

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 14-57

CONTROLLED SOLIDS DISTRIBUTION REPORT

FOR THIRD QUARTER 2014

December 2014

Protecting Our Water Environment

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December 18, 2014

Mr. S. Alan Keller, P.E.
Manager, Permit Section
Illinois Environmental
Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. Keller:

Subject: Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program Illinois Environmental Protection Agency Permit No. 2010-SC-0200, Third Quarter (July – September 2014)

This letter transmits information and data for the Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program for the third quarter (July – September 2014), as required by Illinois Environmental Protection Agency Permit Nos. 2010-SC-0200 and 2010-SC-0200-2.

Sludge flow schematic diagrams for solids processed during July – September 2014 are shown in Figure 1 – John E. Egan Water Reclamation Plant (WRP), Figure 2 – Calumet WRP, and Figure 3 – Stickney WRP.

Biosolids were distributed to 44 sites during the third quarter of 2014. The user information report for these sites is presented in Tables 1 and 2, and the analysis of biosolids delivered to these sites is presented in Tables 3 and 4.

Very truly yours,

Thomas C. Granato, Ph.D., BCES
Director
Monitoring and Research

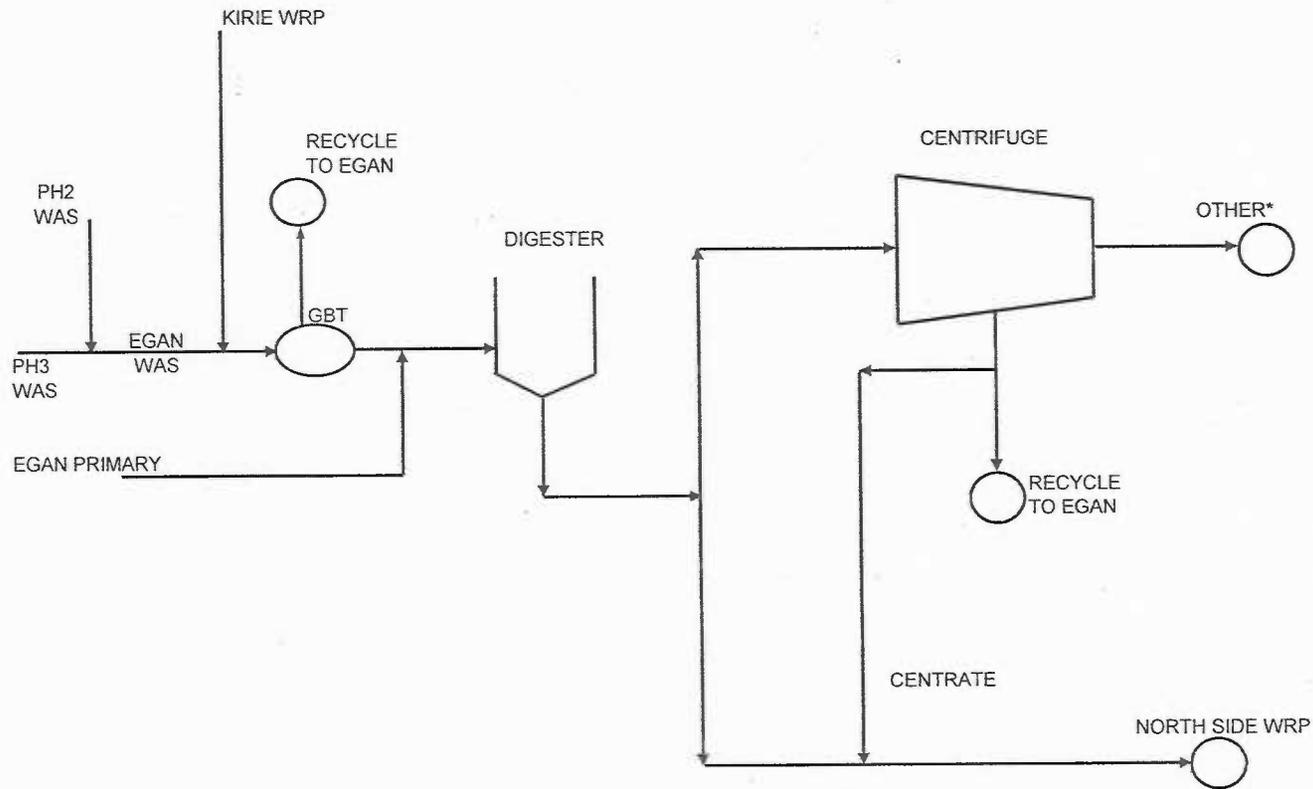
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Attachments

cc: Mr. V. Aistars (USEPA)

Mr. J. Patel (IEPA)

FIGURE 1: JOHN E. EGAN WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR THIRD QUARTER 2014



*Sent to either Stickney or Calumet WRP drying sites for further processing or storage prior to farmland application.

FIGURE 2: CALUMET WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR SECOND QUARTER 2014

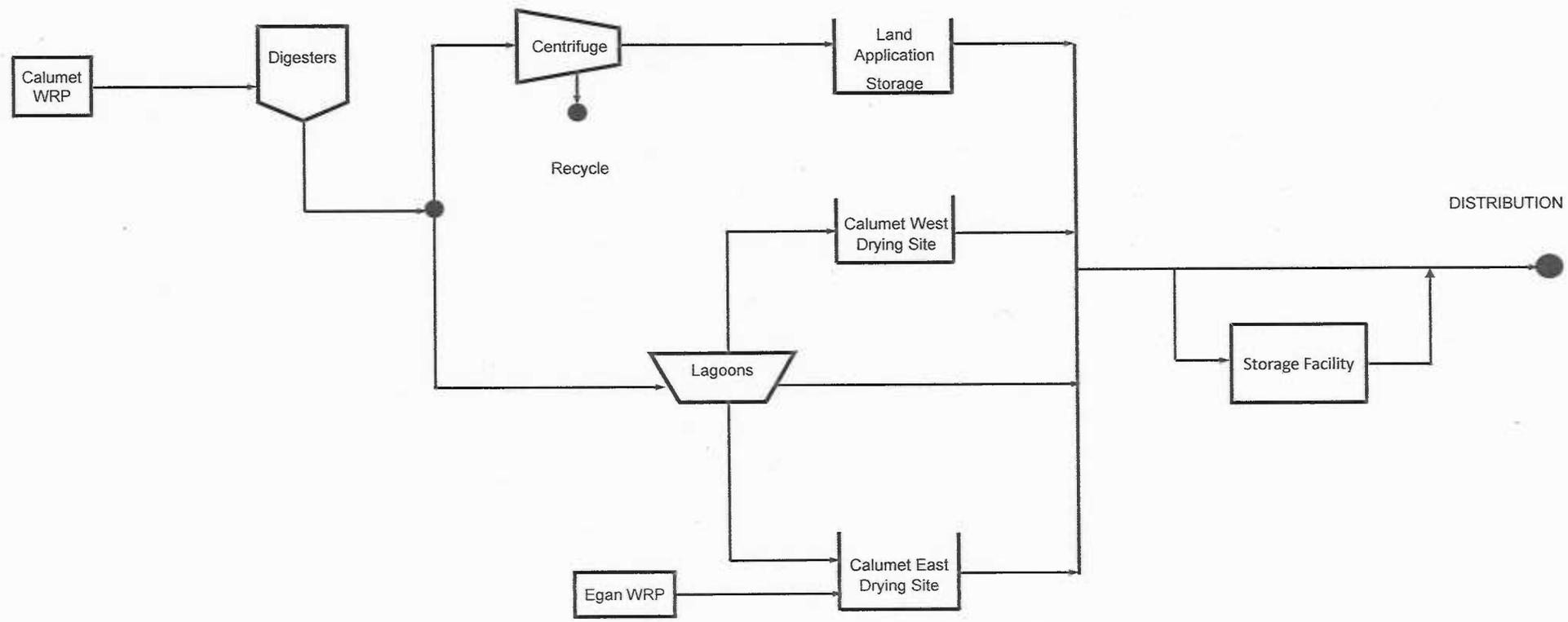


FIGURE 3: STICKNEY WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR SECOND QUARTER 2014

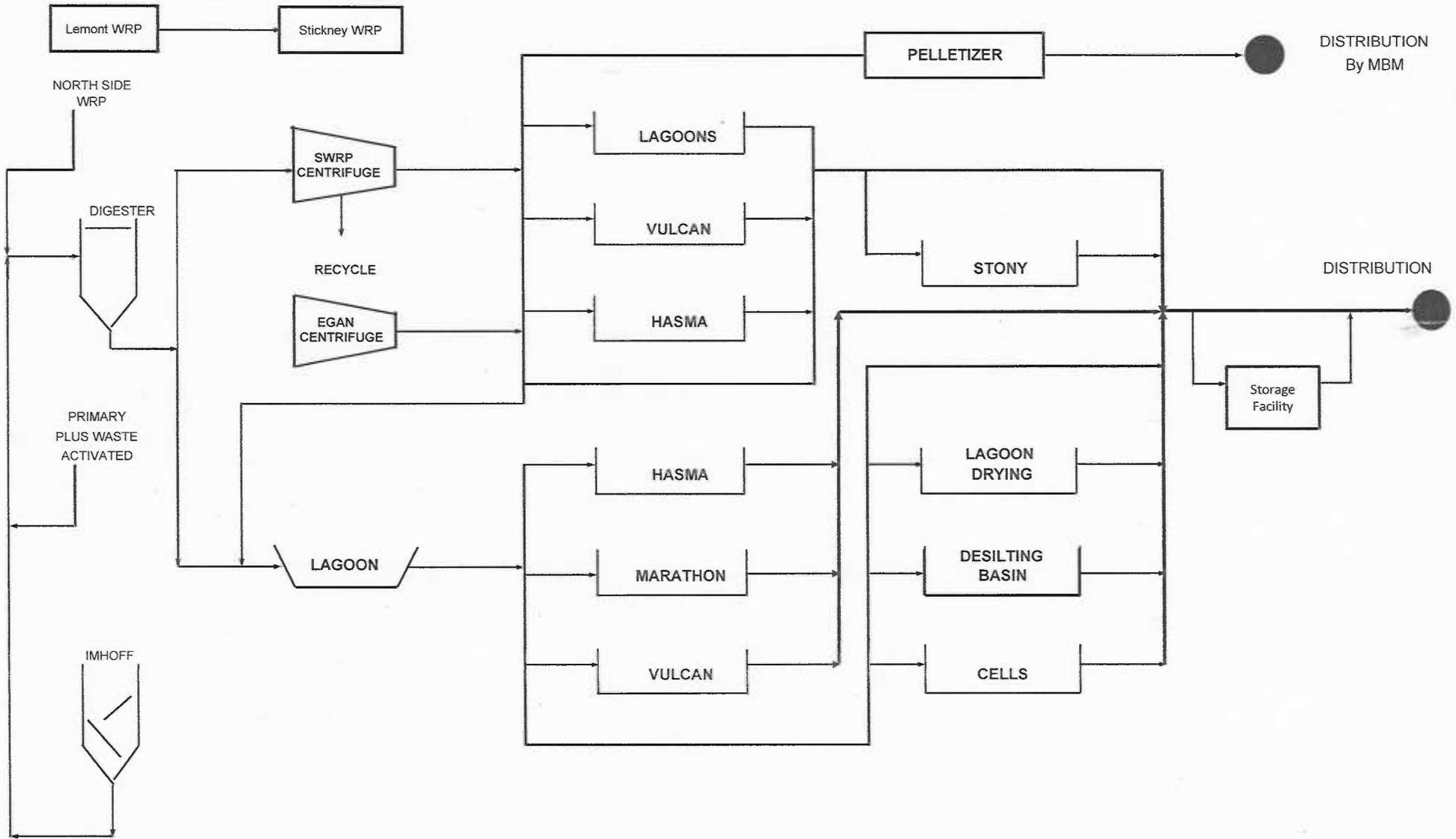


TABLE 1: USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			3rd Quarter	Cumulative		Area (acre)	Rate (ton/acre)
1	Chicago Park District Maggie Daley Park 337 E. Randolph St. Chicago, IL 60602	7/2, 9/24, 9/25, 9/26, 9/29, 9/30	281.0	444.3 ¹	Soil amendment for turf and tree establishment	8	55.5
2	Deerfield Park District Jewett Park 836 Jewett Park Dr. Deerfield, IL 60015.	7/15, 7/17	44.8	44.8	Topdressing fertilizer for turf growth	3	14.9
3	Lake Street Supply (Bloomingdale Trail) N. Ridgeway Ave. & N. Ashland Ave. Chicago, IL 60639	7/15, 9/26, 9/29	75.9	75.9	Soil amendment for grass and tree establishment	5	15.2
4	St. Charles Park District East Side Sport Complex 101 S. 2 nd St. St. Charles, IL 60174	7/16, 7/17, 7/18, 7/21	242.3	242.3	Topdressing fertilizer for turf growth	17	14.3
5	St. Charles Park District J. Breen Park Campton Hills & Peck Rd. St. Charles, IL 60174	7/21, 7/22, 7/23, 7/24	178.8	178.8	Topdressing fertilizer for turf growth	13	13.8

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			3rd Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
6	Western Springs Park District Timber Trails 5905 Parkview Dr. Western Springs, IL 60558	7/24	40.8	40.8	Topdressing fertilizer for turf growth	3	13.6
7	Village of Lyons Smith Park 4200 Lawndale Ave. Lyons, IL 60534	7/28, 7/29, 9/18, 9/19	348.6	348.6	Topdressing fertilizer for turf growth	24	14.5
8	Moe Javedi 6533 Blackhawk Trail Indian Head Park, IL 60525	8/14	8.1	13.6 ¹	Topdressing fertilizer for turf growth	1	13.6
9	Metropolitan Water Reclamation District of Greater Chicago (Lane Project) 6001 W. Pershing Rd. Cicero, IL 60804	8/15, 8/18, 8/28, 8/29, 9/3	682.9	682.9	Soil amendment for turf establishment	10	68.3
10	Naperville Park District Frontier Park 3380 Cedar Glade Rd. Naperville, IL 60564	8/19	21.1	21.1	Topdressing fertilizer for turf growth	1.5	14.0

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			3rd Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
11	Chicago Park District Northerly Park 1521 South Linn White Dr. Chicago, IL 60605	9/3, 9/9, 9/12, 9/16	74.3	74.3	Topdressing fertilizer for turf growth	5	14.9
12	Chicago Park District Washington Park 5531 S. King Dr. Chicago, IL 60637	9/18, 9/19, 9/22, 9/23	509.3	509.3	Topdressing fertilizer for turf growth	35	14.6
13	Village of Glenwood Hickory Glen Park 928 192 nd Pl. Glenwood, IL 60425	9/19	168.8	168.8	Topdressing fertilizer for turf growth	12	14.1
14	Glenwoodie Golf Club 19301 S. State St. Glenwood, IL	9/20	6.4	6.4	Topdressing fertilizer for turf growth	0.5	12.7
15	Franklin Park District North Park 10040 Addison St. Franklin Park, IL 60131	9/22	16.0	16.0	Topdressing fertilizer for turf growth	1	16.0

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			3rd Quarter	Cumulative		Area (acre)	Rate (ton/acre)
16	Franklin Park District Birch Park 2952 Birch St. Franklin Park, IL 60131	9/22	16.4	16.4	Topdressing fertilizer for turf growth	1	16.4
17	North Shore Country Club 1340 Glenview Rd. Glenview, IL 60025	9/22, 9/26	200.9	200.9	Topdressing fertilizer for turf growth	15	13.4
18	City of Northlake Centerpoint Preserve 100 W. Palmer St. Northlake, IL 60164	9/24, 9/25	250.3	250.3	Soil amendment for turf establishment	17	14.7
19	Coolidge Junior High School 15500 7 th Ave. Phoenix, IL 60426	9/25, 9/26	55.4	55.4	Topdressing fertilizer for turf growth	4	13.8
20	Tinley Park Park District Dog Park 19900 80 th Ave. Tinley Park, IL 60487	9/30	44.5	44.5	Topdressing fertilizer for turf growth	3	14.8

¹Includes application during second quarter of 2014.

TABLE 2: USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			3rd Quarter	Cumulative		Area (acre)	Rate (ton/acre)
1	Oak Lawn Park District Oakview Park 4625 W. 110th St. Oak Lawn, IL 60453	7/10	12.5	12.5	Topdressing fertilizer for turf growth	1	12.5
2	Elmhurst Lacrosse 605 N. Hillside St. Elmhurst, IL 60126	7/10	51.2	51.2	Topdressing fertilizer for turf growth	3	17.1
3	Keith Construction 54 Sawgrass Dr. Lemont, IL 60439	7/10	101.4	101.4	Soil amendment for turf establishment	4	25.3
4	Evanston High School 1600 Dodge Ave. Evanston, IL 60201	7/11	58.8	58.8	Topdressing fertilizer for turf growth	4	14.7
5	Chicago Park District Maggie Daley Park 337 E. Randolph St. Chicago, IL 60602	7/11, 7/16, 7/17, 7/18, 7/28, 7/31, 8/1, 8/19, 8/28, 9/8, 9/9, 9/23, 9/24	571.5	1,015.8 ¹	Soil amendment for turf establishment	15	67.7
6	Evanston-Wilmette Golf Course 1030 Central St. Evanston, IL 60201	7/16, 7/17, 7/18	215.3	215.3	Topdressing fertilizer for turf growth	15	14.4

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			3rd Quarter	Cumulative		Area (acre)	Rate (ton/acre)
7	Village of Hinsdale Veeck Park 19 E. Chicago Ave. Hinsdale, IL 60521	7/21	91.4	91.4	Topdressing fertilizer for turf growth	7	13.1
8	Village of Hinsdale Brook Park 3 rd St. & Columbia Ave. 19 E. Chicago Ave. Hinsdale, IL 60521	7/22	43.7	43.7	Topdressing fertilizer for turf growth	3	14.6
9	Village of Hinsdale Burns Field 320 N. Vine St. Hinsdale IL 60521	7/22	43.3	43.3	Topdressing fertilizer for turf growth	3	14.4
10	Chicago Park District Douglas Park 1401 S. Sacramento Dr. Chicag, IL 60623	7/22, 7/24	256.6	256.6	Topdressing fertilizer for turf growth	18	14.3
11	Chicago Park District Garfield Park 100 N. Central Park Ave. Chicago IL 60624	7/25	165.2	165.2	Topdressing fertilizer for turf growth	12	13.8

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			3rd Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
12	Chicago Park District Marquette Park 6743 S. Kedzie Ave. Chicago, IL 60629	7/28, 7/29, 7/31	543.7	543.7	Topdressing fertilizer for turf growth	37	14.7
13	Chicago Park District Eckhart Park 1330 W. Chicago Ave. Chicago, IL 60653	8/4	27.3	27.3	Topdressing fertilizer for turf growth	2	13.7
14	Chicago Park District Union Park 1501 W. Randolph St. Chicago, IL 60606	8/4	27.6	27.6	Topdressing fertilizer for turf growth	2	13.8
15	Chicago Park District Piotrowski Park 4247 W. 31 st St. Chicago IL 60623	8/6	34.0	34.0	Topdressing fertilizer for turf growth	3	11.3
16	Chicago Park District McKinley Park 2210 W. Pershing Rd. Chicago, IL 60609	8/6	92.1	92.1	Topdressing fertilizer for turf growth	6	15.3

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Purpose	Application	
			3rd Quarter	Cumulative		Area (acre)	Rate (ton/acre)
17	Chicago Park District Smith Park 2526 W. Grand Ave. Chicago, IL 60612	8/6	62.0	62.0	Topdressing fertilizer for turf growth	4	15.5
18	Chicago Park District Harrison Park 1824 S. Wood St. Chicago IL 60608	8/7	89.1	89.1	Topdressing fertilizer for turf growth	6	14.8
19	Frankfort Square Park District Lincoln-Way North High School 1990 S. Harlem Ave. Frankfort, IL 60423	8/14	14.7	14.7	Topdressing fertilizer for turf growth	1	14.7
20	Tinley Park Park District Dog Park 1990 80 th Ave. Tinley Park, IL 60487	8/14, 8/20	215.6	260.1 ¹	Topdressing fertilizer for turf growth	15	14.4
21	Chicago Park District Dunbar Park 300 E. 31 st St. Chicago IL 60616	8/15	31.3	31.3	Topdressing fertilizer for turf growth	2	15.6

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2014

Site No.	Name and Address of User	Dates	Quantity, dry ton		Application		
			3rd Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
22	Chicago Park District Washington Park 5531 S King Dr. Chicago IL 60637	8/15	61.8	61.8	Topdressing fertilizer for turf growth	4	15.4
23	Calumet Park District Downey Park 300 Jeffery Ave. Calumet City IL 60409	9/9	67.6	67.6	Soil amendment for turf establishment	5	13.5
24	Glenwoodie Golf Club 19301 S. State St. Glenwood, IL	9/17	14.2	14.2	Topdressing fertilizer for turf growth	1	14.2
25	Village of Glenwood Hickory Glen Park 928 192 nd Pl. Glenwood, IL 60425	9/17	94.0	94.0	Topdressing fertilizer for turf growth	7	13.4

¹Includes biosolids from Stickney WRP and those applied during second quarter of 2014.

TABLE 3: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2013

Sampling Date		2-Jul	15-Jul	21-Jul	29-Jul	14-Aug	15-Aug	19-Aug	29-Aug	3-Sep
Site No. ¹		1	2, 3, 4	4, 5, 6, 7	7	8	9, 11	10	9	11
<u>Constituent</u>	<u>Unit</u>									
pH		5.9	6.3	6.4	6.2	7.0	8.3	6.3	7.7	6.1
Total Solids	%	75.2	74.2	65.7	69.2	45.6	59.7	66.0	51.0	66.3
Total Volatile Solids	"	37.9	38.2	38.7	37.1	53.1	45.1	32.4	36.8	33.4
Volatile Acids as Acetic Acid	mg/kg	33	49	8	108	123	523	38	125	32
Total Kjeldahl Nitrogen	"	22,635	22,090	20,638	13,855	26,513	15,497	18,094	25,337	17,649
NH ₃ -N	"	879	1,730	99	24	1,296	5,299	44	6,301	27
Total P	"	19,087	20,987	21,516	14,504	27,174	14,726	18,170	23,384	20,358
As	"	8	7	8	9	<5	8	8	8	8
Cd	"	3	3	3	3	1	3	3	3	3
Cr	"	152	147	149	150	94	140	158	149	160

TABLE 3 (Continued): ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2013

Sampling Date		12-Sep	18-Sep	18-Sep	20-Sep	22-Sep	24-Sep	23-Sep	26-Sep	30-Sep
Site No. ¹		1	11	7, 12	7, 12, 13	14	12, 15,16, 17	1, 18	12	1, 3, 17, 19
<u>Constituent</u>	<u>Unit</u>									
pH		6.1	6.1	5.8	7.0	6.0	6.5	6.2	6.0	7.0
Total Solids	%	61.2	67.0	63.8	47.3	77.7	68.7	68.4	66.3	65.9
Total Volatile Solids	"	35.9	35.2	36.4	46.6	34.8	35.9	34.8	37.7	37.4
Volatile Acids as Acetic Acid	mg/kg	23	13	17	34	174	301	80	253	NA ²
Total Kjeldahl Nitrogen	"	19,008	19,824	20,034	20,698	15,363	25,144	14,058	23,955	24,470
NH ₃ -N	"	19	31	217	39	63	3,348	29	824	4,888
Total P	"	21,321	21,578	22,802	22,577	16,242	22,436	16,328	28,837	20,542
As	"	9	7	7	<5	9.0	7.0	8.0	7.0	10
Cd	"	3	3	3	2	4	4	4	3	3
Cr	"	163	147	137	93	164	147	163	147	147

TABLE 3 (Continued): ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2013

Sampling Date		2-Jul	15-Jul	21-Jul	29-Jul	14-Aug	15-Aug	19-Aug	29-Aug	3-Sep
Site No. ¹		1	2, 3, 4	4, 5, 6, 7	7	8	9, 11	10	9	11
<u>Constituent</u>	<u>Unit</u>									
Cu	mg/kg	452	430	435	446	420	429	457	439	462
Hg	"	1.0	1.1	1.2	1.2	0.6	1.0	1.1	0.9	0.8
K	"	3,590	3,657	3,731	3,242	3,579	3,167	3,137	4,927	2,883
Mn	"	530	507	502	510	608	506	535	555	527
Mo	"	10	11	10	9	4	9	9	15	11
Ni	"	44	43	42	44	39	44	46	47	47
Pb	"	120	115	113	114	52	112	120	113	120
Se	"	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zn	"	878	837	851	861	535	848	923	822	922

TABLE 3 (Continued): ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2013

Sampling Date		12-Sep	18-Sep	18-Sep	20-Sep	22-Sep	24-Sep	23-Sep	26-Sep	30-Sep
Site No. ¹		1	11	7, 12	7, 12, 13	14	12, 15, 16, 17	1, 18	12	1, 3, 17, 19
<u>Constituent</u>	<u>Unit</u>									
Cu	mg/kg	449	467	436	488	488	453	488	477	439
Hg	"	0.7	1.3	1.0	1.1	1.1	1.2	1.3	1.0	0.8
K	"	4,344	1,833	2,759	3,491	2,621	2,682	2,881	2,303	4,388
Mn	"	527	502	527	574	554	563	535	571	549
Mo	"	10	10	14	4	11	13	10	12	13
Ni	"	46	5	46	44	50	48	49	50	46
Pb	"	117	115	112	61	127	119	125	117	114
Se	"	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zn	"	916	891	793	598	969	866	966	876	817

¹Site information is provided in Table 1.

²Not available.

TABLE 4: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE CALUMET WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2014

Sampling Date		2-Jul	17-Jul	24-Jul	14-Aug	20-Aug	5-Sep	12-Sep	12-Sep	30-Sep	30-Sep
Site No. ¹		1, 2, 3, 4, 5, 6	5, 6, 7, 8, 9, 10	5, 10, 11, 12, 13, 14, 15, 16, 17, 18	19, 20, 21, 22	22	5	23	5, 24	5	25
<u>Constituent</u>	<u>Unit</u>										
pH		6.4	6.0	6.3	6.2	5.6	6.6	5.6	6.1	6.0	5.9
Total Solids	%	57.2	67.2	67.7	70.9	68.2	54.6	54.8	56.2	51.5	75.4
Total Volatile Solids	"	46.2	42.0	42.0	44.1	45.4	42.0	45.0	45.9	49.2	46.4
Volatile Acids as Acetic Acid	mg/kg	215	37	340	23	9	108	51	28	128	91
Total Kjeldahl Nitrogen	"	25,201	18,939	20,670	22,782	22,153	17,175	20,462	18,927	14,159	21,642
NH ₃ -N	"	648	25	131	718	266	420	271	58	136	439
Total P	"	24,550	22,054	23,263	25,801	24,213	19,202	22,915	23,105	16,674	21,156
As	"	7	8	7	6	8	7	8	7	6	8
Cd	"	2	2	2	2	2	2	2	2	2	2
Cr	"	60	62	60	54	56	51	59	52	59	53
Cu	"	433	457	419	431	450	338	428	347	315	429
Hg	"	1.0	0.6	0.9	0.9	0.8	0.6	<0.25	<0.25	0.7	0.8

TABLE 4 (Continued): ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE CALUMET WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2014

Sampling Date		2-Jul	17-Jul	24-Jul	14-Aug	20-Aug	5-Sep	12-Sep	12-Sep	30-Sep	30-Sep
Site No. ¹		1, 2, 3, 4, 5, 6	5, 6, 7, 8, 9, 10	5, 10, 11, 12, 13, 14, 15, 16, 17, 18	19, 20, 21, 22	22	5	23	5, 24	5	25
<u>Constituent</u>	<u>Unit</u>										
K	mg/kg	2,841	2,323	2,616	1,517	1,582	2,844	3,256	2581	3075	2793
Mn	"	989	1,050	961	937	976	831	907	867	959	876
Mo	"	8	10	9	11	10	6	10	7	6	11
Ni	"	27	31	29	28	29	24	28	25	22	27
Pb	"	82	100	94	81	85	83	80	87	79	80
Se	"	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zn	"	1,369	1,350	1,244	1,439	1,513	1,001	1,336	1,063	931	1,305

¹Site information is provided in [Table 2](#).