



Emerald Park Landfill Western Expansion
ADS
December 10, 2014

Wetland Delineation Report
City of Muskego, Waukesha County, Wisconsin
Stantec Project # 193702557

APPENDIX D WETS ANALYSIS

WETS Analysis Worksheet

Project Name: Emerald Park
 Project Number: 193702557
 Period of interest: July - September 2013
 County: Waukesha, 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: | September | 1.82 | 3.74 | 4.63 |
| 2nd month prior: | August | 3.12 | 4.53 | 5.28 |
| 3rd month prior: | July | 3.07 | 4.27 | 5.15 |
| | | Sum = | 12.54 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|--------------------|---------------------------|-------------------|--------------|----------|
| 1.55 | Dry | 1 | 3 | 3 |
| 3.27 | Normal | 2 | 2 | 4 |
| 1.54 | Dry | 1 | 1 | 1 |
| Sum = | 6.36 | | Sum*** = | 8 |

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

Determination: Wet
 X Dry
 Normal

Condition value: *If sum is:
 Dry = 1 6 to 9 then period has been drier than normal
 Normal = 2 10 to 14 then period has been normal
 Wet = 3 15 to 18 then period has been wetter than normal

Historical Precipitation data source: National Water and Climate Center Monthly Data Summary
 Station : WI6200, OCONOMOWOC 1 SW

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.

Monthly Data Summary
 Station : WI6200, OCONOMOWOC 1 SW

Precipitaion Data source: <http://weathersource.com/past-weather/official-weather>

WETS Analysis Worksheet

Project Name: Emerald Park - Muskego, WI
 Project Number: 193702557
 Period of interest: August - October 17, 2014
 County: Waukesha, 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: | October | 0.87 | 1.44 | 1.74 |
| 2nd month prior: | September | 2.00 | 3.52 | 4.34 |
| 3rd month prior: | August | 3.28 | 4.77 | 5.69 |
| | | Sum = | 9.73 | |

Site determination

| Site Rainfall (in) | Condition Dry/Normal*/Wet | Condition** Value | Month Weight | Product |
|--------------------|---------------------------|-------------------|--------------|--------------------|
| 2.32 | Wet | 3 | 3 | 9 |
| 1.22 | Dry | 1 | 2 | 2 |
| 5.23 | Normal | 2 | 1 | 2 |
| | | Sum = | 8.77 | Sum*** = 13 |

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

Determination: _____ Wet
 _____ Dry
 X 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

Historical Precipitation data source: National Water and Climate Center

Monthly Data Summary
 Station : WI8937, WAUKESHA WI

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.

*WETS table precipitation numbers were modified for October to reflect the reduced number of days for precip data collected in the month of October, 2014. Numbers were multiplied by a factor of 0.548

Daily Data Between Two Dates

WAUKESHA (WI)
 USC00478937

| Date | Precipitation (in) | Date | Precipitation (in) | Date | Precipitation (in) |
|--------------|--------------------|--------------|--------------------|------------|--------------------|
| 8/1/2014 | 0 | 9/1/2014 | 0 | 10/1/2014 | 0 |
| 8/2/2014 | 1 | 9/2/2014 | 0.03 | 10/2/2014 | 0.15 |
| 8/3/2014 | 0 | 9/3/2014 | 0 | 10/3/2014 | 0.57 |
| 8/4/2014 | 0.03 | 9/4/2014 | 0.2 | 10/4/2014 | 0.02 |
| 8/5/2014 | 1 | 9/5/2014 | 0.02 | 10/5/2014 | 0.03 |
| 8/6/2014 | 0 | 9/6/2014 | 0 | 10/6/2014 | 0 |
| 8/7/2014 | 0 | 9/7/2014 | 0 | 10/7/2014 | 0 |
| 8/8/2014 | 0 | 9/8/2014 | 0 | 10/8/2014 | 0 |
| 8/9/2014 | 0 | 9/9/2014 | 0 | 10/9/2014 | 0 |
| 8/10/2014 | 0 | 9/10/2014 | 0.22 | 10/10/2014 | 0 |
| 8/11/2014 | 0 | 9/11/2014 | 0.08 | 10/11/2014 | 0 |
| 8/12/2014 | 0.75 | 9/12/2014 | 0 | 10/12/2014 | 0 |
| 8/13/2014 | 0.18 | 9/13/2014 | 0.3 | 10/13/2014 | 0.02 |
| 8/14/2014 | 0 | 9/14/2014 | 0 | 10/14/2014 | 1.1 |
| 8/15/2014 | 0 | 9/15/2014 | 0 | 10/15/2014 | 0.3 |
| 8/16/2014 | 0 | 9/16/2014 | 0.07 | 10/16/2014 | 0.1 |
| 8/17/2014 | 0.15 | 9/17/2014 | 0 | 10/17/2014 | 0.03 |
| 8/18/2014 | 0 | 9/18/2014 | 0 | | 2.32 |
| 8/19/2014 | 0.55 | 9/19/2014 | 0 | | |
| 8/20/2014 | 0 | 9/20/2014 | 0.03 | | |
| 8/21/2014 | 0 | 9/21/2014 | 0.25 | | |
| 8/22/2014 | 0.27 | 9/22/2014 | 0.02 | | |
| 8/23/2014 | 0 | 9/23/2014 | 0 | | |
| 8/24/2014 | 0.72 | 9/24/2014 | 0 | | |
| 8/25/2014 | 0 | 9/25/2014 | 0 | | |
| 8/26/2014 | 0.2 | 9/26/2014 | 0 | | |
| 8/27/2014 | 0.05 | 9/27/2014 | 0 | | |
| 8/28/2014 | 0 | 9/28/2014 | 0 | | |
| 8/29/2014 | 0 | 9/29/2014 | 0 | | |
| 8/30/2014 | 0.03 | 9/30/2014 | 0 | | |
| 8/31/2014 | 0.3 | | | | |
| Total | 5.23 | Total | 1.22 | | |

Midwestern Regional Climate Center
 cli-MATE: MRCC Application Tools Environment
 Generated at: 10/25/2014 5:05:46 PM CDT

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1893-2014 prcp

Station : WI8937, WAUKESHA

Unit = inches

| yr | jan | feb | mar | apr | may | jun | jul | aug | sep | oct | nov | dec | annl |
|----|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| 93 | M1.52 | 1.21 | 2.95 | 5.64 | 2.11 | 4.32 | 3.05 | 1.32 | 2.87 | 2.41 | 1.47 | 2.61 | 31.48 |
| 94 | 1.34 | 0.81 | 2.49 | 2.94 | 3.68 | 2.22 | M1.16 | 1.73 | M4.55 | 2.37 | 2.08 | 0.51 | 25.88 |
| 95 | 1.55 | 0.42 | 0.53 | 0.78 | 5.01 | 2.29 | 1.79 | 2.61 | 1.56 | 0.67 | 2.11 | 1.82 | 21.14 |
| 96 | 0.43 | 0.89 | M1.82 | M4.11 | 4.12 | 2.59 | 2.59 | 2.67 | 5.71 | 0.68 | 2.05 | 0.56 | 28.22 |
| 97 | 2.73 | 1.03 | M3.28 | M4.14 | 1.01 | 3.14 | 3.20 | 3.02 | 1.35 | 1.11 | 1.25 | 1.58 | 26.84 |
| 98 | 2.34 | 1.60 | M3.24 | 2.05 | 1.92 | 1.54 | 2.81 | 4.08 | 1.55 | 4.10 | 0.98 | 0.50 | 26.71 |
| 99 | 0.64 | 0.77 | 1.47 | M1.19 | 3.92 | 3.99 | 2.14 | 2.50 | 3.18 | 1.21 | 2.20 | 1.18 | 24.39 |
| 0 | 1.43 | 1.87 | 0.91 | 2.34 | 1.21 | 1.21 | 7.03 | 5.67 | 2.02 | 2.34 | 1.86 | 0.45 | 28.34 |
| 1 | M1.02 | 1.23 | 2.95 | 0.35 | 1.88 | 1.35 | 2.01 | 0.77 | 2.67 | M1.00 | 0.58 | 1.49 | 17.30 |
| 2 | 0.29 | 1.39 | 1.33 | 1.11 | 5.96 | 4.53 | 8.82 | 0.64 | 3.95 | 1.73 | 2.39 | 2.31 | 34.45 |
| 3 | M0.48 | 0.72 | M2.86 | 2.51 | 4.57 | 3.30 | 6.93 | 7.39 | 5.04 | 2.50 | 1.01 | 0.99 | 38.30 |
| 4 | M0.81 | 0.86 | 3.54 | M1.97 | 3.70 | 2.07 | 3.17 | 3.70 | 4.33 | 3.28 | M0.22 | M1.38 | 29.03 |
| 5 | 0.86 | M1.21 | 2.50 | 1.49 | 6.71 | 5.69 | 2.77 | 4.33 | 1.44 | 3.19 | 2.19 | M1.02 | 33.40 |
| 6 | M3.54 | 1.23 | 1.61 | 1.69 | 2.08 | 3.47 | 4.29 | 2.40 | 2.84 | 2.36 | 2.54 | M1.31 | 29.36 |
| 7 | 2.15 | 0.11 | 2.20 | 3.14 | M3.22 | 5.03 | 6.35 | 4.07 | 5.21 | 1.25 | 1.26 | 1.45 | 35.44 |
| 8 | 1.03 | 1.20 | M2.61 | 4.24 | 4.86 | 3.11 | 1.08 | 1.85 | 0.81 | 0.82 | 2.03 | 1.15 | 24.79 |
| 9 | 2.44 | M0.93 | 0.75 | 6.84 | 2.28 | 2.63 | 0.46 | 3.73 | 3.32 | 0.48 | 2.19 | 2.96 | 29.01 |
| 10 | 1.48 | 0.46 | 0.13 | 3.92 | 3.81 | 1.57 | 1.34 | 3.27 | 2.58 | 1.02 | M2.63 | M0.26 | 22.47 |
| 11 | 0.29 | 2.50 | 0.42 | 3.08 | 1.80 | 2.78 | 3.30 | 2.33 | 4.78 | 3.58 | 4.17 | M0.98 | 30.01 |
| 12 | 1.36 | M1.66 | 1.38 | 2.26 | 8.24 | 0.92 | 4.93 | 3.11 | 5.05 | 3.09 | M1.03 | 2.20 | 35.23 |
| 13 | 1.40 | 1.10 | 3.36 | 3.29 | 7.06 | 5.21 | 5.40 | 5.37 | 2.49 | 2.60 | 1.90 | M0.49 | 39.67 |
| 14 | 1.02 | 1.85 | 2.70 | 2.29 | 6.90 | 6.41 | 1.32 | 1.80 | 6.15 | 4.43 | M0.33 | 1.98 | 37.18 |
| 15 | 1.48 | M1.62 | 1.38 | 0.75 | 7.95 | 3.84 | 2.40 | 2.86 | 10.00 | 0.95 | 2.72 | 0.65 | 36.60 |
| 16 | 3.09 | 1.37 | 3.69 | 4.60 | 3.07 | 5.92 | 0.41 | 4.46 | M6.60 | 4.64 | M2.15 | 2.34 | 42.34 |
| 17 | 1.30 | M0.10 | 1.67 | 3.67 | 3.94 | 7.44 | 3.51 | 1.04 | 4.91 | 6.00 | 0.38 | 0.55 | 34.51 |
| 18 | 5.60 | 1.45 | 1.63 | 3.51 | 4.23 | 1.42 | 1.40 | 1.60 | 1.29 | 2.83 | 2.90 | 2.51 | 30.37 |
| 19 | M0.32 | 2.93 | 4.09 | 3.45 | 2.93 | 3.16 | 2.93 | 1.41 | 6.97 | 4.39 | M2.76 | 1.64 | 36.98 |
| 20 | 1.53 | 0.38 | 4.71 | 2.30 | 2.12 | 3.58 | 2.17 | 4.23 | 1.75 | 2.17 | 1.86 | 3.75 | 30.55 |
| 21 | 0.30 | 0.35 | 2.89 | 5.73 | 2.74 | 1.52 | 1.28 | 6.78 | 9.50 | 5.02 | 1.42 | 2.89 | 40.42 |
| 22 | 0.22 | M2.37 | M1.02 | 2.66 | 3.80 | 2.64 | 2.54 | 2.73 | 4.79 | 1.53 | 2.54 | M1.26 | 28.10 |
| 23 | 1.92 | 0.83 | M3.89 | 2.89 | 1.83 | 3.90 | 1.74 | 3.31 | 4.85 | 4.18 | 1.55 | 1.28 | 32.17 |
| 24 | 1.36 | 2.53 | 3.80 | 2.16 | 4.11 | 5.30 | 2.45 | 8.07 | 2.21 | 0.06 | 2.33 | 0.93 | 35.31 |
| 25 | 0.90 | 1.35 | M1.33 | 2.66 | 1.77 | 3.65 | 3.82 | 2.53 | 5.30 | 3.08 | 1.60 | 1.65 | 29.64 |
| 26 | 1.16 | 1.95 | 2.14 | M2.05 | 4.09 | M3.30 | 2.12 | 1.35 | 4.65 | 3.01 | M3.52 | 1.05 | 30.39 |
| 27 | 1.38 | 1.39 | M2.52 | 4.63 | 3.96 | 2.65 | 3.48 | 0.75 | 4.03 | 5.07 | M4.44 | 0.67 | 34.97 |
| 28 | 0.18 | 0.95 | 2.03 | 1.42 | 3.35 | 5.82 | 1.84 | 4.19 | 1.36 | 2.90 | 4.45 | 2.50 | 30.99 |
| 29 | 3.93 | 1.18 | 2.04 | 6.25 | 2.46 | 2.96 | 5.85 | 1.68 | 2.95 | M2.71 | 0.58 | M1.01 | 33.60 |
| 30 | 1.35 | 0.58 | 2.67 | 2.71 | 2.59 | 1.73 | 2.28 | 1.01 | 2.43 | 2.38 | 0.65 | 0.75 | 21.13 |
| 31 | 1.25 | 0.48 | M1.89 | 1.24 | 2.65 | 2.68 | 1.30 | 2.79 | 4.16 | 3.11 | 4.95 | 0.77 | 27.27 |
| 32 | 1.94 | 1.00 | 1.67 | 0.21 | 1.16 | 1.82 | 1.80 | 1.86 | 0.53 | 3.50 | 2.65 | 1.38 | 19.52 |
| 33 | 0.99 | 1.36 | 2.81 | 2.37 | 8.74 | 3.27 | 4.43 | 2.73 | 3.46 | 1.61 | 1.01 | 0.83 | 33.61 |
| 34 | 0.50 | 0.65 | 2.21 | 1.49 | 5.60 | 2.26 | 1.75 | 0.66 | 4.23 | 1.75 | 6.47 | 0.88 | 28.45 |
| 35 | 1.55 | 1.97 | 1.55 | 3.12 | 2.25 | 3.58 | 2.67 | 3.69 | 1.73 | 1.57 | 3.66 | 1.16 | 28.50 |
| 36 | M1.32 | 1.19 | 0.47 | 1.19 | 1.82 | 2.73 | M0.72 | 6.32 | 4.40 | 3.12 | 0.48 | 2.57 | 26.33 |
| 37 | 3.27 | 1.99 | 1.17 | 3.90 | 1.47 | 3.33 | 2.72 | 1.75 | 1.19 | 2.59 | 0.45 | 2.10 | 25.93 |
| 38 | 3.91 | 2.82 | 2.43 | 1.36 | 3.91 | 5.11 | 4.58 | 7.30 | 7.77 | 1.52 | 1.97 | 0.89 | 43.57 |
| 39 | 2.05 | 1.88 | M1.52 | 2.71 | 2.35 | 3.87 | | 3.56 | 1.30 | 2.53 | 0.38 | 0.35 | 22.50 |
| 40 | 1.75 | 1.66 | 1.44 | 2.37 | 5.01 | 7.11 | 1.79 | 6.15 | 0.77 | 1.53 | 2.89 | 1.07 | 33.54 |
| 41 | 2.53 | 0.56 | 1.90 | 1.33 | 3.75 | 1.92 | 2.66 | 0.91 | 9.20 | 3.15 | 0.88 | 1.26 | 30.05 |
| 42 | 1.31 | 0.55 | 1.74 | 0.71 | 4.65 | 4.45 | 3.20 | 3.82 | 3.73 | M2.38 | 4.50 | 3.40 | 34.44 |

| | | | | | | | | | | | | | |
|----|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 43 | 2.21 | 0.68 | 3.18 | 1.58 | 4.86 | 4.28 | 3.50 | 3.29 | 0.51 | 0.91 | 2.27 | 0.66 | 27.93 |
| 44 | 1.33 | 1.94 | 2.40 | 3.23 | 2.34 | 3.80 | 2.84 | 2.35 | 2.16 | 0.41 | 2.29 | 1.33 | 26.42 |
| 45 | 0.42 | 1.23 | 1.42 | 2.86 | 6.09 | 2.80 | 2.58 | 3.75 | 5.97 | 0.75 | 2.94 | 1.06 | 31.87 |
| 46 | 2.63 | 1.64 | 2.81 | 1.40 | 2.24 | 3.61 | 1.10 | 2.00 | 2.67 | 1.78 | 2.24 | 1.75 | 25.87 |
| 47 | 3.27 | 0.25 | 1.43 | 3.68 | 6.07 | 4.30 | 2.73 | 3.26 | 4.74 | 2.93 | 3.10 | 1.48 | 37.24 |
| 48 | 1.52 | 1.80 | 3.48 | 2.75 | 3.47 | 2.98 | 2.68 | 0.89 | 1.17 | 0.62 | 2.87 | 2.62 | 26.85 |
| 49 | 2.12 | 2.10 | 1.90 | 1.59 | 3.01 | 5.72 | 4.60 | 1.24 | 1.59 | 1.72 | 0.37 | 1.97 | 27.93 |
| 50 | 2.59 | 1.10 | 2.68 | 3.77 | 2.09 | 4.74 | 5.68 | 2.14 | 2.81 | 0.65 | 1.00 | 2.83 | 32.08 |
| 51 | 1.76 | 1.87 | 4.02 | 5.00 | 2.68 | 3.18 | 3.37 | 3.13 | 2.68 | 5.68 | 3.92 | 2.39 | 39.68 |
| 52 | 2.17 | 0.93 | 4.22 | 2.09 | 3.50 | 4.10 | 11.41 | 3.10 | 0.90 | 0.12 | 3.41 | 2.05 | 38.00 |
| 53 | 1.35 | 1.90 | 1.51 | 3.46 | 2.94 | 2.81 | 4.12 | 4.00 | 2.05 | 0.60 | 0.47 | 1.93 | 27.14 |
| 54 | 1.30 | 1.06 | 1.63 | 3.80 | 2.71 | 7.52 | 7.13 | 5.18 | 3.39 | 2.87 | 1.47 | 2.67 | 40.73 |
| 55 | 0.84 | 1.16 | 1.21 | 3.49 | 2.81 | 5.51 | M1.82 | 1.08 | 1.68 | 3.12 | 0.67 | 0.97 | 24.36 |
| 56 | 0.39 | 0.90 | M2.00 | 3.99 | 4.04 | 2.50 | 6.80 | 3.75 | 0.30 | 0.51 | 1.76 | 1.44 | 28.38 |
| 57 | 1.06 | 0.69 | 1.63 | 2.94 | 4.87 | 5.45 | 1.89 | 2.08 | M0.52 | 1.53 | 3.19 | 2.28 | 28.13 |
| 58 | 0.99 | 0.15 | 0.40 | 1.92 | 2.71 | 1.63 | 1.58 | 4.04 | 4.55 | 2.38 | 3.97 | 0.45 | 24.77 |
| 59 | 1.35 | 1.62 | 4.38 | 3.44 | 1.30 | 2.90 | 4.38 | 3.91 | 5.15 | 5.32 | 2.14 | 1.58 | 37.47 |
| 60 | 2.32 | 1.62 | 2.27 | 3.95 | 4.74 | 1.59 | 4.60 | 6.39 | 3.10 | 3.51 | 2.73 | 0.25 | 37.07 |
| 61 | 0.22 | 0.80 | 3.43 | 3.45 | 1.70 | 2.57 | 2.13 | 2.43 | 10.21 | 3.32 | 2.42 | 1.15 | 33.83 |
| 62 | 2.08 | 1.69 | 1.73 | 1.50 | 2.63 | 1.80 | 3.65 | 2.17 | 1.68 | 1.81 | 0.80 | 0.75 | 22.29 |
| 63 | 0.94 | 0.40 | 1.99 | 2.57 | 1.70 | 2.93 | 1.33 | 3.75 | 2.79 | 0.51 | 1.79 | 0.66 | 21.36 |
| 64 | 1.33 | 0.26 | 2.41 | 4.81 | 3.82 | 2.74 | 4.74 | 2.43 | 1.91 | 0.17 | 2.74 | 0.73 | 28.09 |
| 65 | 3.14 | 0.88 | 3.86 | 3.17 | 2.24 | 1.54 | 3.03 | 8.06 | 6.88 | 3.42 | 1.58 | 3.16 | 40.96 |
| 66 | 1.59 | 1.31 | 2.95 | 2.87 | 2.28 | 1.14 | 2.18 | 2.68 | 0.60 | 1.48 | 2.46 | 2.34 | 23.88 |
| 67 | 1.30 | 1.23 | 1.21 | 1.98 | 3.21 | 5.23 | 1.65 | 2.55 | 1.29 | 3.73 | 1.66 | 1.06 | 26.10 |
| 68 | 0.76 | 0.64 | 0.19 | 4.15 | 3.15 | 6.92 | 4.14 | 3.96 | 3.58 | 1.32 | 2.02 | 2.67 | 33.50 |
| 69 | 1.82 | 0.11 | 1.03 | 3.35 | 2.89 | 7.94 | 4.29 | 0.56 | 2.22 | 5.07 | 0.93 | 1.24 | 31.45 |
| 70 | 0.46 | 0.22 | 1.43 | 2.14 | 6.63 | 3.84 | 3.62 | 0.93 | 5.78 | 2.13 | 2.12 | 2.87 | 32.17 |
| 71 | 1.50 | 2.50 | 1.65 | 1.68 | 1.91 | 3.57 | 2.71 | 3.98 | 1.21 | 2.98 | 3.67 | 4.21 | 31.57 |
| 72 | 0.61 | 0.55 | 2.35 | 2.23 | 3.13 | 3.54 | 4.58 | 6.31 | 8.40 | 2.80 | 1.07 | 2.84 | 38.41 |
| 73 | 0.92 | 1.56 | 2.69 | 7.88 | 4.60 | 2.95 | 1.86 | 1.10 | 4.50 | 3.39 | 1.78 | 2.86 | 36.09 |
| 74 | 3.23 | 2.26 | 3.81 | 3.98 | 3.63 | 2.52 | 2.55 | 4.12 | 1.85 | 2.37 | 1.76 | 1.93 | 34.01 |
| 75 | 2.06 | 1.79 | 3.56 | 3.69 | 1.73 | 4.64 | 3.21 | 5.45 | 0.95 | 0.54 | 3.65 | 0.68 | 31.95 |
| 76 | 1.13 | 2.41 | 5.54 | 5.42 | 4.02 | 2.40 | 2.14 | 2.08 | 1.07 | 2.25 | 0.53 | 0.34 | 29.33 |
| 77 | 0.51 | 0.65 | 4.44 | 1.92 | 1.02 | 4.22 | 5.55 | 5.78 | 3.00 | 2.27 | 3.64 | 2.23 | 35.23 |
| 78 | 1.18 | 0.24 | 0.64 | 4.27 | 3.92 | 4.84 | 4.80 | 2.55 | 6.34 | 2.08 | 2.18 | 2.80 | 35.84 |
| 79 | 2.50 | 0.81 | 3.74 | 4.50 | 1.86 | 2.77 | 2.74 | 8.14 | 0.00 | 2.38 | 2.53 | 1.69 | 33.66 |
| 80 | 1.22 | 0.85 | 0.46 | 3.82 | 1.81 | 3.62 | 3.54 | 7.95 | 5.92 | 1.43 | 1.38 | 2.25 | 34.25 |
| 81 | 0.23 | 1.73 | M0.43 | | 1.37 | 2.67 | 3.02 | 7.43 | 5.10 | 3.09 | 2.41 | 1.02 | 28.50 |
| 82 | 2.79 | 0.75 | 2.03 | 3.27 | 3.11 | 2.62 | 3.60 | 3.04 | 0.57 | 2.72 | 5.41 | 3.52 | 33.43 |
| 83 | 0.48 | 1.60 | M4.49 | 2.67 | M3.80 | 1.76 | 2.46 | 4.34 | 4.63 | M3.25 | 3.84 | 1.86 | 35.18 |
| 84 | 0.56 | 1.00 | 1.56 | 4.26 | 4.83 | 4.28 | 2.97 | 2.77 | M2.74 | 5.43 | 3.18 | 3.92 | 37.50 |
| 85 | 1.35 | 1.93 | 2.89 | 1.52 | 1.84 | 2.46 | 1.95 | 2.81 | 4.48 | M5.79 | 5.99 | 1.29 | 34.30 |
| 86 | 0.80 | 1.95 | 1.63 | 2.19 | 2.38 | 6.30 | 5.18 | 5.16 | 7.85 | M1.69 | 0.57 | 0.74 | 36.44 |
| 87 | | M0.00 | 2.31 | 4.09 | 4.23 | 3.08 | 6.19 | 8.17 | 3.72 | 1.01 | M1.24 | | 34.04 |
| 88 | | | | | | | | | | | | | |
| 89 | | | | | | | | | | | | | |
| 90 | | | | | | | | | | | | | |
| 91 | | | | | | | 4.19 | 1.97 | M5.78 | M5.60 | M3.07 | 1.47 | 22.08 |
| 92 | M0.64 | 1.28 | M1.88 | 2.25 | M1.20 | M1.87 | 4.24 | M3.54 | 5.18 | 1.81 | 4.53 | 2.33 | 30.75 |
| 93 | 2.15 | 0.99 | M1.39 | 6.45 | 1.97 | 7.33 | 5.64 | 4.34 | 4.28 | 0.60 | 1.56 | 0.38 | 37.08 |
| 94 | 1.95 | 2.70 | 0.64 | 1.60 | 0.99 | 3.52 | 6.64 | 5.10 | 1.43 | 0.63 | 3.68 | 0.93 | 29.81 |
| 95 | 1.52 | 0.10 | 2.00 | 3.83 | 3.29 | 0.53 | 3.08 | 10.83 | 0.93 | 4.26 | 3.10 | 0.64 | 34.11 |
| 96 | 1.71 | 0.82 | 0.52 | 3.19 | 2.78 | 7.83 | 3.88 | 2.54 | 2.23 | 5.02 | 0.80 | 1.57 | 32.89 |
| 97 | 1.78 | 3.20 | 0.92 | 2.46 | 2.38 | 6.78 | 4.04 | 5.53 | 1.80 | 1.43 | 1.09 | M1.24 | 32.65 |
| 98 | 2.92 | 2.14 | 3.55 | 3.57 | 4.16 | 3.92 | 1.40 | 6.41 | 2.32 | 3.39 | 2.39 | 0.98 | 37.15 |
| 99 | 4.27 | 1.22 | 0.83 | 5.45 | 3.82 | 6.14 | 6.48 | 1.86 | 3.87 | 0.77 | 0.78 | 1.77 | 37.26 |
| 0 | 1.01 | 1.26 | 1.34 | 2.97 | 8.05 | 4.15 | 7.54 | 5.78 | 7.00 | 0.92 | M2.41 | M2.30 | 44.73 |
| 1 | 1.28 | 3.12 | 0.35 | 4.75 | 5.42 | 4.62 | 1.87 | 4.82 | 4.66 | 3.59 | M1.54 | M1.30 | 37.32 |
| 2 | 0.87 | 1.56 | 1.73 | 3.96 | 2.89 | 3.30 | 3.32 | 8.50 | 3.32 | 2.76 | 0.73 | 0.69 | 33.63 |

| | | | | | | | | | | | | | |
|----|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3 | 0.22 | M0.11 | 1.49 | 1.35 | 5.67 | 2.22 | 3.33 | 0.51 | 1.90 | 1.64 | M4.12 | 2.35 | 24.91 |
| 4 | 0.76 | M0.72 | 2.84 | 2.31 | 9.44 | 5.11 | 2.02 | M4.35 | 0.13 | 2.39 | 2.26 | M1.35 | 33.68 |
| 5 | M2.33 | 1.57 | 0.69 | 1.03 | 2.86 | M2.19 | M2.69 | 1.18 | M3.64 | 0.43 | M3.23 | M0.87 | 22.71 |
| 6 | 0.97 | 0.68 | 1.55 | 3.22 | M4.63 | M2.18 | M3.74 | 4.49 | M2.98 | M2.89 | M2.56 | M2.48 | 32.37 |
| 7 | M0.97 | M1.42 | 1.65 | M3.88 | 2.05 | 4.01 | M2.95 | 9.62 | 1.51 | 2.41 | 0.21 | 3.11 | 33.79 |
| 8 | 0.96 | M2.08 | 2.38 | 5.58 | 2.23 | 10.27 | 4.08 | 1.04 | 4.07 | 2.97 | 1.03 | 4.12 | 40.81 |
| 9 | 1.05 | 2.11 | 3.89 | 5.51 | 3.39 | 7.31 | 0.87 | 3.67 | 1.82 | 4.98 | 1.80 | 3.53 | 39.93 |
| 10 | 0.86 | 0.99 | 0.49 | 3.86 | 3.75 | 11.11 | 9.23 | 1.48 | 2.70 | 1.81 | 1.09 | 0.96 | 38.33 |
| 11 | 0.85 | 2.26 | 2.69 | 3.38 | 2.44 | 5.29 | 2.98 | 3.16 | 4.27 | 1.49 | 2.59 | 1.59 | 32.99 |
| 12 | 1.74 | 0.98 | 3.42 | 2.37 | 5.03 | 0.58 | 3.06 | 2.10 | 2.33 | 4.00 | 0.62 | 3.70 | 29.93 |
| 13 | 2.71 | 3.84 | 1.64 | 7.57 | 7.24 | 7.29 | 2.29 | 3.54 | 2.38 | 2.73 | 2.85 | 1.09 | 45.17 |
| 14 | 1.24 | 1.50 | 1.21 | 4.04 | 5.20 | 5.80 | 3.21 | 5.23 | 1.22 | M2.48 | | | 31.13 |

Product generated by ACIS - NOAA Regional Climate Centers.



Emerald Park Landfill Western Expansion
ADS
December 10, 2014

Wetland Delineation Report
City of Muskego, Waukesha County, Wisconsin
Stantec Project # 193702557

APPENDIX E

WETLAND DETERMINATION DATA FORMS



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Saylesville silt loam
Landform: Rise
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W1
Sample Point: 1u
Community ID: Upland (Ag)
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: The sample plot is located in an upland agricultural field, so not normal circumstances. WETS analysis indicates antecedent moisture conditions in the drier than normal range.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides
Remarks: No evidence of wetland hydrology was observed at the sample plot. FSA slide review indicates the boundary is nearby to the northwest, but not within this sample point.

SOILS
Map Unit Name: Saylesville silt loam
Series Drainage Class: moderately well to well
Taxonomy (Subgroup): Typic Hapludalfs

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present):
Indicators for Problematic Soils 1
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions, A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present?

Remarks: No O2 roots. No stress to upland grasses.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W1** Sample Point **1u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|--|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>0</u> x 2 = <u>0</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>100</u> x 4 = <u>400</u> UPL spp. <u>10</u> x 5 = <u>50</u> Total <u>110</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>4.091</u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | MEDICAGO SATIVA | 20 | N | FACU | |
| 2. | TRIFOLIUM PRATENSE | 10 | N | FACU | |
| 3. | CIRSIIUM ARVENSE | 5 | N | FACU | |
| 4. | BROMUS INERMIS | 10 | N | UPL | |
| 5. | ELYMUS REPENS | 60 | Y | FACU | |
| 6. | TARAXACUM OFFICINALE | 5 | N | FACU | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 110 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:
Agricultural field currently used for hay production.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Montgomery silty clay loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W1
Sample Point: 1w
Community ID: Wet Meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: The sample plot is located in a wet meadow. WETS analysis indicates antecedent moisture conditions in the drier than normal range.

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
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No
Water Table Present? [] Yes [x] No
Saturation Present? [] Yes [x] No
Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides

Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. FSA slide review indicates this point is wetlands, and that the wetlands stop where cropland begins nearby.

SOILS

Map Unit Name: Montgomery silty clay loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Vertic Endoaquolls

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)

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show soil profile data from 0 to 18 inches depth.

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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[x] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: The soil at the sample plot meets the A12 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W1** Sample Point **1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>100</u> x 2 = <u>200</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>1</u> x 4 = <u>4</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>101</u> (A) <u>204</u> (B) Prevalence Index = B/A = <u>2.020</u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | PHALARIS ARUNDINACEA | 100 | Y | FACW | |
| 2. | CIRSIUM ARVENSE | 1 | N | FACU | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 101 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
 Depressional wet meadow community dominated by reed canary grasss.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Saylesville silt loam
Landform: Rise
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W1
Sample Point: 2u
Community ID: Upland hayfield
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: The sample plot is located in an upland hayfield, so no normal circumstances. WETS analysis indicates antecedent moisture conditions in the drier than normal range. Possible problematic seasonal wetland.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides
Remarks: No evidence of wetland hydrology was observed at the sample plot. Contrast with adjacent sample point in W-1, as well as non-hydric soils and non-hydric vegetation at this point provide evidence this point is not subjected to problematic seasonal wetland hydrology.

SOILS
Map Unit Name: Saylesville silt loam
Series Drainage Class: moderately well to well
Taxonomy (Subgroup): Typic Hapludalfs

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present):
Indicators for Problematic Soils 1
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions, A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present?
Remarks: The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion**

Wetland ID: **Adj. to W1** Sample Point **2u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | TARAXACUM OFFICINALE | 30 | Y | FACU |
| 2. | TRIFOLIUM PRATENSE | 15 | N | FACU |
| 3. | MEDICAGO SATIVA | 25 | Y | FACU |
| 4. | ELYMUS REPENS | 30 | Y | FACU |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Dominance Test Worksheet | |
|---|-------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>0</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>3</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>0.0%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>100</u> | x 4 = | <u>400</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>100</u> (A) | <u>400</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> | |

| Hydrophytic Vegetation Indicators: | | |
|------------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
|---|--|

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Montgomery silty clay loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W1
Sample Point: 2w
Community ID: Wet Meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: The sample plot is located in a wet meadow. WETS analysis indicates drier than normal antecedent moisture conditions.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides

Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS

Map Unit Name: Montgomery silty clay loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Vertic Endoaquolls

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)

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix Color (Moist), Matrix %, Mottles Color (Moist), Mottles %, Mottles Type, Mottles Location, Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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
[] A10 - 2 cm Muck
[x] A11 - Depleted Below Dark Surface
[x] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: Depleted matrix begins below 12", which is the threshold for A11 and A12, so interpreted to meet both indicators.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W1** Sample Point **2w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Salix nigra</i> | 20 | Y | OBL |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 20 | | |

Total Cover = 20

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = 0

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 60 | Y | FACW |
| 2. | <i>Helianthus giganteus</i> | 20 | Y | FACW |
| 3. | <i>Solidago canadensis</i> | 15 | N | FACU |
| 4. | <i>CIRSIIUM ARVENSE</i> | 5 | N | FACU |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

Total Cover = 100

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|---------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = 0

| Dominance Test Worksheet | |
|---|--------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | 3 (A) |
| Total Number of Dominant Species Across All Strata: | 3 (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100.0% (A/B) |

| Prevalence Index Worksheet | |
|--------------------------------|--------------|
| Total % Cover of: | Multiply by: |
| OBL spp. 20 | x 1 = 20 |
| FACW spp. 80 | x 2 = 160 |
| FAC spp. 0 | x 3 = 0 |
| FACU spp. 20 | x 4 = 80 |
| UPL spp. 0 | x 5 = 0 |
| Total 120 (A) | 260 (B) |
| Prevalence Index = B/A = 2.167 | |

- 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: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Saylesville silt loam
Landform: Rise
Slope (%): 2-4
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W1
Sample Point: 3u
Community ID: Upland soybean field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [] Yes [x] No
Hydric Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [] Yes [x] No
Remarks: WETS analysis indicates drier than normal antecedent moisture conditions. Potential problematic seasonal wetland hydrology. Although hydrophytic vegetation present, the lack of hydric soils and wetland hydrology indicate upland cropland.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [x]):

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
B14 - True Aquatic Plants
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
D9 - Gauge or Well Data
Other (Explain)

Secondary:

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

Field Observations:

Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)

Wetland Hydrology Present? [] Yes [x] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides

Remarks: Sample point 1ft higher than adjacent wetland sample plot. No evidence of wetland hydrology was observed at the sample plot. Contrasting with adjacent W1-3w. FSA slide review indicates non-wetlands at approximately this location.

SOILS

Map Unit Name: Saylesville 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)

Table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show soil profile data from 0 to 14 inches depth.

NRCS Hydric Soil Field Indicators (check here if indicators are not present [x]):

- A1 - Histosol
A2 - Histic Epipedon
A3 - Black Histic
A4 - Hydrogen Sulfide
A5 - Stratified Layers
A10 - 2 cm Muck
A11 - Depleted Below Dark Surface
A12 - Thick Dark Surface
S1 - Sandy Muck Mineral
S3 - 5 cm Mucky Peat or Peat
S4 - Sandy Gleyed Matrix
S5 - Sandy Redox
S6 - Stripped Matrix
F1 - Loamy Muck Mineral
F2 - Loamy Gleyed Matrix
F3 - Depleted Matrix
F6 - Redox Dark Surface
F7 - Depleted Dark Surface
F8 - Redox Depressions

Indicators for Problematic Soils 1

- A16 - Coast Prairie Redox
F12 - Iron-Manganese Masses
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 [x] No

Remarks: No O2 roots. The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W1** Sample Point **3u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NA</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|--|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>2</u> x 2 = <u>4</u> FACU spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>1</u> x 4 = <u>4</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>3</u> (A) <u>8</u> (B) Prevalence Index = B/A = <u>2.667</u> |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | |
| 1. | <i>TARAXACUM OFFICINALE</i> | 1 | N | FACU | |
| 2. | <i>Cyperus esculentus</i> | 1 | N | FACW | |
| 3. | <i>RHAMNUS FRANGULA</i> | 1 | N | FACW | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 3 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |

- 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: **Vegetation at the sample plot is hydrophytic based on PI because percent cover was not high enough to determine dominants via 50-20 rule.**

Additional Remarks:
Soybean stubble present within the plowed agricultural field. FSA slide review indicates wetland boundary in this vicinity.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Saylesville silt loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W1
Sample Point: 3w
Community ID: Forest wetland
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [X] Yes [] No
Wetland Hydrology Present? [X] Yes [] No
Hydric Soils Present? [X] Yes [] No
Is This Sampling Point Within A Wetland? [X] Yes [] No

Remarks: The sample plot is located in a forested wetland. WETS analysis indicates antecedent moisture conditions in the drier than normal range.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[X] D2 - Geomorphic Position
[X] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [X] No Depth: (in.)
Water Table Present? [] Yes [X] No Depth: (in.)
Saturation Present? [] Yes [X] No Depth: (in.)
Wetland Hydrology Present? [X] Yes [] No

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

Remarks: No O2 roots. The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS

Map Unit Name: Saylesville 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)

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[X] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [X] Yes [] No

Remarks: The soil at the sample plot does not meet the A12 Indicator because the value is 0.5 too high in the 1st horizon. However, this soil is judged to be hydric based on the other parameters.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W1** Sample Point **3w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|-----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>ROBINIA PSEUDOACACIA</i> | 30 | Y | FACU |
| 2. | <i>Salix nigra</i> | 25 | Y | OBL |
| 3. | <i>Acer negundo</i> | 10 | N | FAC |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 65 | | |

Total Cover = **65**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|----------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>LONICERA X BELLA</i> | 10 | Y | FACU |
| 2. | <i>Sambucus canadensis</i> | 5 | Y | FACW |
| 3. | <i>Viburnum lentago</i> | 5 | Y | FAC |
| 4. | <i>Rubus idaeus</i> | 5 | Y | FACU |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 25 | | |

Total Cover = **25**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 100 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

Total Cover = **100**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|------------------------------------|-----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Parthenocissus quinquefolia</i> | 5 | Y | FACU |
| 2. | <i>Vitis riparia</i> | 5 | Y | FACW |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

Total Cover = **10**

| Dominance Test Worksheet | |
|---|--------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>5</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>9</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>55.6%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|----------------|--------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. | <u>110</u> | x 2 = | <u>220</u> |
| FAC spp. | <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. | <u>50</u> | x 4 = | <u>200</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | <u>200</u> (A) | | <u>490</u> (B) |
| Prevalence Index = B/A = | | | <u>2.450</u> |

| Hydrophytic Vegetation Indicators: | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
|---|--|

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
Sample plot is located in a seasonally wet forested wetland.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Montgomery silty clay loam
Landform: Rise
Slope (%): 0-2
Latitude: N/A
Longitude: N/A
Datum: N/A
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W1
Sample Point: 4u
Community ID: Agricultural field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: WETS analysis indicates drier than normal antecedent moisture conditions. The sample point was planted to soybean during the 2013 growing season, so no normal circumstances. Potential problematic seasonal wetland hydrology.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides
Remarks: Soil pit dry to > 20" No evidence of wetland hydrology was observed at the sample plot. Soils and vegetation indicate non-wetlands, so potential problematic seasonal wetland lacking hydrology indicators judged to not be present at this point. See FSA interpretations at bottom of dataform.

SOILS
Map Unit Name: Montgomery silty clay loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Vertic Endoaquolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present):
Indicators for Problematic Soils 1
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions, A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present?
Remarks: Not a problem mollisol as mapped. No O2 roots. The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W1** Sample Point **4u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|--|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>1</u> x 2 = <u>2</u> FACU spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>15</u> x 4 = <u>60</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>16</u> (A) <u>62</u> (B) Prevalence Index = B/A = <u>3.875</u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | <i>CIRSIUM ARVENSE</i> | 10 | Y | FACU | |
| 2. | <i>TARAXACUM OFFICINALE</i> | 5 | Y | FACU | |
| 3. | <i>Cyperus esculentus</i> | 1 | N | FACW | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 16 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:
Soybean stubble present. No crop stress evident. FSA slide review indicates non-wetlands by showing a boundary in this proximate location.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Montgomery silty clay loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W1
Sample Point: 4w
Community ID: Shrub-carr
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: WETS analysis indicates drier than normal antecedent moisture conditions. The sample plot is located in a shrub-carr wetland.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides

Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. Nearby farm field non-wetland per the FSA slide review.

SOILS

Map Unit Name: Montgomery silty clay loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Vertic Endoaquolls

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)

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %), Type, Location, Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[x] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: The soil at the sample plot meets the A12 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W1** Sample Point **4w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B) |
|---|------------------------------------|----------------|-----------------|-------------------|--|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>105</u> x 2 = <u>210</u> FAC spp. <u>30</u> x 3 = <u>90</u> FACU spp. <u>25</u> x 4 = <u>100</u> UPL spp. <u>10</u> x 5 = <u>50</u> Total <u>170</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>2.647</u> |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | |
| 1. | <i>Cornus racemosa</i> | 30 | Y | FAC | |
| 2. | <i>Salix interior</i> | 20 | Y | FACW | |
| 3. | <i>Rubus occidentalis</i> | 10 | N | UPL | |
| 4. | <i>Cornus stolonifera</i> | 15 | N | FACW | |
| 5. | <i>Fraxinus pennsylvanica</i> | 10 | N | FACW | |
| 6. | LONICERA X BELLA | 5 | N | FACU | |
| 7. | <i>Salix bebbiana</i> | 20 | Y | FACW | |
| 8. | ROBINIA PSEUDOACACIA | 10 | N | FACU | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 120 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | |
| 1. | PHALARIS ARUNDINACEA | 30 | Y | FACW | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 30 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | |
| 1. | <i>Parthenocissus quinquefolia</i> | 10 | Y | FACU | |
| 2. | <i>Vitis riparia</i> | 10 | Y | FACW | |
| 3. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 20 | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
Dense shrub-carr located on the perimeter of a wet meadow community.

- 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



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W1
Sample Point: 5u
Community ID: Ag field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydric Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: WETS analysis indicates conditions drier than normal. Sample point in a soybean field, so no normal circumstances. Potential problematic seasonal wetland interpreted to be non-wetland based on soils and vegetation indicators.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [x]):

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)

Secondary:

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

Field Observations:

Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)

Wetland Hydrology Present? [] Yes [x] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides

Remarks: Soil pit dry to > 24". No evidence of wetland hydrology was observed at the sample plot. FSA slide review indicated the wetland boundary was in the vicinity of sample points 5w and 5u.

SOILS

Map Unit Name: Martinton silt loam Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic 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)

Table with 12 columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %), Type, Location, Texture. Rows show data for horizons 1 and 2.

NRCS Hydric Soil Field Indicators (check here if indicators are not present [x]):

- [] A1 - Histosol
[] A2 - Histic Epipedon
[] A3 - Black Histic
[] A4 - Hydrogen Sulfide
[] A5 - Stratified Layers
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions

Indicators for Problematic Soils 1

- [] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] 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 [x] No

Remarks: 2' above adjacent wetland surface. No redoximorphic features present within horizon 2. The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years. Possible problem mollisol, judged not present based on a lack of redox features in 2nd horizon and a lack of vegetation and hydrology indicators.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W1** Sample Point **5u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>0</u> x 2 = <u>0</u> FAC spp. <u>1</u> x 3 = <u>3</u> FACU spp. <u>5</u> x 4 = <u>20</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>6</u> (A) <u>23</u> (B) Prevalence Index = B/A = <u>3.833</u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | TARAXACUM OFFICINALE | 5 | Y | FACU | |
| 2. | RHAMNUS CATHARTICA | 1 | N | FAC | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 6 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:
Soybean stubble, sparse herb layer. No crop stress to soybean evident. FSA slide review completed and in all years, the boundary appears to be in the vicinity of this t



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Martinton silt loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W1
Sample Point: 5w
Community ID: wet meadow/shrub-carr
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [X] Yes [] No
Wetland Hydrology Present? [X] Yes [] No
Hydric Soils Present? [X] Yes [] No
Is This Sampling Point Within A Wetland? [X] Yes [] No
Remarks: WETS analysis indicates drier than normal antecedent moisture conditions. The sample plot is located in a wet meadow/shrub-carr.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[X] D2 - Geomorphic Position
[X] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [X] No Depth: (in.)
Water Table Present? [] Yes [X] No Depth: (in.)
Saturation Present? [] Yes [X] No Depth: (in.)
Wetland Hydrology Present? [X] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS
Map Unit Name: Martinton silt loam Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Argiudolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[X] F3 - Depleted Matrix
[X] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [X] Yes [] No

Remarks: The soil at the sample plot meets a F3 and F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W1** Sample Point **5w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B) |
|---|--------------------------------|----------------|-----------------|--------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | <i>Quercus alba</i> | 5 | Y | FACU | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 5 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>1</u> x 1 = <u>1</u> FACW spp. <u>156</u> x 2 = <u>312</u> FAC spp. <u>1</u> x 3 = <u>3</u> FACU spp. <u>10</u> x 4 = <u>40</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>168</u> (A) <u>356</u> (B) Prevalence Index = B/A = <u>2.119</u> |
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | <i>Cornus stolonifera</i> | 30 | Y | FACW | |
| 2. | <i>Salix interior</i> | 20 | Y | FACW | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 50 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 95 | Y | FACW | |
| 2. | <i>Amaranthus retroflexus</i> | 5 | N | FACU | |
| 3. | <i>Polygonum pensylvanicum</i> | 1 | N | FACW | |
| 4. | <i>Bidens cernua</i> | 1 | N | OBL | |
| 5. | <i>Panicum capillare</i> | 1 | N | FAC | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 103 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | <i>Vitis riparia</i> | 10 | Y | FACW | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 10 | | | |
| Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
In wet meadow community on edge of shrub-carr community.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Martinton silt loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W1
Sample Point: 6w
Community ID: farmed wetland
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: WETS analysis indicates site conditions drier than normal. Farmed wetland swale that extends into soybean field, so therefore not normal circumstances.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[x] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides
Remarks: FSA slide review at bottom of data form. The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS
Map Unit Name: Martinton silt loam
Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Argiudolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[x] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: The soil at the sample plot meets A12 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W1** Sample Point **6w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 60 | Y | FACW |
| 2. | <i>Bidens frondosa</i> | 20 | Y | FACW |
| 3. | <i>Panicum capillare</i> | 10 | N | FAC |
| 4. | <i>SETARIA PUMILA</i> | 5 | N | FAC |
| 5. | <i>SETARIA VIRIDIS</i> | 5 | N | UPL |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

Total Cover = **100**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

Remarks:

| Dominance Test Worksheet | |
|---|---------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>2</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>2</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |

| Prevalence Index Worksheet | |
|---------------------------------------|------------------|
| Total % Cover of: | Multiply by: |
| OBL spp. <u>0</u> | x 1 = <u>0</u> |
| FACW spp. <u>80</u> | x 2 = <u>160</u> |
| FAC spp. <u>15</u> | x 3 = <u>45</u> |
| FACU spp. <u>0</u> | x 4 = <u>0</u> |
| UPL spp. <u>5</u> | x 5 = <u>25</u> |
| Total <u>100</u> (A) | <u>230</u> (B) |
| Prevalence Index = B/A = <u>2.300</u> | |

- 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:

FSA slide review does not indicate wetlands in this location with 4 out of 12 years (6 normal, 3 wet, 3 dry) having signatures. However field indicators of hydrology and soils in combination with hydrophytic vegetation provide evidence this area is wetland. No soybean production w/in this northerly-extending swale portion of W-1. Adjacent areas planted to soybean during 2013 growing season.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Montgomery silty clay loam
Landform: Rise
Slope (%): 0-2
Latitude: N/A
Longitude: N/A
Datum: N/A
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W2
Sample Point: 1u
Community ID: Agricultural field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: Soybean field, so no normal circumstances. WETS indicates drier than normal conditions. Although hydric soil is present at the sample plot, the lack of hydrophytic vegetation and wetland hydrology indicate the sample plot is located in an upland agricultural field.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides
Remarks: Sample point located approx 2' above surface of wetland. No 0^2 roots. No evidence of wetland hydrology was observed at the sample plot. FSA slide review indicates wetland boundary is nearby and that this point is outside the wetland.

SOILS
Map Unit Name: Montgomery silty clay loam
Series Drainage Class: very poorly
Taxonomy (Subgroup): Vertic Endoaquolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, 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, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat
S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions
Indicators for Problematic Soils: A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present?
Remarks: Soybean not exhibiting response to saturated soil conditions. The soil at the sample plot meets the A12 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W2** Sample Point **1u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>0</u> x 2 = <u>0</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>20</u> x 4 = <u>80</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>20</u> (A) <u>80</u> (B) Prevalence Index = B/A = <u>4.000</u> |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | |
| 1. | TRIFOLIUM PRATENSE | 10 | Y | FACU | |
| 2. | CHENOPODIUM ALBUM | 5 | Y | FACU | |
| 3. | ABUTILON THEOPHRASTI | 5 | Y | FACU | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 20 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |

- 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: **Sparse herbaceous layer within upland soybean field. Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:
Topography is abrupt.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Ogden muck
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W2
Sample Point: 1W
Community ID: Shrub-carr
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: WETS analysis indicates drier than normal antecedent moisture conditions.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present []):
Primary: A1-A8, B1-B8, B9, B13, B14, C1-C7, D9, Other
Secondary: B6, B10, C2, C8, C9, D1, D2, D5

Field Observations:
Surface Water Present? [] Yes [x] No
Water Table Present? [] Yes [x] No
Saturation Present? [] Yes [x] No
Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides

Remarks: The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS

Map Unit Name: Ogden muck
Series Drainage Class: very poorly
Taxonomy (Subgroup): Terric Medisaprists

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present []):
A1-A12, S1-S3, S4-S6, F1-F8, A16, F12, Other

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: Black surface layer-dry (high organic carbon). Buried organic layer. The soil at the sample plot meets the A12 and F1 Indicators as described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W2** Sample Point **1W**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
|---|-----------------------------|---------|----------|-------------|---|
| | Species Name | % Cover | Dominant | Ind. Status | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>145</u> x 2 = <u>290</u> FAC spp. <u>15</u> x 3 = <u>45</u> FACU spp. <u>0</u> x 4 = <u>0</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>160</u> (A) <u>335</u> (B) Prevalence Index = B/A = <u>2.094</u> |
| 1. | <i>Salix bebbiana</i> | 40 | Y | FACW | |
| 2. | <i>Salix interior</i> | 10 | N | FACW | |
| 3. | <i>Populus deltoides</i> | 10 | N | FAC | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 60 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 95 | Y | FACW | |
| 2. | <i>Aster lanceolatus</i> | 5 | N | FAC | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 100 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule, Prevalence Index, and Rapid Test. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
Shrub-carr community.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Muskego muck
Landform: Rise
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W2
Sample Point: 2u
Community ID: Upland old field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: WETS analysis indicates drier than normal conditions. The sample plot is located on slight rise above wetland. Predominantly queen-Anne's lace, Kentucky bluegrass mixed with reed canary grass.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: No O2 roots present. No stressed vegetation within meadow. No evidence of wetland hydrology was observed at the sample plot.

SOILS
Map Unit Name: Muskego muck
Series Drainage Class: very poorly
Taxonomy (Subgroup): Limnic Haplosaprists

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present):
Indicators for Problematic Soils 1
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions, A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? Yes No

Remarks: Does not match the mapped organic soil in this location.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion**

Wetland ID: **Adj. to W2** Sample Point **2u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | POA PRATENSIS | 20 | N | FAC |
| 2. | PHALARIS ARUNDINACEA | 30 | Y | FACW |
| 3. | DAUCUS CAROTA | 30 | Y | UPL |
| 4. | TARAXACUM OFFICINALE | 5 | N | FACU |
| 5. | BROMUS INERMIS | 30 | Y | UPL |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 115 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------------|----------------|
| <u>Total % Cover of:</u> | | <u>Multiply by:</u> | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>30</u> | x 2 = | <u>60</u> |
| FAC spp. | <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. | <u>5</u> | x 4 = | <u>20</u> |
| UPL spp. | <u>60</u> | x 5 = | <u>300</u> |
| Total | | <u>115</u> (A) | <u>440</u> (B) |
| Prevalence Index = B/A = | | <u>3.826</u> | |

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: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:

Upland old field.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Ogden muck
Landform: Depression
Slope (%): 0-2
Latitude: N/A
Longitude: N/A
Datum: N/A
Stantec Project #: 193702557
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W2
Sample Point: 2w
Community ID: wet meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Sample point is located in a wet meadow community. WETS analysis indicates drier than normal antecedent moisture conditions.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS
Map Unit Name: Ogden muck Series Drainage Class: very poorly
Taxonomy (Subgroup): Terric Medisaprists

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.)
Table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color (Moist), %), Mottles (Color (Moist), %, Type, Location), Texture (e.g. clay, sand, 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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[x] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: First horizon has mucky modifier when wet. The soil at the sample plot meets F1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W2** Sample Point **2w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | PHALARIS ARUNDINACEA | 40 | Y | FACW |
| 2. | Euthamia graminifolia | 40 | Y | FACW |
| 3. | Aster lanceolatus | 5 | N | FAC |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 85 | | |

Total Cover = **85**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Dominance Test Worksheet | |
|---|---------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>2</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>2</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|---------------|--------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>80</u> | x 2 = | <u>160</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | <u>85</u> (A) | | <u>175</u> (B) |
| Prevalence Index = B/A = | | | <u>2.059</u> |

| Hydrophytic Vegetation Indicators: | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
|---|--|

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
Wet meadow community.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Ashkum silty clay loam
Landform: Terrace
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W2
Sample Point: 3u
Community ID: Old field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? [] Yes [x] No
Wetland Hydrology Present? [] Yes [x] No
Hydric Soils Present? [] Yes [x] No
Is This Sampling Point Within A Wetland? [] Yes [x] No

Remarks: WETS analysis indicates drier than normal antecedent moisture conditions. The sample point located on terrace, approx 3-4' above surface of wetland.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [x]):
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
Secondary: B6 - Surface Soil Cracks, B10 - Drainage Patterns, C2 - Dry-Season Water Table, C8 - Crayfish Burrows, C9 - Saturation Visible on Aerial Imagery, D1 - Stunted or Stressed Plants, D2 - Geomorphic Position, D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [] Yes [x] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence

Remarks: Soil pit dry to > 20". No evidence of wetland hydrology was observed at the sample plot.

SOILS

Map Unit Name: Ashkum silty clay loam
Series Drainage Class: poorly
Taxonomy (Subgroup): Typic Endoaquolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present [x]):
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat
S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions
Indicators for Problematic Soils: A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [] Yes [x] No

Remarks: Few redoximorphic features. Doesn't meet requirement of depleted matrix. No O2 roots. The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W2** Sample Point **3u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Aster ericoides</i> | 40 | Y | FACU |
| 2. | <i>MELILOTUS ALBUS</i> | 30 | Y | UPL |
| 3. | <i>DAUCUS CAROTA</i> | 15 | N | UPL |
| 4. | <i>SONCHUS ARVENSIS</i> | 10 | N | FACU |
| 5. | <i>CIRSIIUM ARVENSE</i> | 5 | N | FACU |
| 6. | <i>TARAXACUM OFFICINALE</i> | 5 | N | FACU |
| 7. | <i>Solidago canadensis</i> | 5 | N | FACU |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 110 | | |

Total Cover = **110**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Dominance Test Worksheet | |
|---|-------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>0</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>2</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>0.0%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|----------------|--------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>65</u> | x 4 = | <u>260</u> |
| UPL spp. | <u>45</u> | x 5 = | <u>225</u> |
| Total | <u>110</u> (A) | | <u>485</u> (B) |
| Prevalence Index = B/A = | | | <u>4.409</u> |

- 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: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:
Topography is abrupt.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Muskego muck
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W2
Sample Point: 3w
Community ID: Wet Meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No

Remarks: The sample plot is located in a wet meadow. WETS analysis indicates drier than normal antecedent moisture conditions.

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

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence

Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS

Map Unit Name: Muskego muck
Series Drainage Class: very poorly
Taxonomy (Subgroup): Limnic Haplosaprists

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)

Table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for depths 0, 8, and 20.

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, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat
S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions
Indicators for Problematic Soils: A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No

Remarks: Does not match Muskego muck mapped soil characteristics of being a histosol.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W2** Sample Point **3w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|-------------------|--|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>100</u> x 2 = <u>200</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>1</u> x 4 = <u>4</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>101</u> (A) <u>204</u> (B) Prevalence Index = B/A = <u>2.020</u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | PHALARIS ARUNDINACEA | 100 | Y | FACW | |
| 2. | CIRSIUM ARVENSE | 1 | N | FACU | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 101 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
 Depressional wet meadow community dominated by reed canary grass.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Ogden muck
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W2
Sample Point: 4w
Community ID: wet meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Reed Canary grass dominated wet meadow on deep muck soils. WETS analysis indicates drier than normal antecedent moisture conditions.

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present []):
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[x] 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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [x] Yes [] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS
Map Unit Name: Ogden muck Series Drainage Class: very poorly
Taxonomy (Subgroup): Terric Medisaprists

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Row 1: 0, 24, 1, 10YR, 2/1, 100, --, --, --, --, --, mucky 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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[x] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No
Remarks: Deep mucky loam surface horizon. The soil at the sample plot meets F1 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W2** Sample Point **4w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u>20</u> x 1 = <u>20</u> FACW spp. <u>60</u> x 2 = <u>120</u> FAC spp. <u>20</u> x 3 = <u>60</u> FACU spp. <u>0</u> x 4 = <u>0</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.000</u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 60 | Y | FACW | |
| 2. | <i>TYPHA ANGUSTIFOLIA</i> | 20 | Y | OBL | |
| 3. | <i>Aster lanceolatus</i> | 20 | Y | FAC | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 100 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Ogden muck
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W2
Sample Point: 5W
Community ID: Wet Meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Area not plowed due to adjacency to a rock pile, so normal circumstances present.

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
Secondary:
[x] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[x] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No
Water Table Present? [] Yes [x] No
Saturation Present? [] Yes [x] No
Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA slides
Remarks: The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS
Map Unit Name: Ogden muck
Series Drainage Class: very poorly
Taxonomy (Subgroup): Terric Medisaprists

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, 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
[] A10 - 2 cm Muck
[x] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[x] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: Clay Hardpan Depth: 8"
Hydric Soil Present? [x] Yes [] No

Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W2** Sample Point **5W**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|--------------------------|------------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | <i>Panicum capillare</i> | 80 | Y | FAC |
| 2. | DAUCUS CAROTA | 5 | N | UPL |
| 3. | Amaranthus retroflexus | 5 | N | FACU |
| 4. | SETARIA VIRIDIS | 5 | N | UPL |
| 5. | TARAXACUM OFFICINALE | 5 | N | FACU |
| 6. | Ambrosia trifida | 5 | N | FAC |
| 7. | MELILOTUS ALBUS | 1 | N | UPL |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 106 | | |

Total Cover = **106**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|-------------|
| | Species Name | % Cover | Dominant | Ind. Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Dominance Test Worksheet | |
|---|---------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>1</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>1</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|----------------|--------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>85</u> | x 3 = | <u>255</u> |
| FACU spp. | <u>10</u> | x 4 = | <u>40</u> |
| UPL spp. | <u>11</u> | x 5 = | <u>55</u> |
| Total | <u>106</u> (A) | | <u>350</u> (B) |
| Prevalence Index = B/A = | | | <u>3.302</u> |

- 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: **Dominant vegetation was determined through use of the 50/20 rule; vegetation at the sample plot is hydrophytic.**

Additional Remarks:



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Ashkum silty clay loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W3
Sample Point: 1w
Community ID: wet meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [x] Yes [] No
Wetland Hydrology Present? [x] Yes [] No
Hydric Soils Present? [x] Yes [] No
Is This Sampling Point Within A Wetland? [x] Yes [] No
Remarks: Closed depression. Surrounding area is gravel access roads. WETS analysis indicates drier than normal antecedent moisture conditions.

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
[] B14 - True Aquatic Plants
[] 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
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[x] D2 - Geomorphic Position
[x] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [x] No Depth: (in.)
Water Table Present? [] Yes [x] No Depth: (in.)
Saturation Present? [] Yes [x] No Depth: (in.)
Wetland Hydrology Present? [x] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: The presence of 1 primary and 2 secondary indicators at the sample plot provides evidence of wetland hydrology.

SOILS
Map Unit Name: Ashkum silty clay loam
Series Drainage Class: poorly
Taxonomy (Subgroup): Typic Endoaquolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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
[] A10 - 2 cm Muck
[] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[x] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present? [x] Yes [] No
Remarks: The soil at the sample plot meets F3 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W3** Sample Point **1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
|---|---------------------------------|----------------|-----------------|-------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | |
| 1. | <i>Salix bebbiana</i> | 15 | Y | FACW | |
| 2. | <i>Salix interior</i> | 10 | Y | FACW | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 25 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | |
| 1. | <i>Calamagrostis canadensis</i> | 40 | Y | OBL | |
| 2. | <i>TYPHA ANGUSTIFOLIA</i> | 25 | Y | OBL | |
| 3. | <i>Aster lanceolatus</i> | 20 | N | FAC | |
| 4. | <i>PHALARIS ARUNDINACEA</i> | 15 | N | FACW | |
| 5. | <i>Euthamia graminifolia</i> | 10 | N | FACW | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 110 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |

| Prevalence Index Worksheet | | | | |
|----------------------------|------------|--------------|------------|--------------|
| Total % Cover of: | | Multiply by: | | |
| OBL spp. | <u>65</u> | x 1 = | <u>65</u> | |
| FACW spp. | <u>50</u> | x 2 = | <u>100</u> | |
| FAC spp. | <u>20</u> | x 3 = | <u>60</u> | |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> | |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> | |
| Total | <u>135</u> | (A) | <u>225</u> | (B) |
| Prevalence Index = B/A = | | | | <u>1.667</u> |

| Hydrophytic Vegetation Indicators: | | | | |
|---|--|--|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation | | |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% | | |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * | | |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * | | |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

Remarks: **Meets Rapid Test for hydrophytic vegetation, therefore hydrophytic vegetation is present.**

Additional Remarks:
No upland sample point taken as the surrounding land is gravel access roads associated with existing landfill infrastructure. Topography is abrupt.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Muskego muck
Landform: Rise
Slope (%): 0-2
Latitude: N/A
Longitude: N/A
Datum: N/A
Stantec Project #: 193702557
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: Adj. to W4
Sample Point: 1u
Community ID: old field
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: Infiltration basin with excavated & graded soils. Mixed soil horizons. The sample plot is located in an old field.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Wetland Hydrology Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: No O2 roots present. No evidence of wetland hydrology was observed at the sample plot.

SOILS
Map Unit Name: Muskego muck
Series Drainage Class: very poorly
Taxonomy (Subgroup): Limnic Haplosaprists

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam)

NRCS Hydric Soil Field Indicators (check here if indicators are not present):
Indicators for Problematic Soils 1
A1 - Histosol, A2 - Histic Epipedon, A3 - Black Histic, A4 - Hydrogen Sulfide, A5 - Stratified Layers, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions, A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: N/A Depth: N/A
Hydric Soil Present?
Remarks: Depleted matrix component of horizon 2 is approx. 30%. 60% or more of chroma 2 or less is required for depleted matrix.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **Adj. to W4** Sample Point **1u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 3 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 33.3% </u> (A/B) |
|---|-----------------------------|----------------|-----------------|--------------------|---|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet <u>Total % Cover of:</u> OBL spp. <u> 0 </u> x 1 = <u> 0 </u> FACW spp. <u> 5 </u> x 2 = <u> 10 </u> FAC spp. <u> 40 </u> x 3 = <u> 120 </u> FACU spp. <u> 35 </u> x 4 = <u> 140 </u> UPL spp. <u> 20 </u> x 5 = <u> 100 </u> Total <u> 100 </u> (A) <u> 370 </u> (B) Prevalence Index = B/A = <u> 3.700 </u> |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | POA PRATENSIS | 40 | Y | FAC | |
| 2. | MELILOTUS ALBUS | 20 | Y | UPL | |
| 3. | MEDICAGO SATIVA | 20 | Y | FACU | |
| 4. | <i>Solidago canadensis</i> | 15 | N | FACU | |
| 5. | PHALARIS ARUNDINACEA | 5 | N | FACW | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 100 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Hydrophytic Vegetation Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |

Remarks: **Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.**

Additional Remarks:
Slight rise above wetland swale within infiltration basin.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Saylesville silt loam
Landform: Basin
Slope (%): 0-2
Latitude: N/A
Longitude: N/A
Datum: N/A
Stantec Project #: 193702557
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: W4
Sample Point: 1W
Community ID: Wet Meadow
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present? [X] Yes [] No
Wetland Hydrology Present? [X] Yes [] No
Hydric Soils Present? [X] Yes [] No
Is This Sampling Point Within A Wetland? [X] Yes [] No
Remarks: Sample point taken within constructed infiltration basin. Culvert inlet and outlet are present. WETS analysis indicates drier than normal antecedent moisture conditions. Infiltration/storm-water basin, so potential non-jurisdictional created wetland.

HYDROLOGY
Wetland Hydrology Indicators (Check here if indicators are not present []):
Primary:
[] A1 - Surface Water
[] A2 - High Water Table
[X] 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
[] B14 - True Aquatic Plants
[] C1 - Hydrogen Sulfide Odor
[X] C3 - Oxidized Rhizospheres on Living Roots
[] C4 - Presence of Reduced Iron
[] C6 - Recent Iron Reduction in Tilled Soils
[] C7 - Thin Muck Surface
[] D9 - Gauge or Well Data
[] Other (Explain)
Secondary:
[] B6 - Surface Soil Cracks
[] B10 - Drainage Patterns
[] C2 - Dry-Season Water Table
[] C8 - Crayfish Burrows
[] C9 - Saturation Visible on Aerial Imagery
[] D1 - Stunted or Stressed Plants
[] D2 - Geomorphic Position
[X] D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? [] Yes [X] No Depth: (in.)
Water Table Present? [] Yes [X] No Depth: (in.)
Saturation Present? [X] Yes [] No Depth: 4 (in.)
Wetland Hydrology Present? [X] Yes [] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence
Remarks: Perched hydrology above clay soils in horizon 2.

SOILS
Map Unit Name: Saylesville silt loam Series Drainage Class: moderately well to well
Taxonomy (Subgroup): Typic Hapludalfs

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for horizons 1, 2, and 3.

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
[] A10 - 2 cm Muck
[X] A11 - Depleted Below Dark Surface
[] A12 - Thick Dark Surface
[] S1 - Sandy Muck Mineral
[] S3 - 5 cm Mucky Peat or Peat
[] S4 - Sandy Gleyed Matrix
[] S5 - Sandy Redox
[] S6 - Stripped Matrix
[] F1 - Loamy Muck Mineral
[] F2 - Loamy Gleyed Matrix
[X] F3 - Depleted Matrix
[] F6 - Redox Dark Surface
[] F7 - Depleted Dark Surface
[] F8 - Redox Depressions
Indicators for Problematic Soils 1
[] A16 - Coast Prairie Redox
[] F12 - Iron-Manganese Masses
[] Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: Clay Depth: 4" Hydric Soil Present? [X] Yes [] No

Remarks:

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



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **W4** Sample Point **1W**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Populus deltoides</i> | 5 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

Total Cover = **5**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 100 | Y | FACW |
| 2. | <i>Aster lanceolatus</i> | 5 | N | FAC |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 105 | | |

Total Cover = **105**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Dominance Test Worksheet | |
|---|---------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>2</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>2</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|----------------|--------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>100</u> | x 2 = | <u>200</u> |
| FAC spp. | <u>10</u> | x 3 = | <u>30</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | <u>110</u> (A) | | <u>230</u> (B) |
| Prevalence Index = B/A = | | | <u>2.091</u> |

- 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: **Dominant vegetation was determined through use of the 50/20 rule and Prevalence Index. Vegetation at the sample plot is hydrophytic.**

Additional Remarks:
Sample point taken within infiltration basin.



WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site: Emerald Park Landfill Expansion
Applicant: ADS
Investigator #1: DP
Investigator #2: MC
Soil Unit: Martinton silt loam
Landform: Depression
Slope (%): 0-2
Date: 10/14/13
County: Waukesha
State: Wisconsin
Wetland ID: N/A
Sample Point: 5-1
Community ID: Cropland
Section: 36
Township: 5N
Range: 20 Dir: E

SUMMARY OF FINDINGS
Hydrophytic Vegetation Present?
Wetland Hydrology Present?
Remarks: WETS analysis indicates site conditions drier than normal. Depression in soybean field, crop may have been drowned out shortly after planting. Potential problematic seasonal wetland interpreted to be non-wetland based on soils and vegetation indicators.

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

Field Observations:
Surface Water Present?
Water Table Present?
Saturation Present?
Depth: 12 (in.)
Wetland Hydrology Present? Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides
Remarks: FSA slide review remarks at bottom of data form. The A3 indicator is barely within the threshold and saturation in silty clay is often difficult to discern. Surface soil cracks may have formed from a heavy rain event even if the depressional area drained.

SOILS
Map Unit Name: Martinton silt loam
Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Argiudolls

Profile Description table with columns: Top Depth, Bottom Depth, Horizon, Matrix (Color, %), Mottles (Color, %, Type, Location), Texture (e.g. clay, sand, loam). Rows show data for horizons 1 and 2.

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, A10 - 2 cm Muck, A11 - Depleted Below Dark Surface, A12 - Thick Dark Surface, S1 - Sandy Muck Mineral, S3 - 5 cm Mucky Peat or Peat, S4 - Sandy Gleyed Matrix, S5 - Sandy Redox, S6 - Stripped Matrix, F1 - Loamy Muck Mineral, F2 - Loamy Gleyed Matrix, F3 - Depleted Matrix, F6 - Redox Dark Surface, F7 - Depleted Dark Surface, F8 - Redox Depressions, A16 - Coast Prairie Redox, F12 - Iron-Manganese Masses, Other (Explain in Remarks)

Restrictive Layer (If Observed) Type: Clay Depth: 4"
Hydric Soil Present? No

Remarks: Depleted matrix below 12". The soil at the sample point does not meet the A12 Indicator because the value is too high in the 1st horizon.



WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: **Emerald Park Landfill Expansion** Wetland ID: **N/A** Sample Point **5-1**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-------------------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | <i>Panicum capillare</i> | 15 | Y | FAC |
| 2. | <i>CHENOPODIUM ALBUM</i> | 15 | Y | FACU |
| 3. | <i>Ambrosia trifida</i> | 15 | Y | FAC |
| 4. | <i>SETARIA VIRIDIS</i> | 15 | Y | UPL |
| 5. | <i>Echinochloa crus-galli</i> | 10 | N | FACW |
| 6. | <i>Amaranthus retroflexus</i> | 10 | N | FACU |
| 7. | <i>ABUTILON THEOPHRASTI</i> | 5 | N | FACU |
| 8. | <i>Cyperus esculentus</i> | 5 | N | FACW |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 90 | | |

Total Cover = **90**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|--------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind. Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Dominance Test Worksheet | |
|---|--------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>2</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>4</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>50.0%</u> (A/B) |

| Prevalence Index Worksheet | | | |
|----------------------------|---------------|--------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. | <u>30</u> | x 3 = | <u>90</u> |
| FACU spp. | <u>30</u> | x 4 = | <u>120</u> |
| UPL spp. | <u>15</u> | x 5 = | <u>75</u> |
| Total | <u>90</u> (A) | | <u>315</u> (B) |
| Prevalence Index = B/A = | | | <u>3.500</u> |

- 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: **Apparently no soybean germination. Timing of planting may have resulted in crops being drowned out. Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is non-hydrophytic.**

Additional Remarks:
This point is located in an area that was reviewed in the FSA slide review and it was noted that this depression showed a signature in only one out of the six most recent normal precipitation years (precipitation data interpreted using the 3 months prior to the crop slide photo being taken in each year).

| | | | |
|--|--------------------------------------|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Saylesville silt loam | NW1/WWI Classification: N/A | | Wetland ID: Adj to W1 |
| Landform: Hill Slope | Local Relief: Convex | | Sample Point: W1-7u |
| Slope (%): 2-4 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Remarks: Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present. | |

HYDROLOGY

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

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

| | |
|--|---|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|--|---|

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

Remarks: **No hydrology indicators were observed. FSA slides indicated uplands in this location. Convex slope with sample point several feet higher in elevation than adjacent wetland.**

SOILS

| | |
|--|---|
| Map Unit Name: Saylesville 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 | | Redox Features | | | | Texture (e.g. clay, sand, loam) | | |
|-----------|--------------|---------|---------------|-----|----------------|------|------|----------|---------------------------------|------|-----------|
| | | | Color (Moist) | % | Color (Moist) | % | Type | Location | | | |
| 0 | 4 | 1 | 10YR | 3/2 | 100 | -- | -- | -- | -- | loam | |
| 4 | 24 | 2 | 10YR | 3/2 | 95 | 10YR | 5/1 | 3 | D | M | silt loam |
| -- | -- | -- | -- | -- | -- | 10YR | 5/3 | 2 | C | M | silt loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | | | |
|--|---|--|--|
| NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): | | Indicators for Problematic Soils¹ | |
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) | |
| Restrictive Layer (if Observed) Type: N/A Depth: N/A | | Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

Remarks: **Does not meet criteria for F6 or F7.**

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

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W1** Sample Point **W1-7u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|---------------------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | <i>SCHEDONORUS ARUNDINACEUS</i> | 95 | Y | FACU |
| 2. | <i>TRIFOLIUM PRATENSE</i> | 20 | N | FACU |
| 3. | <i>TARAXACUM OFFICINALE</i> | 5 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 120 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Remarks: **Sample point located in a hay field, vegetation shows evidence of periodic mowing.**

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: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>120</u> | x 4 = | <u>480</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>120</u> (A) | <u>480</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> | |

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:

| | | | |
|--|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Saylesville silt loam | NWI/WWI Classification: T3/E2Ka | | Wetland ID: W1 |
| Landform: Depression | Local Relief: Concave | | Sample Point: W1-7w |
| Slope (%): 0-2 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis. Point located in a shrubby portion of a wetland complex.**

HYDROLOGY

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

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

| | |
|---|--|
| <p>Field Observations:</p> <p>Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 2 (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 6 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|---|--|

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

Remarks: **Depressional**

SOILS

Map Unit Name: **Saylesville 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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/1 | 95 | 10YR | 5/6 | 5 | C | M | silt loam |
| 8 | 18 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | silt loam |
| 18 | 24 | 3 | 10YR | 5/1 | 95 | 10YR | 5/6 | 5 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|--|---|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--|---|

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

| | |
|--|--|
| <p>Restrictive Layer (If Observed) Type: N/A Depth: N/A</p> | <p>Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--|--|

Remarks:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W1** Sample Point **W1-7w**

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

Tree Stratum (Plot size: 30 ft radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---------------|--------------------------|---------|----------|------------|
| 1. | <i>Populus deltoides</i> | 10 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

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: 100.0% (A/B)

Sapling/Shrub Stratum (Plot size: 15 ft radius)

| | | | | |
|---------------|-----------------------|----|----|------|
| 1. | <i>Salix interior</i> | 40 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 40 | | |

Prevalence Index Worksheet

Total % Cover of: 10 Multiply by:

| | | | |
|--------------------------|------------|----------------|----------------|
| OBL spp. | <u>1</u> | x 1 = | <u>1</u> |
| FACW spp. | <u>120</u> | x 2 = | <u>240</u> |
| FAC spp. | <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>136</u> (A) | <u>286</u> (B) |
| Prevalence Index = B/A = | | <u>2.103</u> | |

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|----------------------------------|----|----|------|
| 1. | <i>PHALARIS ARUNDINACEA</i> | 45 | Y | FACW |
| 2. | <i>Spartina pectinata</i> | 35 | Y | FACW |
| 3. | <i>Symphotrichum lanceolatum</i> | 5 | N | FAC |
| 4. | <i>Asclepias incarnata</i> | 1 | N | OBL |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 86 | | |

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.

Woody Vine Stratum (Plot size: 30 ft radius)

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

Hydrophytic Vegetation Present Yes No

Remarks:

Additional Remarks:

| | | | |
|--|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Ashkum silt loam | NWI/WWI Classification: N/A | | Wetland ID: Adj to W2 |
| Landform: Hill Slope | Local Relief: Convex | | Sample Point: W2-4u |
| Slope (%): 2-3 | Latitude: N/A | Longitude: N/A | Community ID: Old Field |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis.**

HYDROLOGY

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

| | | |
|---|---|---|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <input type="checkbox"/> E6 - Surface Soil Cracks <input type="checkbox"/> E10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test |
|---|---|---|

| | |
|---|--|
| <p>Field Observations:</p> Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|---|--|

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

Remarks: **No hydrology indicators were observed.**

SOILS

Map Unit Name: **Ashkum silt loam** Series Drainage Class: **poorly**

Taxonomy (Subgroup): **Typic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 13 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 13 | 24 | 2 | 2.5Y | 6/2 | 70 | 10YR | 3/6 | 30 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | | | | | |
|--|--|---|--|---|--|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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 | <p>Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|--|-------------------|--|

Remarks: **Soil potentially excavated with non-native topsoil deposited. Close to meeting A12, however seemingly artificial profile.**

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W2** Sample Point **W2-4u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|------------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | <i>POA COMPRESSA</i> | 75 | Y | FACU |
| 2. | <i>Solidago canadensis</i> | 15 | N | FACU |
| 3. | <i>DAUCUS CAROTA</i> | 10 | N | UPL |
| 4. | <i>TARAXACUM OFFICINALE</i> | 5 | N | FACU |
| 5. | <i>Erigeron annuus</i> | 5 | N | FACU |
| 6. | <i>TRIFOLIUM PRATENSE</i> | 5 | N | FACU |
| 7. | <i>PHALARIS ARUNDINACEA</i> | 1 | N | FACW |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 116 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Remarks: **Sample point contained typical old field vegetation.**

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: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>1</u> | x 2 = | <u>2</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. | <u>10</u> | x 5 = | <u>50</u> |
| Total | | <u>116</u> (A) | <u>472</u> (B) |
| Prevalence Index = B/A = | | <u>4.069</u> | |

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:

| | | | |
|--|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Ogden muck | NW1/WW1 Classification: F0Kf | | Wetland ID: Adj to W2 |
| Landform: Crest | Local Relief: Convex | | Sample Point: W2-5u |
| Slope (%): 2-4 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Remarks: Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations - rockpiles present near point and straight to north, potentially marking field tiles. Normal circumstances interpreted to not be present. FSA slides show consistent non-wetland signature in this small agricultural field surrounded by wetlands. | |

HYDROLOGY

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

| | | |
|---|---|---|
| <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) | <u>Secondary:</u> <input type="checkbox"/> E6 - Surface Soil Cracks <input type="checkbox"/> E10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test |
|---|---|---|

| | |
|---|---|
| Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|---|---|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No hydrology indicators were observed. Point located on convex topographic lens approximately 4 feet above surrounding wetland. FSA slides indicate uplands in this area.**

SOILS

Map Unit Name: **Ogden muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Medisaprists**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 6 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | silty clay loam |
| 6 | 18 | 2 | 2.5Y | 5/2 | 90 | 10YR | 4/6 | 10 | C | silty clay |
| 18 | 24 | 3 | 2.5Y | 6/2 | 80 | 10YR | 4/6 | 20 | C | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|---|--|
| NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>): <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | Indicators for Problematic Soils ¹ <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks: **Soils are not organic as soil survey indicates. Soil profile dry throughout.**

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W2** Sample Point **W2-5u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|-----------|----------|-------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | GLYCINE MAX | 50 | Y | UPL |
| 2. | TARAXACUM OFFICINALE | 15 | Y | FACU |
| 3. | TRIFOLIUM PRATENSE | 3 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 68 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | |
|---------------------------------------|-----------------------|
| Total % Cover of: | Multiply by: |
| OBL spp. <u>0</u> | x 1 = <u>0</u> |
| FACW spp. <u>0</u> | x 2 = <u>0</u> |
| FAC spp. <u>0</u> | x 3 = <u>0</u> |
| FACU spp. <u>18</u> | x 4 = <u>72</u> |
| UPL spp. <u>50</u> | x 5 = <u>250</u> |
| Total <u>68</u> (A) | <u>322</u> (B) |
| Prevalence Index = B/A = <u>4.735</u> | |

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: **Healthy soybean crop observed at this location in 2013 and 2014; this and cover estimated based on stubble.**

Additional Remarks:

| | | | |
|--|--|---|---------------------------------|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Ogden muck | NWI/WWI Classification: F0Kf | | Wetland ID: W2 |
| Landform: Toeslope | Local Relief: Concave | | Sample Point: W2-5W |
| Slope (%): 1-2 | Latitude: N/A | Longitude: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | | Section: 36 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Remarks: Antecedent moisture conditions normal based on WETS analysis. Sample point located near the edge of active soybean field with Phalaris wet meadow nearby. Stubble provided evidence of crop stress. Normal circumstances interpreted to be present. | |

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

Secondary:

- B9 - Water-Stained Leaves
- B13 - Aquatic Fauna
- B14 - True Aquatic Plants
- 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
- D9 - Gauge or Well Data
- Other (Explain in Remarks)
- E6 - Surface Soil Cracks
- E10 - Drainage Patterns
- C2 - Dry-Season Water Table
- C8 - Crayfish Burrows
- C9 - Saturation Visible on Aerial Imagery
- D1 - Stunted or Stressed Plants
- D2 - Geomorphic Position
- D5 - FAC-Neutral Test

Field Observations:

| | | |
|--|-----------------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **FSA slides show consistent wetland hydrology signatures surrounding adjacent small upland ag field (represented by this sample point).**

SOILS

Map Unit Name: **Ogden muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Terric Medisapristis**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 13 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | muck |
| 13 | 22 | 2 | 2.5Y | 6/2 | 70 | 10YR | 3/6 | 30 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

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
- A10 - 2 cm Muck
- A11 - Depleted Below Dark Surface
- A12 - Thick Dark Surface
- S1 - Sandy Muck Mineral
- S3 - 5 cm Mucky Peat or Peat

- S4 - Sandy Gleyed Matrix
- S5 - Sandy Redox
- S6 - Stripped Matrix
- F1 - Loamy Muck Mineral
- F2 - Loamy Gleyed Matrix
- F3 - Depleted Matrix
- F6 - Redox Dark Surface
- F7 - Depleted Dark Surface
- F8 - Redox Depressions

Indicators for Problematic Soils¹

- A16 - Coast Prairie Redox
- S7 - Dark Surface
- F12 - Iron-Manganese Masses
- 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Remarks: | | |

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W2** Sample Point **W2-5W**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Sapling/Shrub Stratum (Plot size: 15 ft radius)

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

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|-------------------------------|-----------|----|------|
| 1. | <i>PHALARIS ARUNDINACEA</i> | 5 | Y | FACW |
| 2. | <i>ECHINOCHLOA CRUS-GALLI</i> | 5 | Y | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 10 | | |

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: **Sparse vegetation and nearby soybean stubble indicate crop stress in this part of the agricultural field. Soybeans recently harvested. Nearby but outside the field, Phalaris dominates.**

Additional Remarks:

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: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|-------------------|-----------|---------------------------------------|---------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>10</u> (A) | <u>20</u> (B) |
| | | Prevalence Index = B/A = <u>2.000</u> | |

Hydrophytic Vegetation Indicators:

| | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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

| | | | |
|---|--|---|---------------------------------|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Montgomery silty clay | NW1/WW1 Classification: E2Ka | | Wetland ID: W2 |
| Landform: Hill Slope | Local Relief: Concave | | Sample Point: W2-6w |
| Slope (%): 1-2 | Latitude: N/A | Longitude: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | | Section: 36 |
| Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis. Soils significantly disturbed due to fill material incorporated in the profile.**

HYDROLOGY

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

| | | |
|---|---|---|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> E6 - Surface Soil Cracks <input type="checkbox"/> E10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---|---|---|

| | |
|--|--|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 24 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--|--|

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

Remarks: **Marginal wetland hydrology, but interpreted to be met based on two secondary indicators and professional judgment.**

SOILS

Map Unit Name: **Montgomery silty clay** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|--|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 6 | 1 | 10YR 2/1 | 98 | | 10YR 4/4 | 2 | C | M | silty clay loam |
| 6 | 12 | 2 | 10YR 3/1 | 100 | | -- | -- | -- | -- | silty clay loam |
| 12 | 24 | 3 | 10YR 3/1 | 95 | | 10YR 4/4 | 5 | C | M | silty clay loam |
| 24 | 27 | 4 | 10YR 2/1 | 100 | | -- | -- | -- | -- | muck |
| -- | -- | -- | -- | -- | | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | | -- | -- | -- | -- | -- |

| | | | |
|--|--|--|--|
| NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>): | | Indicators for Problematic Soils ¹ | |
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <ul style="list-style-type: none"> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks: **F6 is met, however soils appear to possess fill in the upper 24 inches.**

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W2** Sample Point **W2-6w**

| VEGETATION (Species identified in all uppercase are non-native species.) | | | | | Dominance Test Worksheet |
|--|----------------------------------|---------------|------------|------------|--|
| Tree Stratum (Plot size: 30 ft radius) | | | | | Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) |
| 1. | <i>Species Name</i> | % Cover | Dominant | Ind.Status | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| | | Total Cover = | 0 | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>106</u> x 2 = <u>212</u> FAC spp. <u>1</u> x 3 = <u>3</u> FACU spp. <u>1</u> x 4 = <u>4</u> UPL spp. <u>0</u> x 5 = <u>0</u> Total <u>108</u> (A) <u>219</u> (B) Prevalence Index = B/A = <u>2.028</u> |
| 1. | <i>Salix discolor</i> | 5 | Y | FACW | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| | | Total Cover = | 5 | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 100 | Y | FACW | |
| 2. | <i>Solidago gigantea</i> | 1 | N | FACW | |
| 3. | <i>Symphotrichum lanceolatum</i> | 1 | N | FAC | |
| 4. | <i>CIRSIUM ARVENSE</i> | 1 | N | FACU | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| | | Total Cover = | 103 | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| | | Total Cover = | 0 | | |
| Remarks: Sample point is located in a low quality wet meadow community. | | | | | |

Additional Remarks:

| | | | |
|---|--|---|---------------------------------|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Muskego muck | NWI/WWI Classification: F0Kf | | Wetland ID: W2 |
| Landform: Backslope | Local Relief: Concave | | Sample Point: W2-7w |
| Slope (%): 1-2 | Latitude: N/A | Longitude: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | | Section: 36 |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | Township: 5 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Remarks: WETS analysis indicates normal antecedent moisture conditions. Wet meadow community within a hay field. Vegetation significantly disturbed due to recent mowing, but interpreted to have normal circumstances as composition of grasses differed in W-2 than in adjacent upland hayfield. | |

HYDROLOGY

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

| | | |
|--|--|---|
| <p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> E6 - Surface Soil Cracks <input type="checkbox"/> E10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--|--|---|

| | |
|--|---|
| Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|---|

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

Remarks: **Standing water exists in pockets created by vehicle ruts. FSA slides support interpretation of wetlands in this west lobe of W-2.**

SOILS

Map Unit Name: **Muskego muck** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Limnic Haplosaprists**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 8 | 14 | 2 | 5Y | 3/1 | 95 | 10YR | 4/4 | 5 | C | M | silty clay |
| 14 | 20 | 3 | 5Y | 6/1 | 90 | 10YR | 4/4 | 10 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | | | |
|--|--|--|--|
| NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>): | | Indicators for Problematic Soils¹ | |
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W2** Sample Point **W2-7w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|------------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 90 | Y | FACW |
| 2. | <i>TARAXACUM OFFICINALE</i> | 5 | N | FACU |
| 3. | <i>TRIFOLIUM PRATENSE</i> | 5 | N | FACU |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

Total Cover = **100**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>90</u> | x 2 = | <u>180</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>10</u> | x 4 = | <u>40</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>100</u> (A) | <u>220</u> (B) |
| Prevalence Index = B/A = | | <u>2.200</u> | |

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: Sample point located in a low quality wet meadow community apparently being used for hay. Vegetation disturbed from recent mowing, however normal circumstances interpreted to be present.

Additional Remarks:
Sample point exhibits wetland characteristics despite recent mowing and disturbance.

| | | | |
|---|--------------------------------------|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NW1/WWI Classification: N/A | | Wetland ID: Adj to W2A |
| Landform: Hill Slope | Local Relief: Convex | | Sample Point: W2-8u |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Agricultural Field |
| Datum: N/A | | | Section: 36 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Township: 5 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 20 E | |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present. FSA slides interpreted to support an upland determination at this location and going south.**

HYDROLOGY

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

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

Field Observations:

| | | |
|--|--------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No primary hydrology indicators observed and only one secondary indicator. FSA slides indicated uplands at this location and to the south. Transect of points going NW contrast with this point in that they possess primary hydrology indicators and elevation rises slightly going SE.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 9 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 9 | 24 | 2 | 10YR | 6/1 | 60 | 10YR | 5/8 | 40 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks: **Continued plowing over decades in combination with soil erosion has likely reduced the thickness of horizon 1 contributing to its existing hydric status.**

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W2A** Sample Point **W2-8u**

| VEGETATION (Species identified in all uppercase are non-native species.) | | | | | Dominance Test Worksheet |
|---|--------------------------------|---------|----------|-------------|---|
| Tree Stratum (Plot size: 30 ft radius) | | | | | Number of Dominant Species that are OBL, FACW, or FAC: <u> 2 </u> (A) Total Number of Dominant Species Across All Strata: <u> 2 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B) |
| 1. | <u>Species Name</u> | % Cover | Dominant | Ind. Status | |
| 2. | | -- | -- | -- | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| 5. | | -- | -- | -- | |
| 6. | | -- | -- | -- | |
| 7. | | -- | -- | -- | |
| 8. | | -- | -- | -- | |
| 9. | | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u> 0 </u> x 1 = <u> 0 </u> FACW spp. <u> 10 </u> x 2 = <u> 20 </u> FAC spp. <u> 8 </u> x 3 = <u> 24 </u> FACU spp. <u> 2 </u> x 4 = <u> 8 </u> UPL spp. <u> 0 </u> x 5 = <u> 0 </u> Total <u> 20 </u> (A) <u> 52 </u> (B) Prevalence Index = B/A = <u> 2.600 </u> |
| 1. | | -- | -- | -- | |
| 2. | | -- | -- | -- | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| 5. | | -- | -- | -- | |
| 6. | | -- | -- | -- | |
| 7. | | -- | -- | -- | |
| 8. | | -- | -- | -- | |
| 9. | | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 10 | Y | FACW | |
| 2. | <i>Agrostis hyemalis</i> | 8 | Y | FAC | |
| 3. | <i>Ambrosia artemisiifolia</i> | 2 | N | FACU | |
| 4. | | -- | -- | -- | |
| 5. | | -- | -- | -- | |
| 6. | | -- | -- | -- | |
| 7. | | -- | -- | -- | |
| 8. | | -- | -- | -- | |
| 9. | | -- | -- | -- | |
| 10. | | -- | -- | -- | |
| 11. | | -- | -- | -- | |
| 12. | | -- | -- | -- | |
| 13. | | -- | -- | -- | |
| 14. | | -- | -- | -- | |
| 15. | | -- | -- | -- | |
| Total Cover = | | 20 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | Definitions of Vegetation Strata: <p style="margin-left: 40px;">Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p style="margin-left: 40px;">Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p style="margin-left: 40px;">Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p style="margin-left: 40px;">Woody Vines - All woody vines greater than 3.28 ft. in height.</p> |
| 1. | | -- | -- | -- | |
| 2. | | -- | -- | -- | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Remarks: Soybean crop recently harvested and soils plowed; weeds present. Had the soybean crop been present, it could potentially change the dominant species in the herb plot. | | | | | <p align="center">Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |

Additional Remarks:

Hydrophytic vegetation and hydric soils determined present, although both factors were significantly disturbed. A lack of primary hydrology indicators, contrasting with points to the north, and FSA slide interpretations supported an upland determination.

| | | | |
|---|--------------------------------------|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NW1/NWI Classification: None | | Wetland ID: W2A |
| Landform: Hill Slope | Local Relief: Concave | | Sample Point: W2-8w |
| Slope (%): 1-2 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis. Point located in a recently plowed agricultural field with potential hydrological manipulations. Normal circumstances assumed not present. Points on transect going SE from this point indicate gradual upland transition based on primary hydrology indicators.**

HYDROLOGY

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

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

Field Observations:

| | | |
|--|-----------------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 9 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **FSA slides indicates wetlands in this location. Some wetland hydrology appears perched. Saturated soils occurred between 0-4 inches, were not saturated between 4-7 inches, with saturation returning at 7 inches and below.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 12 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 12 | 24 | 2 | 10YR | 5/1 | 80 | 10YR | 5/6 | 20 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|---|---|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks: **Sample point existed in a tilled agricultural field. Continued plowing and erosion likely led to thickening of horizon 1, so A11 barely was met. Likely met F3 in the past as well. Another soil pit was dug approximately 50 feet southeast of W2-8w to determine the wetland boundary. The boundary was placed where the water table was located approximately 18 inches below the ground surface.**

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W2A** Sample Point **W2-8w**

| VEGETATION (Species identified in all uppercase are non-native species.) | | | | | |
|---|-------------------------------|---------|----------|------------|--|
| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u> 2 </u> (A) Total Number of Dominant Species Across All Strata: <u> 2 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B) |
| 1. | <u>Species Name</u> | % Cover | Dominant | Ind.Status | |
| 2. | | -- | -- | -- | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| 5. | | -- | -- | -- | |
| 6. | | -- | -- | -- | |
| 7. | | -- | -- | -- | |
| 8. | | -- | -- | -- | |
| 9. | | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u> 0 </u> x 1 = <u> 0 </u> FACW spp. <u> 30 </u> x 2 = <u> 60 </u> FAC spp. <u> 15 </u> x 3 = <u> 45 </u> FACU spp. <u> 0 </u> x 4 = <u> 0 </u> UPL spp. <u> 0 </u> x 5 = <u> 0 </u> Total <u> 45 </u> (A) <u> 105 </u> (B) Prevalence Index = B/A = <u> 2.333 </u> |
| 1. | | -- | -- | -- | |
| 2. | | -- | -- | -- | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| 5. | | -- | -- | -- | |
| 6. | | -- | -- | -- | |
| 7. | | -- | -- | -- | |
| 8. | | -- | -- | -- | |
| 9. | | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 30 | Y | FACW | |
| 2. | <i>Agrostis hyemalis</i> | 15 | Y | FAC | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| 5. | | -- | -- | -- | |
| 6. | | -- | -- | -- | |
| 7. | | -- | -- | -- | |
| 8. | | -- | -- | -- | |
| 9. | | -- | -- | -- | |
| 10. | | -- | -- | -- | |
| 11. | | -- | -- | -- | |
| 12. | | -- | -- | -- | |
| 13. | | -- | -- | -- | |
| 14. | | -- | -- | -- | |
| 15. | | -- | -- | -- | |
| Total Cover = | | 45 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | 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. |
| 1. | | -- | -- | -- | |
| 2. | | -- | -- | -- | |
| 3. | | -- | -- | -- | |
| 4. | | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Remarks: Sample point is located in a low quality farmed wetland, location has been greatly disturbed due to vegetation selection / removal and recent soil tilling. Concentration of annual wetland weeds greater in the part of farmed W-2 than in farmed areas outside W-2. | | | | | Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Additional Remarks: Wetland primarily determined on the basis of water table depth and FSA slide review. | | | | | |

| | | |
|---|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Jaron Tylock |
| Soil Unit: Saylesville silt loam | NWI/WWI Classification: N/A | County: Waukesha |
| Landform: Hill Slope | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: Adj to W2A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W2-9u |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Agricultural Field |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present.**

HYDROLOGY

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

| | |
|---|--|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Field Observations:

| | | |
|--|--------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **Passes FAC-Neutral only based on non-dominant tiebreaker. FSA slides indicated uplands at this point and going west, north and south.**

SOILS

Map Unit Name: **Saylesville 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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 15 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 15 | 24 | 2 | 10YR | 5/1 | 55 | 10YR | 5/6 | 45 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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: **Doesn't match mapped soil type, but also doesn't meet A12 as horizon 1 has value too high. Nearby soils within W-2 to east were darker and had depleted matrix, on threshold between A11 and A12.**

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W2A** Sample Point **W2-9u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-------------------------------|-----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | <i>Agrostis hyemalis</i> | 25 | Y | FAC |
| 2. | <i>ECHINOCHLOA CRUS-GALLI</i> | 5 | N | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 30 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Remarks: **Vegetation was recently harvested and soils plowed, only leaving weeds. Recent soybean crop plowed under; but if cover could be estimated from stubble, it could have changed the dominants.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|---------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>5</u> | x 2 = | <u>10</u> |
| FAC spp. | <u>25</u> | x 3 = | <u>75</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>30</u> (A) | <u>85</u> (B) |
| Prevalence Index = B/A = | | <u>2.833</u> | |

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:

Hydrophytic vegetation was present, although soils and vegetation were significantly disturbed. FSA slides indicated uplands in this vicinity and to north and south.

| | | | |
|--|--------------------------------------|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NW1/WWI Classification: E1K | | Wetland ID: W2A |
| Landform: Depression | Local Relief: Concave | | Sample Point: W2-9w |
| Slope (%): 0-2 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis.**

HYDROLOGY

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

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

| | |
|---|--|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 6 (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|---|--|

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

Remarks:

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 2/1 | 90 | 10YR | 5/1 | 8 | D | M | silt loam |
| -- | -- | -- | -- | -- | -- | 10YR | 5/6 | 2 | C | M | silt loam |
| 8 | 18 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | silty clay loam |
| 18 | 24 | 3 | 10YR | 5/1 | 90 | 10YR | 5/6 | 10 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|--|--|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--|--|

| | |
|---|--|
| <p>Restrictive Layer (If Observed) Type: N/A Depth: N/A</p> | <p>Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|---|--|

Remarks:

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

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **W2A**

Sample Point **W2-9w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|------------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | <i>Cornus racemosa</i> | 5 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|---------------------------------|------------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 65 | Y | FACW |
| 2. | <i>Carex stricta</i> | 20 | N | OBL |
| 3. | <i>Solidago canadensis</i> | 20 | N | FACU |
| 4. | <i>Calamagrostis canadensis</i> | 5 | N | OBL |
| 5. | <i>Carex lacustris</i> | 5 | N | OBL |
| 6. | <i>Spartina pectinata</i> | 5 | N | FACW |
| 7. | <i>Cornus racemosa</i> | 2 | N | FAC |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 122 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Dominance Test Worksheet | |
|---|---------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>2</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>2</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |

| Prevalence Index Worksheet | |
|---------------------------------------|------------------|
| Total % Cover of: | Multiply by: |
| OBL spp. <u>30</u> | x 1 = <u>30</u> |
| FACW spp. <u>70</u> | x 2 = <u>140</u> |
| FAC spp. <u>7</u> | x 3 = <u>21</u> |
| FACU spp. <u>20</u> | x 4 = <u>80</u> |
| UPL spp. <u>0</u> | x 5 = <u>0</u> |
| Total <u>127</u> (A) | <u>271</u> (B) |
| Prevalence Index = B/A = <u>2.134</u> | |

| Hydrophytic Vegetation Indicators: | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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 | |
|---|-----------------------------|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

Remarks: **Nearby point outside plot to north, hydrophytic shrubs (*Cornus* spp. and *Salix* spp.) dominate.**

Additional Remarks:

| | | |
|---|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Jaron Tylock |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: N/A | County: Waukesha |
| Landform: Hill Slope | Local Relief: Convex | State: Wisconsin |
| Slope (%): 5-6 | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: Adj to W2A |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W2-10u |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Agricultural Field |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances interpreted to not be present.**

HYDROLOGY

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

| | |
|---|--|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Field Observations:

| | | |
|--|--------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No primary hydrology indicators were observed. FSA slides indicate uplands at this location. Sample point elevation several feet above wetland.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 10 | 24 | 2 | 10YR | 5/1 | 55 | 10YR | 5/8 | 45 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|--|

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

Hydric Soil Present? Yes No

Remarks: **Sample point location was recently plowed. Soils were dry throughout.**

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

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **Adj to W2A** Sample Point **W2-10u**

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

Tree Stratum (Plot size: 30 ft 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: 15 ft radius)

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

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|-------------------------------|-----------|----|------|
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 10 | Y | FACW |
| 2. | <i>Agrostis hyemalis</i> | 5 | Y | FAC |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 15 | | |

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: Soybean crop recently harvested and soils plowed, leaving only weeds. Plowing prevented adequate interpretations of crop stress and cover estimate of soybeans - potentially which would alter dominants.

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

| | | | |
|-----------|-----------|---------------|---------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>10</u> | x 2 = | <u>20</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>15</u> (A) | <u>35</u> (B) |

Prevalence Index = B/A = 2.333

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:
Hydrophytic vegetation and hydric soils were present, although soils and vegetation were significantly disturbed.

| | | |
|---|---|---------------------------------|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: E1K | Wetland ID: W2A |
| Landform: Depression | Local Relief: Concave | Sample Point: W2-10w |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A |
| | Datum: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 36 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Township: 5 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis.**

HYDROLOGY

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

| | |
|--|---|
| <p><u>Primary:</u></p> <input checked="" type="checkbox"/> A1 - Surface Water <input checked="" type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D5 - FAC-Neutral Test |
|--|---|

Field Observations:

| | | |
|--|-----------------------|---|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 1 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

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

Remarks:

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silt loam |
| 8 | 20 | 2 | 10YR | 4/1 | 95 | 10YR | 5/6 | 15 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|---|

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

Hydric Soil Present? Yes No

Remarks:

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

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W2A** Sample Point **W2-10w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|-----------------------|---------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | <i>Salix bebbiana</i> | 5 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|-----------------------|---------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | <i>Salix discolor</i> | 4 | Y | FACW |
| 2. | <i>Spiraea alba</i> | 2 | Y | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 6 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|---------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 50 | Y | FACW |
| 2. | <i>Spartina pectinata</i> | 25 | Y | FACW |
| 3. | <i>Carex stricta</i> | 20 | N | OBL |
| 4. | <i>Carex lacustris</i> | 15 | N | OBL |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 110 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|---------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

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

Prevalence Index Worksheet

| | | | |
|---------------------------------------|-----------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>35</u> | x 1 = | <u>35</u> |
| FACW spp. | <u>86</u> | x 2 = | <u>172</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>121</u> (A) | <u>207</u> (B) |
| Prevalence Index = B/A = <u>1.711</u> | | | |

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: **Point located in portion of wetland dominated by perennial vegetation.**

Additional Remarks:

| | | |
|---|---|---------------------------------|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | State: Wisconsin |
| Soil Unit: Montgomery silty clay | NWI/WWI Classification: N/A | Wetland ID: W5 |
| Landform: Depression | Local Relief: Concave | Sample Point: W5-1w |
| Slope (%): 1-2 | Latitude: N/A | Longitude: N/A |
| | Datum: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Section: 36 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? | Township: 5 N |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **WETS analysis indicates normal antecedent moisture conditions. Sample point existed in a long narrow wetland between agricultural fields. No corresponding upland point was taken, upland consisted of a hay field and is well represented by W6-1u.**

HYDROLOGY

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

| | |
|---|--|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

| | |
|--|--|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--|--|

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

Remarks: **Linear depressional area with seasonal wetland hydrology likely from old end furrow, or old shallow agricultural ditch adjacent to agricultural field.**

SOILS

Map Unit Name: **Montgomery silty clay** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 4 | 16 | 2 | 2.5Y | 5/2 | 90 | 10YR | 4/4 | 10 | C | M | silty clay |
| 16 | 24 | 3 | 5Y | 6/2 | 85 | 10YR | 3/6 | 15 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W5** Sample Point **W5-1w**

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

Tree Stratum (Plot size: 30 ft 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: 15 ft radius)

| | | | | |
|---------------|---------------------|----------|----|------|
| 1. | <i>Quercus alba</i> | 1 | N | FACU |
| 2. | <i>Cornus alba</i> | 1 | N | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 2 | | |

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|----------------------------------|-----------|----|------|
| 1. | <i>Carex pellita</i> | 30 | Y | OBL |
| 2. | <i>Spartina pectinata</i> | 30 | Y | FACW |
| 3. | <i>PHALARIS ARUNDINACEA</i> | 15 | N | FACW |
| 4. | <i>Solidago gigantea</i> | 10 | N | FACW |
| 5. | <i>Silphium terebinthinaceum</i> | 5 | N | FAC |
| 6. | <i>Solidago canadensis</i> | 1 | N | FACU |
| 7. | <i>LYTHRUM SALICARIA</i> | 1 | N | OBL |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 92 | | |

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: **Sample point is located in a low quality wet meadow community between agricultural field and an upland tree line.**

Additional Remarks:

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

| | | | |
|-----------|-----------|---------------|----------------|
| OBL spp. | <u>31</u> | x 1 = | <u>31</u> |
| FACW spp. | <u>56</u> | x 2 = | <u>112</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>94</u> (A) | <u>166</u> (B) |

Prevalence Index = B/A = 1.766

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

| | | | |
|---|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Montgomery silty clay | NWI/WWI Classification: N/A | | Wetland ID: Betw. W2 & W6 |
| Landform: Hill Slope | Local Relief: Convex | | Sample Point: W6-1u |
| Slope (%): 2-4 | Latitude: N/A | Longitude: N/A | Community ID: Agricultural Field |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Section: 36 |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Township: 5 N | |
| | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances interpreted to not be present given the planted hay grass & legume species.**

HYDROLOGY

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

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

Field Observations:

| | |
|--|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No hydrology indicators were observed. FSA slides indicate uplands at this location between W-2 and W-6.**

SOILS

Map Unit Name: **Montgomery silty clay** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 16 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay |
| 16 | 24 | 2 | 2.5Y | 5/2 | 90 | 2.5Y | 5/4 | 10 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--|---|--|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils ¹</p> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--|---|--|

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **Soils show evidence of a plow layer. Soils dry throughout.**

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

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Betw. W2 & W6** Sample Point **W6-1u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|------------------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | <i>SCHEDONORUS PRATENSIS</i> | 50 | Y | FACU |
| 2. | <i>TRIFOLIUM PRATENSE</i> | 40 | Y | FACU |
| 3. | <i>TARAXACUM OFFICINALE</i> | 10 | N | FACU |
| 4. | <i>DACTYLIS GLOMERATA</i> | 5 | N | FACU |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 105 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------------|-----------------|-------------------|
| | <u>Species Name</u> | <u>% Cover</u> | <u>Dominant</u> | <u>Ind.Status</u> |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Remarks: **Healthy upland hay field with general lack of *Phalaris* in the vicinity.**

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|------------|----------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>105</u> | x 4 = | <u>420</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>105</u> (A) | <u>420</u> (B) |
| Prevalence Index = B/A = | | <u>4.000</u> | |

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:

| | | | |
|---|--|---|---------------------------------|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Melissa Curran | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: N/A | | Wetland ID: W6 |
| Landform: Depression | Local Relief: Linear | | Sample Point: W6-1w |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Section: 36 |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis. Sample point located in a long narrow wetland on the edge of a hay field.**

HYDROLOGY

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

| | | |
|--|---|---|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> E6 - Surface Soil Cracks <input type="checkbox"/> E10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|--|---|---|

| | |
|---|--|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 4 (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|---|--|

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

Remarks: **Wetland is most likely an old end-furrow or an old shallow ditch along the edge of an agricultural field.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 4 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 4 | 22 | 2 | 2.5Y | 6/2 | 80 | 10YR | 5/4 | 20 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|--|---|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W6** Sample Point **W6-1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u> 2 </u> (A) Total Number of Dominant Species Across All Strata: <u> 2 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B) |
|---|----------------------------------|------------|----------|------------|---|
| 1. | Species Name | % Cover | Dominant | Ind.Status | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | |
| 1. | <i>Cornus alba</i> | 1 | N | FACW | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 1 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | |
| 1. | <i>PHALARIS ARUNDINACEA</i> | 60 | Y | FACW | |
| 2. | <i>Spartina pectinata</i> | 25 | Y | FACW | |
| 3. | <i>Carex pellita</i> | 15 | N | OBL | |
| 4. | <i>Oxypolis rigidior</i> | 5 | N | OBL | |
| 5. | <i>Helianthus grosseserratus</i> | 5 | N | FACW | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 110 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | |
| 1. | -- | -- | -- | -- | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Remarks: Sample point is located in a narrow wet meadow between an agricultural field and an upland tree line. | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---------------|---------------|------------------|---------------|-----------|---------------|-------|--------------|----------|--------------|-------|--------------|-----------|--------------|-------|--------------|----------|--------------|-------|--------------|--|--|--|--|-------|--------------|-----|------------------|--|
| Prevalence Index Worksheet Total % Cover of: <table style="margin-left: 20px; border-collapse: collapse;"> <tr><td>OBL spp.</td><td><u> 20 </u></td><td>x 1 =</td><td><u> 20 </u></td></tr> <tr><td>FACW spp.</td><td><u> 91 </u></td><td>x 2 =</td><td><u> 182 </u></td></tr> <tr><td>FAC spp.</td><td><u> 0 </u></td><td>x 3 =</td><td><u> 0 </u></td></tr> <tr><td>FACU spp.</td><td><u> 0 </u></td><td>x 4 =</td><td><u> 0 </u></td></tr> <tr><td>UPL spp.</td><td><u> 0 </u></td><td>x 5 =</td><td><u> 0 </u></td></tr> <tr><td colspan="4"> </td></tr> <tr><td>Total</td><td><u> 111 </u></td><td>(A)</td><td><u> 202 </u> (B)</td></tr> </table> Prevalence Index = B/A = <u> 1.820 </u> | OBL spp. | <u> 20 </u> | x 1 = | <u> 20 </u> | FACW spp. | <u> 91 </u> | x 2 = | <u> 182 </u> | FAC spp. | <u> 0 </u> | x 3 = | <u> 0 </u> | FACU spp. | <u> 0 </u> | x 4 = | <u> 0 </u> | UPL spp. | <u> 0 </u> | x 5 = | <u> 0 </u> | | | | | Total | <u> 111 </u> | (A) | <u> 202 </u> (B) | Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dominance Test is > 50% <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| OBL spp. | <u> 20 </u> | x 1 = | <u> 20 </u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FACW spp. | <u> 91 </u> | x 2 = | <u> 182 </u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FAC spp. | <u> 0 </u> | x 3 = | <u> 0 </u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FACU spp. | <u> 0 </u> | x 4 = | <u> 0 </u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UPL spp. | <u> 0 </u> | x 5 = | <u> 0 </u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | <u> 111 </u> | (A) | <u> 202 </u> (B) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Definitions of Vegetation Strata: <p style="margin-left: 40px;">Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p style="margin-left: 40px;">Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p style="margin-left: 40px;">Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p style="margin-left: 40px;">Woody Vines - All woody vines greater than 3.28 ft. in height.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hydrophytic Vegetation Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Additional Remarks:

| | | |
|---|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Melissa Curran |
| Soil Unit: Martinton silt loam | NWI/WWI Classification: None | County: Waukesha |
| Landform: Hill Slope | Local Relief: Convex | State: Wisconsin |
| Slope (%): 2-4 | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: Adj to W7 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W7-1u |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Agricultural Field |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present.**

HYDROLOGY

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

| | |
|---|--|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Field Observations:

| | | |
|--|--------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No hydrology indicators were observed. FSA slides indicated uplands at this location, signatures consistent to the east.**

SOILS

Map Unit Name: **Martinton silt loam** Series Drainage Class: **somewhat poorly**

Taxonomy (Subgroup): **Aquic 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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) |
|-----------|--------------|---------|---------------|-----|------|----------------|----|------|----------|---------------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | |
| 0 | 9 | 1 | 10YR 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 9 | 16 | 2 | 10YR 4/3 | 98 | 10YR | 3/4 | 2 | C | M | silty clay |
| 16 | 24 | 3 | 10YR 5/2 | 90 | 10YR | 4/6 | 10 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | |
|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions |
|--|---|

Indicators for Problematic Soils¹

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

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

Hydric Soil Present? Yes No

Remarks: **Soils dry throughout.**

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

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W7** Sample Point **W7-1u**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | | Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) |
|---|--------------------|-----------|----------|------------|--|
| 1. | Species Name | % Cover | Dominant | Ind.Status | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | | Prevalence Index Worksheet Total % Cover of: Multiply by: OBL spp. <u>0</u> x 1 = <u>0</u> FACW spp. <u>0</u> x 2 = <u>0</u> FAC spp. <u>0</u> x 3 = <u>0</u> FACU spp. <u>0</u> x 4 = <u>0</u> UPL spp. <u>40</u> x 5 = <u>200</u> Total <u>40</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>5.000</u> |
| 1. | Species Name | % Cover | Dominant | Ind.Status | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dominance Test is > 50% <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Prevalence Index is ≤ 3.0 * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Morphological Adaptations (Explain) * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Problem Hydrophytic Vegetation (Explain) * * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. | Species Name | % Cover | Dominant | Ind.Status | |
| 1. | <i>GLYCINE MAX</i> | 40 | Y | UPL | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| 6. | -- | -- | -- | -- | |
| 7. | -- | -- | -- | -- | |
| 8. | -- | -- | -- | -- | |
| 9. | -- | -- | -- | -- | |
| 10. | -- | -- | -- | -- | |
| 11. | -- | -- | -- | -- | |
| 12. | -- | -- | -- | -- | |
| 13. | -- | -- | -- | -- | |
| 14. | -- | -- | -- | -- | |
| 15. | -- | -- | -- | -- | |
| Total Cover = | | 40 | | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | | Definitions of Vegetation Strata: <p>Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.</p> <p>Woody Vines - All woody vines greater than 3.28 ft. in height.</p> |
| 1. | Species Name | % Cover | Dominant | Ind.Status | |
| 2. | -- | -- | -- | -- | |
| 3. | -- | -- | -- | -- | |
| 4. | -- | -- | -- | -- | |
| 5. | -- | -- | -- | -- | |
| Total Cover = | | 0 | | | |
| Remarks: In ag. field. Healthy soy bean crop recently harvested, but stubble present as no plowing occurred. Glycine cover estimated based on stubble. No weeds observed in herb plot. | | | | | |

Additional Remarks:

| | | |
|---|---|--|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/17/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Melissa Curran |
| Soil Unit: Martinton silt loam | NWI/WWI Classification: None | County: Waukesha |
| Landform: Hill Slope | Local Relief: Concave | State: Wisconsin |
| Slope (%): 0-1 | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: W7 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W7-1w |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Farmed Wetland |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Remarks: Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present. | |

HYDROLOGY

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

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

| | |
|---|---|
| Field Observations: | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0.5 (in.) | |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **Primary and secondary wetland indicators provide strong wetland hydrology. FSA slides indicate wetlands via recurring signatures (crop stress, saturation, and inundation).**

SOILS

| | |
|--|---|
| Map Unit Name: Martinton silt loam | Series Drainage Class: somewhat poorly |
| Taxonomy (Subgroup): Aquic 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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 8 | 14 | 2 | 10YR | 3/1 | 98 | 10YR | 3/3 | 2 | C | M | silty clay loam |
| 14 | 20 | 3 | 2.5Y | 4/2 | 90 | 10YR | 4/4 | 10 | C | M | silty clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|--|---|
| NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>): | Indicators for Problematic Soils¹ |
| <input type="checkbox"/> A1 - Histosol | <input type="checkbox"/> S4 - Sandy Gleyed Matrix |
| <input type="checkbox"/> A2 - Histic Epipedon | <input type="checkbox"/> S5 - Sandy Redox |
| <input type="checkbox"/> A3 - Black Histic | <input type="checkbox"/> S6 - Stripped Matrix |
| <input type="checkbox"/> A4 - Hydrogen Sulfide | <input type="checkbox"/> F1 - Loamy Muck Mineral |
| <input type="checkbox"/> A5 - Stratified Layers | <input type="checkbox"/> F2 - Loamy Gleyed Matrix |
| <input type="checkbox"/> A10 - 2 cm Muck | <input type="checkbox"/> F3 - Depleted Matrix |
| <input type="checkbox"/> A11 - Depleted Below Dark Surface | <input checked="" type="checkbox"/> F6 - Redox Dark Surface |
| <input type="checkbox"/> A12 - Thick Dark Surface | <input type="checkbox"/> F7 - Depleted Dark Surface |
| <input type="checkbox"/> S1 - Sandy Muck Mineral | <input type="checkbox"/> F8 - Redox Depressions |
| <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> A16 - Coast Prairie Redox |
| | <input type="checkbox"/> S7 - Dark Surface |
| | <input type="checkbox"/> F12 - Iron-Manganese Masses |
| | <input type="checkbox"/> TF12 - Very Shallow Dark Surface |
| | <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W7** Sample Point **W7-1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-------------------------------|-----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | <i>TYPHA ANGUSTIFOLIA</i> | 15 | Y | OBL |
| 2. | <i>Rorippa palustris</i> | 5 | Y | OBL |
| 3. | <i>Ranunculus sceleratus</i> | 5 | Y | OBL |
| 4. | <i>PLANTAGO MAJOR</i> | 5 | Y | FAC |
| 5. | <i>TRIFOLIUM PRATENSE</i> | 1 | N | FACU |
| 6. | <i>Amaranthus retroflexus</i> | 1 | N | FACU |
| 7. | <i>Panicum capillare</i> | 1 | N | FAC |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 33 | | |

Total Cover = **33**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

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: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|--------------------------|-----------|---------------|---------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>25</u> | x 1 = | <u>25</u> |
| FACW spp. | <u>0</u> | x 2 = | <u>0</u> |
| FAC spp. | <u>6</u> | x 3 = | <u>18</u> |
| FACU spp. | <u>2</u> | x 4 = | <u>8</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>33</u> (A) | <u>51</u> (B) |
| Prevalence Index = B/A = | | <u>1.545</u> | |

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: Sample point is located in a farmed wetland, dominated by bare soil on perimeter due to crop stress. Adjacent portions of field have recently harvested soybean stubble interpreted to be healthy.

Additional Remarks:

| | | |
|---|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Jaron Tylock |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: N/A | County: Waukesha |
| Landform: Hill Slope | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: Adj to W8 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W8-1u |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Agricultural Field |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present. FSA slides indicate uplands.**

HYDROLOGY

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

| | |
|---|--|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Field Observations:

| | | |
|--|--------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No primary hydrology indicators were observed. FSA slides indicated uplands at this location and going south and east, and field review also includes a convex slope. Couldn't interpret crop stress due to recent plowing.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 8 | 24 | 2 | 10YR | 6/1 | 60 | 10YR | 5/6 | 40 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|---|

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **Sample point location was recently plowed. Soils were dry throughout.**

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

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W8** Sample Point **W8-1u**

| VEGETATION (Species identified in all uppercase are non-native species.) | | | | |
|---|-------------------------------|-----------|----------|-------------|
| Tree Stratum (Plot size: 30 ft radius) | | | | |
| 1. | <i>Species Name</i> | % Cover | Dominant | Ind. Status |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | |
| 1. | <i>Agrostis hyemalis</i> | 20 | Y | FAC |
| 2. | <i>ECHINOCHLOA CRUS-GALLI</i> | 15 | Y | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 35 | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |
| Remarks: Soybean crop recently harvested and soils plowed, leaving only weeds. Could not include <i>Glycine</i> cover because stubble was not interpretive (cover or crop stress) due to plowing. | | | | |

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: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|---------------------------------------|-----------|---------------|---------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. | <u>20</u> | x 3 = | <u>60</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>35</u> (A) | <u>90</u> (B) |
| Prevalence Index = B/A = <u>2.571</u> | | | |

Hydrophytic Vegetation Indicators:

| | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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:
Hydrophytic vegetation and hydric soils were present, although both soils and vegetation were disturbed. A lack of primary hydrology indicators and a lack of consistent signatures in the FSA slides was interpreted to be uplands.

| | | | |
|--|--------------------------------------|---|--|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NW1/WWI Classification: F0Kf | | Wetland ID: W8 |
| Landform: Depression | Local Relief: Concave | | Sample Point: W8-1w |
| Slope (%): 1-2 | 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) | | | <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Point is located in a seasonally flooded basin influenced by agricultural activity. Normal circumstances interpreted to be not met at this location because of recent use for agricultural crop and presence of annual weed species.**

HYDROLOGY

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

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

Field Observations:

| | | |
|--|-------------------------|---|
| Surface Water Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0.5 (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 10 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **FSA slides indicate wetlands at this location.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 6 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 6 | 22 | 2 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | clay |
| 22 | 24 | 3 | 10YR | 5/1 | 90 | 10YR | 5/6 | 10 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | Indicators for Problematic Soils¹ <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks: **Sample point is in a tilled agricultural field.**

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W8** Sample Point **W8-1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-------------------------------|-----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 30 | Y | FACW |
| 2. | <i>Agrostis hyemalis</i> | 15 | Y | FAC |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 45 | | |

Total Cover = **45**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|--------------|----------|----------|------------|
| | Species Name | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

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: 100.0% (A/B)

Prevalence Index Worksheet

| | | | |
|-------------------|-----------|---------------------------------------|----------------|
| Total % Cover of: | | Multiply by: | |
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>30</u> | x 2 = | <u>60</u> |
| FAC spp. | <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>45</u> (A) | <u>105</u> (B) |
| | | Prevalence Index = B/A = <u>2.333</u> | |

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: **Sample point is located in a low quality farmed wetland. Location disturbed due to recent cropping and plowing, only annual weeds present.**

Additional Remarks:
Wetland primarily determined on the basis of water table depth and FSA slide review.

| | | |
|---|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Jaron Tylock |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: N/A | County: Waukesha |
| Landform: Hill Slope | Local Relief: Convex | State: Wisconsin |
| Slope (%): 1-2 | Latitude: N/A | Longitude: N/A |
| | Datum: N/A | Wetland ID: Adj to W9 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W9-1u |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Agricultural Field |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field. Normal circumstances not present.**

HYDROLOGY

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

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

Field Observations:

| | | |
|--|------------------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 29 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 27 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No primary wetland hydrology indicators present, contrasting with W9-1w. FSA slides indicate uplands in this location and wetland to SW.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 14 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 14 | 26 | 2 | 10YR | 5/4 | 65 | 10YR | 5/6 | 35 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--|---|---|
| <input type="checkbox"/> A1 - Histosol | <input type="checkbox"/> S4 - Sandy Gleyed Matrix | <input type="checkbox"/> A16 - Coast Prairie Redox |
| <input type="checkbox"/> A2 - Histic Epipedon | <input type="checkbox"/> S5 - Sandy Redox | <input type="checkbox"/> S7 - Dark Surface |
| <input type="checkbox"/> A3 - Black Histic | <input type="checkbox"/> S6 - Stripped Matrix | <input type="checkbox"/> F12 - Iron-Manganese Masses |
| <input type="checkbox"/> A4 - Hydrogen Sulfide | <input type="checkbox"/> F1 - Loamy Muck Mineral | <input type="checkbox"/> TF12 - Very Shallow Dark Surface |
| <input type="checkbox"/> A5 - Stratified Layers | <input type="checkbox"/> F2 - Loamy Gleyed Matrix | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> A10 - 2 cm Muck | <input type="checkbox"/> F3 - Depleted Matrix | |
| <input type="checkbox"/> A11 - Depleted Below Dark Surface | <input type="checkbox"/> F6 - Redox Dark Surface | |
| <input type="checkbox"/> A12 - Thick Dark Surface | <input type="checkbox"/> F7 - Depleted Dark Surface | |
| <input type="checkbox"/> S1 - Sandy Muck Mineral | <input type="checkbox"/> F8 - Redox Depressions | |
| <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | | |

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: **Sample point location was recently plowed.**

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **Adj to W9** Sample Point **W9-1u**

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

Tree Stratum (Plot size: 30 ft 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: 15 ft radius)

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

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|-------------------------------|-----------|----------|-------------|
| 1. | ECHINOCHLOA CRUS-GALLI | 20 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 20 | | |

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: **Soybean crop recently harvested and soils plowed, leaving only annual weeds.**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:

| | | | |
|-----------|-----------|-------|---------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>20</u> | x 2 = | <u>40</u> |
| FAC spp. | <u>0</u> | x 3 = | <u>0</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | <u>20</u> | (A) | <u>40</u> (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:
Hydrophytic vegetation present; soils and vegetation significantly disturbed. Upland determination was primarily based on a observed water table depths along a transect and FSA slides lacking consistent signature.

| | | | |
|---|--------------------------------------|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NW1/WWI Classification: F0Kf | | Wetland ID: W9 |
| Landform: Depression | Local Relief: Concave | | Sample Point: W9-1w |
| Slope (%): 0-2 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 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: **WETS analysis indicates antecedent moisture conditions are in the normal range. Point located in basin but is actively farmed. Normal circumstances interpreted to not be present due to plowing and domination of annual weed species with sparse cover.**

HYDROLOGY

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

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

Field Observations:

| | | |
|--|------------------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 16 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 5 (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **FSA slides indicate wetlands at this location and in a pocket mostly going south.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 12 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 12 | 24 | 2 | 10YR | 6/1 | 85 | 10YR | 5/6 | 15 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|--|---|---|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | Indicators for Problematic Soils¹ <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--|---|---|

Restrictive Layer (If Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **Depleted matrix depth on threshold of A11 and A12. Sample point heavily influenced by ongoing agricultural practices.**

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

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W9** Sample Point **W9-1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-------------------------------|-----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 15 | Y | FACW |
| 2. | <i>Agrostis hyemalis</i> | 2 | N | FAC |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 17 | | |

Total Cover = **17**

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

Total Cover = **0**

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of: Multiply by:

| | | | |
|-----------|-----------|-------|-----------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. | <u>2</u> | x 3 = | <u>6</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |

Total 17 (A) 36 (B)

Prevalence Index = B/A = 2.118

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: **Sample point is located in a farmed wetland. Recent plowing limited evaluation of vegetation; approximately 90% of soil surface consisted of bare ground.**

Additional Remarks:

| | | | |
|---|--------------------------------------|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay | NW1/WW1 Classification: None | | Wetland ID: Adj to W10 |
| Landform: Hill Slope | Local Relief: Convex | | Sample Point: W10-1u |
| Slope (%): 5-6 | Latitude: N/A | Longitude: N/A | Community ID: Agricultural Field |
| Datum: N/A | | | Section: 36 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | Township: 5 N |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present.**

HYDROLOGY

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

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

Field Observations:

| | |
|--|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **FSA slides indicated uplands at this location and to the southeast.**

SOILS

Map Unit Name: **Montgomery silty clay** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 11 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 11 | 24 | 2 | 10YR | 5/1 | 70 | 10YR | 5/8 | 30 | C | M | sandy clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|---|---|
| <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | Indicators for Problematic Soils¹ <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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: **Sample point location was recently plowed. Soils were dry throughout.**

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **Adj to W10** Sample Point **W10-1u**

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

Tree Stratum (Plot size: 30 ft 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: 15 ft radius)

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

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|-------------------------------|-----------|----|------|
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 15 | Y | FACW |
| 2. | <i>Agrostis hyemalis</i> | 5 | Y | FAC |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 20 | | |

Woody Vine Stratum (Plot size: 30 ft radius)

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

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

| | | | |
|-----------|-----------|---------------|---------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>15</u> | x 2 = | <u>30</u> |
| FAC spp. | <u>5</u> | x 3 = | <u>15</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>20</u> (A) | <u>45</u> (B) |

Prevalence Index = B/A = 2.250

Hydrophytic Vegetation Indicators:

| | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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: **Soybean crop recently harvested and soils plowed, leaving only weeds. Cover for soybeans not able to be interpreted due to recent plowing.**

Additional Remarks:
Hydrophytic vegetation and hydric soils were present, although both soils and vegetation were significantly disturbed. FSA crop slides interpreted to support uplands at this location and going out from W-10.

| | | |
|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: E1Ha | Wetland ID: W10 |
| Landform: Depression | Local Relief: Concave | Sample Point: W10-1w |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A |
| | Datum: N/A | Community ID: Wet Meadow |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis.**

HYDROLOGY

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

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

Field Observations:

| | | |
|--|-----------------------|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Depth: (in.) | Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 6 (in.) | |
| Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Depth: 0 (in.) | |

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

Remarks:

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <input type="checkbox"/> A1 - Histosol | <input type="checkbox"/> S4 - Sandy Gleyed Matrix | <input type="checkbox"/> A16 - Coast Prairie Redox |
| <input type="checkbox"/> A2 - Histic Epipedon | <input type="checkbox"/> S5 - Sandy Redox | <input type="checkbox"/> S7 - Dark Surface |
| <input type="checkbox"/> A3 - Black Histic | <input type="checkbox"/> S6 - Stripped Matrix | <input type="checkbox"/> F12 - Iron-Manganese Masses |
| <input type="checkbox"/> A4 - Hydrogen Sulfide | <input type="checkbox"/> F1 - Loamy Muck Mineral | <input type="checkbox"/> TF12 - Very Shallow Dark Surface |
| <input type="checkbox"/> A5 - Stratified Layers | <input type="checkbox"/> F2 - Loamy Gleyed Matrix | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> A10 - 2 cm Muck | <input checked="" type="checkbox"/> F3 - Depleted Matrix | |
| <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface | <input type="checkbox"/> F6 - Redox Dark Surface | |
| <input type="checkbox"/> A12 - Thick Dark Surface | <input type="checkbox"/> F7 - Depleted Dark Surface | |
| <input type="checkbox"/> S1 - Sandy Muck Mineral | <input type="checkbox"/> F8 - Redox Depressions | |
| <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | | |

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:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W10** Sample Point **W10-1w**

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

Tree Stratum (Plot size: 30 ft radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---------------|----------------------------|---------|----------|------------|
| 1. | <i>Populus tremuloides</i> | 15 | Y | FAC |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 15 | | |

Sapling/Shrub Stratum (Plot size: 15 ft radius)

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

Herb Stratum (Plot size: 5 ft radius)

| | | | | |
|---------------|-----------------------------|-----|----|------|
| 1. | <i>PHALARIS ARUNDINACEA</i> | 100 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 100 | | |

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: **Point is in disturbed wet meadow adjacent to a patch of woods.**

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: 100.0% (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

| | | | |
|-----------|------------|----------------|----------------|
| OBL spp. | <u>0</u> | x 1 = | <u>0</u> |
| FACW spp. | <u>100</u> | x 2 = | <u>200</u> |
| FAC spp. | <u>15</u> | x 3 = | <u>45</u> |
| FACU spp. | <u>0</u> | x 4 = | <u>0</u> |
| UPL spp. | <u>0</u> | x 5 = | <u>0</u> |
| Total | | <u>115</u> (A) | <u>245</u> (B) |

Prevalence Index = B/A = 2.130

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:

| | | |
|---|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | Investigator #1: Eric Parker | Investigator #2: Jaron Tylock |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: None | County: Waukesha |
| Landform: Hill Slope | Local Relief: Convex | State: Wisconsin |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A |
| Datum: N/A | | Wetland ID: Adj to W11 |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Sample Point: W11-1u |
| Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Community ID: Agricultural Field |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | Section: 36 |
| | | Township: 5 N |
| | | Range: 20 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: **Antecedent moisture conditions normal based on WETS analysis. Point located in an agricultural field with potential hydrological manipulations. Normal circumstances assumed not present.**

HYDROLOGY

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

| | |
|---|--|
| <p><u>Primary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p><u>Secondary:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Field Observations:

| | |
|--|---|
| Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | |
| Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Annual Crop Slide Review**

Remarks: **No primary hydrology indicators observed. FSA slides indicate uplands at this location and going south and east.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|------------------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 8 | 1 | 10YR | 3/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 8 | 24 | 2 | 10YR | 6/1 | 75 | 10YR | 5/8 | 25 | C | M | silty clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

NRCS Hydric Soil Field Indicators (check here if indicators are not present):

| | | |
|---|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|---|

Restrictive Layer (if Observed) Type: **N/A** Depth: **N/A** **Hydric Soil Present?** Yes No

Remarks: **Sample point location was recently plowed. Soils were dry throughout.**

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

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W11** Sample Point **W11-1u**

| VEGETATION (Species identified in all uppercase are non-native species.) | | | | |
|--|-------------------------------|---------|----------|------------|
| Tree Stratum (Plot size: 30 ft radius) | | | | |
| 1. | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 2. | | -- | -- | -- |
| 3. | | -- | -- | -- |
| 4. | | -- | -- | -- |
| 5. | | -- | -- | -- |
| 6. | | -- | -- | -- |
| 7. | | -- | -- | -- |
| 8. | | -- | -- | -- |
| 9. | | -- | -- | -- |
| 10. | | -- | -- | -- |
| Total Cover = | | 0 | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
| 1. | | -- | -- | -- |
| 2. | | -- | -- | -- |
| 3. | | -- | -- | -- |
| 4. | | -- | -- | -- |
| 5. | | -- | -- | -- |
| 6. | | -- | -- | -- |
| 7. | | -- | -- | -- |
| 8. | | -- | -- | -- |
| 9. | | -- | -- | -- |
| 10. | | -- | -- | -- |
| Total Cover = | | 0 | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | |
| 1. | <i>ECHINOCHLOA CRUS-GALLI</i> | 15 | Y | FACW |
| 2. | <i>Agrostis hyemalis</i> | 3 | N | FAC |
| 3. | | -- | -- | -- |
| 4. | | -- | -- | -- |
| 5. | | -- | -- | -- |
| 6. | | -- | -- | -- |
| 7. | | -- | -- | -- |
| 8. | | -- | -- | -- |
| 9. | | -- | -- | -- |
| 10. | | -- | -- | -- |
| 11. | | -- | -- | -- |
| 12. | | -- | -- | -- |
| 13. | | -- | -- | -- |
| 14. | | -- | -- | -- |
| 15. | | -- | -- | -- |
| Total Cover = | | 18 | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
| 1. | | -- | -- | -- |
| 2. | | -- | -- | -- |
| 3. | | -- | -- | -- |
| 4. | | -- | -- | -- |
| 5. | | -- | -- | -- |
| Total Cover = | | 0 | | |
| Remarks: Vegetation was recently harvested and soils plowed, leaving only annual weeds. | | | | |

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

| | |
|---------------------------------------|-----------------|
| Total % Cover of: | Multiply by: |
| OBL spp. <u>0</u> | x 1 = <u>0</u> |
| FACW spp. <u>15</u> | x 2 = <u>30</u> |
| FAC spp. <u>3</u> | x 3 = <u>9</u> |
| FACU spp. <u>0</u> | x 4 = <u>0</u> |
| UPL spp. <u>0</u> | x 5 = <u>0</u> |
| Total <u>18</u> (A) | <u>39</u> (B) |
| Prevalence Index = B/A = <u>2.167</u> | |

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:
Hydrophytic vegetation and hydric soils present, although both soils and vegetation were significantly disturbed.

| | | | |
|--|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: T3/E2Ka | | Wetland ID: W11 |
| Landform: Depression | Local Relief: Concave | | Sample Point: W11-1w |
| Slope (%): 0-2 | Latitude: N/A | Longitude: N/A | Community ID: Shrub Carr |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Remarks: **Antecedent moisture conditions normal based on WETS analysis.**

HYDROLOGY

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

| | | |
|---|--|--|
| <p>Primary:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p>Secondary:</p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) | <ul style="list-style-type: none"> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test |
|---|--|--|

| | |
|--|--|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> | <p>Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--|--|

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

Remarks: **Riparian to waterway outside project area limits**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silty clay loam |
| 10 | 24 | 2 | 10YR | 4/2 | 95 | 10YR | 5/8 | 5 | C | M | clay |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|--|---|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <p>Indicators for Problematic Soils¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) |
|--|---|

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

| | |
|--|--|
| <p>Restrictive Layer (If Observed) Type: N/A Depth: N/A</p> | <p>Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> |
|--|--|

Remarks:

Project/Site: **Emerald Park Landfill - Western Expansion** Wetland ID: **W11** Sample Point **W11-1w**

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

| Tree Stratum (Plot size: 30 ft radius) | | | | |
|--|---------------------|----------|----------|------------|
| | <u>Species Name</u> | % Cover | Dominant | Ind.Status |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |

| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
|---|---------------------------|-----------|----|------|
| 1. | <i>RHAMNUS CATHARTICA</i> | 15 | Y | FAC |
| 2. | <i>Cornus alba</i> | 10 | Y | FACW |
| 3. | <i>Cornus obliqua</i> | 10 | Y | FACW |
| 4. | <i>Cornus racemosa</i> | 5 | N | FAC |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 40 | | |

| Herb Stratum (Plot size: 5 ft radius) | | | | |
|---------------------------------------|-----------------------------|------------|----|------|
| 1. | <i>PHALARIS ARUNDINACEA</i> | 100 | Y | FACW |
| 2. | <i>Cornus alba</i> | 2 | N | FACW |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 102 | | |

| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
|--|----------------------|----------|----|------|
| 1. | <i>Vitis riparia</i> | 5 | Y | FACW |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 5 | | |

Remarks:

| Dominance Test Worksheet | |
|---|---------------------|
| Number of Dominant Species that are OBL, FACW, or FAC: | <u>5</u> (A) |
| Total Number of Dominant Species Across All Strata: | <u>5</u> (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100.0%</u> (A/B) |

| Prevalence Index Worksheet | |
|---------------------------------------|------------------|
| Total % Cover of: | Multiply by: |
| OBL spp. <u>0</u> | x 1 = <u>0</u> |
| FACW spp. <u>127</u> | x 2 = <u>254</u> |
| FAC spp. <u>20</u> | x 3 = <u>60</u> |
| FACU spp. <u>0</u> | x 4 = <u>0</u> |
| UPL spp. <u>0</u> | x 5 = <u>0</u> |
| Total <u>147</u> (A) | <u>314</u> (B) |
| Prevalence Index = B/A = <u>2.136</u> | |

| Hydrophytic Vegetation Indicators: | |
|---|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Rapid Test for Hydrophytic Vegetation
 Dominance Test is > 50%
 Prevalence Index is ≤ 3.0 *
 Morphological Adaptations (Explain) *
 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 | |
|---|-----------------------------|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

Additional Remarks:

| | | | |
|--|--|---|---|
| Project/Site: Emerald Park Landfill - Western Expansion | | Stantec Project #: 193702557 | Date: 10/23/14 |
| Applicant: Advanced Disposal Services, INC | | | County: Waukesha |
| Investigator #1: Eric Parker | Investigator #2: Jaron Tylock | | State: Wisconsin |
| Soil Unit: Montgomery silty clay loam | NWI/WWI Classification: T3/E2Ka | | Wetland ID: Adj to W11 |
| Landform: Hill Slope | Local Relief: Convex | | Sample Point: W11-2u |
| Slope (%): 4-6 | 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) | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed? | | Are normal circumstances present? | |
| Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | | Section: 36 |
| | | | Township: 5 N |
| | | | Range: 20 E |

SUMMARY OF FINDINGS

| | |
|---|--|
| Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Remarks: Antecedent moisture conditions normal based on WETS analysis. Sample point is located in an upland thicket, which appeared to be well drained throughout. | |

HYDROLOGY

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

| | |
|---|--|
| <p>Primary:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface | <p>Secondary:</p> <ul style="list-style-type: none"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B14 - True Aquatic Plants <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> D9 - Gauge or Well Data <input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

| | |
|--|---|
| <p>Field Observations:</p> <p>Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> <p>Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)</p> | <p>Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|--|---|

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

Remarks: **No hydrology indicators observed.**

SOILS

Map Unit Name: **Montgomery silty clay loam** Series Drainage Class: **very poorly**

Taxonomy (Subgroup): **Vertic Endoaquolls**

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 | | | Redox Features | | | | Texture (e.g. clay, sand, loam) | |
|-----------|--------------|---------|---------------|-----|-----|----------------|-----|------|----------|---------------------------------|-----------|
| | | | Color (Moist) | % | | Color (Moist) | % | Type | Location | | |
| 0 | 10 | 1 | 10YR | 2/1 | 100 | -- | -- | -- | -- | -- | silt loam |
| 10 | 24 | 2 | 10YR | 4/1 | 95 | 10YR | 5/8 | 5 | C | M | clay loam |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| | |
|--|--|
| <p>NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):</p> <ul style="list-style-type: none"> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat | <p>Indicators for Problematic Soils ¹</p> <ul style="list-style-type: none"> <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Muck Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> A16 - Coast Prairie Redox <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> F12 - Iron-Manganese Masses <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-------------------|---|

Remarks: **Soils were dry throughout.**

Project/Site: **Emerald Park Landfill - Western Expansion**

Wetland ID: **Adj to W11** Sample Point **W11-2u**

| VEGETATION (Species identified in all uppercase are non-native species.) | | | | |
|--|-----------------------------------|----|----|------|
| Tree Stratum (Plot size: 30 ft radius) | | | | |
| 1. | <i>RHAMNUS CATHARTICA</i> | 30 | Y | FAC |
| 2. | <i>Acer negundo</i> | 15 | Y | FAC |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 45 | | |
| Sapling/Shrub Stratum (Plot size: 15 ft radius) | | | | |
| 1. | <i>Cornus racemosa</i> | 20 | Y | FAC |
| 2. | <i>LONICERA X BELLA</i> | 20 | Y | FACU |
| 3. | <i>RHAMNUS CATHARTICA</i> | 15 | N | FAC |
| 4. | <i>Cornus alba</i> | 10 | N | FACW |
| 5. | <i>Salix interior</i> | 10 | N | FACW |
| 6. | <i>Ribes americanum</i> | 2 | N | FACW |
| 7. | <i>Rubus occidentalis</i> | 1 | N | UPL |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| Total Cover = | | 78 | | |
| Herb Stratum (Plot size: 5 ft radius) | | | | |
| 1. | <i>Ribes americanum</i> | 10 | Y | FACW |
| 2. | <i>Rubus occidentalis</i> | 3 | Y | UPL |
| 3. | <i>Symphotrichum lateriflorum</i> | 2 | N | FACW |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| 6. | -- | -- | -- | -- |
| 7. | -- | -- | -- | -- |
| 8. | -- | -- | -- | -- |
| 9. | -- | -- | -- | -- |
| 10. | -- | -- | -- | -- |
| 11. | -- | -- | -- | -- |
| 12. | -- | -- | -- | -- |
| 13. | -- | -- | -- | -- |
| 14. | -- | -- | -- | -- |
| 15. | -- | -- | -- | -- |
| Total Cover = | | 15 | | |
| Woody Vine Stratum (Plot size: 30 ft radius) | | | | |
| 1. | -- | -- | -- | -- |
| 2. | -- | -- | -- | -- |
| 3. | -- | -- | -- | -- |
| 4. | -- | -- | -- | -- |
| 5. | -- | -- | -- | -- |
| Total Cover = | | 0 | | |
| Remarks: Vegetation dominated by weedy invasive trees and shrubs commonly found in disturbed upland thickets. | | | | |

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index Worksheet

| | |
|---------------------------------------|-----------------------------|
| Total % Cover of: | Multiply by: |
| OBL spp. <u>0</u> | x 1 = <u>0</u> |
| FACW spp. <u>34</u> | x 2 = <u>68</u> |
| FAC spp. <u>80</u> | x 3 = <u>240</u> |
| FACU spp. <u>20</u> | x 4 = <u>80</u> |
| UPL spp. <u>4</u> | x 5 = <u>20</u> |
| Total <u>138</u> (A) | Total <u>408</u> (B) |
| Prevalence Index = B/A = <u>2.957</u> | |

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:
Hydrophytic vegetation and hydric soils present, although due to the invasive nature of the plants and a lack of wetland hydrology indicators, the sample point was determined to be upland.