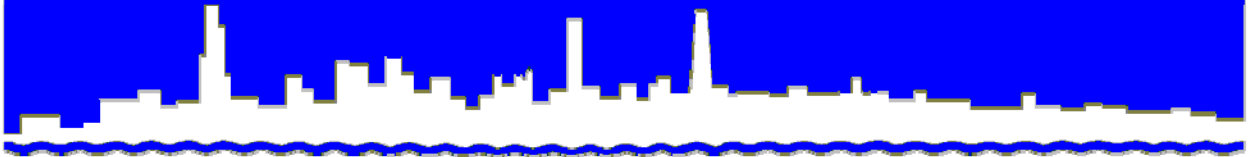


*Protecting Our Water Environment*



**Metropolitan Water Reclamation District of Greater Chicago**

*MONITORING AND RESEARCH  
DEPARTMENT*

**REPORT NO. 17-09**

**CONTROLLED SOLIDS DISTRIBUTION REPORT  
FOR FOURTH QUARTER 2016**

**March 2017**

**Metropolitan Water Reclamation District of Greater Chicago**  
100 East Erie Street Chicago, IL 60611-2803 (312) 751-5600

**Controlled Solids Distribution Report for Fourth Quarter 20106**

Mariyana T. Spyropoulos  
*President*  
Barbara J. McGowan  
*Vice President*  
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**Metropolitan Water Reclamation District of Greater Chicago**

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

March 3, 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, Fourth Quarter (October – December 2016)

This letter transmits information and data for the Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program for the fourth quarter (October – December 2016), as required by Illinois Environmental Protection Agency Permit No. 2015-SC-59620.

Sludge flow schematic diagrams for solids processed during October – December 2016 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 51 sites during the fourth quarter of 2016. 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,

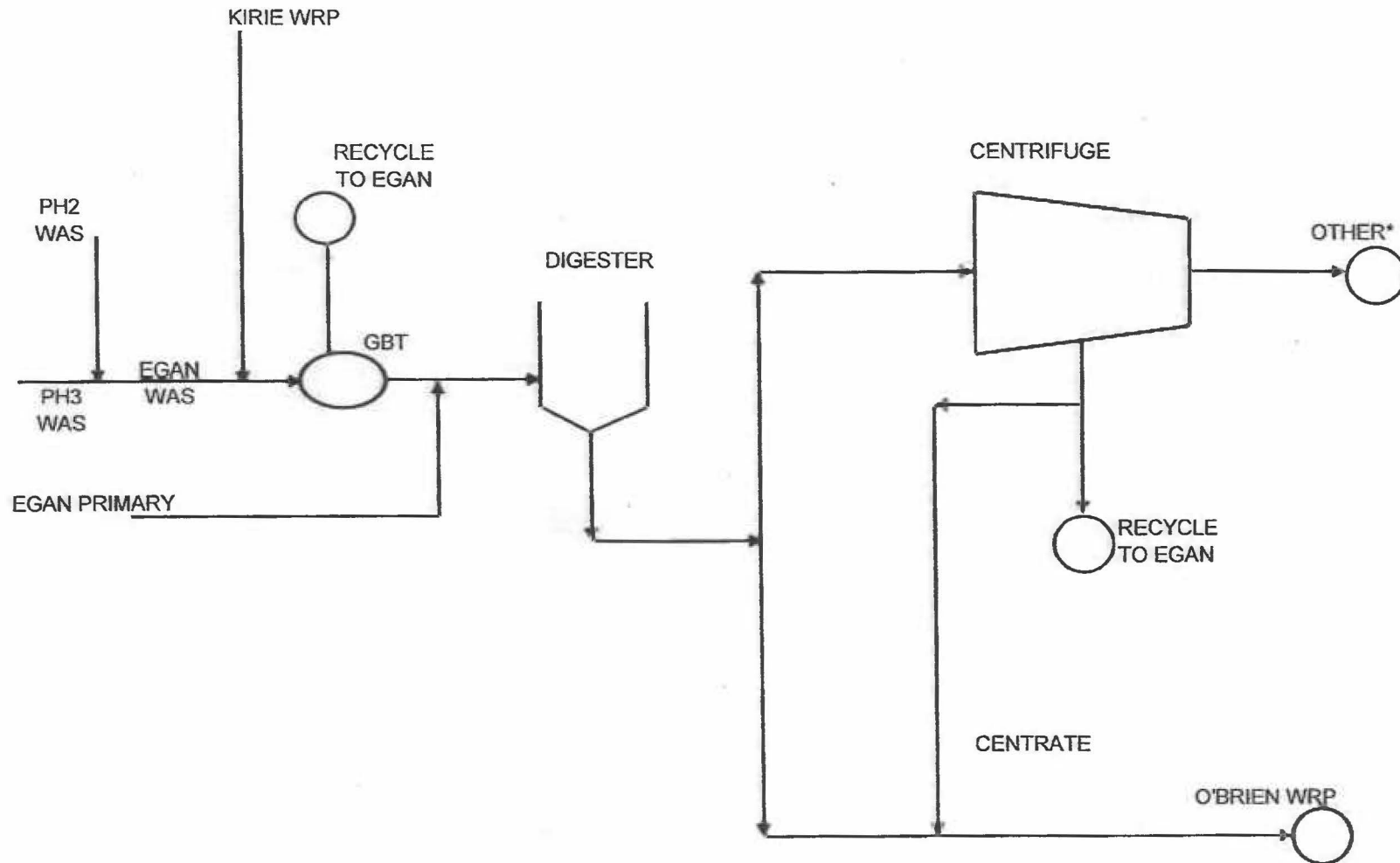
Albert E. Cox, Ph.D.  
Environmental Monitoring and Research Manager  
Monitoring and Research Department

AC:OO:cm

Attachments

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

FIGURE 1: JOHN E. EGAN WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR FOURTH QUARTER 2016



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

FIGURE 2: CALUMET WATER RECLAMATION PLANT OPERATIONAL FLOWCHART FOR FOURTH QUARTER 2016

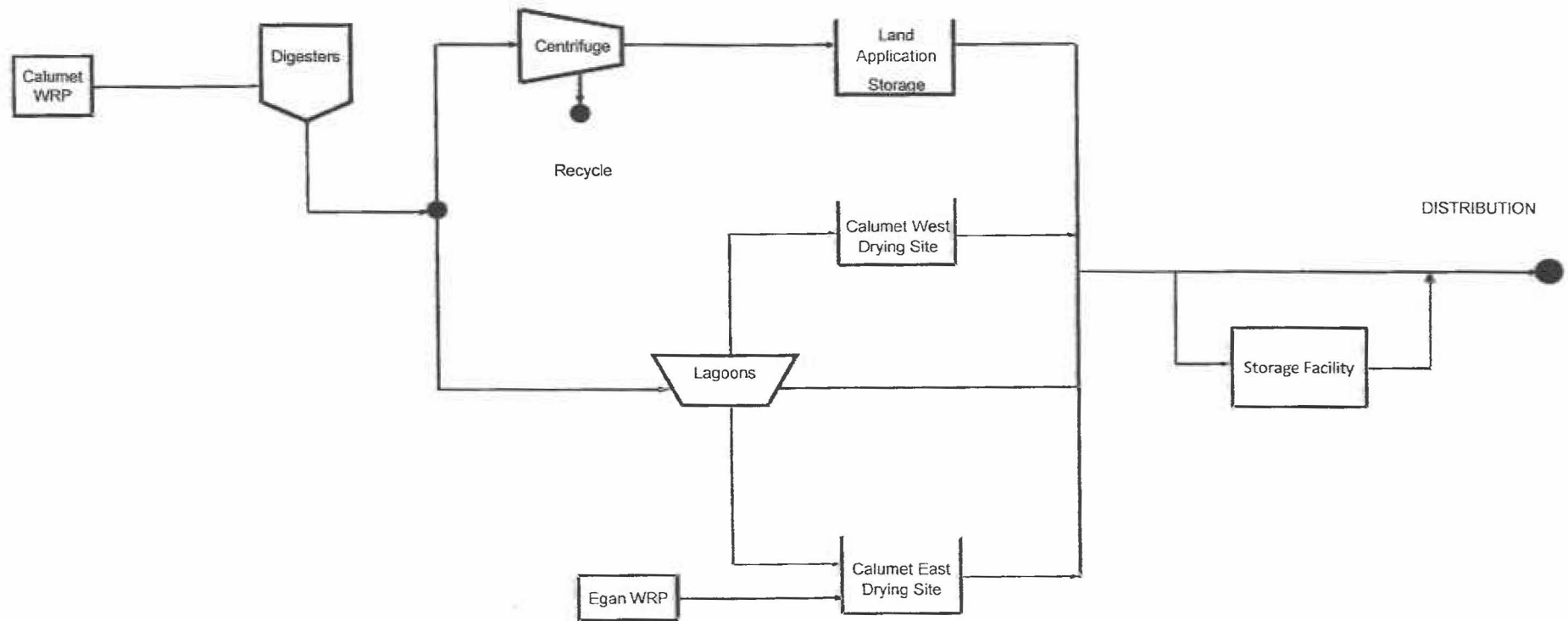


FIGURE 3: STICKNEY WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR FOURTH QUARTER 2016

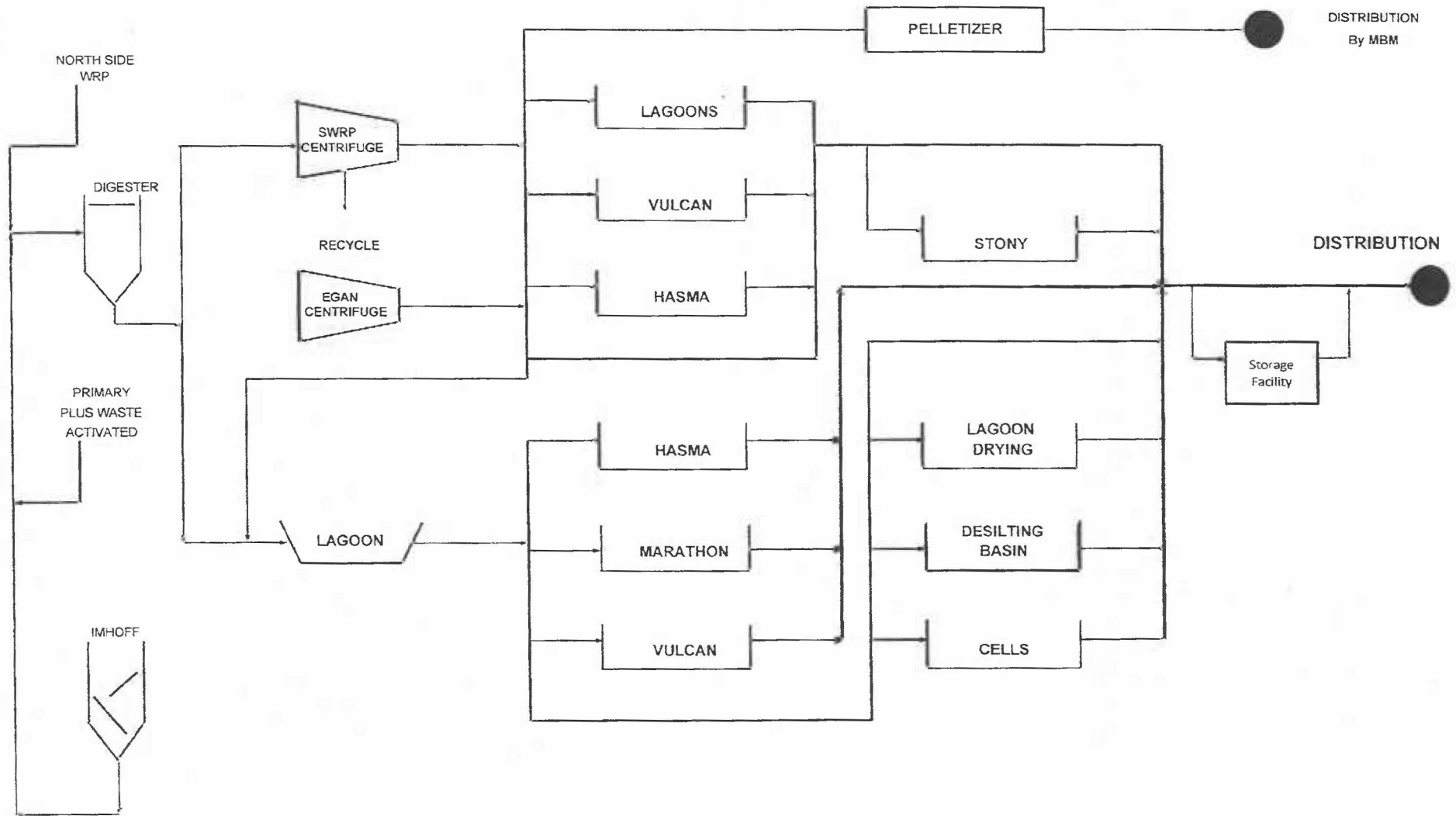


TABLE 1: USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXCEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>			
Composted Biosolids							
1	Beary Landscaping 15001 W. 159 <sup>th</sup> St. Lockport, IL 60491	10/3, 10/4, 10/7	21.2	21.2	Compost as soil amendment for trees	1.0	21.2
2	Cog Hill Golf Course and Country Club 12296 Archer Ave. Lemont, IL 60439	10/4	29.9	29.9	Compost as soil amendment for trees	1.0	29.9
3	Land Works Ltd. 751 N Bolingbrook Dr. Bolingbrook, IL 60440	10/4	10.1	10.1	Compost as soil amendment for garden	1.0	10.1
4	Northeastern University 5500 N. St. Louis Ave. Chicago, IL 60625	10/5, 10/07	8.2	8.2	Compost as soil amendment for trees	1.0	8.2
5	Noel Paradelan 3064 Sunnydale Ave. Broadview, IL 60155	10/7, 10/21	8.0	8.0	Compost as soil amendment for garden	1.0	8.0
6	Village of Midlothian 14801 S. Pulaski Midlothian, IL 60445	10/7	4.0	4.0	Compost as soil amendment for trees and garden	0.5	8.0

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>			
Composted Biosolids							
7	Metropolitan Water Reclamation District of Greater Chicago 6001 W. Pershing Rd. Cicero, IL 60804	10/11, 10/12, 10/16	91.0	91.0	Compost as soil amendment for trees	2.0	45.5
8	Devotional Associates of Yogeshwar Church 1500 Buttitta Dr. Streamwood, IL 60107	10/12, 10/25	15.9	15.9	Compost as soil amendment for trees	1.0	15.9
9	Metropolitan Water Reclamation District of Greater Chicago Hanover Park WRP 1200 Sycamore Ave. Hanover Park, IL 60133	10/13, 11/16	8.8	8.8	Compost as soil amendment for trees	1.0	8.8
10	A Block Ltd 15660 Canal Bank Rd. Lemont, IL 60439	10/17	9.1	9.1	Compost as soil amendment for trees	1.0	9.1
11	Twin Oaks Landscaping Co. 997 Harvey Rd. Oswego, IL 62543	10/20, 10/21	121.9	121.9	Compost as soil amendment for trees	4.0	30.5



TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXCEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>			
<u>Composted Biosolids</u>							
12	Hinsdale Fil-Am Church 212 N. County Line Rd. Hinsdale, IL 60521	10/21, 11/10	7.2	7.2	Compost as soil amendment for trees and garden	0.5	14.4
13	Glen Eagle Country Club 13070 McCarthy Rd. Lemont, IL 60439	10/21	7.6	7.6	Compost as soil amendment for trees	0.5	15.3
14	Luke Lobo 17525 S. Parker Rd. Lockport, IL 60491	10/24, 10/27, 10/28	48.9	48.9	Compost as soil amendment for trees	1.0	48.9
15	Stanley Janik 17120 W 151 <sup>st</sup> St. Lockport, IL 60441	10/25, 10/27, 10/28	41.1	41.1	Compost as soil amendment for trees and garden	1.0	41.1
16	Matt Larson 156 <sup>th</sup> Ave. La Grange, IL 60525	10/28	3.4	3.4	Compost as soil amendment for garden	0.1	33.9
17	Nick Gabb Golfview Estates 9318 W. Golfview Dr. Frankfort, IL 60423	11/10	3.2	3.2	Compost as soil amendment for trees	0.1	32.3
18	Tinley Park Park District 8125 W 171 <sup>st</sup> St. Tinley Park, IL 60477	11/10	56.5	56.5	Compost as soil amendment for trees	2.0	28.2

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>	Purpose		
Composted Biosolids							
19	Oak Forest Park District Central Park 15601 Central Ave. Oak Forest, IL 60452	11/10	21.3	21.3	Compost as soil amendment for trees	1.0	21.3
20	Chicago Urban Farm 2619 E. 76 <sup>th</sup> Street Chicago, IL 60649	11/16, 11/17	18.8	18.8	Compost as soil amendment for garden	0.5	37.5
21	Lake Street Supply 1810 W Lake St. Chicago, IL 60612	11/16	6.2	6.2	Compost as soil amendment for trees	0.2	30.8
22	Frank Ratulowski 14020 Lemont Rd. Homer Glen, IL 60491	11/17	7.4	7.4	Soil amendment for turfs and trees establishment	0.2	37.1
23	Julian Plumber 11900 Division St. Blue Island, IL 60406.	11/17, 11/18	132.3	132.3	Compost as soil amendment for garden	4.0	33.1
24	Oak Forest Park District Central Park 15601 Central Ave. Oak Forest, IL 60452	11/17	14.0	14.0	Compost as soil amendment for trees	0.5	28.1
25	Jerry Gould 525 Maplewood Rd. Riverside, IL 60546	11/22	6.5	6.5	Compost as soil amendment for trees	0.2	32.6

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>			
Composted Biosolids							
26	Jerry Gould 122 Saddle Brook Dr. Oak Brook, IL 60523	11/22	18.0	18.0	Compost as soil amendment for trees	0.5	36.1
27	Bienia Janus 8 Huntsman Lemont, IL 60439	12/2	7.0	7.0	Compost as soil amendment for trees and garden	0.2	35.0
28	Thornton Reservoir 306 Armory Dr., Thornton, IL 60476	12/2	4.4	4.4	Compost as soil amendment for trees	0.1	44.3
29	Fairgrounds Golf Courses 1000 Lakeview Pkwy. Vernon Hills, IL 60061	10/5	73.6	73.6	Compost as soil amendment for trees	5.0	14.7
30	Richard G. Vega 12965 MacKenzie Rd. Yorkville, IL 60560	10/5	27.7	27.7	Soil amendment for turfs and trees establishment	1.0	27.7
31	Metropolitan Water Reclamation District of Greater Chicago 6001 W. Pershing Rd. Cicero, IL 60804	10/11	12.0	12.0	Soil amendment for turfs and trees establishment	0.5	24.0

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXCEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>			
Air-Dried Biosolids							
32	Village Greens Golf Course 5850 W 103 <sup>rd</sup> St. Oak Lawn, IL 60453	10/11	169.3	169.3	Topdressing fertilizer for turf growth	13.0	13.0
33	Kinga Stanek 15549 117th Ct. Orland Park IL 60467	10/25	6.5	6.5	Soil amendment for turfs and trees establishment	0.2	32.5
34	Village of Franklin Park 9560 Belmont Ave. Franklin Park IL 60131	10/25	82.4	82.4	Topdressing fertilizer for turf growth	6.0	13.7
35	Jim and Becky 28057 S 88th Ave Peotone IL 60468	11/14, 11/18	754.9	754.9	Topdressing fertilizer for turf growth	55.0	13.7
36	Dolton Park District Dolton Park 7 21 Engle St. Dolton, IL 60419	11/18	101.2	101.2	Topdressing fertilizer for turf growth	8.0	12.7
37	Julian Plumber 11900 Division St. Blue Island, IL 60406.	11/22	57.6	57.6	Soil amendment for turfs and trees establishment	2.0	28.8

TABLE 1 (Continued): USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S EXEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
			Fourth Quarter	Cumulative <sup>1</sup>			
Air-Dried Biosolids							
38	Mid-Iron Golf Club 12680 Bell Rd. Lemont, IL 60439	11/22	28.2	28.2	Topdressing fertilizer for turf growth	2.0	14.1

<sup>1</sup>Sum of biosolids from all the water reclamation plants applied to the site.

<sup>2</sup>Application rate is based on amount of biosolids distributed during the fourth quarter.

TABLE 2: USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S EXCEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2016

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			4th Quarter	Cumulative <sup>1</sup>	Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
Air-Dried Biosolids							
1	Frankfort Park District Jackson Creek Park 140 Oak St. Frankfort, IL 60423	10/19	26.9	26.9	Topdressing fertilizer for turf growth	2.0	13.5
2	Chicago Park District Northerly Island Park 1521 S. Linn White Dr. Chicago, IL 60605	10/24	48.4	48.4	Topdressing fertilizer for turf growth	3.0	16.1
3	A B Sanchez Landscaping 2814 E Hintz Rd. Arlington Heights, IL 60004	10/25	30.1	30.1	Soil amendment for turfs and trees establishment	1.0	30.1
4	Wilmette Golf Course 12294 Archer Ave. Lemont, IL 60439	11/2, 11/10	190.8	190.8	Topdressing fertilizer for turf growth	15.0	12.7
5	Tinley Park Park District 8125 W. 171 <sup>st</sup> St. Tinley Park, IL 60477	11/9	20.9	20.9	Topdressing fertilizer for turf growth	2.0	10.5
6	Reavis High School 6034 W 77 <sup>th</sup> St. Burbank, IL 60459	11/9	57.4	57.4	Topdressing fertilizer for turf growth	5.0	11.5
7	Frankfort Park District Michele Bingham Park S. Elsner Rd. & Old Plank Rd. Frankfort, IL 60423	11/14	36.3	36.3	Topdressing fertilizer for turf growth	3.0	12.1

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S EXCEPTIONAL QUALITY BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING

Site No.	Name and Address of User	Dates	Quantity, Dry Ton		Application		
			4th Quarter	Cumulative <sup>1</sup>	Purpose	Area (acre)	Rate <sup>2</sup> (ton/acre)
Air-Dried Biosolids							
8	Frankfort Park District Commissioners Park 22108 S. 80 <sup>th</sup> Ave. Frankfort, IL 60423	11/14	18.3	18.3	Topdressing fertilizer for turf growth	1.5	12.2
9	Dolton Park District Dolton Park 721 Engle St. Dolton, IL 60419	11/14, 11/15	101.5	101.5	Topdressing fertilizer for turf growth	7.0	14.5
10	Chicago Park District Washington Park 5531 S. King Dr. Chicago, IL 60637	11/15	271.8	271.8	Topdressing fertilizer for turf growth	20.0	13.6
11	Troy Middle School 5800 Theodore St. Plainfield, IL 60586	11/15	16.9	16.9	Topdressing fertilizer for turf growth	1.5	11.2
12	Crete Monee High School 760 W Exchange St. Crete, IL 60417	11/15	30.3	30.3	Topdressing fertilizer for turf growth	2.5	12.1
13	Stanley Palarz 14800 South Gougar Rd. Lockport, IL 60491	11/17	168.9	168.9	Soil amendment for turfs and trees establishment	4.0	42.2

<sup>1</sup>Sum of biosolids from all the water reclamation plants applied to the site.

<sup>2</sup>Application rate is based on amount of biosolids distributed during the fourth quarter.

TABLE 3: ANALYSIS OF EXCEPTIONAL QUALITY BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2016

Sampling Date		3-Oct	5-Oct	11-Oct	20-Oct	24-Oct	10-Nov	16-Nov	22-Nov
Site No. <sup>1</sup>		1, 2, 3	4, 5, 6	7, 8, 9, 10	11, 12, 13	14, 15, 16, 17, 18	19	20, 21, 22, 23, 24	25, 26, 27, 28
<u>Constituent</u>	<u>Unit</u>	<u>Composted Biosolids</u>							
pH		6.7	6.8	6.2	6.4	6.4	6.6	6.5	6.7
Total Solids	%	56.5	50.0	50.7	46.5	48.8	46.2	54.7	52.8
Total Volatile Solids	"	47.9	50.8	53.5	63.4	55.1	51.2	42.2	45.3
Volatile Acids as Acetic Acid	mg/kg	39	154	<10	97	<10	22	20	28
Total Kjeldahl Nitrogen	"	18,332	17,133	17,853	16,384	15,389	15,509	13,613	14,985
NH <sub>3</sub> -N	"	893	25	96	40	<1	12	24	57
Total P	"	14,274	9,341	13,645	11,450	9,698	10,153	10,059	10,840
As	"	<5	<5	<5	<5	<5	<5	<5	<5
Cd	"	2	2	2	2	2	2	2	2
Cr	"	60	63	69	62	67	55	39	54
Cu	"	212	173	228	200	212	181	165	173
Hg	"	0.5	0.3	0.4	0.4	<0.3	0.4	<0.3	<0.3
K	"	3,780	5,013	4,392	4,139	4,229	4,204	3,317	4,223
Mn	"	432	425	505	591	564	408	336	538
Mo	"	3	4	3	4	2	2	5	3
Ni	"	23	19	25	22	23	22	17	21
Pb	"	64	51	59	55	55	57	40	54
Se	"	<5	<5	<5	<5	<5	<5	<5	<5
Zn	"	424	342	429	377	399	356	281	329



TABLE 3 (Continued): ANALYSIS OF EXCEPTIONAL QUALITY BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2016

Sampling Date		5-Oct	11-Oct	25-Oct	14-Nov	22-Nov
Site No. <sup>1</sup>		29, 30, 31	32, 33	34	35, 36	37, 38
Constituent	Unit	Air-Dried Biosolids				
pH		6.2	5.9	5.7	5.8	5.5
Total Solids	%	66.5	56.0	63.2	73.9	66.0
Total Volatile Solids	"	36.6	37.7	36.7	35.6	36.9
Volatile Acids as Acetic Acid	mg/kg	95	<10	27	30	24
Total Kjeldahl Nitrogen	"	22,842	20,167	20,942	16,740	18,964
NH <sub>3</sub> -N	"	1,849	1,494	1,356	1,005	872
Total P	"	23,636	22,837	23,208	19,868	20,729
As	"	9	8	8	8	7
Cd	"	5	5	5	6	5
Cr	"	195	196	197	195	198
Cu	"	456	454	445	463	469
Hg	"	0.9	0.9	1.0	0.8	0.9
K	"	3,506	3,501	4,084	2,583	2,953
Mn	"	565	563	565	573	585
Mo	"	13	14	12	11	13
Ni	"	47	47	46	47	51
Pb	"	121	120	121	127	128
Se	"	<5	<5	<5	<5	<5
Zn	"	1,000	1,003	984	1,013	1,037

<sup>1</sup>Sites are listed in [Table 1](#).

TABLE 4: ANALYSIS OF EXCEPTIONAL QUALITY BIOSOLIDS APPLIED TO LAND FROM THE CALUMET WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2016

Sampling Date		6-Oct	2-Nov	9-Nov	16-Nov	30-Nov
Site No. <sup>1</sup>		1, 2, 3	4	4	5, 6, 7, 8, 9, 10, 11, 12	13
<u>Constituent</u>	<u>Unit</u>	<u>Air-Dried Biosolids</u>				
pH		6.6	7.1	6.4	6.4	6.7
Total Solids	%	72.1	60.1	60.8	59.8	60.2
Total Volatile Solids	"	36.7	37.2	36.6	37.6	44.6
Volatile Acids as Acetic Acid	mg/kg	101	20	25	17	113
Total Kjeldahl Nitrogen	"	10,248	18,943	21,627	14,306	26,290
NH <sub>3</sub> -N	"	1,862	4,234	1,010	1,050	3,203
Total P	"	10,790	18,857	21,775	15,247	21,707
As	"	11	10	7	9	8
Cd	"	3	3	3	3	3
Cr	"	56	58	55	55	53
Cu	"	368	378	356	384	411
Hg	"	0.7	0.7	0.9	0.4	0.7
K	"	2,268	2,826	1,790	1,580	1,839
Mn	"	1,297	1,322	1,178	1,264	1,208
Mo	"	9	8	7	9	11
Ni	"	30	30	30	30	31
Pb	"	87	87	84	89	90
Se	"	<5	<5	<5	<5	<5
Zn	"	1,198	1,218	1,174	1,300	1,237

<sup>1</sup>Sites are listed in [Table 2](#).