

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 17-50

CONTROLLED SOLIDS DISTRIBUTION REPORT

FOR THIRD QUARTER 2017

December 2017

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**CECIL LUE-HING RESEARCH AND DEVELOPMENT COMPLEX
6001 WEST PERSHING ROAD CICERO, ILLINOIS 60804-4112**

December 8, 2017

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. 2015-SC-59620, Third Quarter (July - September 2017)

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 2017), as required by Illinois Environmental Protection Agency Permit No. 2015-SC-59620.

Sludge flow schematic diagrams for solids processed during July - September 2017 are shown in Figure 1 – John E. Egan Water Reclamation Plant (WRP), Figure 2 – Calumet WRP, and Figure 3 – Stickney WRP.

Air-dried and composted biosolids were distributed to 48 sites during the third quarter of 2017. The user information reports for these sites are presented in Tables 1 and 2, and the analyses of biosolids delivered to these sites are presented in Tables 3 and 4.

Very truly yours,

Albert E. Cox, Ph.D.
Environmental Monitoring and Research Manager
Monitoring and Research Department

AC:OO:cm

Attachments

cc/att: Mr. J. Colletti (USEPA)/Mr. J. Patel (IEPA)
Mr. E. Podczerwinski/Mr. J. Murray
Mr. B. Garelli/Mr. T. Conway
Mr. A. Laban/Dr. H. Zhang
Dr. G. Tian/Dr. O. Oladeji

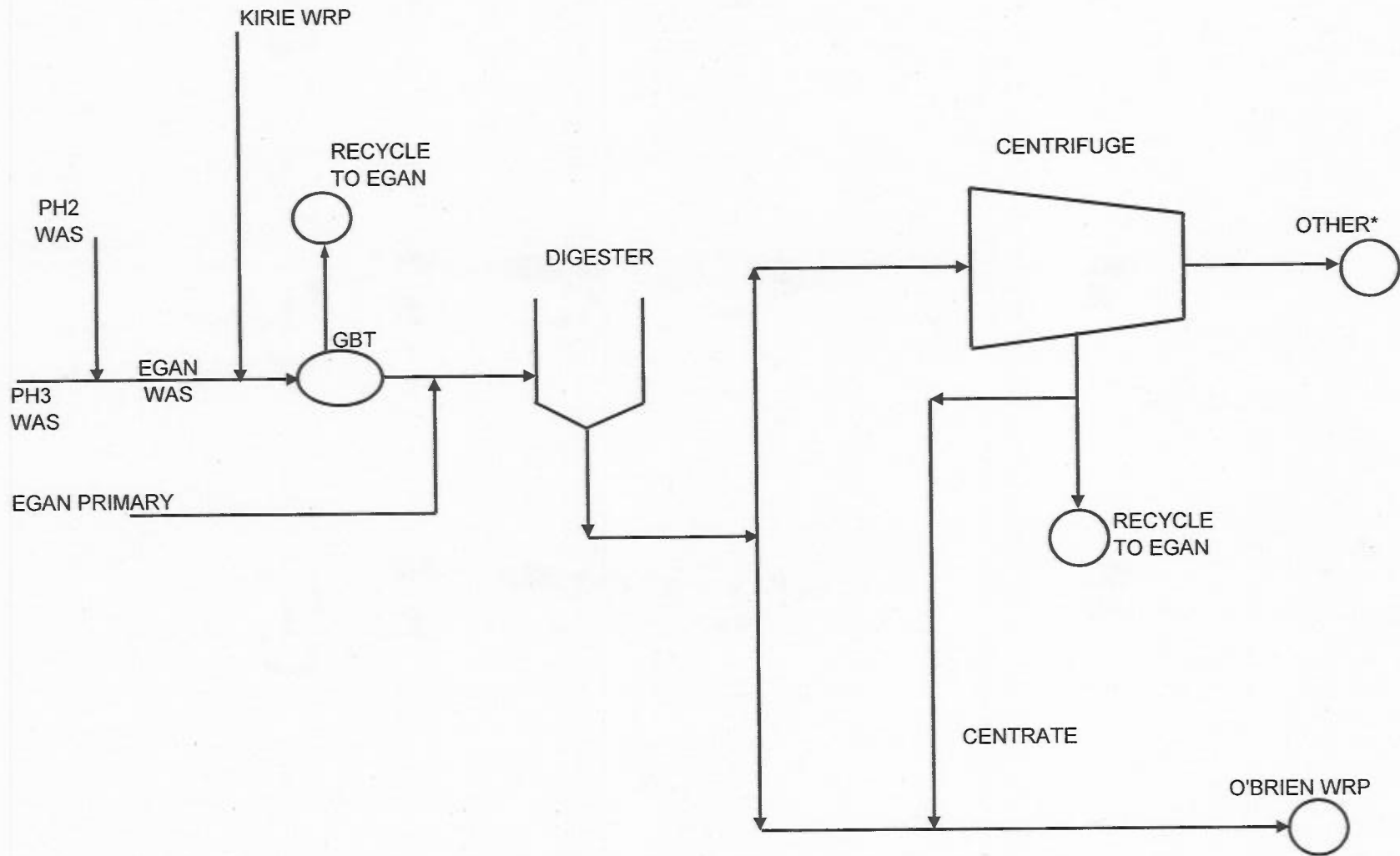
Metropolitan Water Reclamation District of Greater Chicago
100 East Erie Street Chicago, Illinois 60611-2803 312-751-5600

**CONTROLLED SOLIDS DISTRIBUTION REPORT
FOR THIRD QUARTER 2017**

Monitoring and Research Department
Edward W. Podczewinski, Director

December 2017

FIGURE 1: JOHN E. EGAN WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR THIRD QUARTER 2017



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

FIGURE 2: CALUMET WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR THIRD QUARTER 2017

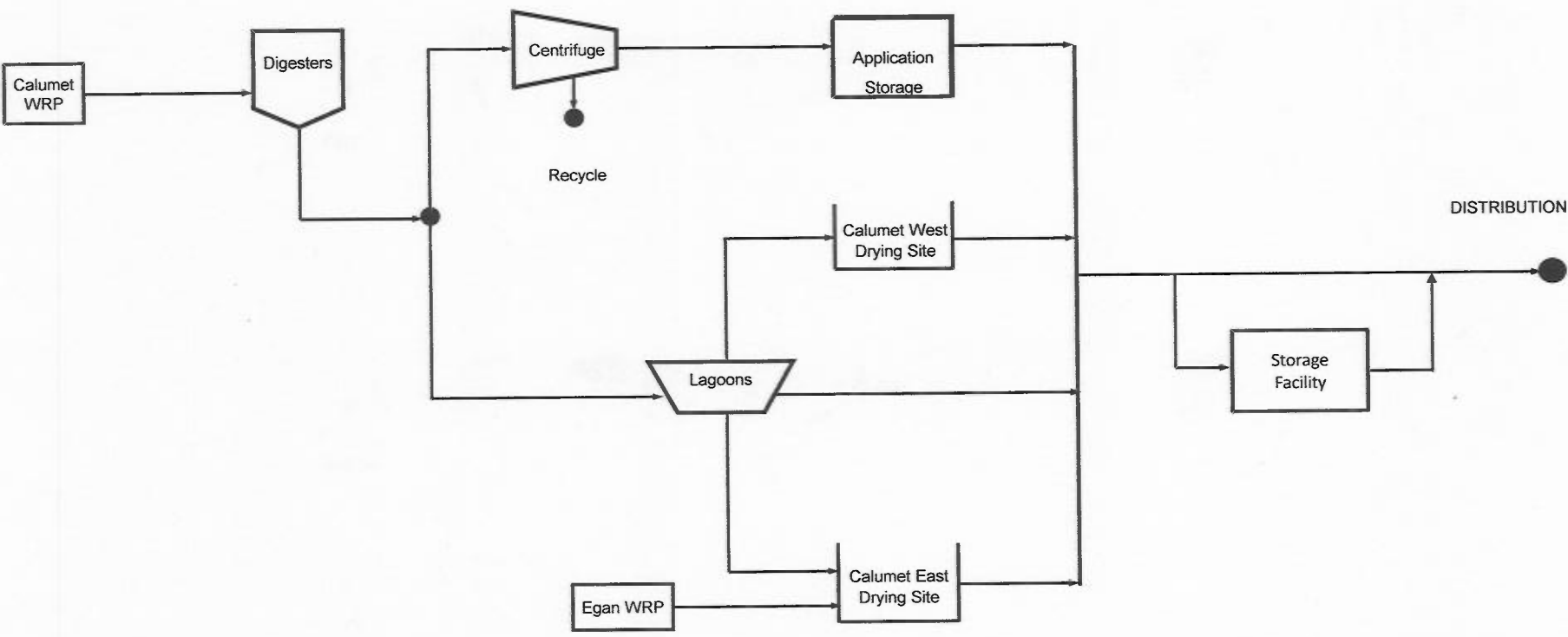


FIGURE 3: STICKNEY WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR THIRD QUARTER 2017

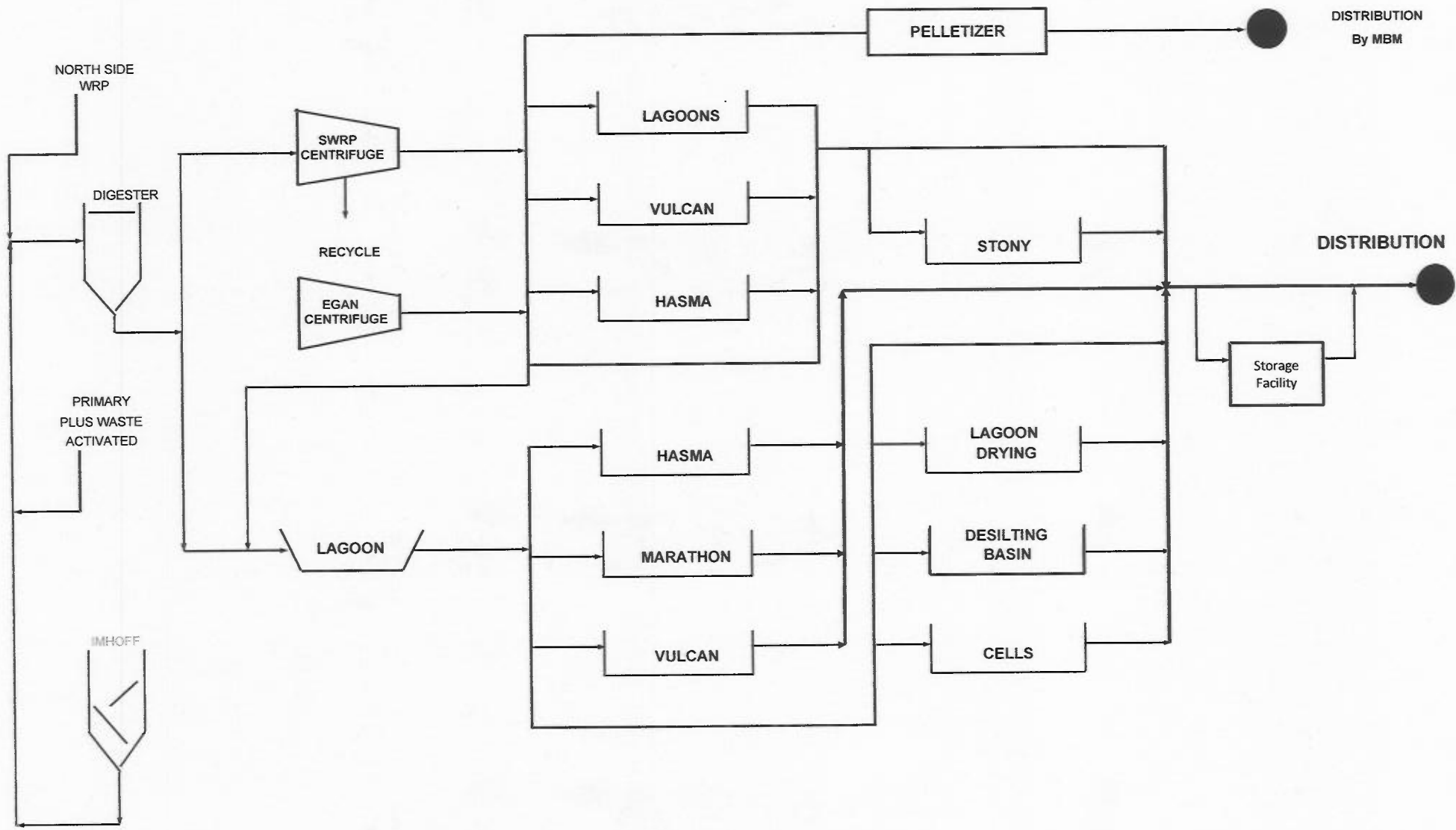


TABLE 1: USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			Third Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
Composted Biosolids							
1	Dariusz (Derek) Ciucias 8415 Crescent Ct. Willow Springs, IL 60480	7/19, 9/8	22.7	22.7	Compost as soil amendment for vegetable garden	NA ¹	NA
2	Chicago Urban Farms 2622 E. 83 rd St. Chicago, IL 60617	7/28, 8/25	32.8	36.4	Compost as soil amendment for vegetable garden and trees	NA	NA
3	Jay Patel 200 Kacie Ct. Westmont, IL 60559	7/28	7.9	7.9	Compost as soil amendment for vegetable garden	NA	NA
4	Ed Jankun 17660 62 nd Ave. Tinley Park, IL 60477	7/31, 8/1	1.0	1.0	Compost as soil amendment for landscaping	NA	NA
5	Westmont Park District Twin Lakes Park 55 E. Richmond St. Westmont, IL 60559	8/8, 8/17	39.6	39.6	Compost as soil amendment for trees	NA	NA
6	Beary Landscaping, Inc. 15001 W. 159 th St. Lockport, IL 60491	9/1	4.7	8.7	Compost as soil amendment for trees	NA	NA

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			Third Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
Composted Biosolids							
7	Skokie Park District Sports Park 3459 Oakton St. Skokie, IL 60076	9/5, 9/6, 9/7, 9/8, 9/11, 9/21	311.9	311.9	Compost as soil amendment for flower beds and trees	NA	NA
8	Dahm Enterprises 5707 Miller Rd. Wonder Lake, IL 60097	9/13	20.0	20.0	Compost as soil amendment for vegetable garden	NA	NA
9	Cog Hill Golf Course 12294 Archer Ave. Lemont, IL 60439	9/14	42.3	49.8	Compost as soil amendment for flower beds and trees	NA	NA

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application	Area (acre)	Rate (ton/acre)
			Third Quarter	Cumulative	Purpose		
Air-Dried Biosolids							
10	Chicago Park District Addams/Medill Park 5101 N. Leavitt St. Chicago, IL 60625	7/5, 7/17	210.1	210.1	Topdressing for turf growth	15	14.0
11	AB Sanchez Landscaping Morgan Park 3900 W. 167 th St. Markham, IL 60428	7/12	19.1	19.1	Topdressing for turf growth	1.5	12.7
12	Republic Services 4100 W. Frontage Rd. Hillside, IL 60521	7/12, 7/25	502.0	502.0	Topdressing for turf growth	35	14.3
13	Chicago Park District Archer Park 5101 N. Leavitt St. Chicago, IL 60625	7/17	68.9	68.9	Topdressing for turf growth	5	13.8
14	Chicago Park District Piotrowski Park 4247 W. 31 st St. Chicago, IL 60623	7/17, 7/31	237.5	237.5	Topdressing for turf growth	18	13.2

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application	Area (acre)	Rate (ton/acre)
			Third Quarter	Cumulative	Purpose		
Air-Dried Biosolids							
15	Chicago Park District Dunbar Park 300 E. 31 st St. Chicago, IL 60616	7/18	290.6	290.6	Topdressing for turf growth	20	14.5
16	Chicago Park District Garfield Park 100 Central Park Ave. Chicago, IL 60624	7/19	260.1	452.2	Topdressing for turf growth	32	14.1
17	East Leyden High School 3400 Rose St. Franklin Park, IL 60131	7/26, 7/28	84.7	84.7	Topdressing for turf growth	6	14.1
18	Cinder Ridge Golf Course 24801 Lakepoint Dr. Wilmington, IL 60481	7/31, 8/1, 8/3, 8/8, 8/9, 8/10, 8/11, 8/14	1,122.5	1,122.5	Topdressing for turf growth	80	14.0
19	Chicago Park District Washington Park 5531 S. Martin Luther King Dr. Chicago, IL 60637	7/31, 8/1, 8/15, 8/16, 8/24, 8/25	2,022.7	2,022.7	Topdressing for turf growth	140	14.4

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application	Area (acre)	Rate (ton/acre)
			Third Quarter	Cumulative	Purpose		
Air-Dried Biosolids							
20	Chicago Park District Calumet Park 9801 S. Avenue G Chicago, IL 60617	8/11, 8/14	546.1	546.1	Topdressing for turf growth	40	13.7
21	Sportsman Country Club 3401 Dundee Rd. Northbrook, IL 60062	8/14	19.7	19.7	Topdressing for turf growth	1.5	13.1
22	Mid Iron Golf Club 12680 Bell Rd. Lemont, IL 60439	8/30, 8/31	191.7	191.7	Topdressing for turf growth	13	14.7
23	Chicago Park District Marquette Park 6743 S. Kedzie Ave. Chicago, IL 60629	8/31, 9/1	725.7	725.7	Topdressing for turf growth	50	14.5
24	Village Greens of Woodridge 1575 75 th St. Woodridge, IL 60517	9/6, 9/21,	178.0	178.0	Topdressing for turf growth	13	13.7

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application	Area (acre)	Rate (ton/acre)
			Third Quarter	Cumulative	Purpose		
Air-Dried Biosolids							
25	Riverdale Park District Prairie Park 14121 S. Stewart Ave. Riverdale, IL 60827	9/14	189.2	189.2	Topdressing for turf growth	13	14.6
26	Riverdale Park District Riverdale Park 18 W. 137 th St. Riverdale, IL 60827	9/14	89.8	89.8	Topdressing for turf growth	7	12.8
27	Riverdale Park District Cooper Park 14237 S. Wentworth Ave. Riverdale, IL 60827	9/15	143.5	143.5	Topdressing for turf growth	10	14.3
28	Riverdale Park District Pekny Park 400 W. 144 th St. Riverdale, IL 60827	9/15	72.7	72.7	Topdressing for turf growth	5	14.5
29	Riverdale Park District School Street Park 14242 S. School St. Riverdale, IL 60827	9/15	73.8	73.8	Topdressing for turf growth	5	14.8

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED AND COMPOSTED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE THIRD QUARTER OF 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application	Area (acre)	Rate (ton/acre)
			Third Quarter	Cumulative	Purpose		
Air-Dried Biosolids							
30	Bolingbrook Park District Lily Cache Park 1505 Trails End Ln. Bolingbrook, IL 60440	9/18, 9/20	625.1	625.1	Topdressing for turf growth	45	13.9
31	Park Ridge Recreation and Park District Northeast Park 733 N. Prospect Ave. Park Ridge IL 60068	9/25	208.3	208.3	Topdressing for turf growth	15	13.9
32	Chicago Park District Douglas Park 1401 S. Sacramento Dr. Chicago, IL 60623	9/27, 9/28	471.5	471.5	Topdressing for turf growth	35	13.5
33	St. Laurence High School 5556 W. 77 th St. Burbank, IL 60459	9/29	89.4	89.4	Topdressing for turf growth	7	12.8

¹Not applicable

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 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			Third Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
1	Chicago Park District Addams/Medill Park 1301 W. 14 th St. Chicago, IL 60608	07/05	97.4	307.5	Topdressing for turf growth	22	14.0
2	Chicago Park District La Villita Park 2800 S. Sacramento Ave. Chicago, IL 60608	07/06	143.6	143.6	Topdressing for turf growth	10	14.4
3	Chicago Park District McKinley Park 2210 W. Pershing Rd. Chicago, IL 60609	07/05, 07/07	221.3	221.3	Topdressing for turf growth	17	13.0
4	AB Sanchez Landscaping Morgan Park 3900 W. 167 th St. Markham, IL 60428	07/17, 07/18	16.7	35.8	Topdressing for turf growth	3	11.9
5	Rich Central High School 3600 203 rd St. Olympia Fields, IL 60461	07/27	15.0	29.3	Topdressing for turf growth	2	14.6

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 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			Third Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
6	Chicago Park District Washington Park 5531 S. King Dr. Chicago, IL 60615	08/09	297.2	2,319.9	Topdressing for turf growth	170	13.6
7	Chicago Park District Calumet Park 9801 S. Ave. G Chicago, IL 60617	08/10	282.8	828.9	Topdressing for turf growth	60	13.8
8	Wilmette Golf Club 3900 Fairway Dr. Wilmette, IL 60091	08/10	278.0	291.4	Topdressing for turf growth	20	14.6
9	Chicago Park District Marquette Park 6743 S. Kedzie Ave. Chicago, IL 60629	09/05	148.0	873.7	Topdressing for turf growth	60	14.6
10	Chicago Park District Midway Plaisance N. 1130 Midway Plaisance Chicago, IL 60637	09/06	206.0	206.0	Topdressing for turf growth	15	13.7

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 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			Third Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
11	Chicago Park District Hamilton Park 513 W. 72 nd St. Chicago, IL 60621	09/07	100.5	100.5	Topdressing for turf growth	7	14.4
12	Chicago Park District Lindblom Park 6054 S. Damen Ave. Chicago, IL 60636	09/07	98.5	98.5	Topdressing for turf growth	7	14.1
13	Chicago Park District Dawes Park 8052 S. Damen Ave. Chicago, IL 60620	09/08	134.6	134.6	Topdressing for turf growth	10	13.5
14	Chicago Park District Jackie Robinson Park 10540 S. Morgan St. Chicago, IL 60643	9/11	161.1	161.1	Topdressing for turf growth	11	14.6
15	Chicago Park District Palmer Park 201 E. 111 th St. Chicago, IL 60628	9/11	211.0	211.0	Topdressing for turf growth	15	14.1

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 2017

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			Third Quarter	Cumulative	Purpose	Area (acre)	Rate (ton/acre)
16	Chicago Park District Gately Park 810 E. 103 rd St. Chicago, IL 60628	9/12	66.6	66.6	Topdressing for turf growth	5	13.3

TABLE 3: ANALYSIS OF AIR-DRIED AND COMPOSTED BIOSOLIDS APPLIED TO SOILS FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2017

Sampling Date		19-Jul	1-Aug	22-Aug	29-Aug	12-Sep	19-Sep
Site No. ¹		1	2, 3, 4	4	5, 6	7, 8	9
Constituent	Unit	Composted Biosolids					
pH		6.7	6.7	8.0	6.6	6.9	6.8
Total Solids	%	52.7	47.1	61.0	63.1	60.6	51.9
Total Volatile Solids	"	56.6	56.2	49.5	41.7	42.6	53.4
Volatile Acids as Acetic Acid	mg/kg	46	57	44	30	36	67
Total Kjeldahl Nitrogen	"	16,797	17,185	14,666	14,053	14,317	14,176
NH ₃ -N	"	73	24	37	30	33	38
Total P	"	11,583	11,657	9,151	9,009	8,991	8,493
As	"	5	<5	<5	<5	<5	<5
Cd	"	2	2	2	2	2	2
Cr	"	56	59	46	47	49	59
Cu	"	236	247	207	211	201	192
Hg	"	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
K	"	3,479	2,724	3,474	3,273	3,160	3,413
Mn	"	320	297	293	285	333	-
Mo	"	3	3	1	3	1	<1
Ni	"	24	27	20	21	20	20
Pb	"	77	77	67	64	65	65
Se	"	<5	<5	<5	<5	<5	<5
Zn	"	503	534	407	426	421	390

TABLE 3 (Continued): ANALYSIS OF AIR-DRIED AND COMPOSTED BIOSOLIDS APPLIED TO SOILS FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE THIRD QUARTER OF 2017

Sampling Date	11-Jul	19-Jul	19-Jul	1-Aug	8-Aug	15-Aug	22-Aug	29-Aug	5-Sep	12-Sep	19-Sep	26-Sep	26-Sep	
Site No. ¹	10, 11	12, 13, 14	15, 16	17	18	18	19, 20, 21	19	22, 23	24	25, 26, 27, 28, 29	30, 31	32, 33	
Constituent	Unit	Air-Dried Biosolids												
pH		6.1	5.9	5.8	5.5	5.5	6.0	6.1	6.7	6.4	5.7	5.5	6.5	6.1
Total Solids	%	88.4	75.0	75.6	68.0	71.4	68.0	71.0	68.0	64.1	65.1	64.4	77.4	71.4
Total Volatile Solids	"	35.4	36.5	35.7	36.1	35.1	33.7	36.9	34.5	36.1	36.5	36.5	36.0	35.3
Volatile Acids as Acetic Acid	mg/kg	59	41	85	60	46	75	80	113	80	60	278	62	59
Total Kjeldahl Nitrogen	"	13,391	10,865	12,499	20,996	16,371	22,190	16,751	22,831	17,052	23,563	20,096	22,266	21,298
NH ₃ -N	"	2,160	1,602	2,020	1,050	1,988	2,494	3,423	5,072	3,933	3,530	3,620	4,828	3,553
Total P	"	13,567	11,837	13,053	22,711	17,151	23,825	16,805	25,296	20,039	24,569	22,205	24,027	25,806
As	"	10	9	9	10	10	9	9	9	9	9	8	8	9
Cd	"	6	6	6	6	7	5	5	5	5	6	5	5	6
Cr	"	202	192	188	188	195	172	169	182	168	173	166	169	178
Cu	"	480	455	450	456	463	432	421	429	432	439	438	425	443
Hg	"	0.5	0.9	0.8	0.9	0.6	0.7	0.6	0.5	0.9	0.8	1.4	0.7	0.7
K	"	2,028	2,024	1,974	1,725	1,887	1,941	2,001	2,035	2,082	2,144	1,988	1,997	2,072
Mn	"	591	569	559	567	581	564	601	540	545	550	536	537	568
Mo	"	6	8	8	6	5	6	6	8	7	7	6	6	8
Ni	"	48	46	45	46	47	44	42	41	43	44	43	43	46
Pb	"	122	110	111	114	119	121	111	126	116	118	115	110	119
Se	"	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zn	"	1,026	957	948	955	1,003	927	882	888	883	908	879	877	933

¹Batch of biosolids and composted biosolids applied to sites listed in Table 1.

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 2017

Sampling Date		5-Jul	2-Aug	7-Sep
Site No. ¹		1 - 5	6 - 13, 16	14 - 16
<u>Constituent</u>	<u>Unit</u>			
pH		6.0	6.2	7.9
Total Solids	%	68.5	79.0	72.9
Total Volatile Solids	"	36.1	37.1	35.9
Volatile Acids as Acetic Acid	mg/kg	69	409	111
Total Kjeldahl Nitrogen	"	20,097	27,246	25,794
NH ₃ -N	"	775	2,458	2,262
Total P	"	23,213	31,136	21,976
As	"	10	11	10
Cd	"	3	3	3
Cr	"	58	52	50
Cu	"	439	458	359
Hg	"	0.5	0.6	<0.5
K	"	1,339	2,111	2,238
Mn	"	1,178	1,204	1,041
Mo	"	2	5	5
Ni	"	31	29	28
Pb	"	87	73	73
Se	"	<5	<5	<5
Zn	"	1,245	1,274	1,032

¹Batch of biosolids applied to sites listed in Table 2.