DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
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Monthly Operations Report
For
Combined Sewer System
Month: Oct 2016

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Water and Sewer Authority
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1. INTRODUCTION

The District of Columbia Water and Sewer Authority (DC Water) operates a wastewater collection system comprised of separate and combined sewers. Separate storm and sanitary sewers serve parts of the District. In the combined sewer system (CSS), there is a single sewer to convey storm water and sanitary wastes. The area served by combined sewers comprises about one-third of the District.

During dry weather, sanitary wastes collected in the CSS are conveyed to the DC Water's wastewater treatment plant at Blue Plains (BPWWTP or the Blue Plains WWTP). During periods of rainfall, the capacity of a combined sewer may be exceeded and the excess flow, which is a mixture of storm water and sanitary wastes, is discharged directly to the Anacostia River, Rock Creek or the Potomac River or their tributary waters. This report summarizes the operations of the combined sewer system for the month indicated.

2. OPERATION AND MAINTENANCE

2.1 Regulators

Regulators divert combined sewage to interceptors, which convey flow to BPWWTP for treatment. When flows exceed the capacities of the systems such as during significant rain events, regulators divert excess flow to CSO outfalls which discharge to receiving waters. The following table summarizes inspections of CSO regulators in the collection system.

Table 2-1
Regulator Structures

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
2	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	10/18/16	*			
4	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	10/18/16	*			
5	Poplar Point Pumping Station	004	10/27/16	*			
6	Chicago Street and Railroad Ave, SE	005	10/12/16	*			
7	W Street and Railroad Ave, SE	005	10/12/16	*			
8[1]	Good Hope Rd, west of Nichols Ave, SE	006	N/A				
9	13th Street and Ridge Place, SE	007	10/12/16	*			
11	"O" Street Pumping Station	011(a)	10/27/16	*			
12	Storm Pump Discharge at Main Pumping Station	011	10/24/16	*			
13	2nd Street, 300 ft. north of N Place, SE	009	10/06/16	*			
14	2nd Street, 250 ft. north of N Place, SE	011(a)	10/11/16	*			
15	South Capitol and E Streets	010	10/14/16	*			
15a	Half and L Streets, SE	010	10/14/16	*			
15b	South Capitol and I Streets	010	10/17/16	*			
15c	South Capitol and I Streets	010	10/18/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
16	North of Main Sewage Pumping Station	012	10/05/16	*			
17	4th and N Streets, SE, Both Extended	013	10/12/16	*			
17a	K Street between 6th Street and 7th Street, SE	013	10/19/16	*			
18	6th and M Streets, SE	014	10/05/16	*			
19	9th and M Streets, SE	015	10/05/16	*			
19a	9th and M Streets, SE	015	10/05/16	*			
20	12th and M Streets, SE	016	10/05/16	*			
20a	12th and M Streets, SE	016	10/05/16	*			
21	14th and M Streets, SE	017	10/05/16	*			
22a	Barney Circle and Pennsylvania Ave, SE	018	10/14/16	*			
22b	Barney Circle and Pennsylvania Ave, SE	018	10/14/16	*			
22c	Barney Circle and Pennsylvania Ave, SE	018	10/14/16	*			
22d	Kentucky Ave and Potomac Street, SE	018	10/12/16	*			
22e	14th Street and Kentucky Ave, SE	018	10/12/16	*			
23	Independence Ave, 21st Street, SE, Extended	019	10/19/16	*			
24a	East Capitol St, west of RFK stadium	019	10/19/16	*			
28	21st and Constitution Ave, NW	020	10/19/16	*			
29	22nd Street, between Constitution Ave and C St, NW	020	10/19/16	*			
30	17th and D Streets, NW	020	10/12/16	*			
31	15th Street and Pennsylvania Ave, NW	020	10/12/16	*			
33	10th and F Streets, NW	020	10/12/16	*			
34	23rd Street, north of Constitution Ave, NW	020	10/14/16	*			
34a	23rd Street near C Street, NW	020	10/19/16	*			
35	Northeast of Roosevelt Bridge, NW	021	10/19/16	*			
36	27th and I Streets, NW	022	10/19/16	*			
36a	New Hampshire Ave and Eye Street, NW	022	10/19/16	*			
36b	19th and L Streets, NW	022, 034	10/19/16	*			
36d	17th and L Streets, NW	022, 034	10/19/16	*			
36g	18th and M Streets, NW	022, 034	10/19/16	*			
36h	18th and M Streets, NW	022, 034	10/19/16	*			
37	27th and Eye Streets, NW	022	10/19/16	*			
38	29th and K Streets, NW	024	10/05/16	*			
38a	30th Street, south of K Street, NW	024	10/05/16	*			
39a	30th and K Streets, NW	024	10/05/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
39b	30th and K Streets, NW	024	10/05/16	*			
41b	31st and K Streets, NW	025	10/05/16	*			
41c	31st and K Streets, NW	025	10/05/16	*			
42	Wisconsin Ave and K Street, NW	026	10/12/16	*			
43	Potomac and Water Streets, NW	027	10/12/16	*			
43a	Potomac and Water Streets, NW	027	10/12/16	*			
44	Water Street, west of Potomac St, NW	027	10/12/16	*			
45	36th and M Streets, NW	028	10/12/16	*			
46	Canal Rd, 1000ft. east of Foxhall Rd, NW	029	10/12/16	*			
47	38th Street and Reservoir Road, NW	029	10/12/16	*			
47a	37th and T Streets, NW	029	10/12/16	*			
47b	37th and T Streets, NW	029	10/12/16	*			
47c	38th and W Streets, NW	029	10/12/16	*			
49[1]	Pennsylvania Ave, east side of Rock Creek, NW	031	N/A				
50	26 and M Streets, NW	032	10/20/16	*			
51	N Street Extended, west of 25th Street, NW	033	10/20/16	*			
52	22nd Street between M and N Streets, NW	034	10/14/16	*			
52a	N Street between 22nd and 23rd Streets, NW	034	10/14/16	*			
53	22nd and M Streets, NW	022, 034	10/20/16	*			
53a	22nd and M Streets, NW	022, 034	10/20/16	*			
53b	L Street between 21st Street and New Hampshire Ave, NW	022, 034	10/19/16	*			
53c	L and 22nd Streets, NW	022	10/19/16	*			
54	23rd and O Streets, NW	034	10/18/16	*			
55	22nd Street, south of Q Street, NW	035	10/19/16	*			
55a	22nd Street, south of Q Street, NW	035	10/19/16	*			
56	23rd and Massachusetts Ave, NW	036	10/19/16	*			
57	23rd Street, south of Q Street, NW	036	10/19/16	*			
58[1]	Northwest of Belmont Road and Rock Creek and Potomac Parkway, NW	037	N/A				
59	North of Belmont Rd, east of Kalorama Cir, NW	038	10/24/16	*			
60	Connecticut Ave, east of Rock Creek, NW	039	10/24/16	*			
61	Biltmore St, Extended, east of Rock Creek, NW	040	10/24/16	*			
62	Ontario Rd, Extended, and Rock Creek Pkwy, NW	041	10/14/16	*			
63	Harvard Street and Rock Creek Parkway, NW	042	10/14/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
64	Adams Mill Road, south of Irving Street, NW	043	10/14/16	*			
65	Kenyon Street and Adams Mill Road, NW	044	10/14/16	*			
65a	Kenyon Street and Adams Mill Road, NW	044	10/14/16	*			
66	Adams Mill Road and Lamont Street, NW	045	10/14/16	*			
67	Park Rd , south of Piney Branch Pkwy, NW	046	10/14/16	*			
68	Ingleside Terrance, Extended and Piney Branch Parkway, NW	047	10/14/16	*			
69	Mt. Pleasant Street, Extended and Piney Branch Parkway, NW	048	10/14/16	*			
70	Piney Branch Parkway, west of 16th Street, NW	049	10/14/16	*			
70i	5th and Quackenbos Streets, NW	049	10/06/16	*			
71	28th Street, west of Rock Creek Parkway, NW	050	10/20/16	*			
72	Olive Street Extended and Rock Creek Pkwy, NW	051	10/19/16	*			
72a	Olive Street Extended and Rock Creek Pkwy, NW	051	10/18/16	*			
73	O Street Extended and Rock Creek Parkway, NW	052	10/19/16	*			
74[1]	Q Street, west of Rock Creek, NW	053	N/A				
75	West side of Rock Creek, 300 ft. south of Massachusetts Ave, NW	054	10/24/16	*			
77	Normanstone Dr Extended, west of Rock Creek, NW	056	10/24/16	*			
77a	Normanstone Dr and Normanstone Lane, NW	056	10/24/16	*			
78[1]	28th Street Extended, west of Rock Creek, NW	057	N/A				
79[1]	Connecticut Ave and Rock Creek Parkway, NW	058	N/A				
84	26th and P Streets, NW	060	10/18/16	*			
84a	26th and P Streets, NW	060	10/19/16	*			

Notes:

1. Structure no longer functions as a combined sewer overflow regulator structure.

2.2 Outfalls, Tide Gates and CSO Signs

The following table summarizes inspections, maintenance and work performed on outfall structures, tide gates and CSO signs in the collection system.

Table 2-2
Outfalls and Tide Gates

NPDES Outfall	*Location*	*Date Inspected*	*Outfall Condition*		*Tide Gate Present?*		*Tide Gate Condition*		*CSO Sign*		*Notes, Work Needed or Performed*
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
003	Bolling Air Force Base, at Giavanolli and Chanute, SW	10/18/16	*		*		*		*		
005	Across from Navy Yard, aligned with Parsons Ave., SE	10/11/16	*		*		*		*		
006[1]	Good Hope Road and Welsh Memorial Bridge	N/A									
007	Between 11th St. and Anacostia Bridges, SE	10/11/16	*		*		*		*		
009	O St. Sewage Pumping Station, SE	10/24/16	*		*		*		*		
010	O St. Sewage Pumping Station, SE	10/24/16	*			*			*		
011	Main Sewage Pumping Station, SE	10/24/16	*			*			*		
011(a)	Main Sewage Pumping Station, SE	10/24/16	*		*		*		*		
012	Main Sewage Pumping Station, SE	10/24/16	*		*		*		*		
013	Southeast Federal Center, aligned with 4th St.	10/24/16	*		*		*		*		
014	Navy Yard, aligned with 6th St., SE	10/24/16	*		*		*		*		
015	Navy Yard, aligned with 9th Street, SE	10/24/16	*			*			*		
016	12th and O Streets, SE	10/20/16	*		*		*		*		
017	M and Water Street, SE	10/20/16	*		*		*		*		
018	East of Barney Circle & South of Pennsylvania Avenue Bridge, SE	10/20/16	*		*		*		*		
019	Adjacent to Service Drive behind swirl facility & D.C. General Hospital	10/20/16	*		*		*		*		
020	Rock Creek Parkway and Independence, NW	10/11/16	*		*		*		*		
021	Rock Creek Parkway and C St., NW	10/11/16	*		*		*		*		
022	Rock Creek Parkway and G St., NW	10/11/16	*		*		*		*		
024	South of 30th and K Streets, NW[1]	10/11/16	*		*		*		*		
025	South of 31st and K Streets, NW	10/11/16	*		*		*		*		
026	Wisconsin Avenue and Water Street, NW	10/11/16	*		*		*		*		
027	33rd and Water Sts., NW	10/11/16	*			*			*		
028	Key Bridge and Whitehurst Freeway, NW	10/11/16	*			*			*		
029	Adjacent to C&O Canal, aligned with 38th St. NW	10/11/16	*			*			*		
031[1]	Rock Creek Pkwy & Pennsylvania Avenue, NW	N/A									

NPDES Outfall	*Location*	*Date Inspected*	*Outfall Condition*		*Tide Gate Present?*		*Tide Gate Condition*		*CSO Sign*		*Notes, Work Needed or Performed*
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
032	26th and M Street, NW.	10/20/16	*			*			*		
033	Across street from St. Francis Jr. High and aligned with N St., NW.	10/20/16	*		*		*		*		
034	Just west of St. Francis Jr. High and north of N St., NW	10/18/16	*			*			*		
035	P St. Bridge and Rock Creek Parkway	10/18/16	*			*			*		
036	22nd Street, South of Q Street NW.	10/20/16	*		*		*		*		
037[1]	Waterside Dr. and Rock Creek Parkway	N/A									
038	Between arch footbridge and Connecticut Ave., north of Kalorama Circle, NW.	10/24/16	*		*		*		*		
039	Connecticut Avenue Bridge and Rock Creek Parkway, NW.	10/24/16	*		*		*		*		
040	Aligned with Biltmore Rd., between Connecticut Ave and Ellington Bridge.	10/24/16	*		*		*		*		
041	Beach Dr. and Ontario Pl., NW	10/20/16	*		*		*		*		
042	Harvard St. and Beach Dr NW.	10/20/16	*		*		*		*		
043	Upstream of Harvard St. and Beach Dr NW.	10/20/16	*		*		*		*		
044	Kenyon Street and Beach Dr., NW.	10/20/16	*		*		*		*		
045	North of Beach Dr. and Walbridge Pl, NW.	10/20/16	*		*		*		*		
046	Piney Branch Parkway and Park Road, NW.	10/14/16	*			*			*		
047	Piney Branch Parkway and Ingleside Terrace	10/14/16	*		*		*		*		
048	South of Piney Branch Parkway and 17th St.	10/14/16	*		*		*		*		
049	North of Piney Branch Parkway and 17th St.	10/14/16	*		*		*		*		
050	Rock Creek Parkway and L St., NW	10/20/16	*		*		*		*		
051	Across Rock Creek Pkwy, aligned with Olive St., NW.	10/20/16	*		*		*		*		
052	Between P & Penna. Ave Bridges, aligned with O Street, NW.	10/20/16	*		*		*		*		
053[1]	Q St. Bridge and Rock Creek Parkway, NW.	N/A									
054	Massachusetts Ave & Rock Creek Parkway, NW.	10/24/16	*		*		*		*		
056	Normanstone Dr. and Rock Creek Parkway, NW.	10/24/16	*		*		*		*		
057[1]	28th Street and Rock Creek Parkway, NW	N/A									
058[1]	Connecticut Ave & Rock Creek Parkway, NW.	N/A									
060	North of P St. Bridge & Rock Creek Pkwy, NW	10/20/16	*		*		*		*		

Notes:

1. Outfall no longer functions as a combined sewer outfall.

2.3 Pumping Stations

Pumping station operations are summarized in the table below.

Table 2-3
Pumping Stations – Inspections and Equipment in Service

Pumping Station	*No. of Inspections*	*No. Screens*	*No. Pumps*	*Screens or Pumps Out of Service*	*Dates*	*Reason*	*Work Order Number*	*Schedule to Restore to Service*[1]
Main	31	3	4	None	N/A	N/A	N/A	N/A
Eastside	2	2	4	All Pumps & Screens	10/01/16-10/05/16	Station flooding[2]	16-552984	Returned to service on 10/05/16
				Pump #4	10/21/16-10/31/16	Excessive noise & vibration	17-35191	Anticipated 11/03/16
Poplar Point	2	2	3	Pump #2	10/01/16-10/19/16	Soft start repair	16-313657	Returned to service on 10/19/16
Potomac	31	4	5	Pump #1	10/01/16-10/04/16	Vibration issue	16-466206	Repairs complete on 10/04/16
				Screen #1	10/01/16-10/31/16	Screen replacement[3]	Contractor	Anticipated 12/02/16
				Pump #1	10/04/16-10/31/16	Discharge pipe construction[3]	Contractor	Anticipated 12/02/16

Notes:

1. The schedule to restore to service is impacted by the type and age of equipment. In some cases, the condition of equipment and the lack of availability of replacement parts necessitate complete replacement of the unit or element or custom fabrication of needed parts to return the units to service. For these and other reasons, projects are underway for the rehabilitation of the pumping stations, including replacement of mechanical screens. The Potomac Pumping Station Phase 3 upgrade project is currently ongoing and replacement of the mechanical screens, sluice gates, and discharge isolations valves began in September 2016.
2. The drywell of Eastside Pumping Station flooded on September 27, 2016 while a check valve in the discharge piping was being serviced. As a result, the station was out of service between September 27 and October 5, 2016. DC Water investigated this event and determined that an employee inadvertently operated an isolation valve causing the pump drywell to flood. During dry weather, flow was diverted using bypass pumping from the Eastside Interceptor Relief Sewer to the Northeast Boundary Sewer and Lower Eastside Interceptor for conveyance by gravity to the Main Pumping Station and conveyance to Blue Plains. During the wet weather events that occurred during this period, the diversion operations remained in use, and excess wet weather flows were processed through the Northeast Boundary Swirl Facility. As the wet wells at Eastside Pumping Station were out of service, the foul sewer diversion lines from each concentrator in the Northeast Boundary Swirl were closed, and all flow entering the Northeast Boundary Swirl Facility was treated and then discharged through the mixing chamber to CSO 019.
3. This is part of the Potomac Pump Station Phase 3 upgrade project. Repairs were complete on the vibration issue for Pump #1 on 10/04/16, however this pump was not returned to service due to ongoing construction activity.

Table 2-4
Pumping Stations – Preventive Maintenance

Pumping Station	*Date Performed*	*Type of Preventive Maintenance Performed*[1]	*Work Order Number*	*Comments*
Main	10/01/16	Group A	16-519183	Add oil, grease bearings and replace packing if needed.
O St	10/04/16	Group A	16-530692	Add oil, grease bearings and replace packing if needed.
Eastside	10/29/16	Group A	16-529299	Add oil, grease bearings and replace packing if needed.
Poplar Point	10/15/16	Group A	16-515189	Add oil, grease bearings and replace packing if needed.
Potomac	10/29/16	Group A	16-529423	Add oil, grease bearings and replace packing if needed.
Rock Creek	10/15/16	Group A	16-519197	Add oil, grease bearings and replace packing if needed.
Upper Anacostia	10/15/16	Group A	16-519211	Add oil, grease bearings and replace packing if needed.
Earl Place	10/15/16	Group A	16-490305	Add oil, grease bearings and replace packing if needed.

Notes:
1. Group A consists of:
Exercise bar screens
Exercise all sump pumps
Drain condensation from air compressor storage tank
Check depth of screening in the screen room and schedule Vactor truck as required
Check all safety equipment
Issue work order requests as required

Table 2-5
Pumping Stations – Pumpage

	Sanitary Pumpage		*Storm Water/CSO Pumped To Anacostia River*		
Pumping Station	*Total Wastewater (mg)*	*Daily Average Wastewater (mg)*	*Date*	*Volume (mg)*	*Screenings Collected (units)*[1]
Main	1855.15	59.84	N/A	N/A	N/A
O St	115.35	3.72	N/A	N/A	N/A
Eastside	103.48	3.34	N/A	N/A	N/A
Poplar Point	516.84	16.67	N/A	N/A	N/A
Potomac	2712.55	87.50	N/A	N/A	N/A
Rock Creek	122.44	3.95	N/A	N/A	N/A
Upper Anacostia	40.51	1.31	N/A	N/A	N/A
Earl Place	0.127	0.004	N/A	N/A	N/A

Notes:
1. Screening consists of vertical trash racks, with no mechanical cleaning. Quantification of captured materials is not possible on monthly basis.

2.4 Northeast Boundary Swirl Facility

The Northeast Boundary Swirl Facility provides screening, swirl concentration, chlorination and dechlorination of CSO overflow from CSO 019. The capacity of the facility is 400 MGD. Facility operations are summarized below:

Table 2-6
Northeast Boundary Swirl Facility – Inspections and Equipment in Service

Date Inspected	*No. Screens*	*No. Swirls*	*Screens or Swirls Out of Service*	*Dates*	*Reason*	*Schedule to Restore to Service*
10/29/16	3	3	Screen #3	10/01/16-10/31/16	Bent bars & back plate	Anticipated 02/01/17

Table 2-7
Northeast Boundary Swirl Facility – Preventive Maintenance

Date Performed	*Type of Preventive Maintenance Performed*[1]	*Work Order Number*	*Comments*
10/29/16	Group A	16-530810	

Notes:
1. Group A consists of:
Exercise bar screens
Exercise wash down system
Exercise knife gates full travel both directions
Check depth of grit in grit channel and schedule Vactor truck as required
Change chart paper on strip chart recorders at the end of each month
Thoroughly clean each Swirl tank and channels
Issue work order requests as required
Drain condensation from air compress
Check all safety equipment

Table 2-8
Northeast Boundary Swirl Facility – Wet Weather Operations

Date	*Approx. Storm Duration (hrs)*[1]	*Total Influent Volume (mg)*	*Total Foul Sewer Volume (mg)*	*Total Effluent Volume (mg)*	*Approx. Screenings Volume (Cu. ft)*
10/01/16[2]	24[3]	9.5	0	9.5	8
10/02/16[2]	18.8[3]	0.03	0	0.03[4]	0
10/21/16	4.75	4.03	3.05	0.98	144

Notes:
1. Approx. length of time influent flow rate was above the 15 mgd threshold for allowing flow through the facility.
2. Per Note 2 for Table 2-3, the foul sewer diversion lines carrying flow to Eastside Pumping Station were closed during wet weather events on these days. All recorded influent flow was treated through the Northeast Boundary Swirl Facility and discharged as effluent at CSO 019.
3. Duration of discharge to CSO 019.
4. Volume calculated for this event using weir level data.

Chlorination/Dechlorination Systems.

The table below summarizes the information about operation of Swirl Facility chlorination and dechlorination systems during storm events. Chemical feed systems were activated during the storms in which flows were substantial enough to overflow the mix chamber weir. Included in the table are results of residual chlorine and fecal coliform testing for samples taken in the Swirl Facility mix chamber and at the facility effluent outfall to the Anacostia River.

A grab sample is collected and immediately tested with an AutoCat 9000 chlorine residual titrator to obtain test results for residual chlorine. Samples for fecal coliform are taken from the designated sample point, treated with sodium bisulfite to remove any residual chlorine, and conveyed to the Blue Plains Wastewater Treatment Plant Laboratory for testing.

Table 2-9
Northeast Boundary Swirl Facility – Disinfection Performance

Date	*Chlor/ Dechlor System Used?*	*Dosage*		*Residual Chlorine Test Results*		*E. Coli Test Results*	
		NaOCl (mg/l)	*$NaHSO_3$ (mg/l)*	*Location*	*Conc. (mg/l)*	*Site*	*Count Per 100ml*
10/01/16	Yes	1.7[2]	4.3[2]	Mix Chamber	2.0	Mix Chamber	>800,000
				Anacostia River[1]	0.0	Anacostia River[1]	32,000
10/01/16	Yes	1.7[2]	4.3[2]	Mix Chamber	0.1	Mix Chamber	>800,000
				Anacostia River[1]	0.0	Anacostia River[1]	>800,000
10/02/16[3]	Yes	1.7[2]	4.3[2]	Mix Chamber	1.6	Mix Chamber	530,000
				Anacostia River[1]	0.0	Anacostia River[1]	560,000
10/02/16	Yes	1.7[2]	4.3[2]	Mix Chamber	0.7	Mix Chamber	480,000
				Anacostia River[1]	0.1	Anacostia River[1]	5,000
10/02/16	Yes	1.7[2]	4.3[2]	Mix Chamber	1.5	Mix Chamber	<10
				Anacostia River[1]	0.0	Anacostia River[1]	470,000
10/21/16[4]	Yes	2.8	0[5]	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River[1]	N/A	Anacostia River[1]	N/A

Notes:
1. River: River Outfall
2. Due to the nature and duration of this wet weather event, dosage values were averaged for the entire event.
3. Sample taken two hours after scheduled sample time.
4. Samples were not taken for this event as the discharge did not last two hours.
5. Sodium Bisulfite was not dosed due to equipment failure on the delivery pump. Repairs were made following the event and a blown fuse was found.

Table 2-10
Northeast Boundary Swirl Facility – Effluent Sampling Results

	Flow Composited Sample Results						
Date	*Total suspended solids (mg/L)*	*Nitrite (NO2-N) mg/L*	*Nitrate (NO3-N)) mg/L*	*Total Kjeldahl Nitrogen (mg/L as N)*	*Total Nitrogen (mg/L)*	*Total Phosphorus (mg/L)*	*Carbonaceous Biological Oxygen Demand (mg/L)*
10/01/16	26.0	0.00	0.24	7.71	7.95	3.38	10.1
10/02/16	34.0	0.00	0.06	11.2	11.3	1.30	38.6

2.5 Inflatable Dams

DC Water operates and maintains twelve inflatable dams at eight different locations. The structure number, location and number of dams per site are presented in Table 2-11. The inflatable dams consist of multi-ply elastomeric (i.e., "rubber") fabric dams installed in major overflow conduits within the combined sewer system. The objective of the inflatable dam installation is to increase the effective depth to which the sewage must rise in the combined sewer before overflows occur. The effect of the installation is to retain a greater volume of combined sewage flow resulting from low to moderate intensity storms by maximizing storage within the CSS. During higher intensity storms, when the full carrying capacity of the overflow conduit is required to prevent upstream flooding, the dam is deflated automatically. Inflatable dam operations are summarized below:

Table 2-11
Inflatable Dams – Inspections and Equipment in Service

Inflatable Dam Structure No	*Date Inspected*	*Was Dam Out of Service During the Month?*	*Dates out of Service*	*Reason*	*Schedule to Restore to Service*
14 - East	10/13/16	**Yes**	**10/19/16**	**Power Failure[1]**	**Returned to service on 10/19/16**
			10/21/16	**Equipment Malfunction**	**Returned to service on 10/21/16**
14 - West	10/13/16	**Yes**	**10/19/16**	**Power Failure[1]**	**Returned to service on 10/19/16**
			10/21/16	**Equipment Malfunction**	**Returned to service on 10/21/16**
15	10/13/16	**No**	**N/A**	**N/A**	**N/A**
15A	10/13/16	**No**	**N/A**	**N/A**	**N/A**
16 - East	10/13/16	**Yes**	**10/19/16**	**Power Failure[1]**	**Returned to service on 10/19/16**
16 - West	10/13/16	**Yes**	**10/19/16**	**Power Failure[1]**	**Returned to service on 10/19/16**
24 - North	10/18/16	**No**	**N/A**	**N/A**	**N/A**
24 - Middle	10/18/16	**No**	**N/A**	**N/A**	**N/A**
24 - South	10/18/16	**No**	**N/A**	**N/A**	**N/A**
34	10/13/16	**Yes**	**10/20/16**	**Power Failure[2]**	**Returned to service on 10/20/16**
35	10/13/16	**Yes**	**10/20/16**	**Power Failure[2]**	**Returned to service on 10/20/16**
52	10/13/16	**No**	**N/A**	**N/A**	**N/A**

Notes:

1. Power failure occurred due to construction contractor striking feeder lines at Main and O Street Pumping Stations.
2. Power failure occurred due to temporary failure of Pepco feed.

Table 2-12
Inflatable Dams & SCADA Sites - Wet Weather Operations

Inflatable Dam Structure No.	*Overflow Dates*	*Estimated Duration of Overflow*
14 (E & W)	*10/21/16*	*2hrs 5mins*[1]
15	*None*	*N/A*
15A	*None*	*N/A*
16 (E & W)	*None*	*N/A*
24	*None*	*N/A*
34	*None*	*N/A*
35	*None*	*N/A*
52	*None*	*N/A*
Structures on Outfall Sewers	*Overflow Dates*	*Estimated Duration of Overflow*
Outfall Structure 1	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 1A	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 2	None	None
Outfall Sewer Control Gates	*Operational Status*	*Position*
Outfall Sewer Control Gate No.1	Operational	Open
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible

Notes:
1. Deflation of Structure 14 was caused due to equipment malfunction. See letter to EPA dated 10/26/2016.

3. DRY WEATHER OVERFLOWS

There was no dry weather combined sewer overflow during October 2016.

SOLIDS AND FLOATABLES CONTROL

3.1 Catch Basin Cleaning

The following tables summarize catch basin cleaning in the Anacostia CSO area and in the entire sewer system:

			Inspections			*Cleaning*					
						CBs Cleaned Thru Last Month		*CB's Cleaned This Month*		*Total CBs Cleaned This Year to Date*	
Ward	*Total CBs*	*CBs in CSS*	*CBs in Anacostia CSS*	*Total Anacostia CBs Inspected Once this Year*	*Total Anacostia CBs Inspected Twice this Year*	Total	In CSS	Total	In CSS	Total	In CSS
1	1471	1429	601	601	501	992	987	187	177	1179	1164
2	2944	2679	539	539	78	1000	918	1	0	1001	918
3	3634	168	0	0	0	2493	73	576	17	3069	90
4	3488	1719	0	0	0	3159	1762	57	8	3216	1770
5	3871	1746	1688	1688	1055	2720	1321	853	153	3573	1474
6	3569	2894	2886	2886	865	2949	2568	61	61	3010	2629
7	3474	27	27	27	2	4106	26	7	0	4113	26
8	2678	206	206	206	116	2099	187	61	0	2160	187
Subtotal	25129	10868	5947	5947	2271	19518	7842	1803	416	21321	8258
DDOT (via VMS) Subtotal											
Grand Total	**25129**	**10868**	**5947**	**5947**	**2617**	**19518**	**7843**	**1803**	**416**	**21321**	**8258**
% Cleaned/Inspected to Date				**100%**	**44%**	**78%**	**72%**			**85%**	**76%**

Note: In preparation for the deployment of the Catch Basin Cleaning Application, an exercise was completed to verify and update the catch basin data for those catch basins that flowed to the Anacostia. DC Water originally was managing the catch basin cleaning at the counter map level, and then progressed to a cluster and with the deployment in May of the Catch Basin Cleaning Application, DC Water is now tracking cleaning at the individual catch basin level – against the asset itself. The totals have changed due to information that is more accurate.

3.2 BMP Demonstration Projects

DC WATER operates the following demonstration projects designed to remove solids and floatables from CSO prior to discharge.

- Netting system at CSO 018 to Anacostia River
- Bar Rack at CSO 040 and 041 to Rock Creek

Table 3-2
BMP Demonstration Projects – Report

Facility	*Date Inspected*	*Condition*	*Work Needed*	*Work performed*	*Material Removed (CY)*
Netting System CSO 018	10/20/2016	Good	Routine Cleaning	Routine Cleaning	None
Bar Rack CSO 040	10/24/2016	Good	None	Routine Cleaning	(1)
Bar Rack CSO 041	10/20/2016	Good	None	Routine Cleaning	(1)

Notes:
(1) System was designed so that captured solids and floatable are conveyed to Blue Plains for treatment.

3.3 Anacostia River Floating Debris Removal Program

This program was initiated in October 1992 to remove floating debris from Anacostia and Potomac Rivers on a routine basis. The program has continued from that time and is now under the auspices of DC WATER, Department of Sewer Services. The floating debris removal program utilizes a skimmer boat and support boats to remove floatable debris from the Rivers as well as trash, which accumulates on the riverbanks and in the mud flats at low tides. Work for the most part is directed toward the Anacostia River. The boats pick up debris five days a week. Operations are summarized as follows:

Table 3-3
Anacostia River Floating Debris Removal Program – Summary

Program Operation	5-day work week, excluding holidays, weather permitting
Work Days this month:	20
Days not Operating	5
Reason not Operating	Environmental (3). Fleet troubleshooting and maintenance (2). Offloading conveyor down due to pontoon leak for 2 workdays.
# Skimmer in Fleet	3 Skimmers
# Skimmers Out of Service	1 Skimmer (on the last day of the month)
Dates	B28: 10/1 - 10/31
Reason	B28: Front assembly catching on hull.
Plan to Restore to Service	B28: Sent to contractors for repair, ETR unknown.
Volume Material Collected	10 tons.
Nature of Material	Bottles, cans, natural debris and plastics.

3.4 CSS Litter Control

This section describes DC WATER's efforts to coordinate litter control efforts with the National Park Service and D.C. Department of Public Works to maximize litter control efforts in the combined sewer system.

Status: no activities this month.

4. MONITORING

4.1 Condition Report Bar Racks at Main and O Street Storm Pumps

DC Water performs visual surveys of the bar racks at Main and O Street Pumping Stations to characterize the quantity and nature of floatable discharge. The physical condition of the bar racks and any maintenance requirements are also noted.

Table 4-1
Bar Racks at Main & O Street Pumping Stations

Inspector: Keith Watts

Pumping Station	Inspector	Date Inspected	Condition		Work Needed	Work Performed or Schedule for Completion
			Good	Needs Work		
Bar Racks at O Street Storm Pumps (CSO 010)	KW	10/15/16	X			
Bar Racks at Main Storm Pumps (CSO 011)	KW	10/15/16	X			

4.2 Rain Data

Rain data from National Airport and from the rain gauges installed in the CSS are summarized below.

Date	Brentwood Pumping Station	Bryant Street Pumping Station	Main Pumping Station	Rock Creek Pumping Station	National Airport
10/1/2016	0.29	0.32	0.26	0.27	0.23
10/2/2016	0	0	0	0	0.02
10/3/2016	0	0	0	0	0
10/4/2016	0	0	0	0	0
10/5/2016	0	0	0	0	0
10/6/2016	0	0	0	0	0
10/7/2016	0	0	0	0	0
10/8/2016	0.05	0	0.22	0.20	0.25
10/9/2016	0.02	0.01	0.10	0.04	0.09
10/10/2016	0	0	0	0	0
10/11/2016	0	0	0	0	0
10/12/2016	0	0	0	0	0
10/13/2016	0	0	0	0	0
10/14/2016	0	0	0	0	0
10/15/2016	0	0	0	0	0
10/16/2016	0	0	0	0	0
10/17/2016	0	0	0	0	0
10/18/2016	0	0	0	0	0
10/19/2016	0	0	0	0	0
10/20/2016	0	0	0	0	0.02
10/21/2016	0.30	0.17	0.30	0.18	0.26
10/22/2016	0	0	0	0	0
10/23/2016	0	0	0	0	0
10/24/2016	0	0	0	0	0
10/25/2016	0	0	0	0	0
10/26/2016	0	0	0	0	0
10/27/2016	0.04	0.08	0.02	0.04	0.03
10/28/2016	0	0	0	0	0
10/29/2016	0	0	0	0	0
10/30/2016	0.01	0.03	0.01	0.02	0
10/31/2016	0	0	0	0	0
TOTAL	0.71	0.61	0.91	0.75	0.90

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Serving the Public • Protecting the Environment

Monthly Operations Report
For
Combined Sewer System
Month: Nov 2016

Prepared By:
District of Columbia
Water and Sewer Authority
Department of Sewer Services
Washington, D.C. 20003

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

Monthly Operations Report for Combined Sewer System
Month: Nov 2016

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1. INTRODUCTION

The District of Columbia Water and Sewer Authority (DC Water) operates a wastewater collection system comprised of separate and combined sewers. Separate storm and sanitary sewers serve parts of the District. In the combined sewer system (CSS), there is a single sewer to convey storm water and sanitary wastes. The area served by combined sewers comprises about one-third of the District.

During dry weather, sanitary wastes collected in the CSS are conveyed to the DC Water's wastewater treatment plant at Blue Plains (BPWWTP or the Blue Plains WWTP). During periods of rainfall, the capacity of a combined sewer may be exceeded and the excess flow, which is a mixture of storm water and sanitary wastes, is discharged directly to the Anacostia River, Rock Creek or the Potomac River or their tributary waters. This report summarizes the operations of the combined sewer system for the month indicated.

2. OPERATION AND MAINTENANCE

2.1 Regulators

Regulators divert combined sewage to interceptors, which convey flow to BPWWTP for treatment. When flows exceed the capacities of the systems such as during significant rain events, regulators divert excess flow to CSO outfalls which discharge to receiving waters. The following table summarizes inspections of CSO regulators in the collection system.

Table 2-1
Regulator Structures

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
2	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	11/21/16	*			
4	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	11/21/16	*			
5	Poplar Point Pumping Station	004	11/29/16	*			
6	Chicago Street and Railroad Ave, SE	005	11/03/16	*			
7	W Street and Railroad Ave, SE	005	11/03/16	*			
8[1]	Good Hope Rd, west of Nichols Ave, SE	006	N/A				
9	13th Street and Ridge Place, SE	007	11/03/16	*			
11	"O" Street Pumping Station	011(a)	11/29/16	*			
12	Storm Pump Discharge at Main Pumping Station	011	11/29/16	*			
13	2nd Street, 300 ft. north of N Place, SE	009	11/25/16	*			
14	2nd Street, 250 ft. north of N Place, SE	011(a)	11/25/16	*			
15	South Capitol and E Streets	010	11/21/16	*			
15a	Half and L Streets, SE	010	11/21/16	*			
15b	South Capitol and I Streets	010	11/14/16	*			
15c	South Capitol and I Streets	010	11/14/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
16	North of Main Sewage Pumping Station	012	11/25/16	*			
17	4th and N Streets, SE, Both Extended	013	11/14/16	*			
17a	K Street between 6th Street and 7th Street, SE	013	11/30/16	*			
18	6th and M Streets, SE	014	11/14/16	*			
19	9th and M Streets, SE	015	11/14/16	*			
19a	9th and M Streets, SE	015	11/14/16	*			
20	12th and M Streets, SE	016	11/16/16	*			
20a	12th and M Streets, SE	016	11/16/16	*			
21	14th and M Streets, SE	017	11/14/16	*			
22a	Barney Circle and Pennsylvania Ave, SE	018	11/09/16	*			
22b	Barney Circle and Pennsylvania Ave, SE	018	11/09/16	*			
22c	Barney Circle and Pennsylvania Ave, SE	018	11/09/16	*			
22d	Kentucky Ave and Potomac Street, SE	018	11/09/16	*			
22e	14th Street and Kentucky Ave, SE	018	11/09/16	*			
23	Independence Ave, 21st Street, SE, Extended	019	11/10/16	*			
24a	East Capitol St, west of RFK stadium	019	11/10/16	*			
28	21st and Constitution Ave, NW	020	11/25/16	*			
29	22nd Street, between Constitution Ave and C St, NW	020	11/25/16	*			
30	17th and D Streets, NW	020	11/14/16	*			
31	15th Street and Pennsylvania Ave, NW	020	11/14/16	*			
33	10th and F Streets, NW	020	11/14/16	*			
34	23rd Street, north of Constitution Ave, NW	020	11/21/16	*			
34a	23rd Street near C Street, NW	020	11/25/16	*			
35	Northeast of Roosevelt Bridge, NW	021	11/28/16	*			
36	27th and I Streets, NW	022	11/25/16	*			
36a	New Hampshire Ave and Eye Street, NW	022	11/25/16	*			
36b	19th and L Streets, NW	022, 034	11/03/16	*			
36d	17th and L Streets, NW	022, 034	11/03/16	*			
36g	18th and M Streets, NW	022, 034	11/03/16	*			
36h	18th and M Streets, NW	022, 034	11/03/16	*			
37	27th and Eye Streets, NW	022	11/25/16	*			
38	29th and K Streets, NW	024	11/09/16	*			
38a	30th Street, south of K Street, NW	024	11/08/16	*			
39a	30th and K Streets, NW	024	11/09/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
39b	30th and K Streets, NW	024	11/09/16	*			
41b	31st and K Streets, NW	025	11/09/16	*			
41c	31st and K Streets, NW	025	11/09/16	*			
42	Wisconsin Ave and K Street, NW	026	11/21/16	*			
43	Potomac and Water Streets, NW	027	11/21/16	*			
43a	Potomac and Water Streets, NW	027	11/21/16	*			
44	Water Street, west of Potomac St, NW	027	11/21/16	*			
45	36th and M Streets, NW	028	11/10/16	*			
46	Canal Rd, 1000ft. east of Foxhall Rd, NW	029	11/10/16	*			
47	38th Street and Reservoir Road, NW	029	11/10/16	*			
47a	37th and T Streets, NW	029	11/10/16	*			
47b	37th and T Streets, NW	029	11/10/16	*			
47c	38th and W Streets, NW	029	11/10/16	*			
49[1]	Pennsylvania Ave, east side of Rock Creek, NW	031	N/A				
50	26 and M Streets, NW	032	11/29/16	*			
51	N Street Extended, west of 25th Street, NW	033	11/29/16	*			
52	22nd Street between M and N Streets, NW	034	11/21/16	*			
52a	N Street between 22nd and 23rd Streets, NW	034	11/21/16	*			
53	22nd and M Streets, NW	022, 034	11/25/16	*			
53a	22nd and M Streets, NW	022, 034	11/25/16	*			
53b	L Street between 21st Street and New Hampshire Ave, NW	022, 034	11/28/16	*			
53c	L and 22nd Streets, NW	022	11/28/16	*			
54	23rd and O Streets, NW	034	11/28/16	*			
55	22nd Street, south of Q Street, NW	035	11/28/16	*			
55a	22nd Street, south of Q Street, NW	035	11/28/16	*			
56	23rd and Massachusetts Ave, NW	036	11/28/16	*			
57	23rd Street, south of Q Street, NW	036	11/28/16	*			
58[1]	Northwest of Belmont Road and Rock Creek and Potomac Parkway, NW	037	N/A				
59	North of Belmont Rd, east of Kalorama Cir, NW	038	11/08/16	*			
60	Connecticut Ave, east of Rock Creek, NW	039	11/08/16	*			
61	Biltmore St, Extended, east of Rock Creek, NW	040	11/08/16	*			
62	Ontario Rd, Extended, and Rock Creek Pkwy, NW	041	11/16/16	*			
63	Harvard Street and Rock Creek Parkway, NW	042	11/16/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
64	Adams Mill Road, south of Irving Street, NW	043	11/16/16	*			
65	Kenyon Street and Adams Mill Road, NW	044	11/16/16	*			
65a	Kenyon Street and Adams Mill Road, NW	044	11/16/16	*			
66	Adams Mill Road and Lamont Street, NW	045	11/16/16	*			
67	Park Rd , south of Piney Branch Pkwy, NW	046	11/16/16	*			
68	Ingleside Terrance, Extended and Piney Branch Parkway, NW	047	11/21/16	*			
69	Mt. Pleasant Street, Extended and Piney Branch Parkway, NW	048	11/21/16	*			
70	Piney Branch Parkway, west of 16th Street, NW	049	11/21/16	*			
70i	5th and Quackenbos Streets, NW	049	11/03/16	*			
71	28th Street, west of Rock Creek Parkway, NW	050	11/08/16	*			
72	Olive Street Extended and Rock Creek Pkwy, NW	051	11/29/16	*			
72a	Olive Street Extended and Rock Creek Pkwy, NW	051	11/28/16	*			
73	O Street Extended and Rock Creek Parkway, NW	052	11/29/16	*			
74[1]	Q Street, west of Rock Creek, NW	053	N/A				
75	West side of Rock Creek, 300 ft. south of Massachusetts Ave, NW	054	11/16/16	*			
77	Normanstone Dr Extended, west of Rock Creek, NW	056	11/16/16	*			
77a	Normanstone Dr and Normanstone Lane, NW	056	11/16/16	*			
78[1]	28th Street Extended, west of Rock Creek, NW	057	N/A				
79[1]	Connecticut Ave and Rock Creek Parkway, NW	058	N/A				
84	26th and P Streets, NW	060	11/28/16	*			
84a	26th and P Streets, NW	060	11/28/16	*			

Notes:

1. Structure no longer functions as a combined sewer overflow regulator structure.

2.2 Outfalls, Tide Gates and CSO Signs

The following table summarizes inspections, maintenance and work performed on outfall structures, tide gates and CSO signs in the collection system.

Table 2-2
Outfalls and Tide Gates

NPDES Outfall	*Location*	*Date Inspected*	*Outfall Condition*		*Tide Gate Present?*		*Tide Gate Condition*		*CSO Sign*		*Notes, Work Needed or Performed*
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
003	Bolling Air Force Base, at Giavanolli and Chanute, SW	11/21/16	*		*		*		*		
005	Across from Navy Yard, aligned with Parsons Ave., SE	11/28/16	*		*		*		*		
006[1]	Good Hope Road and Welsh Memorial Bridge	N/A									
007	Between 11th St. and Anacostia Bridges, SE	11/28/16	*		*		*		*		
009	O St. Sewage Pumping Station, SE	11/29/16	*		*		*		*		
010	O St. Sewage Pumping Station, SE	11/29/16	*			*			*		
011	Main Sewage Pumping Station, SE	11/29/16	*			*			*		
011(a)	Main Sewage Pumping Station, SE	11/29/16	*		*		*		*		
012	Main Sewage Pumping Station, SE	11/29/16	*		*		*		*		
013	Southeast Federal Center, aligned with 4th St.	11/29/16	*		*		*		*		
014	Navy Yard, aligned with 6th St., SE	11/29/16	*		*		*		*		
015	Navy Yard, aligned with 9th Street, SE	11/29/16	*			*			*		
016	12th and O Streets, SE	11/28/16	*		*		*		*		
017	M and Water Street, SE	11/28/16	*		*		*		*		
018	East of Barney Circle & South of Pennsylvania Avenue Bridge, SE	11/28/16	*		*		*		*		
019	Adjacent to Service Drive behind swirl facility & D.C. General Hospital	11/16/16	*		*		*		*		
020	Rock Creek Parkway and Independence, NW	11/30/16	*		*		*		*		
021	Rock Creek Parkway and C St., NW	11/29/16	*		*		*		*		
022	Rock Creek Parkway and G St., NW	11/30/16	*		*		*		*		
024	South of 30th and K Streets, NW[1]	11/29/16	*		*		*		*		
025	South of 31st and K Streets, NW	11/29/16	*		*		*		*		
026	Wisconsin Avenue and Water Street, NW	11/29/16	*		*		*		*		
027	33rd and Water Sts., NW	11/29/16	*			*			*		
028	Key Bridge and Whitehurst Freeway, NW	11/29/16	*			*			*		
029	Adjacent to C&O Canal, aligned with 38th St. NW	11/29/16	*			*			*		
031[1]	Rock Creek Pkwy & Pennsylvania Avenue, NW	N/A									
032	26th and M Street, NW.	11/29/16	*			*			*		

NPDES Outfall	Location	Date Inspected	Outfall Condition		Tide Gate Present?		Tide Gate Condition		CSO Sign		Notes, Work Needed or Performed
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
033	Across street from St. Francis Jr. High and aligned with N St., NW.	11/29/16	*		*		*		*		
034	Just west of St. Francis Jr. High and north of N St., NW	11/28/16	*			*			*		
035	P St. Bridge and Rock Creek Parkway	11/28/16	*			*			*		
036	22nd Street, South of Q Street NW.	11/04/16	*		*		*		*		
037[1]	Waterside Dr. and Rock Creek Parkway	N/A									
038	Between arch footbridge and Connecticut Ave., north of Kalorama Circle, NW.	11/04/16	*		*		*		*		
039	Connecticut Avenue Bridge and Rock Creek Parkway, NW.	11/04/16	*		*		*		*		
040	Aligned with Biltmore Rd., between Connecticut Ave and Ellington Bridge.	11/04/16	*		*		*		*		
041	Beach Dr. and Ontario Pl., NW	11/28/16	*		*		*		*		
042	Harvard St. and Beach Dr NW.	11/28/16	*		*		*		*		
043	Upstream of Harvard St. and Beach Dr NW.	11/28/16	*		*		*		*		
044	Kenyon Street and Beach Dr., NW.	11/28/16	*		*		*		*		
045	North of Beach Dr. and Walbridge Pl, NW.	11/28/16	*		*		*		*		
046	Piney Branch Parkway and Park Road, NW.	11/16/16	*			*			*		
047	Piney Branch Parkway and Ingleside Terrace	11/21/16	*		*		*		*		
048	South of Piney Branch Parkway and 17th St.	11/21/16	*		*		*		*		
049	North of Piney Branch Parkway and 17th St.	11/21/16	*		*		*		*		
050	Rock Creek Parkway and L St., NW	11/04/16	*		*		*		*		
051	Across Rock Creek Pkwy, aligned with Olive St., NW.	11/29/16	*		*		*		*		
052	Between P & Penna. Ave Bridges, aligned with O Street, NW.	11/29/16	*		*		*		*		
053[1]	Q St. Bridge and Rock Creek Parkway, NW.	N/A									
054	Massachusetts Ave & Rock Creek Parkway, NW.	11/16/16	*		*		*		*		
056	Normanstone Dr. and Rock Creek Parkway, NW.	11/16/16	*		*		*		*		
057[1]	28th Street and Rock Creek Parkway, NW	N/A									
058[1]	Connecticut Ave & Rock Creek Parkway, NW.	N/A									
060	North of P St. Bridge & Rock Creek Pkwy, NW	11/04/16	*		*		*		*		

Notes:

1. Outfall no longer functions as a combined sewer outfall.

2.3 Pumping Stations

Pumping station operations are summarized in the table below.

Table 2-3
Pumping Stations – Inspections and Equipment in Service

Pumping Station	*No. of Inspections*	*No. Screens*	*No. Pumps*	*Screens or Pumps Out of Service*	*Dates*	*Reason*	*Work Order Number*	*Schedule to Restore to Service*[1]
Main	30	3	4	None	N/A	N/A	N/A	N/A
Eastside	2	2	4	Pump #4	11/01/16-11/03/16	Excessive noise & vibration	17-35191	Returned to service on 11/03/16
Poplar Point	2	2	3	Pump #3 Pump #3	11/01/16-11/02/16 11/16/16-11/30/16	Power supply replacement Excessive noise	17-58327 17-45345	Returned to service on 11/02/16 Anticipated 01/31/17
Potomac	30	4	5	Screen #1 Pump #1	11/01/16-11/30/16 11/01/16-11/30/16	Screen replacement[2] Discharge pipe construction[2]	Contractor Contractor	Anticipated 12/02/16 Anticipated 12/02/16

Notes:

1. The schedule to restore to service is impacted by the type and age of equipment. In some cases, the condition of equipment and the lack of availability of replacement parts necessitate complete replacement of the unit or element or custom fabrication of needed parts to return the units to service. For these and other reasons, projects are underway for the rehabilitation of the pumping stations, including replacement of mechanical screens. The Potomac Pumping Station Phase 3 upgrade project is currently ongoing and replacement of the mechanical screens, sluice gates, and discharge isolations valves began in September 2016.
2. This is part of the Potomac Pump Station Phase 3 upgrade project.

Table 2-4
Pumping Stations – Preventive Maintenance

Pumping Station	*Date Performed*	*Type of Preventive Maintenance Performed*[1]	*Work Order Number*	*Comments*
Main	11/01/16	Group A	17-18080	Add oil, grease bearings and replace packing if needed.
O St	11/01/16	Group A	17-39429	Add oil, grease bearings and replace packing if needed.
Eastside	11/13/16	Group A	17-30352	Add oil, grease bearings and replace packing if needed.
Poplar Point	11/13/16	Group A	17-13226	Add oil, grease bearings and replace packing if needed.
Potomac	11/01/16	Group A	17-30494	Add oil, grease bearings and replace packing if needed.
Rock Creek	11/13/16	Group A	16-558415	Add oil, grease bearings and replace packing if needed.
Upper Anacostia	11/13/16	Group A	17-18094	Add oil, grease bearings and replace packing if needed.
Earl Place	11/13/16	Group A	16-537965	Add oil, grease bearings and replace packing if needed.

Notes:
1. Group A consists of:
Exercise bar screens
Exercise all sump pumps
Drain condensation from air compressor storage tank
Check depth of screening in the screen room and schedule Vactor truck as required
Check all safety equipment
Issue work order requests as required

Table 2-5
Pumping Stations – Pumpage

	Sanitary Pumpage		*Storm Water/CSO Pumped To Anacostia River*		
Pumping Station	*Total Wastewater (mg)*	*Daily Average Wastewater (mg)*	*Date*	*Volume (mg)*	*Screenings Collected (units)*[1]
Main	1529.54	50.98	N/A	N/A	N/A
O St	112.80	3.76	N/A	N/A	N/A
Eastside	109.89	3.66	N/A	N/A	N/A
Poplar Point	488.23	16.27	N/A	N/A	N/A
Potomac	2651.63	88.39	N/A	N/A	N/A
Rock Creek	108.50	3.62	N/A	N/A	N/A
Upper Anacostia	36.46	1.22	N/A	N/A	N/A
Earl Place	0.152	0.005	N/A	N/A	N/A

Notes:
1. Screening consists of vertical trash racks, with no mechanical cleaning. Quantification of captured materials is not possible on monthly basis.

2.4 Northeast Boundary Swirl Facility

The Northeast Boundary Swirl Facility provides screening, swirl concentration, chlorination and dechlorination of CSO overflow from CSO 019. The capacity of the facility is 400 MGD. Facility operations are summarized below:

Table 2-6
Northeast Boundary Swirl Facility – Inspections and Equipment in Service

Date Inspected	*No. Screens*	*No. Swirls*	*Screens or Swirls Out of Service*	*Dates*	*Reason*	*Schedule to Restore to Service*
11/13/16	3	3	Screen #3	11/01/16-11/30/16	Bent bars & back plate	Anticipated 02/01/17

Table 2-7
Northeast Boundary Swirl Facility – Preventive Maintenance

Date Performed	*Type of Preventive Maintenance Performed*[1]	*Work Order Number*	*Comments*
11/13/16	Group A	17-31551	

Notes:
1. Group A consists of:
Exercise bar screens
Exercise wash down system
Exercise knife gates full travel both directions
Check depth of grit in grit channel and schedule Vactor truck as required
Change chart paper on strip chart recorders at the end of each month
Thoroughly clean each Swirl tank and channels
Issue work order requests as required
Drain condensation from air compress
Check all safety equipment

Table 2-8
Northeast Boundary Swirl Facility – Wet Weather Operations

Date	*Approx. Storm Duration (hrs)*[1]	*Total Influent Volume (mg)*	*Total Foul Sewer Volume (mg)*	*Total Effluent Volume (mg)*	*Approx. Screenings Volume (Cu. ft)*
11/30/16 am	4	7.65	3.82	3.83[2]	80
11/30/16 pm	7	5.27	3.78	1.49[2]	60

Notes:
1. Approx. length of time influent flow rate was above the 15 mgd threshold for allowing flow through the facility.
2. Volume calculated for this event using weir level data.

Chlorination/Dechlorination Systems.

The table below summarizes the information about operation of Swirl Facility chlorination and dechlorination systems during storm events. Chemical feed systems were activated during the storms in which flows were substantial enough to overflow the mix chamber weir. Included in the table are results of residual chlorine and fecal coliform testing for samples taken in the Swirl Facility mix chamber and at the facility effluent outfall to the Anacostia River.

A grab sample is collected and immediately tested with an AutoCat 9000 chlorine residual titrator to obtain test results for residual chlorine. Samples for fecal coliform are taken from the designated sample point, treated with sodium bisulfite to remove any residual chlorine, and conveyed to the Blue Plains Wastewater Treatment Plant Laboratory for testing.

Table 2-9
Northeast Boundary Swirl Facility – Disinfection Performance

Date	*Chlor/ Dechlor System Used?*	*Dosage*		*Residual Chlorine Test Results*		*E. Coli Test Results*	
		NaOCl (mg/l)	*$NaHSO_3$ (mg/l)*	*Location*	*Conc. (mg/l)*	*Site*	*Count Per 100ml*
11/30/16 am[2]	Yes	11.1	20.4	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River[1]	N/A	Anacostia River[1]	N/A
11/30/16 pm[2]	Yes	28.3	66.3	Mix Chamber	N/A	Mix Chamber	N/A
				Anacostia River[1]	N/A	Anacostia River[1]	N/A

Notes:
1. River: River Outfall
2. Samples were not taken for these events as the discharge did not last two hours.

Table 2-10
Northeast Boundary Swirl Facility – Effluent Sampling Results

	Flow Composited Sample Results						
Date	*Total suspended solids (mg/L)*	*Nitrite (NO2-N) mg/L*	*Nitrate (NO3-N)) mg/L*	*Total Kjeldahl Nitrogen (mg/L as N)*	*Total Nitrogen (mg/L)*	*Total Phosphorus (mg/L)*	*Carbonaceous Biological Oxygen Demand (mg/L)*
None	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2.5 Inflatable Dams

DC Water operates and maintains twelve inflatable dams at eight different locations. The structure number, location and number of dams per site are presented in Table 2-11. The inflatable dams consist of multi-ply elastomeric (i.e., "rubber") fabric dams installed in major overflow conduits within the combined sewer system. The objective of the inflatable dam installation is to increase the effective depth to which the sewage must rise in the combined sewer before overflows occur. The effect of the installation is to retain a greater volume of combined sewage flow resulting from low to moderate intensity storms by maximizing storage within the CSS. During higher intensity storms, when the full carrying capacity of the overflow conduit is required to prevent upstream flooding, the dam is deflated automatically. Inflatable dam operations are summarized below:

Table 2-11
Inflatable Dams – Inspections and Equipment in Service

Inflatable Dam Structure No	*Date Inspected*	*Was Dam Out of Service During the Month?*	*Dates out of Service*	*Reason*	*Schedule to Restore to Service*
14 - East	11/17/16	**Yes**	**11/29/16-11/30/16**	**Power Failure[1]**	**Returned to service on 11/30/16**
14 - West	11/17/16	**Yes**	**11/29/16-11/30/16**	**Power Failure[1]**	**Returned to service on 11/30/16**
15	11/17/16	**No**	**N/A**	**N/A**	**N/A**
15A	11/17/16	**No**	**N/A**	**N/A**	**N/A**
16 - East	11/17/16	**Yes**	**11/29/16-11/30/16**	**Power Failure[1]**	**Returned to service on 11/30/16**
16 - West	11/17/16	**Yes**	**11/29/16-11/30/16**	**Power Failure[1]**	**Returned to service on 11/30/16**
24 - North	11/22/16	**No**	**N/A**	**N/A**	**N/A**
24 - Middle	11/22/16	**No**	**N/A**	**N/A**	**N/A**
24 - South	11/22/16	**No**	**N/A**	**N/A**	**N/A**
34	11/17/16	**No**	**N/A**	**N/A**	**N/A**
35	11/22/16	**No**	**N/A**	**N/A**	**N/A**
52	11/17/16	**No**	**N/A**	**N/A**	**N/A**

Notes:

1. Power failure occurred due to temporary failure of Pepco feed.

Table 2-12
Inflatable Dams & SCADA Sites - Wet Weather Operations

Inflatable Dam Structure No.	*Overflow Dates*	*Estimated Duration of Overflow*
14 (E & W)	*None*	*N/A*
15	*None*	*N/A*
15A	*None*	*N/A*
16 (E & W)	*None*	*N/A*
24	*11/30/16*	*48 mins*
34	*None*	*N/A*
35	*11/30/16*	*1 hr 12 mins*
52	*None*	*N/A*
Structures on Outfall Sewers	*Overflow Dates*	*Estimated Duration of Overflow*
Outfall Structure 1	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 1A	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 2	None	None
Outfall Sewer Control Gates	*Operational Status*	*Position*
Outfall Sewer Control Gate No.1	Operational	Open
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible

3. DRY WEATHER OVERFLOWS

There was no dry weather combined sewer overflow during November 2016.

SOLIDS AND FLOATABLES CONTROL

3.1 Catch Basin Cleaning

The following tables summarize catch basin cleaning in the Anacostia CSO area and in the entire sewer system:

			Inspections			*Cleaning*					
						CBs Cleaned Thru Last Month		*CB's Cleaned This Month*		*Total CBs Cleaned This Year to Date*	
Ward	*Total CBs*	*CBs in CSS*	*CBs in Anacostia CSS*	*Total Anacostia CBs Inspected Once this Year*	*Total Anacostia CBs Inspected Twice this Year*	Total	In CSS	Total	In CSS	Total	In CSS
1	1456	1417	601	601	559	1179	1164	171	142	1350	1306
2	2863	2681	539	539	295	1001	918	478	415	1479	1333
3	3651	166	0	0	0	3069	90	689	137	3758	227
4	3448	1708	0	0	0	3216	1770	424	24	3640	1794
5	3890	1779	1688	1688	1154	3573	1474	179	30	3752	1504
6	3527	2886	2886	2886	2668	3010	2629	702	250	3712	2879
7	3461	27	27	27	13	4113	26	21	21	4134	47
8	2679	206	206	206	121	2160	187	596	5	2756	192
Grand Total	**24975**	**10870**	**5947**	**5947**	**4810**	**21321**	**8258**	**3260**	**1024**	**24581**	**9282**
% Cleaned/Inspected to Date				**100%**	**81%**	**85%**	**76%**			**98%**	**85%**

Note: In preparation for the deployment of the Catch Basin Cleaning Application, an exercise was completed to verify and update the catch basin data for those catch basins that flowed to the Anacostia. DC Water originally was managing the catch basin cleaning at the counter map level, and then progressed to a cluster and with the deployment in May of the Catch Basin Cleaning Application, DC Water is now tracking cleaning at the individual catch basin level – against the asset itself. The totals have changed due to information that is more accurate.
In November we focused on confirming and processing the catch basins that the crews identified as not located in the field due to redevelopment or mapping inaccuracies which has resulted in a lower overall total.

3.2 BMP Demonstration Projects

DC WATER operates the following demonstration projects designed to remove solids and floatables from CSO prior to discharge.

- Netting system at CSO 018 to Anacostia River
- Bar Rack at CSO 040 and 041 to Rock Creek

Table 3-2
BMP Demonstration Projects – Report

Facility	*Date Inspected*	*Condition*	*Work Needed*	*Work performed*	*Material Removed (CY)*
Netting System CSO 018	11/30/2016	Good	Routine cleaning	Routine cleaning	None
Bar Rack CSO 040	11/4/2016	Good	None	Routine Cleaning	(1)
Bar Rack CSO 041	11/28/2016	Good	None	Routine Cleaning	(1)

Notes:
(1) System was designed so that captured solids and floatable are conveyed to Blue Plains for treatment.

3.3 Anacostia River Floating Debris Removal Program

This program was initiated in October 1992 to remove floating debris from Anacostia and Potomac Rivers on a routine basis. The program has continued from that time and is now under the auspices of DC WATER, Department of Sewer Services. The floating debris removal program utilizes a skimmer boat and support boats to remove floatable debris from the Rivers as well as trash, which accumulates on the riverbanks and in the mud flats at low tides. Work for the most part is directed toward the Anacostia River. The boats pick up debris five days a week. Operations are summarized as follows:

Table 3-3
Anacostia River Floating Debris Removal Program – Summary

Program Operation	5-day work week, excluding holidays, weather permitting
Work Days this month:	20
Days not Operating	7
Reason not Operating	Environmental (7)
# Skimmer in Fleet	3 Skimmers
# Skimmers Out of Service	1 Skimmer (on the last day of the month)
Dates	B28: 11/1 - 11/30
Reason	B28: Front assembly catching on hull.
Plan to Restore to Service	B28: Sent to contractors for repair, ETR unknown.
Volume Material Collected	10 tons.
Nature of Material	Bottles, cans, natural debris and plastics.

3.4 CSS Litter Control

This section describes DC WATER's efforts to coordinate litter control efforts with the National Park Service and D.C. Department of Public Works to maximize litter control efforts in the combined sewer system.

Status: no activities this month.

4. MONITORING

4.1 Condition Report Bar Racks at Main and O Street Storm Pumps

DC Water performs visual surveys of the bar racks at Main and O Street Pumping Stations to characterize the quantity and nature of floatable discharge. The physical condition of the bar racks and any maintenance requirements are also noted.

Table 4-1
Bar Racks at Main & O Street Pumping Stations

Inspector: Keith Watts

Pumping Station	Inspector	Date Inspected	Condition		Work Needed	Work Performed or Schedule for Completion
			Good	Needs Work		
Bar Racks at O Street Storm Pumps (CSO 010)	KW	11/13/16	X			
Bar Racks at Main Storm Pumps (CSO 011)	KW	11/13/16	X			

4.2 Rain Data

Rain data from National Airport and from the rain gauges installed in the CSS are summarized below.

Date	Brentwood Pumping Station	Bryant Street Pumping Station	Main Pumping Station	Rock Creek Pumping Station	National Airport
11/1/2016	0	0	0	0	0
11/2/2016	0	0	0	0	0
11/3/2016	0	0	0	0	0
11/4/2016	0	0	0	0	0
11/5/2016	0	0	0	0	0
11/6/2016	0	0	0	0	0
11/7/2016	0	0	0	0	0
11/8/2016	0	0	0	0	0
11/9/2016	0.12	0.14	0.15	0.13	0.19
11/10/2016	0	0	0.01	0	0
11/11/2016	0	0	0	0	0
11/12/2016	0	0	0	0	0
11/13/2016	0	0	0	0	0
11/14/2016	0	0	0	0	0
11/15/2016	0	0	0	0	0
11/16/2016	0.01	0.01	0.02	0.03	0.02
11/17/2016	0	0	0	0	0
11/18/2016	0	0	0	0	0
11/19/2016	0.06	0.09	0.04	0.10	0.05
11/20/2016	0	0	0	0	0
11/21/2016	0	0	0	0	0
11/22/2016	0	0	0	0	0
11/23/2016	0	0	0	0	0
11/24/2016	0	0	0	0	0
11/25/2016	0	0	0	0	0
11/26/2016	0	0	0	0	0
11/27/2016	0	0	0	0	0
11/28/2016	0	0	0	0	0
11/29/2016	0.11	0.11	0.09	0.14	0.12
11/30/2016	0.64	0.72	0.40	0.66	0.38
TOTAL	0.94	1.07	0.71	1.06	0.76

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Serving the Public • Protecting the Environment

Monthly Operations Report
For
Combined Sewer System
Month: Dec 2016

Prepared By:
District of Columbia
Water and Sewer Authority
Department of Sewer Services
Washington, D.C. 20003

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

Monthly Operations Report for Combined Sewer System
Month: Dec 2016

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1. INTRODUCTION

The District of Columbia Water and Sewer Authority (DC Water) operates a wastewater collection system comprised of separate and combined sewers. Separate storm and sanitary sewers serve parts of the District. In the combined sewer system (CSS), there is a single sewer to convey storm water and sanitary wastes. The area served by combined sewers comprises about one-third of the District.

During dry weather, sanitary wastes collected in the CSS are conveyed to the DC Water's wastewater treatment plant at Blue Plains (BPWWTP or the Blue Plains WWTP). During periods of rainfall, the capacity of a combined sewer may be exceeded and the excess flow, which is a mixture of storm water and sanitary wastes, is discharged directly to the Anacostia River, Rock Creek or the Potomac River or their tributary waters. This report summarizes the operations of the combined sewer system for the month indicated.

2. OPERATION AND MAINTENANCE

2.1 Regulators

Regulators divert combined sewage to interceptors, which convey flow to BPWWTP for treatment. When flows exceed the capacities of the systems such as during significant rain events, regulators divert excess flow to CSO outfalls which discharge to receiving waters. The following table summarizes inspections of CSO regulators in the collection system.

Table 2-1
Regulator Structures

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
2	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	12/19/16	*			
4	Bolling AFB, 2250 ft. north of the south line of the Base, SW	003	12/19/16	*			
5	Poplar Point Pumping Station	004	12/22/16	*			
6	Chicago Street and Railroad Ave, SE	005	12/12/16	*			
7	W Street and Railroad Ave, SE	005	12/12/16	*			
8[1]	Good Hope Rd, west of Nichols Ave, SE	006	N/A				
9	13th Street and Ridge Place, SE	007	12/12/16	*			
11	"O" Street Pumping Station	011(a)	12/21/16	*			
12	Storm Pump Discharge at Main Pumping Station	011	12/15/16	*			
13	2nd Street, 300 ft. north of N Place, SE	009	12/13/16	*			
14	2nd Street, 250 ft. north of N Place, SE	011(a)	12/13/16	*			
15	South Capitol and E Streets	010	12/21/16	*			
15a	Half and L Streets, SE	010	12/21/16	*			
15b	South Capitol and I Streets	010	12/12/16	*			
15c	South Capitol and I Streets	010	12/12/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
16	North of Main Sewage Pumping Station	012	12/20/16	*			
17	4th and N Streets, SE, Both Extended	013	12/12/16	*			
17a	K Street between 6th Street and 7th Street, SE	013	12/22/16	*			
18	6th and M Streets, SE	014	12/12/16	*			
19	9th and M Streets, SE	015	12/12/16	*			
19a	9th and M Streets, SE	015	12/12/16	*			
20	12th and M Streets, SE	016	12/12/16	*			
20a	12th and M Streets, SE	016	12/12/16	*			
21	14th and M Streets, SE	017	12/12/16	*			
22a	Barney Circle and Pennsylvania Ave, SE	018	12/12/16	*			
22b	Barney Circle and Pennsylvania Ave, SE	018	12/12/16	*			
22c	Barney Circle and Pennsylvania Ave, SE	018	12/12/16	*			
22d	Kentucky Ave and Potomac Street, SE	018	12/12/16	*			
22e	14th Street and Kentucky Ave, SE	018	12/12/16	*			
23	Independence Ave, 21st Street, SE, Extended	019	12/12/16	*			
24a	East Capitol St, west of RFK stadium	019	12/12/16	*			
28	21st and Constitution Ave, NW	020	12/13/16	*			
29	22nd Street, between Constitution Ave and C St, NW	020	12/13/16	*			
30	17th and D Streets, NW	020	12/12/16	*			
31	15th Street and Pennsylvania Ave, NW	020	12/12/16	*			
33	10th and F Streets, NW	020	12/12/16	*			
34	23rd Street, north of Constitution Ave, NW	020	12/21/16	*			
34a	23rd Street near C Street, NW	020	12/13/16	*			
35	Northeast of Roosevelt Bridge, NW	021	12/22/16	*			
36	27th and I Streets, NW	022	12/13/16	*			
36a	New Hampshire Ave and Eye Street, NW	022	12/13/16	*			
36b	19th and L Streets, NW	022, 034	12/12/16	*			
36d	17th and L Streets, NW	022, 034	12/12/16	*			
36g	18th and M Streets, NW	022, 034	12/12/16	*			
36h	18th and M Streets, NW	022, 034	12/12/16	*			
37	27th and Eye Streets, NW	022	12/13/16	*			
38	29th and K Streets, NW	024	12/12/16	*			
38a	30th Street, south of K Street, NW	024	12/12/16	*			
39a	30th and K Streets, NW	024	12/12/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
39b	30th and K Streets, NW	024	12/12/16	*			
41b	31st and K Streets, NW	025	12/12/16	*			
41c	31st and K Streets, NW	025	12/12/16	*			
42	Wisconsin Ave and K Street, NW	026	12/30/16	*			
43	Potomac and Water Streets, NW	027	12/13/16	*			
43a	Potomac and Water Streets, NW	027	12/13/16	*			
44	Water Street, west of Potomac St, NW	027	12/13/16	*			
45	36th and M Streets, NW	028	12/12/16	*			
46	Canal Rd, 1000ft. east of Foxhall Rd, NW	029	12/12/16	*			
47	38th Street and Reservoir Road, NW	029	12/12/16	*			
47a	37th and T Streets, NW	029	12/12/16	*			
47b	37th and T Streets, NW	029	12/12/16	*			
47c	38th and W Streets, NW	029	12/12/16	*			
49[1]	Pennsylvania Ave, east side of Rock Creek, NW	031	N/A				
50	26 and M Streets, NW	032	12/20/16	*			
51	N Street Extended, west of 25th Street, NW	033	12/20/16	*			
52	22nd Street between M and N Streets, NW	034	12/21/16	*			
52a	N Street between 22nd and 23rd Streets, NW	034	12/20/16	*			
53	22nd and M Streets, NW	022, 034	12/20/16	*			
53a	22nd and M Streets, NW	022, 034	12/20/16	*			
53b	L Street between 21st Street and New Hampshire Ave, NW	022, 034	12/12/16	*			
53c	L and 22nd Streets, NW	022	12/12/16	*			
54	23rd and O Streets, NW	034	12/12/16	*			
55	22nd Street, south of Q Street, NW	035	12/12/16	*			
55a	22nd Street, south of Q Street, NW	035	12/12/16	*			
56	23rd and Massachusetts Ave, NW	036	12/12/16	*			
57	23rd Street, south of Q Street, NW	036	12/12/16	*			
58[1]	Northwest of Belmont Road and Rock Creek and Potomac Parkway, NW	037	N/A				
59	North of Belmont Rd, east of Kalorama Cir, NW	038	12/12/16	*			
60	Connecticut Ave, east of Rock Creek, NW	039	12/12/16	*			
61	Biltmore St, Extended, east of Rock Creek, NW	040	12/12/16	*			
62	Ontario Rd, Extended, and Rock Creek Pkwy, NW	041	12/15/16	*			
63	Harvard Street and Rock Creek Parkway, NW	042	12/14/16	*			

Structure Number	*Location*	*Associated NPDES Outfall*	*Date Inspected*	*Condition*		*Work Needed*	*Work performed*
				Good	Needs Work		
64	Adams Mill Road, south of Irving Street, NW	043	12/14/16	*			
65	Kenyon Street and Adams Mill Road, NW	044	12/14/16	*			
65a	Kenyon Street and Adams Mill Road, NW	044	12/14/16	*			
66	Adams Mill Road and Lamont Street, NW	045	12/14/16	*			
67	Park Rd , south of Piney Branch Pkwy, NW	046	12/14/16	*			
68	Ingleside Terrance, Extended and Piney Branch Parkway, NW	047	12/14/16	*			
69	Mt. Pleasant Street, Extended and Piney Branch Parkway, NW	048	12/14/16	*			
70	Piney Branch Parkway, west of 16th Street, NW	049	12/14/16	*			
70i	5th and Quackenbos Streets, NW	049	12/12/16	*			
71	28th Street, west of Rock Creek Parkway, NW	050	12/12/16	*			
72	Olive Street Extended and Rock Creek Pkwy, NW	051	12/12/16	*			
72a	Olive Street Extended and Rock Creek Pkwy, NW	051	12/12/16	*			
73	O Street Extended and Rock Creek Parkway, NW	052	12/12/16	*			
74[1]	Q Street, west of Rock Creek, NW	053	N/A				
75	West side of Rock Creek, 300 ft. south of Massachusetts Ave, NW	054	12/12/16	*			
77	Normanstone Dr Extended, west of Rock Creek, NW	056	12/12/16	*			
77a	Normanstone Dr and Normanstone Lane, NW	056	12/12/16	*			
78[1]	28th Street Extended, west of Rock Creek, NW	057	N/A				
79[1]	Connecticut Ave and Rock Creek Parkway, NW	058	N/A				
84	26th and P Streets, NW	060	12/12/16	*			
84a	26th and P Streets, NW	060	12/12/16	*			

Notes:

1. Structure no longer functions as a combined sewer overflow regulator structure.

2.2 Outfalls, Tide Gates and CSO Signs

The following table summarizes inspections, maintenance and work performed on outfall structures, tide gates and CSO signs in the collection system.

Table 2-2

Outfalls and Tide Gates

NPDES Outfall	*Location*	*Date Inspected*	*Outfall Condition*		*Tide Gate Present?*		*Tide Gate Condition*		*CSO Sign*		*Notes, Work Needed or Performed*
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
003	Bolling Air Force Base, at Giavanolli and Chanute, SW	12/20/16	*		*		*		*		
005	Across from Navy Yard, aligned with Parsons Ave., SE	12/05/16	*		*		*		*		
006[1]	Good Hope Road and Welsh Memorial Bridge	N/A									
007	Between 11th St. and Anacostia Bridges, SE	12/12/16	*		*		*		*		
009	O St. Sewage Pumping Station, SE	12/05/16	*			*			*		
010	O St. Sewage Pumping Station, SE	12/15/16	*			*			*		
011	Main Sewage Pumping Station, SE	12/15/16	*			*			*		
011(a)	Main Sewage Pumping Station, SE	12/15/16	*		*		*		*		
012	Main Sewage Pumping Station, SE	12/15/16	*		*		*		*		
013	Southeast Federal Center, aligned with 4th St.	12/15/16	*		*		*		*		
014	Navy Yard, aligned with 6th St., SE	12/15/16	*		*		*		*		
015	Navy Yard, aligned with 9th Street, SE	12/15/16	*			*			*		
016	12th and O Streets, SE	12/15/16	*		*		*		*		
017	M and Water Street, SE	12/19/16	*		*		*		*		
018	East of Barney Circle & South of Pennsylvania Avenue Bridge, SE	12/15/16	*		*		*		*		
019	Adjacent to Service Drive behind swirl facility & D.C. General Hospital	12/12/16	*		*		*		*		
020	Rock Creek Parkway and Independence, NW	12/20/16	*		*		*		*		
021	Rock Creek Parkway and C St., NW	12/19/16	*		*		*		*		
022	Rock Creek Parkway and G St., NW	12/19/16	*		*		*		*		
024	South of 30th and K Streets, NW[1]	12/19/16	*		*		*		*		
025	South of 31st and K Streets, NW	12/19/16	*		*		*		*		
026	Wisconsin Avenue and Water Street, NW	12/19/16	*		*		*		*		
027	33rd and Water Sts., NW	12/20/16	*			*			*		
028	Key Bridge and Whitehurst Freeway, NW	12/19/16	*			*			*		
029	Adjacent to C&O Canal, aligned with 38th St. NW	12/20/16	*			*			*		
031[1]	Rock Creek Pkwy & Pennsylvania Avenue, NW	N/A									
032	26th and M Street, NW.	12/20/16	*			*			*		
033	Across street from St. Francis Jr. High and aligned with N St., NW.	12/20/16	*		*		*		*		
034	Just west of St. Francis Jr. High and north of N St., NW	12/12/16	*			*			*		
035	P St. Bridge and Rock Creek Parkway	12/12/16	*			*			*		
036	22nd Street, South of Q Street NW.	12/08/16	*			*			*		

NPDES Outfall	*Location*	*Date Inspected*	*Outfall Condition*		*Tide Gate Present?*		*Tide Gate Condition*		*CSO Sign*		*Notes, Work Needed or Performed*
			OK	Needs Work	Yes	No	OK	Needs Work	OK	Needs Work	
037[1]	Waterside Dr. and Rock Creek Parkway	N/A									
038	Between arch footbridge and Connecticut Ave., north of Kalorama Circle, NW.	12/12/16	*		*		*		*		
039	Connecticut Avenue Bridge and Rock Creek Parkway, NW.	12/12/16	*		*		*		*		
040	Aligned with Biltmore Rd., between Connecticut Ave and Ellington Bridge.	12/12/16	*		*		*		*		
041	Beach Dr. and Ontario Pl., NW	12/12/16	*		*		*		*		
042	Harvard St. and Beach Dr NW.	12/12/16	*		*		*		*		
043	Upstream of Harvard St. and Beach Dr NW.	12/12/16	*		*		*		*		
044	Kenyon Street and Beach Dr., NW.	12/12/16	*		*		*		*		
045	North of Beach Dr. and Walbridge Pl, NW.	12/12/16	*		*		*		*		
046	Piney Branch Parkway and Park Road, NW.	12/14/16	*			*			*		
047	Piney Branch Parkway and Ingleside Terrace	12/14/16	*		*		*		*		
048	South of Piney Branch Parkway and 17th St.	12/14/16	*		*		*		*		
049	North of Piney Branch Parkway and 17th St.	12/14/16	*		*		*		*		
050	Rock Creek Parkway and L St., NW	12/12/16	*		*		*		*		
051	Across Rock Creek Pkwy, aligned with Olive St., NW.	12/21/16	*		*		*		*		
052	Between P & Penna. Ave Bridges, aligned with O Street, NW.	12/21/16	*		*		*		*		
053[1]	Q St. Bridge and Rock Creek Parkway, NW.	N/A									
054	Massachusetts Ave & Rock Creek Parkway, NW.	12/12/16	*		*		*		*		
056	Normanstone Dr. and Rock Creek Parkway, NW.	12/12/16	*		*		*		*		
057[1]	28th Street and Rock Creek Parkway, NW	N/A									
058[1]	Connecticut Ave & Rock Creek Parkway, NW.	N/A									
060	North of P St. Bridge & Rock Creek Pkwy, NW	12/12/16	*		*		*		*		

Notes:

1. Outfall no longer functions as a combined sewer outfall.

2.3 Pumping Stations

Pumping station operations are summarized in the table below.

Table 2-3
Pumping Stations – Inspections and Equipment in Service

Pumping Station	*No. of Inspections*	*No. Screens*	*No. Pumps*	*Screens or Pumps Out of Service*	*Dates*	*Reason*	*Work Order Number*	*Schedule to Restore to Service*[1]
Main	30	3	4	None	N/A	N/A	N/A	N/A
Eastside	2	2	4	Pump #1 Screen #1	12/01/16-12/02/16 12/07/16-12/13/16	Motor would not reset Motor broke from carriage	17-101995 17-110833	Returned to service on 12/02/16 Returned to service on 12/13/16
Poplar Point	2	2	3	Pump #3	12/01/16-12/31/16	Excessive noise	17-126260	Anticipated 01/31/17
Potomac	30	4	5	Screen #1 Pump #1	12/01/16-12/02/16 12/01/16-12/02/16	Screen replacement[2] Discharge pipe construction[2]	Contractor Contractor	Returned to service on 12/02/16 Returned to service on 12/02/16

Notes:

1. The schedule to restore to service is impacted by the type and age of equipment. In some cases, the condition of equipment and the lack of availability of replacement parts necessitate complete replacement of the unit or element or custom fabrication of needed parts to return the units to service. For these and other reasons, projects are underway for the rehabilitation of the pumping stations, including replacement of mechanical screens. The Potomac Pumping Station Phase 3 upgrade project is currently ongoing and replacement of the mechanical screens, sluice gates, and discharge isolations valves began in September 2016.
2. This is part of the Potomac Pump Station Phase 3 upgrade project.

Table 2-4
Pumping Stations – Preventive Maintenance

Pumping Station	*Date Performed*	*Type of Preventive Maintenance Performed*[1]	*Work Order Number*	*Comments*
Main	12/01/16	Group A	17-64595	Add oil, grease bearings and replace packing if needed.
O St	12/01/16	Group A	17-82172	Add oil, grease bearings and replace packing if needed.
Eastside	12/17/16	Group A	17-79626	Add oil, grease bearings and replace packing if needed.
Poplar Point	12/17/16	Group A	17-60729	Add oil, grease bearings and replace packing if needed.
Potomac	12/01/16	Group A	17-79718	Add oil, grease bearings and replace packing if needed.
Rock Creek	12/17/16	Group A	17-64609	Add oil, grease bearings and replace packing if needed.
Upper Anacostia	12/17/16	Group A	17-64623	Add oil, grease bearings and replace packing if needed.
Earl Place	12/17/16	Group A	17-35281	Add oil, grease bearings and replace packing if needed.

Notes:
1. Group A consists of:
Exercise bar screens
Exercise all sump pumps
Drain condensation from air compressor storage tank
Check depth of screening in the screen room and schedule Vactor truck as required
Check all safety equipment
Issue work order requests as required

Table 2-5
Pumping Stations – Pumpage

	Sanitary Pumpage		*Storm Water/CSO Pumped To Anacostia River*		
Pumping Station	*Total Wastewater (mg)*	*Daily Average Wastewater (mg)*	*Date*	*Volume (mg)*	*Screenings Collected (units)*[1]
Main	1698.37	54.79	N/A	N/A	N/A
O St	122.38	3.95	12/06/16	23.87	Normal
Eastside	146.79	4.74	N/A	N/A	N/A
Poplar Point	511.74	16.51	N/A	N/A	N/A
Potomac	2960.27	95.49	N/A	N/A	N/A
Rock Creek	121.86	3.93	N/A	N/A	N/A
Upper Anacostia	39.50	1.27	N/A	N/A	N/A
Earl Place	0.128	0.004	N/A	N/A	N/A

Notes:
1. Screening consists of vertical trash racks, with no mechanical cleaning. Quantification of captured materials is not possible on monthly basis.

2.4 Northeast Boundary Swirl Facility

The Northeast Boundary Swirl Facility provides screening, swirl concentration, chlorination and dechlorination of CSO overflow from CSO 019. The capacity of the facility is 400 MGD. Facility operations are summarized below:

Table 2-6
Northeast Boundary Swirl Facility – Inspections and Equipment in Service

Date Inspected	*No. Screens*	*No. Swirls*	*Screens or Swirls Out of Service*	*Dates*	*Reason*	*Schedule to Restore to Service*
12/17/16	3	3	Screen #3 Screen #2	12/01/16-12/31/16 12/24/16-12/31/16	Bent bars & back plate Chain and rake misaligned	Anticipated 02/01/17 Anticipated 01/04/17

Table 2-7
Northeast Boundary Swirl Facility – Preventive Maintenance

Date Performed	*Type of Preventive Maintenance Performed*[1]	*Work Order Number*	*Comments*
12/17/16	Group A	17-82290	

Notes:
1. Group A consists of:
Exercise bar screens
Exercise wash down system
Exercise knife gates full travel both directions
Check depth of grit in grit channel and schedule Vactor truck as required
Change chart paper on strip chart recorders at the end of each month
Thoroughly clean each Swirl tank and channels
Issue work order requests as required
Drain condensation from air compress
Check all safety equipment

Table 2-8
Northeast Boundary Swirl Facility – Wet Weather Operations

Date	*Approx. Storm Duration (hrs)*[1]	*Total Influent Volume (mg)*	*Total Foul Sewer Volume (mg)*	*Total Effluent Volume (mg)*	*Approx. Screenings Volume (Cu. ft)*
12/06/16	5.75	20.27	6.98	13.29	132
12/24/16	8.5	6.91	5.97	0.94	112

Notes:
1. Approx. length of time influent flow rate was above the 15 mgd threshold for allowing flow through the facility.

Chlorination/Dechlorination Systems.

The table below summarizes the information about operation of Swirl Facility chlorination and dechlorination systems during storm events. Chemical feed systems were activated during the storms in which flows were substantial enough to overflow the mix chamber weir. Included in the table are results of residual chlorine and fecal coliform testing for samples taken in the Swirl Facility mix chamber and at the facility effluent outfall to the Anacostia River.

A grab sample is collected and immediately tested with an AutoCat 9000 chlorine residual titrator to obtain test results for residual chlorine. Samples for fecal coliform are taken from the designated sample point, treated with sodium bisulfite to remove any residual chlorine, and conveyed to the Blue Plains Wastewater Treatment Plant Laboratory for testing.

Table 2-9
Northeast Boundary Swirl Facility – Disinfection Performance

Date	*Chlor/ Dechlor System Used?*	*Dosage*		*Residual Chlorine Test Results*		*E. Coli Test Results*	
		NaOCl (mg/l)	*$NaHSO_3$ (mg/l)*	*Location*	*Conc. (mg/l)*	*Site*	*Count Per 100ml*
12/06/16	Yes	12.1	16.7	Mix Chamber	0	Mix Chamber	340
				Anacostia River[1]	0	Anacostia River[1]	22,000
12/24/16	Yes	20.5	157.7	Mix Chamber	2.2	Mix Chamber	<10
				Anacostia River[1]	0.1	Anacostia River[1]	42,000

Notes:
1. River: River Outfall

Table 2-10
Northeast Boundary Swirl Facility – Effluent Sampling Results

	Flow Composited Sample Results						
Date	*Total suspended solids (mg/L)*	*Nitrite (NO2-N) mg/L*	*Nitrate (NO3-N)) mg/L*	*Total Kjeldahl Nitrogen (mg/L as N)*	*Total Nitrogen (mg/L)*	*Total Phosphorus (mg/L)*	*Carbonaceous Biological Oxygen Demand (mg/L)*
12/06/16	25.0	0.00	0.48	1.48	1.96	0.38	17.5
12/24/16	20.0	0.00	0.49	4.82	5.31	0.80	5.5

2.5 Inflatable Dams

DC Water operates and maintains twelve inflatable dams at eight different locations. The structure number, location and number of dams per site are presented in Table 2-11. The inflatable dams consist of multi-ply elastomeric (i.e., "rubber") fabric dams installed in major overflow conduits within the combined sewer system. The objective of the inflatable dam installation is to increase the effective depth to which the sewage must rise in the combined sewer before overflows occur. The effect of the installation is to retain a greater volume of combined sewage flow resulting from low to moderate intensity storms by maximizing storage within the CSS. During higher intensity storms, when the full carrying capacity of the overflow conduit is required to prevent upstream flooding, the dam is deflated automatically. Inflatable dam operations are summarized below:

Table 2-11
Inflatable Dams – Inspections and Equipment in Service

Inflatable Dam Structure No	*Date Inspected*	*Was Dam Out of Service During the Month?*	*Dates out of Service*	*Reason*	*Schedule to Restore to Service*
14 - East	12/20/16	**No**	**N/A**	**N/A**	**N/A**
14 - West	12/20/16	**No**	**N/A**	**N/A**	**N/A**
15	12/20/16	**No**	**N/A**	**N/A**	**N/A**
15A	12/20/16	**No**	**N/A**	**N/A**	**N/A**
16 - East	12/20/16	**No**	**N/A**	**N/A**	**N/A**
16 - West	12/20/16	**No**	**N/A**	**N/A**	**N/A**
24 - North	12/21/16	**No**	**N/A**	**N/A**	**N/A**
24 - Middle	12/21/16	**No**	**N/A**	**N/A**	**N/A**
24 - South	12/21/16	**No**	**N/A**	**N/A**	**N/A**
34	12/20/16	**No**	**N/A**	**N/A**	**N/A**
35	12/22/16	**No**	**N/A**	**N/A**	**N/A**
52	12/20/16	**Yes**	**12/20/16-12/27/16**	**Valve Malfunction**	**Returned to service on 12/27/16**

Notes:
Structure 52 was out of service during wet weather on 12/24/16. During this wet weather, there were no flow conditions at this structure capable of overflowing to the outfall and no wet weather discharge occurred.

Table 2-12
Inflatable Dams & SCADA Sites - Wet Weather Operations

Inflatable Dam Structure No.	*Overflow Dates*	*Estimated Duration of Overflow*
14 (E & W)	*None*	*N/A*
15	*None*	*N/A*
15A	*12/06/16*	*4 hrs 44 mins*
16 (E & W)	*None*	*N/A*
24	*12/06/16*	*1 hr 5 mins*
34	*None*	*N/A*
35	*None*	*N/A*
52	*None*	*N/A*
Structures on Outfall Sewers	*Overflow Dates*	*Estimated Duration of Overflow*
Outfall Structure 1	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 1A	None	This structure has been bulk headed. Overflows are no longer possible.
Outfall Structure 2	None	None
Outfall Sewer Control Gates	*Operational Status*	*Position*
Outfall Sewer Control Gate No.1	Operational	Open
Outfall Sewer Control Gate No.2	Operational	This structure has been bulk headed. Overflows are no longer possible

3. DRY WEATHER OVERFLOWS

There was no dry weather combined sewer overflow during December 2016.

SOLIDS AND FLOATABLES CONTROL

3.1 Catch Basin Cleaning

The following tables summarize catch basin cleaning in the Anacostia CSO area and in the entire sewer system:

			Inspections			*Cleaning*					
						CBs Cleaned Thru Last Month		*CB's Cleaned This Month*		*Total CBs Cleaned This Year to Date*	
Ward	*Total CBs*	*CBs in CSS*	*CBs in Anacostia CSS*	*Total Anacostia CBs Inspected Once this Year*	*Total Anacostia CBs Inspected Twice this Year*	Total	In CSS	Total	In CSS	Total	In CSS
1	1456	1417	601	601	601	1350	1306	158	147	1508	1453
2	2863	2681	539	539	539	1479	1333	1496	1380	2975	2713
3	3651	166	0	0	0	3758	227	105	54	3863	281
4	3448	1708	0	0	0	3640	1794	6	4	3646	1798
5	3890	1779	1688	1688	1688	3752	1504	616	323	4368	1827
6	3527	2886	2886	2886	2886	3712	2879	255	246	3967	3125
7	3461	27	27	27	27	4134	47	6	0	4140	47
8	2679	206	206	206	206	2756	192	46	31	2802	223
Grand Total	**24975**	**10870**	**5947**	**5947**	**5947**	**24581**	**9282**	**2688**	**2185**	**27269**	**11467**
% Cleaned/Inspected to Date				**100%**	**100%**	**98%**	**85%**			**109%**	**105%**

Note: In preparation for the deployment of the Catch Basin Cleaning Application, an exercise was completed to verify and update the catch basin data for those catch basins that flowed to the Anacostia. DC Water originally was managing the catch basin cleaning at the counter map level, and then progressed to a cluster and with the deployment in May of the Catch Basin Cleaning Application, DC Water is now tracking cleaning at the individual catch basin level – against the asset itself. The totals have changed due to information that is more accurate.
In November we focused on confirming and processing the catch basins that the crews identified as not located in the field due to redevelopment or mapping inaccuracies which has resulted in a lower overall total.

3.2 BMP Demonstration Projects

DC WATER operates the following demonstration projects designed to remove solids and floatables from CSO prior to discharge.

- Netting system at CSO 018 to Anacostia River
- Bar Rack at CSO 040 and 041 to Rock Creek

Table 3-2
BMP Demonstration Projects – Report

Facility	*Date Inspected*	*Condition*	*Work Needed*	*Work performed*	*Material Removed (CY)*
Netting System CSO 018	12/06/2016	Good	Replace nets	Nets replaced	850 pounds
Bar Rack CSO 040	12/12/2016	Good	None	Routine Cleaning	(1)
Bar Rack CSO 041	12/12/2016	Good	None	Routine Cleaning	(1)

Notes:
(1) System was designed so that captured solids and floatable are conveyed to Blue Plains for treatment.

3.3 Anacostia River Floating Debris Removal Program

This program was initiated in October 1992 to remove floating debris from Anacostia and Potomac Rivers on a routine basis. The program has continued from that time and is now under the auspices of DC WATER, Department of Sewer Services. The floating debris removal program utilizes a skimmer boat and support boats to remove floatable debris from the Rivers as well as trash, which accumulates on the riverbanks and in the mud flats at low tides. Work for the most part is directed toward the Anacostia River. The boats pick up debris five days a week. Operations are summarized as follows:

Table 3-3
Anacostia River Floating Debris Removal Program – Summary

Program Operation	5-day work week, excluding holidays, weather permitting
Work Days this month:	21
Days not Operating	15
Reason not Operating	Environmental (7). Fleet troubleshooting and maintenance (8).
# Skimmer in Fleet	3 Skimmers
# Skimmers Out of Service	1 Skimmer (on the last day of the month)
Dates	B28: 12/1 - 12/31 B29: 12/13 - 12/21
Reason	B28: Front assembly catching on hull. B29: Number one screen jammed.
Plan to Restore to Service	B28: Sent to contractors for repair, ETR unknown. B29: Returned to operations 12/22.
Volume Material Collected	10 tons.
Nature of Material	Bottles, cans, natural debris and plastics.

3.4 CSS Litter Control

This section describes DC WATER's efforts to coordinate litter control efforts with the National Park Service and D.C. Department of Public Works to maximize litter control efforts in the combined sewer system.

Status: no activities this month.

4. MONITORING

4.1 Condition Report Bar Racks at Main and O Street Storm Pumps

DC Water performs visual surveys of the bar racks at Main and O Street Pumping Stations to characterize the quantity and nature of floatable discharge. The physical condition of the bar racks and any maintenance requirements are also noted.

Table 4-1
Bar Racks at Main & O Street Pumping Stations

Inspector: Keith Watts

Pumping Station	Inspector	Date Inspected	Condition		Work Needed	Work Performed or Schedule for Completion
			Good	Needs Work		
Bar Racks at O Street Storm Pumps (CSO 010)	KW	12/24/16	X			
Bar Racks at Main Storm Pumps (CSO 011)	KW	12/24/16	X			

4.2 Rain Data

Rain data from National Airport and from the rain gauges installed in the CSS are summarized below.

Date	Brentwood Pumping Station	Bryant Street Pumping Station	Main Pumping Station	Rock Creek Pumping Station	National Airport
12/1/2016	0.09	0.09	0.13	0.10	0.14
12/2/2016	0	0	0	0	0
12/3/2016	0	0	0	0	0
12/4/2016	0.06	0.05	0.04	0.04	0.05
12/5/2016	0.24	0.17	0.15	0.15	0.18
12/6/2016	1.12	0.96	1.01	0.92	1.03
12/7/2016	0	0	0	0	0
12/8/2016	0	0	0	0	0
12/9/2016	0	0	0	0	0
12/10/2016	0	0	0	0	0
12/11/2016	0	0	0	0	0
12/12/2016	0.17	0.15	0.14	0.15	0.16
12/13/2016	0	0	0	0	0
12/14/2016	0	0	0	0	0
12/15/2016	0	0	0	0	0
12/16/2016	0	0	0	0	0
12/17/2016	0.18	0.12	0.26	0.12	0.26
12/18/2016	0	0	0.01	0.01	0.01
12/19/2016	0	0	0	0	0
12/20/2016	0	0	0	0	0
12/21/2016	0	0	0	0	0
12/22/2016	0	0	0	0	0
12/23/2016	0	0	0	0	0
12/24/2016	0.57	0.51	0.50	0.56	0.54
12/25/2016	0	0	0	0	0
12/26/2016	0	0	0	0	0
12/27/2016	0	0	0	0	0
12/28/2016	0	0	0	0	0
12/29/2016	0.24	0.20	0.22	0.23	0.24
12/30/2016	0	0	0	0	0
12/31/2016	0	0	0	0	0
TOTAL	2.67	2.25	2.46	2.28	2.61

District of Columbia Water and Sewer Authority

Combined Sewer System Model Results
Period: October, November, December 2016
SCENARIO: PCCM_QuarterlyReport_2016Q4v2, produced January 10, 2017

NPDES No.	Description	Number of Overflows (Occurrences)	CSO Overflow Volume (mg)	Total Duration of Overflow (hrs)	Avg Duration of Overflow (hrs)	Maximum Duration of Overflow (hrs)	Minimum Duration of Overflow (hrs)
Anacostia CSOs							
005	Chicago St and Railroad Station SE	9	0.89	19.25	2.14	6.25	0.50
006	Good Hope Road, West of Nichols Ave.,SE	separated					
007	13th Street and Ridge Place,SE	2	0.17	2.25	1.13	1.75	0.50
009	2nd Street, 300 feet North of N Place, SE	3	0.28	3.75	1.25	3.00	0.25
010	O Street SewagePumping Station, SE (pumped Overflow)	1	1.04	0.25	0.25	0.25	0.25
011	South of Main Sewage Pumping Station, SE (pumped overflow)	1	0.83	0.25	0.25	0.25	0.25
011a	South of Main SewagePumping Station, SE (gravity overflow)	0	0.00	0.00	0.00	0.00	0.00
012	North of Main SewagePumping Station, SE (Tiber Creek)	0	0.00	0.00	0.00	0.00	0.00
013	4th and N Streets, SE	4	0.13	2.75	0.69	2.00	0.25
014	6th and M Streets, SE	3	0.30	4.00	1.33	3.25	0.25
015	9th and M Streets, SE	3	0.00	2.75	0.92	1.75	0.50
016	12th and M Streets, SE	1	0.10	1.50	1.50	1.50	1.50
017	14th and M Streets, SE	5	1.42	11.75	2.35	5.50	0.50
018	Barney Circle andPennsylvania Ave, SE	2	0.65	4.25	2.13	3.50	0.75
019	Northeast Boundary - Swirl Effluent	3	31.07	14.50	4.83	6.25	2.75
019	Northeast Bound. - Swirl Bypass	0	0.00	0.00	0.00	0.00	0.00
	SUBTOTAL		**36.88**				
Potomac CSOs							
003	Bolling AFB	0	0.00	0.00	0.00	0.00	0.00
020	23rd Street, North ofConstitution Ave, NW (Easby Point)	1	0.02	1.50	1.50	1.50	1.50
021	Northeast ofRoosevelt Bridge, NW	3	20.16	8.00	2.67	5.25	1.00
022	27th and K Streets, NW	5	0.07	6.00	1.20	3.25	0.25
024	30th and K Streets, NW	2	0.40	4.50	2.25	4.00	0.50
025	31st & K St NW	0	0.00	0.00	0.00	0.00	0.00
026	Wisconsin Avenue andK St., NW	0	0.00	0.00	0.00	0.00	0.00
027	Water Street West ofStreet, NW	2	0.05	1.25	0.63	1.00	0.25
028	36th and M Streets, NW	4	0.18	5.25	1.31	3.00	0.25
029	Canal Road 1000 feet east of Rock Creek,NW	2	0.04	1.75	0.88	1.25	0.50
	SUBTOTAL		**20.92**				
Rock Creek							
031	Pennsylvania Avenue, East Rock Creek, NW	separated					
032	26th and M Streets, NW	0	0.00	0.00	0.00	0.00	0.00
033	N Street extendedwest of 25th Street,NW	0	0.00	0.00	0.00	0.00	0.00
034	23rd and O Streets, SW	0	0.00	0.00	0.00	0.00	0.00
035	22nd Street south of Q Street, NW	0	0.00	0.00	0.00	0.00	0.00
036	22nd Street South of Q Street, NW	2	0.008	2.50	1.25	2.00	0.50
037	Northwest of Belmontand Rock Creek and Potomac Parkway	separated					
038	North of Belmont Road,east of Kalorama Circle, NW	0	0.00	0.00	0.00	0.00	0.00
039	Connecticut Avenue east of Rock Creek, NW	0	0.00	0.00	0.00	0.00	0.00
040	Biltmore Street extended east of RockCreek, NW	0	0.00	0.00	0.00	0.00	0.00
041	Ontario extended and Rock Creek Parkway	0	0.00	0.00	0.00	0.00	0.00
042	Harvard Street and RockCreek Parkway, NW	0	0.00	0.00	0.00	0.00	0.00

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NPDES No.	Description	Number of Overflows (Occurrences)	CSO Overflow Volume (mg)	Total Duration of Overflow (hrs)	Avg Duration of Overflow (hrs)	Maximum Duration of Overflow (hrs)	Minimum Duration of Overflow (hrs)
043	Adams Mill Road South of Irving Street, NW	0	0.00	0.00	0.00	0.00	0.00
044	Kenyon Street and Adams Mill Road, NW	0	0.000	0.00	0.00	0.00	0.00
045	Adams Mill Road and Lamont Street, NW	0	0.00	0.00	0.00	0.00	0.00
046	Park Road south of Piney Branch Parkway, NW	0	0.00	0.00	0.00	0.00	0.00
047	Ingleside Terrace extended and Piney Branch Parkway	0	0.000	0.00	0.00	0.00	0.00
048	Mt. Pleasant Street extended and Piney Branch Parkway	0	0.00	0.00	0.00	0.00	0.00
049	Piney Branch and LamontStreet, NW	2	0.72	4.00	2.00	3.00	1.00
050	28th Street west of 16th Street, NW	0	0.00	0.00	0.00	0.00	0.00
051	Olive Street extended and Rock Creek Parkway, NW	0	0.00	0.00	0.00	0.00	0.00
052	O Street extended and Rock Creek Parkway, NW	0	0.00	0.00	0.00	0.00	0.00
053	O Street west of Rock Creek Parkway, NW	separated					
054	West Side of Rock Creek300 ft. south of Mass. Ave, NW	0	0.00	0.00	0.00	0.00	0.00
056	Normanstone Drive extended west of Rock Creek, NW	0	0.00	0.00	0.00	0.00	0.00
057	28th Street extended west of Rock Creek, NW	separated					
058	Connecticut Avenue and Rock Creek Parkway, NW	separated					
060	P St and 26th St, NW	0	0.00	0.00	0.00	0.00	0.00
	SUBTOTAL		**0.72**				
	TOTAL		**58.53**				

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Prepared by: Greeley and Hansen LLC and Limno-Tech, Inc.