles silt loam | NWI/WWI Classification: | N/A |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-2 |
| Sample Point: | P5 |
| Community ID: | Upland Field Edge |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland soybean field. No weeds or crop stress observed. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | ☐ Yes | ☑ No | Depth: | (in.) |
| Water Table Present? | ☐ Yes | ☑ No | Depth: >26 | (in.) |
| Saturation Present? | ☐ Yes | ☑ No | Depth: >26 | (in.) |

**Wetland Hydrology Present?** ☐ Yes ☑ No

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

Remarks:

## SOILS

Map Unit Name: St. Charles silt loam — Series Drainage Class: moderately well to well

Taxonomy (Subgroup): Typic Hapludalfs

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 14 | 1 | 10YR | 2/1 | 100 -- | -- | -- | -- | silt loam |
| 14 | 20 | 2 | 10YR | 4/4 | 100 -- | -- | -- | -- | silt loam |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☐ Yes ☑ No

Remarks:

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: W-2 | Sample Point: P5

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *GLYCINE MAX* | 80 | Y | UPL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 80 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Soybean field. No weeds present, no crop stress.

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 80 (A) | | 400 (B) |

Prevalence Index = B/A = ***5.000***

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Virgil silt loam | NWI/WWI Classification: | N/A |
| Landform: | Depression | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-3 |
| Sample Point: | P6 |
| Community ID: | Farmed Wetland |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Farmed wetland. Agricultural activities disturb the vegetation and preclude the establishment of hydrophytic species. However, historic aerial photos, soils and wetland hydrology all bear wetland indicators. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☑ C9 - Saturation Visible on Aerial Imagery
- ☑ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | (in.) |

**Wetland Hydrology Present?** ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial photos; 2007 wetland delineation data

Remarks: Wetland is in a depression. FSA slides indicate the presence of a wetland signature through most years. In May 2007, this area was evaluated and 2-4" of standing water was observed throughout the wetland, indicating the possibility of seasonal occurrence of wetland hydrology.

## SOILS

Map Unit Name: Virgil silt loam — Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udollic Endoaqualfs

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 1 | 10YR | 3/1 | 95 | 10YR | 5/6 | 5 | C | M | silt loam |
| 20 | 24 | 2 | 10YR | 2/1 | 95 | 10YR | 4/2 | 5 | C | M | silt loam |
| 24 | 26 | 3 | 10YR | 4/1 | 90 | 10YR | 5/6 | 10 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☐ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☑ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☑ Yes ☐ No

Remarks: Upper horizon is alluvial deposited sediment with a thin underlying buried horizon. It appears that the A-horizon may have been historically excavated, which corresponds with the distinct signature apparent on the FSA slides.

# WETLAND DETERMINATION DATA FORM
## Northcentral-Northeast Region

Project/Site: Terravessa, Fitchburg | Wetland ID: W-3 | Sample Point: P6

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *ZEA MAYS* | 80 | Y | UPL |
| 2. | *Cyperus esculentus* | 2 | N | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 82 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 2 | x 2 = | 4 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 82 (A) | | 404 (B) |

Prevalence Index = B/A = ***4.927***

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

Remarks: Farmed wetland. Minor crop stress observed (stunted growth). No weed growth other than yellow nutsedge. Ongoing agriculture use of the wetland leads to alterations of the vegetation. Hydrophytic vegetation would dominate this wetland if agricultural use ceased.

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Virgil silt loam | NWI/WWI Classification: | N/A |
| Landform: | Depression | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-3 |
| Sample Point: | P7 |
| Community ID: | Farmed Wetland |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Farmed wetland. Agricultural activities disturb the vegetation and preclude the establishment of hydrophytic species. However, historic aerial photos, soils and wetland hydrology all bear wetland indicators. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☑ C9 - Saturation Visible on Aerial Imagery
- ☑ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | (in.) |

**Wetland Hydrology Present?** ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial photos; 2007 wetland delineation data

Remarks: Wetland is in a depression. FSA slides indicate the presence of a wetland signature through most years. In May 2007, this area was evaluated and 2-4" of standing water was observed throughout the wetland, indicating the possibility of seasonal occurrence of wetland hydrology.

## SOILS

Map Unit Name: Virgil silt loam — Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udollic Endoaqualfs

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 18 | 1 | 10YR | 3/1 | 95 | 10YR | 5/6 | 5 | C | M | silt loam |
| 18 | 25 | 2 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silt loam |
| 25 | 28 | 3 | 10YR | 4/1 | 90 | 10YR | 5/6 | 10 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☐ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☑ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☑ Yes ☐ No

Remarks: Upper horizon is alluvial deposited sediment with a thin underlying buried horizon. It appears that the A-horizon may have been historically excavated, which corresponds with the distinct signature apparent on the FSA slides.

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: W-3 | Sample Point: P7

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *ZEA MAYS* | 80 | Y | UPL |
| 2. | *Cyperus esculentus* | 2 | N | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 82 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 2 | x 2 = | 4 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 82 (A) | | 404 (B) |

Prevalence Index = B/A = *4.927*

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

Remarks: Farmed wetland. Minor crop stress observed (stunted growth). No weed growth other than yellow nutsedge. Ongoing agriculture use of the wetland leads to alterations of the vegetation. Hydrophytic vegetation would dominate this wetland if agricultural use ceased.

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Radford silt loam | NWI/WWI Classification: | N/A |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-3 |
| Sample Point: | P8 |
| Community ID: | Upland Ag Field |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland agricultural field. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | >26 | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | >26 | (in.) |

**Wetland Hydrology Present?** ☐ Yes ☑ No

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

Remarks: No hydrology indicators observed. Wetland signatures did not extend to this point in historic aerial photos.

## SOILS

Map Unit Name: Radford silt loam — Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Fluvaquentic Hapludolls

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 18 | 1 | 10YR 3/2 | 100 | -- | -- | -- | -- | silt loam |
| 18 | 20 | 2 | 10YR 4/2 | 95 | 10YR 5/6 | 5 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☐ Yes ☑ No

Remarks:

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: W-3 | Sample Point: P8

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *ZEA MAYS* | 80 | Y | UPL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 80 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Corn field. No weeds present, no crop stress.

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 80 (A) | | 400 (B) |

Prevalence Index = B/A = *5.000*

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

**Additional Remarks:**

# WETLAND DETERMINATION DATA FORM
**Northcentral-Northeast Region**

| | | | |
|---|---|---|---|
| Project/Site: | Terravessa, Fitchburg | Stantec Project #: | 193704735 |
| Applicant: | Sveum Enterprises, Ltd. | | |
| Investigator #1: | Jeff Kraemer | Investigator #2: | - |
| Soil Unit: | Virgil silt loam | NWI/WWI Classification: | N/A |
| Landform: | -- | Local Relief: | -- |
| Slope (%): | NA | Latitude: N/A | Longitude: N/A Datum: N/A |

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

| | |
|---|---|
| Date: | 09/15/16 |
| County: | Dane |
| State: | Wisconsin |
| Wetland ID: | W-3 |
| Sample Point: | P9 |
| Community ID: | Upland Ag Field |
| Section: | 12 |
| Township: | 6 N |
| Range: | 9 Dir: E |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland agricultural field. An analysis of antecedent conditions indicate the site conditions were wetter than normal.

## HYDROLOGY

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

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | ☐ Yes ☑ No | Depth: | | (in.) |
| Water Table Present? | ☐ Yes ☑ No | Depth: | >26 | (in.) |
| Saturation Present? | ☐ Yes ☑ No | Depth: | >26 | (in.) |

**Wetland Hydrology Present?** ☐ Yes ☑ No

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

Remarks: No hydrology indicators observed. Wetland signatures did not extend to this point in historic aerial photos.

## SOILS

Map Unit Name: Virgil silt loam — Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udollic Endoaqualfs

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

| Top Depth | Bottom Depth | Horizon | Matrix Color (Moist) | Matrix % | Redox Features Color (Moist) | Redox Features Color (Moist) | Redox Features % | Redox Features Type | Redox Features Location | Texture (e.g. clay, sand, loam) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | silt loam |
| 20 | 22 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present ☑ ):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

**Indicators for Problematic Soils** [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

**Hydric Soil Present?** ☐ Yes ☑ No

Remarks:

# WETLAND DETERMINATION DATA FORM

**Northcentral-Northeast Region**

Project/Site: Terravessa, Fitchburg | Wetland ID: W-3 | Sample Point: P9

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

Tree Stratum (Plot size: 10 meter radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Sapling/Shrub Stratum (Plot size: 5 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Herb Stratum (Plot size: 2 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | *ZEA MAYS* | 80 | Y | UPL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| | Total Cover = | 80 | | |

Woody Vine Stratum (Plot size: 10 meter radius)

| | | | | |
|---|---|---|---|---|
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| | Total Cover = | 0 | | |

Remarks: Corn field. No weeds present, no crop stress.

### Dominance Test Worksheet

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

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

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

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 0 | x 1 = | 0 |
| FACW spp. | 0 | x 2 = | 0 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 80 | x 5 = | 400 |
| Total | 80 (A) | | 400 (B) |

Prevalence Index = B/A = *5.000*

### Hydrophytic Vegetation Indicators:

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

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

### Definitions of Vegetation Strata:

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

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

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

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

**Hydrophytic Vegetation Present** ☐ Yes ☑ No

**Additional Remarks:**

**Photo 1.** Wetland W-3, looking west-northwest from Larson Road.

**Photo 2.** Wetland W-3, looking northwest from Larson Road.

**Photo 3.** Wetland W-1, looking northeast from the west side of W-1.

**Photo 4.** Wetland W-1, view north from the central portion of the wetland.

**Photo 5.** Wetland W-1, view south from the central portion of the wetland.

**Photo 6.** Wetland W-2, view east from the west edge of W-2.

**Photo 6.** Wetland W-2, view north from the south edge of W-2.

**Photo 7.** Wetland W-2, view southeast from W-2.

## WETS Analysis Worksheet

Project Name: Terravessa, Fitchburg, WI
Project Number: 193704735
Period of interest: June-August 2016
Station: Madison Dane Rgnl AP (WI837)
County: Dane County, WI

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

| | Month | 3 years in 10 less than | Normal | 3 years in 10 greater than |
|---|---|---|---|---|
| 1st month prior: | August | 3.07 | 4.33 | 5.12 |
| 2nd month prior: | July | 2.88 | 3.93 | 4.62 |
| 3rd month prior: | June | 2.36 | 4.05 | 4.92 |
| | | Sum = | **12.31** | |

**Site determination**

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|---|---|---|---|---|
| 7.87 | Wet | 3 | 3 | 9 |
| 5.23 | Wet | 3 | 2 | 6 |
| 5.35 | Wet | 3 | 1 | 3 |
| Sum = **18.45** | | | Sum*** = | **18** |

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

Determination: **x** Wet ____ Dry ____ Normal

**Condition value:
Dry = 1
Normal = 2
Wet = 3

***If sum is:

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

Precipitation data source: http://efotg.sc.egov.usda.gov

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

**Wisconsin Department of Natural Resources**
**Wetland Rapid Assessment Methodology – version 2.0**

## WETLAND IDENTIFICATION

| | |
|---|---|
| Project name:<br>Terravessa - Wetland W1 | Evaluator(s):<br>Jeff Kraemer |
| File #:<br>193704735 | Date of visit(s):<br>September 15, 2016 |
| Location:<br>PLSS: Section 12, T6N R9E<br>Lat: 43.00605 Long: -89.37235<br>County: Dane Town/City/Village: City of Fitchburg | Ecological Landscape:<br>Southeast Glacial Plains<br>Watershed:<br>070900020703 Lake Waubesa - Yahara River |

## SITE DESCRIPTION

| | |
|---|---|
| Soils:<br>Mapped Type(s):<br>RaA - Radford Silt Loam, Fluvaquentic Hapludolls, somewha<br>Field Verified:<br>Not verified. Soils were disturbed by excavation. Soils were silty clay loams. | WWI Class:<br>Unmapped<br>Wetland Type(s):<br>Novel type: excavated pond in woodland setting<br>Wetland Size: 0.12 acres<br>Wetland Area Impacted ## acres |
| Hydrology:<br>Surface water driven. Soils are saturated to inundated, with water table at 4" below the surface. On 09-15-2016, 3-6" inundation observed in the center of the wetland. | Vegetation:<br>Plant Community Description(s):<br>Bare/sparse herbaceous below OHWM. Fringe of woodland above OHWM dominated by Populus deltoides and Salix nigra. |

## SITE MAP

See Wetland Delineation Report, Figure 5.

**SECTION 1: Functional Value Assessment**

| HU | Y/N | Potential | **Human Use Values: recreation, culture, education, science, natural scenic beauty** |
|---|---|---|---|
| 1 | N | N | Used for recreation (hunting, birding, hiking, etc.). List: |
| 2 | N | N | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | N | N | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | N | N | In or adjacent to RED FLAG areas<br>List: |
| 6 | N | N | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | N | N | In or adjacent to archaeological or cultural resource site |
| WH | | | **Wildlife Habitat** |
| 1 | N | N | Wetland and contiguous habitat >10 acres |
| 2 | N | N | 3 or more strata present (>10% cover) |
| 3 | N | N | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | N | N | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | N | N | Occurs in a Joint Venture priority township |
| 6 | N | N | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | N | N | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | N | N | Part of a large habitat block that supports area sensitive species |
| 9 | N | N | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | Y | | Seasonally exposed mudflats present |
| 12 | N | | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | **Fish and Aquatic Life Habitat** |
| 1 | N | N | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | N | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | Y | | Vegetation is inundated in spring |
| SP | | | **Shoreline Protection** |
| 1 | N/A | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | | | Densely rooted emergent or woody vegetation |
| ST | | | **Storm and Floodwater Storage** |
| 1 | Y (BASIN) | | Basin wetland, constricted outlet, has through-flow or is adjacent to a stream |
| 2 | N | N | Water flow through wetland is NOT channelized |
| 3 | N | N | Dense, persistent vegetation |
| 4 | N | | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | N (6.2%) | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y (9.9%) | | Within a watershed with ≤10% wetland |
| 8 | N | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | **Water Quality Protection** |
| 1 | N | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland or constricted outlet |
| 3 | N | | Water flow through wetland is NOT channelized |
| 4 | N | | Vegetated wetland associated with a lake or stream |
| 5 | N | | Dense, persistent vegetation |
| 6 | N | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | Y | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | N | | Discharge to surface water |
| 9 | N | | Natural land cover in 100m buffer area < 50% |
| GW | | | **Groundwater Processes** |
| 1 | N | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | N | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | N | | Wetland soils are organic |
| 5 | N | | Wetland is within a wellhead protection area |

**Section 1 Comments (Refer to Section 1 numbers)**

| |
|---|
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

**Wildlife Habitat and Species Observation (including amphibians and reptiles)**
**List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.**

| Observed | Potential | Species/Habitat/Comments |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**Fish and Aquatic Life Habitat and Species Observations**
**List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.**

| Observed | Potential | Species/Habitat |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**SECTION 2: Floristic Integrity**

**Plant Community Integrity (circle)***

| | Low | Medium | High | Exceptional |
|---|---|---|---|---|
| Invasive species cover | > 50% | 20-50% | 10-20% | <10% |
| Strata | Missing stratum(a) or bare due to invasive species | All strata present but reduced native species | All strata present and good assemblage of native species | All strata present, conservative species represented |
| NHI plant community ranking | S4 | S3 | S2 | S1-S2 (S2 high quality) |
| Relative frequency of plant community in watershed | Abundant | Common | Uncommon | Rare |
| FQI (optional) | <13 | 13-23 | 23-32 | >32 |
| Mean C (optional) | <2.4 | 2.4-4.2 | 4.3-4.7 | >4.7 |

***Note: separate plant communities are described independently**

**Plant Species List (* dominant species) attach list of additional species**

| Scientific Name | Common Name | C of C | Plant communities | Comments (Estimate of % Cover, Abundance) |
|---|---|---|---|---|
| *Populus deltoides | Eastern Cottonwood | 2 | Woodland Fringe | 35 |
| *Salix nigra | Black willow | 4 | Woodland Fringe | 15 |
| Salix interior | Sandbar Willow | 2 | Woodland Frindge | 5 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

| |
|---|
| The excavated pond portion of this wetland is bare below the OHWM. Above the OHWM, the vegetation is a fringe of |
| wooded wetland dominated by cottonwoods and willows (tree and shrub strata). The wooded portion is immediately |
| adjacent to active agricultural fields. |
| |
| |

**SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)**

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|---|---|---|---|---|---|
| N | N | N | | | Filling, berms (non-impounding) |
| N | N | N | | | Drainage – tiles, ditches |
| Y | Y | Y | M | C | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | Y | M | C | Point source or stormwater discharge |
| N | N | N | | | Polluted runoff |
| Y | N | N | H | U | Pond construction |
| N | Y | Y | H | C | Agriculture – row crops |
| N | N | N | | | Agriculture – hay |
| N | N | N | | | Agriculture – pasture |
| N | Y | N | | | Roads or railroad |
| N | Y | N | | | Utility corridor (above or subsurface) |
| N | N | N | | | Dams, dikes or levees |
| N | N | N | | | Soil subsidence, loss of soil structure |
| Y | Y | Y | H | C | Sediment input |
| N | Y | N | | | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | N | N | | | Removal of tree or shrub strata – logging, unprescribed fire |
| N | N | N | | | Human trails – unpaved |
| N | N | N | | | Human trails – paved |
| N | N | N | | | Removal of large woody debris |
| N | Y | N | | | Cover of non-native and/or invasive species |
| N | Y | N | | | Residential land use |
| N | N | N | | | Urban, commercial or industrial use |
| N | N | N | | | Parking lot |
| N | N | N | | | Golf course |
| N | N | N | | | Gravel pit |
| N | N | N | | | Recreational use (boating, ATVs, etc.) |
| Y, between 1992 and 2000 | N | | H | U | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

**SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland area appears to have been excavated between 1992 and 2000. The 1992 aerial photo shows the area entirely in agriculture, and the 2000 aerial shows a linear growth of woody vegetation similar to the current situation. The excavated area does not support herbaceous vegetation. The buffer area is mostly in row crop agriculture, contributing sediment and increased run-off. There is currently a road and two residential areas within the buffer area.

**SUMMARY OF FUNCTIONAL VALUES**

| FUNCTION | SIGNIFICANCE | | | | |
|---|---|---|---|---|---|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | X | | | | |
| Human Use Values | X | | | | |
| Wildlife Habitat | X | | | | |
| Fish and Aquatic Life Habitat | X | | | | |
| Shoreline Protection | | | | | X |
| Flood and Stormwater Storage | X | | | | |
| Water Quality Protection | | X | | | |
| Groundwater Processes | X | | | | |

| FUNCTION | RATIONALE |
|---|---|
| Floristic Integrity | The pond slopes are depauperate or bare, while the woodland fringe is comprised of a few weedy species. |
| Human Use Values | The wetland is small, disturbed, on private property, and unlikely to be used for scientific, educational or recreational purposes. |
| Wildlife Habitat | The wetland is small and embedded within an agricultural field. It may provide edge habitat to common birds. |
| Fish and Aquatic Life Habitat | There is little vegetation below the OHWM, the surrounding ag fields contribute sediment, and the water levels are not consistent, providing poor habitat value for fish and aquatic life. |
| Shoreline Protection | The wetland is not adjacent to a waterbody or waterway. |
| Flood and Stormwater Storage | The wetland does provide flood and stormwater storage, but due to its small size this function is limited. |
| Water Quality Protection | The wetland can store runoff from the watershed, and can intercept sediment. |
| Groundwater Processes | The wetland does not appear to have groundwater inputs or discharges. |

**Section 4: Project Impact Assessment**

**Brief Project Description**

| |
|---|
| Proposed mixed used development. No direct impacts proposed. Improved sediment control and stormwater management proposed with project and restoration plan will likely result in improvement to wetland. |

**Expected Project Impacts**

| **IMPACT: describe ( + or -)** | Permanence/Reversibility | Significance (Low, Medium, High) |
|---|---|---|
| Direct Impacts | none | |
| Secondary Impacts (including impacts which are indirectly attributable to the project) | positive impacts due to less sediment and runoff entering wetland. Vegetation may be enhanced. | |
| Cumulative Impacts | none | |
| Spatial/Habitat Integrity | improvements proposed | |
| Rare Plant/Animal Communities/ Natural Areas | none | |

**Wisconsin Department of Natural Resources**
**Wetland Rapid Assessment Methodology – version 2.0**

| **WETLAND IDENTIFICATION** | |
|---|---|
| Project name:<br>Terravessa - Wetland W2 | Evaluator(s):<br>Jeff Kraemer |
| File #:<br>193704735 | Date of visit(s):<br>September 15, 2016 |
| Location:<br>PLSS: Section 12, T6N R9E<br><br>Lat: 43.01186 Long: -89.37547<br><br>County: Dane Town/City/Village: City of Fitchburg | Ecological Landscape:<br>Southeast Glacial Plains<br><br>Watershed:<br>070900020703 Lake Waubesa - Yahara River |
| **SITE DESCRIPTION** | |
| Soils:<br>Mapped Type(s):<br>Troxel silt loam; Plano silt loam<br>Field Verified:<br>Did not match the typical Plano profile; hydric inclusion was observed. | WWI Class:<br>Not mapped<br><br>Wetland Type(s):<br>Wet meadow/Wooded Wetland/Farmed Wetland<br><br>Wetland Size: 0.25 acres<br>Wetland Area Impacted ## |
| Hydrology:<br>Depressional wetland, with a seasonally saturated and inundated hydroperiod influenced primarily by surface water runoff. | Vegetation:<br>Plant Community Description(s):<br>Wet meadow dominated by reed canary grass; wooded wetland (farm hedgerow) dominated by Acer saccharinum; and farmed wetland planted to Glycine max. |

**SITE MAP**

See Figure 5 of Wetland Delineation Report.

**SECTION 1: Functional Value Assessment**

| HU | Y/N | Potential | **Human Use Values: recreation, culture, education, science, natural scenic beauty** |
|---|---|---|---|
| 1 | N | N | Used for recreation (hunting, birding, hiking, etc.). List: N |
| 2 | N | N | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | N | N | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | N | N | In or adjacent to RED FLAG areas<br>List: |
| 6 | N | N | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | N | N | In or adjacent to archaeological or cultural resource site |
| WH | | | **Wildlife Habitat** |
| 1 | N | N | Wetland and contiguous habitat >10 acres |
| 2 | Y | | 3 or more strata present (>10% cover) |
| 3 | N | N | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | N | N | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | N | N | Occurs in a Joint Venture priority township |
| 6 | N | N | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | N | N | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | N | N | Part of a large habitat block that supports area sensitive species |
| 9 | N | N | Ephemeral pond with water present ≥ 45 days |
| 10 | N | N | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | Y | | Seasonally exposed mudflats present |
| 12 | N | N | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | **Fish and Aquatic Life Habitat** |
| 1 | N | N | Wetland is connected or contiguous with perennial stream or lake |
| 2 | N | N | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | N | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | N | N | Vegetation is inundated in spring |
| SP | | | **Shoreline Protection** |
| 1 | N/A | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | | | Densely rooted emergent or woody vegetation |
| ST | | | **Storm and Floodwater Storage** |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow or is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | N | Y | Dense, persistent vegetation |
| 4 | N | N | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | N | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | N | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | **Water Quality Protection** |
| 1 | N | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland or constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | N | | Vegetated wetland associated with a lake or stream |
| 5 | N | | Dense, persistent vegetation |
| 6 | N | | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | Y | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | N | | Discharge to surface water |
| 9 | N | Y | Natural land cover in 100m buffer area < 50% |
| GW | | | **Groundwater Processes** |
| 1 | N | | Springs, seeps or indicators of groundwater present |
| 2 | N | | Location near a groundwater divide or a headwater wetland |
| 3 | N | | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | N | | Wetland soils are organic |
| 5 | N | | Wetland is within a wellhead protection area |

**Section 1 Comments (Refer to Section 1 numbers)**

| |
|---|
| This wetland is 75% farmed wetland, with a fringe of wet meadow and wooded wetland where it runs into the farm hedgerow. It is a depressional wetland receiving surface water runoff from agricultural fields. As a farmed wetland, primarily, it is not vegetated year round, providing mudflats, but also not effectively trapping sediments. |
| |
| |
| |
| |
| |
| |
| |
| |

**Wildlife Habitat and Species Observation (including amphibians and reptiles)**
**List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.**

| Observed | Potential | Species/Habitat/Comments |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**Fish and Aquatic Life Habitat and Species Observations**
**List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.**

| Observed | Potential | Species/Habitat |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**SECTION 2: Floristic Integrity**

**Plant Community Integrity (circle)***

| | Low | Medium | High | Exceptional |
|---|---|---|---|---|
| Invasive species cover | > 50% | 20-50% | 10-20% | <10% |
| Strata | Missing stratum(a) or bare due to invasive species | All strata present but reduced native species | All strata present and good assemblage of native species | All strata present, conservative species represented |
| NHI plant community ranking | S4 | S3 | S2 | S1-S2 (S2 high quality) |
| Relative frequency of plant community in watershed | Abundant | Common | Uncommon | Rare |
| FQI (optional) | <13 | 13-23 | 23-32 | >32 |
| Mean C (optional) | <2.4 | 2.4-4.2 | 4.3-4.7 | >4.7 |

***Note: separate plant communities are described independently**

**Plant Species List (* dominant species) attach list of additional species**

| Scientific Name | Common Name | C of C | Plant communities | Comments (Estimate of % Cover, Abundance) |
|---|---|---|---|---|
| *Acer saccharinum | Silver maple | 2 | Wooded wetland | 25 |
| *Phalaris arundinacea | Reed canary grass | -- | Wet meadow | 70 |
| *Glycine max | Soybean | -- | Farmed Wetland | Healthy; no signs of crop stress |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

| |
|---|
| The farmed wetland portion is dominated by soybeans showing minimal signs of crop stress; no weeds. The wet meadow is dominated by a monotype of reed canary grass. The wooded wetland is dominated by silver maple, and is a simplified community of weedy trees within the farm hedgerow. |
| |
| |

**SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)**

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|---|---|---|---|---|---|
| N | N | N | | | Filling, berms (non-impounding) |
| N | N | N | | | Drainage – tiles, ditches |
| Y | Y | N | M | C | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | N | M | C | Point source or stormwater discharge |
| N | N | N | | | Polluted runoff |
| N | N | N | | | Pond construction |
| Y | Y | N | H | C | Agriculture – row crops |
| N | N | N | | | Agriculture – hay |
| N | N | N | | | Agriculture – pasture |
| N | Y | N | | | Roads or railroad |
| N | Y | N | | | Utility corridor (above or subsurface) |
| N | N | N | | | Dams, dikes or levees |
| N | N | N | | | Soil subsidence, loss of soil structure |
| Y | Y | N | M | C | Sediment input |
| Y | Y | N | H | C | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | N | N | | | Removal of tree or shrub strata – logging, unprescribed fire |
| N | N | N | | | Human trails – unpaved |
| N | Y | N | | | Human trails – paved |
| N | N | N | | | Removal of large woody debris |
| Y | Y | N | M | C | Cover of non-native and/or invasive species |
| N | N | N | | | Residential land use |
| N | N | N | | | Urban, commercial or industrial use |
| N | N | N | | | Parking lot |
| N | N | N | | | Golf course |
| N | N | N | | | Gravel pit |
| N | N | N | | | Recreational use (boating, ATVs, etc.) |
| N | N | N | | | Excavation or soil grading |
| N | N | N | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

**SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

This wetland and its buffer has been impacted by row crop argriculture, contributing to increased runoff, sedimentation, stormwater inputs, and annual plowing and harvesting disturbances. The adjacent hedgerow contains invasive grasses and shrubs (buckthorn/honeysuckle).

**SUMMARY OF FUNCTIONAL VALUES**

| FUNCTION | SIGNIFICANCE | | | | |
|---|---|---|---|---|---|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | X | | | | |
| Human Use Values | X | | | | |
| Wildlife Habitat | X | | | | |
| Fish and Aquatic Life Habitat | X | | | | |
| Shoreline Protection | | | | | N/A |
| Flood and Stormwater Storage | X | | | | |
| Water Quality Protection | X | | | | |
| Groundwater Processes | X | | | | |

| FUNCTION | RATIONALE |
|---|---|
| Floristic Integrity | This wetland is mostly farmed; the remainder is dominated by an invasive species or a species-poor hedgerow. |
| Human Use Values | Although visible from the road, this wetland is not aesthetically appealing, and has very little educational, recreational or scientific value due to its small size and regular disturbance from farming. |
| Wildlife Habitat | This wetland does not contain much wildlife habitat due to its small size and regular disturbance from farming. The hedgerow provides some edge habitat and cover. |
| Fish and Aquatic Life Habitat | Lacking standing water, this wetland does not provide fish or aquatic life habitat. |
| Shoreline Protection | This wetland is not adjacent to a waterbody or waterway. |
| Flood and Stormwater Storage | This wetland is a depression and can store stormwater runoff from the surrounding agricultural fields however due to its small size this function is limited. |
| Water Quality Protection | Although this wetland will intercept stormwater runoff and sediment, the majority of it lacks persistent vegetation. |
| Groundwater Processes | There is no evidence of groundwater discharge or recharge here. |

**Section 4: Project Impact Assessment**

**Brief Project Description**

| |
|---|
| Proposed mixed used development. No direct impacts proposed. Improved sediment control and stormwater management proposed with project and restoration plan will likely result in improvement to wetland. |

**Expected Project Impacts**

| **IMPACT: describe ( + or -)** | Permanence/Reversibility | Significance (Low, Medium, High) |
|---|---|---|
| Direct Impacts | none | |
| Secondary Impacts (including impacts which are indirectly attributable to the project) | positive impacts due to less sediment and runoff entering wetland. Vegetation may be enhanced. | |
| Cumulative Impacts | none | |
| Spatial/Habitat Integrity | improvements proposed | |
| Rare Plant/Animal Communities/ Natural Areas | none | |

**Wisconsin Department of Natural Resources**
**Wetland Rapid Assessment Methodology – version 2.0**

## WETLAND IDENTIFICATION

| | |
|---|---|
| Project name:<br>Terravessa - Wetland W3 | Evaluator(s):<br>Jeff Kraemer |
| File #:<br>193704735 | Date of visit(s):<br>September 15, 2016 |
| Location:<br>PLSS: Section 12, T6N R9E<br>Lat: 43.01034 Long: -89.36705<br>County: Dane Town/City/Village: City of Fitchburg | Ecological Landscape:<br>Southeast Glacial Plains<br>Watershed:<br>070900020703 Lake Waubesa - Yahara River |

## SITE DESCRIPTION

| | | |
|---|---|---|
| Soils:<br>Mapped Type(s):<br>Radford silt loam, Virgil silt loam (both with hydric inclusions<br>Field Verified:<br>Hydric inclusions observed within the wetland. Buried A horizon; evidence of historic excavation. | WWI Class:<br>E1Kf<br>Wetland Type(s):<br>Farmed Wetland | |
| | Wetland Size:<br>7.49 acres | Wetland Area Impacted<br>## |
| Hydrology:<br>Seasonally saturated and inundated hydroperiod influenced primarily by surface water runoff, perching on the less permeable soils of the wetland. | Vegetation:<br>Plant Community Description(s):<br>Farmed wetland - Zea mays with some stunting | |

## SITE MAP

Refer to Figure 5 in the Wetland Delineation Report.

**SECTION 1: Functional Value Assessment**

| HU | Y/N | Potential | **Human Use Values: recreation, culture, education, science, natural scenic beauty** |
|---|---|---|---|
| 1 | N | N | Used for recreation (hunting, birding, hiking, etc.). List: |
| 2 | N | N | Used for educational or scientific purposes |
| 3 | Y | | Visually or physically accessible to public |
| 4 | N | N | Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation |
| 5 | N | N | In or adjacent to RED FLAG areas<br>List: |
| 6 | N | N | Supports or provides habitat for endangered, threatened or special concern species |
| 7 | N | N | In or adjacent to archaeological or cultural resource site |
| WH | | | **Wildlife Habitat** |
| 1 | N | N | Wetland and contiguous habitat >10 acres |
| 2 | N | N | 3 or more strata present (>10% cover) |
| 3 | N | N | Within or adjacent to habitat corridor or established wildlife habitat area |
| 4 | N | N | 100 m buffer – natural land cover ≥50%(south) 75% (north) intact |
| 5 | N | N | Occurs in a Joint Venture priority township |
| 6 | N | N | Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) |
| 7 | N | N | Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans |
| 8 | N | N | Part of a large habitat block that supports area sensitive species |
| 9 | N | N | Ephemeral pond with water present ≥ 45 days |
| 10 | Y | Y | Standing water provides habitat for amphibians and aquatic invertebrates |
| 11 | Y | | Seasonally exposed mudflats present |
| 12 | N | N | Provides habitat scarce in the area (urban, agricultural, etc.) |
| FA | | | **Fish and Aquatic Life Habitat** |
| 1 | N | N | Wetland is connected or contiguous with perennial stream or lake |
| 2 | Y | | Standing water provides habitat for amphibians and aquatic invertebrates |
| 3 | N | N | Natural Heritage Inventory (NHI) listed aquatic species within aquatic system |
| 4 | N | N | Vegetation is inundated in spring |
| SP | | | **Shoreline Protection** |
| 1 | N/A | | Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable |
| 2 | | | Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable |
| 3 | | | Densely rooted emergent or woody vegetation |
| ST | | | **Storm and Floodwater Storage** |
| 1 | Y | | Basin wetland, constricted outlet, has through-flow or is adjacent to a stream |
| 2 | Y | | Water flow through wetland is NOT channelized |
| 3 | N | Y | Dense, persistent vegetation |
| 4 | N | N | Evidence of flashy hydrology |
| 5 | Y | | Point or non-point source inflow |
| 6 | N | | Impervious surfaces cover >10% of land surface within the watershed |
| 7 | Y | | Within a watershed with ≤10% wetland |
| 8 | Y | | Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event |
| WQ | | | **Water Quality Protection** |
| 1 | Y | | Provides substantial storage of storm and floodwater based on previous section |
| 2 | Y | | Basin wetland or constricted outlet |
| 3 | Y | | Water flow through wetland is NOT channelized |
| 4 | N | N | Vegetated wetland associated with a lake or stream |
| 5 | N | Y | Dense, persistent vegetation |
| 6 | N | N | Signs of excess nutrients, such as algae blooms, heavy macrophyte growth |
| 7 | Y | | Stormwater or surface water from agricultural land is major hydrology source |
| 8 | N | N | Discharge to surface water |
| 9 | N | N | Natural land cover in 100m buffer area < 50% |
| GW | | | **Groundwater Processes** |
| 1 | N | N | Springs, seeps or indicators of groundwater present |
| 2 | N | N | Location near a groundwater divide or a headwater wetland |
| 3 | N | N | Wetland remains saturated for an extended time period with no additional water inputs |
| 4 | N | N | Wetland soils are organic |
| 5 | N | N | Wetland is within a wellhead protection area |

**Section 1 Comments (Refer to Section 1 numbers)**

| |
|---|
| This wetland is a large farmed depressional wetland (7.59 acres) in a primarily cropped local watershed (~140 acres). |
| It has a large storage capacity, and 2-4 inches of inundation have been observed. Despite the inundation, habitat for |
| wildlife, fish, and aquatic life is limited by agricultural practices. |
| |
| |
| |
| |
| |
| |
| |

**Wildlife Habitat and Species Observation (including amphibians and reptiles)**
**List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.**

| Observed | Potential | Species/Habitat/Comments |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**Fish and Aquatic Life Habitat and Species Observations**
**List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.**

| Observed | Potential | Species/Habitat |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**SECTION 2: Floristic Integrity**

**Plant Community Integrity (circle)***

| | Low | Medium | High | Exceptional |
|---|---|---|---|---|
| Invasive species cover | > 50% | 20-50% | 10-20% | <10% |
| Strata | Missing stratum(a) or bare due to invasive species | All strata present but reduced native species | All strata present and good assemblage of native species | All strata present, conservative species represented |
| NHI plant community ranking | S4 | S3 | S2 | S1-S2 (S2 high quality) |
| Relative frequency of plant community in watershed | Abundant | Common | Uncommon | Rare |
| FQI (optional) | <13 | 13-23 | 23-32 | >32 |
| Mean C (optional) | <2.4 | 2.4-4.2 | 4.3-4.7 | >4.7 |

***Note: separate plant communities are described independently**

**Plant Species List (* dominant species) attach list of additional species**

| Scientific Name | Common Name | C of C | Plant communities | Comments (Estimate of % Cover, Abundance) |
|---|---|---|---|---|
| Zea mays | Corn | -- | Farmed Wetland | 80%; some crop stress |
| Cyperus esculentus | Yellow Nutsedge | 0 | Farmed Wetland | 2% |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

| |
|---|
| Vegetation is limited to stressed corn and yellow nutsedge due to agricultural practices. Hydrophytic vegetation |
| would dominate this wetland if agricultural use ceased, and would probably tend toward invasive species such as |
| reed canary grass. |
| |
| |

**SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)**

| Assessment Area (AA) | Buffer | Historic | Impact Level* | Relative Frequency** | Stressor |
|---|---|---|---|---|---|
| N | N | N | | | Filling, berms (non-impounding) |
| N | N | N | | | Drainage – tiles, ditches |
| Y | Y | N | M | C | Hydrologic changes - high capacity wells, impounded water, increased runoff |
| Y | Y | N | M | C | Point source or stormwater discharge |
| N | N | N | | | Polluted runoff |
| N | N | N | | | Pond construction |
| Y | Y | N | H | C | Agriculture – row crops |
| N | N | N | | | Agriculture – hay |
| N | N | N | | | Agriculture – pasture |
| N | Y | N | M | C | Roads or railroad |
| N | N | N | | | Utility corridor (above or subsurface) |
| N | N | N | | | Dams, dikes or levees |
| N | N | N | | | Soil subsidence, loss of soil structure |
| Y | Y | N | H | C | Sediment input |
| Y | Y | N | H | C | Removal of herbaceous stratum – mowing, grading, earthworms, etc. |
| N | N | N | | | Removal of tree or shrub strata – logging, unprescribed fire |
| N | N | N | | | Human trails – unpaved |
| N | N | N | | | Human trails – paved |
| N | N | N | | | Removal of large woody debris |
| N | N | N | | | Cover of non-native and/or invasive species |
| N | N | N | | | Residential land use |
| N | N | N | | | Urban, commercial or industrial use |
| N | N | N | | | Parking lot |
| N | N | N | | | Golf course |
| N | N | N | | | Gravel pit |
| N | N | N | | | Recreational use (boating, ATVs, etc.) |
| N | N | Y | M | U | Excavation or soil grading |
| | | | | | Other (list below): |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

**SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

This wetland area is within an active agricultural field most recently planted with corn. Agricultural practices contribute to increased runoff and sedimentation, and limits vegetation to crops and a few weeds. Soil observations and crop history slides suggest that this area was excavated historically and the surface horizon was partially removed. The original soil surface (A-horizon) is buried under sediment, but it relatively thin.

**SUMMARY OF FUNCTIONAL VALUES**

| FUNCTION | SIGNIFICANCE | | | | |
|---|---|---|---|---|---|
| | Low | Medium | High | Exceptional | NA |
| Floristic Integrity | X | | | | |
| Human Use Values | X | | | | |
| Wildlife Habitat | X | | | | |
| Fish and Aquatic Life Habitat | X | | | | |
| Shoreline Protection | | | | | X |
| Flood and Stormwater Storage | | X | | | |
| Water Quality Protection | X | | | | |
| Groundwater Processes | X | | | | |

| FUNCTION | RATIONALE |
|---|---|
| Floristic Integrity | Agricultural practices limit the vegetation to crops and a few weeds. |
| Human Use Values | The wetland does not provide aesthetic, scientific or recreational values. |
| Wildlife Habitat | This farmed wetland provides very little wildlife habitat due to the dominance of crops. |
| Fish and Aquatic Life Habitat | This wetland appears to have a seasonally saturated to inundated hydroperiod, which does not support typically support fish or aquatic life. |
| Shoreline Protection | N/A. This wetland is not adjacent to any waterbodies or waterways. |
| Flood and Stormwater Storage | As a large depressional wetland, this area provides a medium level of flood and stormwater storage. |
| Water Quality Protection | This wetland provides storage and receives sediment inputs from the surrounding agricultural lands, but the sediment is not stabilized due to agricultural practices. |
| Groundwater Processes | There is no evidence of groundwater recharge or discharge here. |

**Section 4: Project Impact Assessment**

**Brief Project Description**

| |
|---|
| Proposed mixed used development. No direct impacts proposed. Improved sediment control and stormwater management proposed with project and restoration plan will likely result in improvement to wetland. |

**Expected Project Impacts**

| **IMPACT: describe ( + or -)** | Permanence/Reversibility | Significance (Low, Medium, High) |
|---|---|---|
| Direct Impacts | none | |
| Secondary Impacts (including impacts which are indirectly attributable to the project) | positive impacts due to less sediment and runoff entering wetland. Vegetation may be enhanced. | |
| Cumulative Impacts | none | |
| Spatial/Habitat Integrity | improvements proposed including buffer enhancement | |
| Rare Plant/Animal Communities/ Natural Areas | none | |