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:
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 : 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

USDA Field Office Climate Data

WETS Station : WAUKESHA, WI8937 Creation Date: 10/25/2014
Latitude: 4300 Longitude: 08815 Elevation: 00830
State FIPS/County(FIPS): 55133 County Name: Waukesha
Start yr. - 1971 End yr. - 2000

Month	Temperature (Degrees F.) avg daily max	Temperature (Degrees F.) avg daily min	Temperature (Degrees F.) avg	Precipitation (Inches) avg	Precipitation (Inches) 30% chance will have less than	Precipitation (Inches) 30% chance will have more than	avg # of days w/.1 or more	avg total snow fall
January	27.5	11.4	19.5	1.48	0.87	1.79	5	13.0
February	32.8	16.5	24.7	1.31	0.74	1.62	4	7.9
March	43.9	26.6	35.3	2.28	1.34	2.77	5	6.9
April	57.0	37.5	47.3	3.53	2.46	4.20	7	2.9
May	70.1	48.5	59.3	3.02	2.03	3.61	7	0.0
June	80.0	58.1	69.1	3.78	2.46	4.54	7	0.0
July	84.2	63.4	73.8	3.83	2.82	4.49	7	0.0
August	81.5	61.8	71.7	4.77	3.28	5.69	8	0.0
September	73.4	53.0	63.2	3.52	2.00	4.34	6	0.0
October	61.0	41.8	51.4	2.62	1.59	3.17	5	0.1
November	45.4	29.8	37.6	2.63	1.64	3.18	5	2.9
December	32.6	17.8	25.2	1.87	1.13	2.26	5	9.8
Annual	-----	-----	-----	------	32.36	36.66	--	----
Average	57.5	38.9	48.2	------	------	------	--	----
Average	-----	-----	-----	34.64	------	------	59	44.9

GROWING SEASON DATES

Probability	Temperature: 24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	4/ 6 to 11/ 2 (209 days)	4/13 to 10/24 (194 days)	4/25 to 10/12 (169 days)
70 percent *	4/ 3 to 11/ 5 (216 days)	4/ 8 to 10/29 (203 days)	4/20 to 10/17 (179 days)

* 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

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APPENDIX E
WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557	Date:	10/14/13
Applicant:	ADS			County:	Waukesha
Investigator #1:	DP	Investigator #2:	MC	State:	Wisconsin
Soil Unit:	Saylesville silt loam	NWI/WWI Classification:	N/A	Wetland ID:	Adj. to W1
Landform:	Rise	Local Relief:	Convex	Sample Point:	1u
Slope (%):	0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Upland (Ag)
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)		☐ Yes ☑ No		Section:	36
Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?		Township:	5N
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?		☐ Yes ☑ No		Range:	20 Dir: E

SUMMARY OF FINDINGS

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

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

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/2	100	--	--	--	--	--	silt loam
8	10	2	10YR	4/3	100	--	--	--	--	--	silt loam
10	20	3	10YR	4/4	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☑ No

Remarks: No O^2 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)

	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.	*MEDICAGO SATIVA*	20	N	FACU
2.	*TRIFOLIUM PRATENSE*	10	N	FACU
3.	*CIRSIUM 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)

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

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

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.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	100	x 4 =	400
UPL spp.	10	x 5 =	50
Total	110 (A)		450 (B)

Prevalence Index = B/A = ***4.091***

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:

Agricultural field currently used for hay production.

WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Montgomery silty clay loam	NWI/WWI Classification:	T3/E2Ka
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☑ Yes ☐ No

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? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ 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
- ☐ 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	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	18	1	10YR	2/1	100	--	--	--	--	--	silt loam
18	24	2	10YR	4/1	95	10YR	4/6	5	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 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 ☐ 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.

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)

	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.	*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)

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

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

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.	0	x 1 =	0
FACW spp.	100	x 2 =	200
FAC spp.	0	x 3 =	0
FACU spp.	1	x 4 =	4
UPL spp.	0	x 5 =	0
Total	101 (A)		204 (B)

Prevalence Index = B/A = ***2.020***

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:

Depressional wet meadow community dominated by reed canary grasss.

WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Saylesville silt loam	NWI/WWI Classification:	N/A
Landform:	Rise	Local Relief:	Convex
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☐ Yes ☑ No

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

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

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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-hydrphytic vegetation at this poitnt 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	3/2	100	--	--	--	--	--	silt loam
10	20	2	10YR	4/3	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☑ No

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.

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)

	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.	*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)

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

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

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 3 (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.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	100	x 4 =	400
UPL spp.	0	x 5 =	0
Total	100 (A)		400 (B)

Prevalence Index = B/A = ***4.000***

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Montgomery silty clay loam	NWI/WWI Classification:	T3/E2Ka
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☑ Yes ☐ No

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? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ 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
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

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

Wetland Hydrology Present? ☑ Yes ☐ No

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

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR	2/1	100	--	--	--	--	--	silt loam
12	20	2	2.5Y	5/2	90	2.5Y	5/6	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☐ No

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

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.	*Salix nigra*	20	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

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.	*PHALARIS ARUNDINACEA*	60	Y	FACW
2.	*Helianthus giganteus*	20	Y	FACW
3.	*Solidago canadensis*	15	N	FACU
4.	*CIRSIUM ARVENSE*	5	N	FACU
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. Vegetation at the sample plot is hydrophytic.

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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557	Date:	10/14/13
Applicant:	ADS			County:	Waukesha
Investigator #1:	DP	Investigator #2:	MC	State:	Wisconsin
Soil Unit:	Saylesville silt loam	NWI/WWI Classification:	N/A	Wetland ID:	Adj. to W1
Landform:	Rise	Local Relief:	Convex	Sample Point:	3u
Slope (%):	2-4	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Upland soybean field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)		☐ Yes ☑ No		Section:	36
Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?		Township:	5N
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?		☐ Yes ☑ No		Range:	20 Dir: E

SUMMARY OF FINDINGS

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

Remarks: 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 ☑):

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

Wetland Hydrology Present? ☐ Yes ☑ No

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

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	14	1	10YR	3/2	100	--	--	--	--	--	silt loam
14	20	2	10YR	4/2	50	--	--	--	--	--	silty clay
			10YR	4/3	50	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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
- ☐ 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: No O^2 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)

	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.	*TARAXACUM OFFICINALE*	1	N	FACU
2.	*Cyperus esculentus*	1	N	FACW
3.	*RHAMNUS FRANGULA*	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		

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 0 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	2	x 2 =	4
FAC spp.	0	x 3 =	0
FACU spp.	1	x 4 =	4
UPL spp.	0	x 5 =	0
Total	3 (A)		8 (B)

Prevalence Index = B/A = 2.667

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	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Saylesville silt loam	NWI/WWI Classification:	T3/E2Ka
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☑ Yes ☐ No

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? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ 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
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

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

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: No O^2 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)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	14	1	10YR	3/1	100	--	--	--	--	--	silt loam
14	20	2	5Y	4/1	90	10YR	4/6	10	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 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 ☐ No

Remarks: The soil at the sample plot does not meets 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.

Stantec

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.	*ROBINIA PSEUDOACACIA*	30	Y	FACU
2.	*Salix nigra*	25	Y	OBL
3.	*Acer negundo*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

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

1.	*LONICERA X BELLA*	10	Y	FACU
2.	*Sambucus canadensis*	5	Y	FACW
3.	*Viburnum lentago*	5	Y	FAC
4.	*Rubus idaeus*	5	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 5 ft radius)

1.	*PHALARIS ARUNDINACEA*	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.	*Parthenocissus quinquefolia*	5	Y	FACU
2.	*Vitis riparia*	5	Y	FACW
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
	Total Cover =	10		

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***55.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	25	x 1 =	25
FACW spp.	110	x 2 =	220
FAC spp.	15	x 3 =	45
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	200 (A)		490 (B)

Prevalence Index = B/A = ***2.450***

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:

Sample plot is located in a seasonally wet forested wetland.

Stantec

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557	Date:	10/14/13
Applicant:	ADS			County:	Waukesha
Investigator #1:	DP	Investigator #2:	MC	State:	Wisconsin
Soil Unit:	Montgomery silty clay loam	NWI/WWI Classification:	N/A	Wetland ID:	Adj. to W1
Landform:	Rise	Local Relief:	Convex	Sample Point:	4u
Slope (%):	0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Agricultural field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)		☐ Yes ☑ No		Section:	36
Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?		Township:	5N
Are Vegetation ☐, Soil ☐, or Hydrology ☑ naturally problematic?		☐ Yes ☑ No		Range:	20 Dir: E

SUMMARY OF FINDINGS

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

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

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR 3/2	100	--	--	--	--	silty clay loam
8	20	2	10YR 4/3	50	--	--	--	--	silty clay
			10YR 4/4	50	--	--	--	--	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 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 ☑ No

Remarks: Not a problem mollisol as mapped. No O^2 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)

	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.	*CIRSIUM ARVENSE*	10	Y	FACU
2.	*TARAXACUM OFFICINALE*	5	Y	FACU
3.	*Cyperus esculentus*	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)

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

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

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.	0	x 1 =	0
FACW spp.	1	x 2 =	2
FAC spp.	0	x 3 =	0
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	16 (A)		62 (B)

Prevalence Index = B/A = ***3.875***

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:

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

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557	Date:	10/14/13
Applicant:	ADS			County:	Waukesha
Investigator #1:	DP	Investigator #2:	MC	State:	Wisconsin
Soil Unit:	Montgomery silty clay loam	NWI/WWI Classification:	T3/E2Ka	Wetland ID:	W1
Landform:	Depression	Local Relief:	Concave	Sample Point:	4w
Slope (%):	0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Shrub-carr
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)		☐ Yes ☑ No		Section:	36
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?		Township:	5N
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?		☑ Yes ☐ No		Range:	20 Dir: E

SUMMARY OF FINDINGS

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

Remarks: 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
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

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

Wetland Hydrology Present? ☑ Yes ☐ No

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

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	14	1	10YR	2/1	100	--	--	--	--	--	clay loam
14	20	2	5Y	4/2	95	2.5Y	5/6	5	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 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 ☐ 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.

Stantec

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)

	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.	*Cornus racemosa*	30	Y	FAC
2.	*Salix interior*	20	Y	FACW
3.	*Rubus occidentalis*	10	N	UPL
4.	*Cornus stolonifera*	15	N	FACW
5.	*Fraxinus pennsylvanica*	10	N	FACW
6.	*LONICERA X BELLA*	5	N	FACU
7.	*Salix bebbiana*	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.	*Parthenocissus quinquefolia*	10	Y	FACU
2.	*Vitis riparia*	10	Y	FACW
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
	Total Cover =	20		

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	105	x 2 =	210
FAC spp.	30	x 3 =	90
FACU spp.	25	x 4 =	100
UPL spp.	10	x 5 =	50
Total	170 (A)		450 (B)

Prevalence Index = B/A = ***2.647***

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:

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

WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557	Date:	10/14/13
Applicant:	ADS			County:	Waukesha
Investigator #1:	DP	Investigator #2:	MC	State:	Wisconsin
Soil Unit:	Martinton silt loam	NWI/WWI Classification:	N/A	Wetland ID:	Adj. to W1
Landform:	Rise	Local Relief:	Convex	Sample Point:	5u
Slope (%):	0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)		☐ Yes ☑ No		Section:	36
Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?		Township:	5N
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?		☐ Yes ☑ No		Range:	20 Dir: E

SUMMARY OF FINDINGS

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

Remarks: 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 ☑):

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

Wetland Hydrology Present? ☐ Yes ☑ No

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

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	20	1	10YR	2/1	100	--	--	--	--	--	silt loam
20	24	2	5Y	4/2	100	--	--	--	--	--	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 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 ☑ 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)

	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.	*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)

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

Dominance Test Worksheet

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

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	1	x 3 =	3
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	6 (A)		23 (B)

Prevalence Index = B/A = ***3.833***

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:

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	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Martinton silt loam	NWI/WWI Classification:	T3/E2Ka
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☑ Yes ☐ No

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?	☑ 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 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
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

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

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	3/1	98	10YR	5/6	2	C	M	silt loam
10	20	2	10YR	5/1	85	2.5Y	5/6	15	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☐ 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.

Stantec

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)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Quercus alba*	5	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

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

1.	*Cornus stolonifera*	30	Y	FACW
2.	*Salix interior*	20	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 5 ft radius)

1.	*PHALARIS ARUNDINACEA*	95	Y	FACW
2.	*Amaranthus retroflexus*	5	N	FACU
3.	*Polygonum pensylvanicum*	1	N	FACW
4.	*Bidens cernua*	1	N	OBL
5.	*Panicum capillare*	1	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	103		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Vitis riparia*	10	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
5.	--	--	--	--
4.	--	--	--	--
	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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	1	x 1 =	1
FACW spp.	156	x 2 =	312
FAC spp.	1	x 3 =	3
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	168 (A)		356 (B)

Prevalence Index = B/A = ***2.119***

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:

In wet meadow community on edge of shrub-carr community.

WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Martinton silt loam	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☐ Yes ☑ No

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? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ 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:
- ☑ 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	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	14	1	10YR	2/1	100	--	--	--	--	--	silt
14	20	2	10YR	4/1	90	10YR	4/6	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☐ 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.

Stantec

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		

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.	*PHALARIS ARUNDINACEA*	60	Y	FACW
2.	*Bidens frondosa*	20	Y	FACW
3.	*Panicum capillare*	10	N	FAC
4.	*SETARIA PUMILA*	5	N	FAC
5.	*SETARIA VIRIDIS*	5	N	UPL
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:

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.	0	x 1 =	0
FACW spp.	80	x 2 =	160
FAC spp.	15	x 3 =	45
FACU spp.	0	x 4 =	0
UPL spp.	5	x 5 =	25
Total	100 (A)		230 (B)

Prevalence Index = B/A = ***2.300***

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

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Montgomery silty clay loam	NWI/WWI Classification:	F0Kf
Landform:	Rise	Local Relief:	Convex
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☐ Yes ☑ No

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

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

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	18	1	10YR	2/1	100	--	--	--	--	--	silt loam
18	24	2	5Y	4/1	95	10YR	5/6	5	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☐ No

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.

Stantec

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)

	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.	*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		

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 3 (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.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	20 (A)		80 (B)

Prevalence Index = B/A = ***4.000***

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

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	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Ogden muck	NWI/WWI Classification:	F0Kf
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☑ Yes ☐ No

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?	☑ 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 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
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

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

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR	2/1	100	--	--	--	--	--	mucky loam
16	24	2	10YR	4/2	85	10YR	5/6	15	C	M	mucky clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ 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 ☐ 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)

	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.	*Salix bebbiana*	40	Y	FACW
2.	*Salix interior*	10	N	FACW
3.	*Populus deltoides*	10	N	FAC
4.	--			--
5.	--			--
6.	--			--
7.	--			--
8.	--			--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 5 ft radius)

1.	*PHALARIS ARUNDINACEA*	95	Y	FACW
2.	*Aster lanceolatus*	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.

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.	0	x 1 =	0
FACW spp.	145	x 2 =	290
FAC spp.	15	x 3 =	45
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	160 (A)		335 (B)

Prevalence Index = B/A = ***2.094***

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:

Shrub-carr community.

WETLAND DETERMINATION DATA FORM
Midwest Region

Stantec

Project/Site:	Emerald Park Landfill Expansion	Stantec Project #:	193702557
Applicant:	ADS		
Investigator #1:	DP	Investigator #2:	MC
Soil Unit:	Muskego muck	NWI/WWI Classification:	F0Kf
Landform:	Rise	Local Relief:	Convex
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) ☐ Yes ☑ No

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

Are normal circumstances present? ☑ Yes ☐ No

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

Remarks: WETS analysis indicates drier than normal conditions. The sample plot is located on slight rise above wetland. Predominatly 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
- ☐ 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	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: No O^2 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 (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	2/1	100	--	--	--	--	--	silt loam
8	20	2	2.5Y	5/1	90	10YR	4/6	10	C	M	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 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 ☐ No

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