GOVERNMENT OF THE DISTRICT OF COLUMBIA
WASHINGTON, DC

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Potomac River
Discharge Monitoring Report

Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
August 19, 2011

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TABLE OF CONTENTS

Page

LIST OF TABLES …….. ii

LIST OF FIGURES …… iii

LIST OF APPENDICES …… iii

I. INTRODUCTION …….. 1

II. MONITORING SITES …….. 2

III. WEATHER INFORMATION …….. 6

IV. SAMPLE COLLECTION ……. 10

V. RECORD KEEPING ……..… 11

VI. MONITORING RESULTS ……... 13

VII. ESTIMATES OF CUMMULATIVE POLLUTANT LOADING ……. 18

VIII. WATER QULAITY TRENDS …….. 23

LIST OF TABLES

Number	Title	Page
1-1	DC MS4 Sampling and Analysis Schedule..…….	2
2-1	Storm Water Sampling Drainage Areas ……..…..…….	3
2-2	Wet and Dry Weather Sampling Dates …….	5
3-1	Precipitation Record for the Washington, D.C. Area …….….	7
3-2	Storm Characteristics ……..……..	9
4-1	Sample Analysis Requirements for Wet and Dry Weather Sampling ……	10
6-1	Ambient Water Quality Data for Potomac River Sites - Wet Weather Sampling Events ……..	12
6-2	Ambient Water Quality Data for Potomac River Sites - Dry Weather Sampling Events ……..	13
6-3	Summary Data of Wet Weather Sampling Events …..……..	16
6-4	Summary Data of Dry Weather Sampling Events ……..……..	17
7-1	Potomac River Watershed Storm Water Pollutant Concentration …….……..…..	21
7-2	Potomac River Watershed Storm Water Annual Pollutant Loading	22
8.1	Comparison of Event Mean Concentration ……..……..……..	24
8-2	Detected Parameters in the Potomac River Watershed……..	25

LIST OF FIGURES

Number	Title	Page
2-1	Potomac River Watershed Storm Water Sampling Sites ……..	4
3-1	Monthly Precipitation May 2010 to July 2011 …….	6
8-1	Storm Water Quality Trend ……..	24

LIST OF APPENDICES

APPENDIX A	Potomac River Watershed Monitoring Sites
APPENDIX B	Potomac River Watershed Discharge Monitoring Report
APPENDIX C	Potomac River Watershed Sampling Analytical Data
APPENDIX D	Estimation of Runoff Coefficients

I. INTRODUCTION

The current District of Columbia Municipal Separate Storm Sewer System (DC MS4) Permit No. DC0000221 (Permit) was issued by the U.S. Environmental Protection Agency (EPA) on August 19, 2004. The Permit was administratively extended by letter on August 14, 2009. This report is prepared in partial fulfillment of the monitoring and reporting requirements set forth in Part IV of the Permit.

The Permit requires that three wet weather and two dry weather samples be taken and analyzed for several monitoring stations as part of the characterization of storm water discharge. The sampling schedule followed a watershed based monitoring approach whereby the representative sites within one of the three watersheds are to be sampled within a given calendar year. Table 1-1 below shows the schedule for the most recent cycle of monitoring and reporting for each of the three DC MS4 watersheds.

Several factors contributed to limit the number of sampled events within the scheduled calendar year. Rainfall conditions that produce qualifying storm events have been fewer than needed. In other instances the nature of rainfall (intensity or duration) did not allow the collection of sample volume required for the full suite of laboratory analyses. Nevertheless, the required three wet weather and two dry weather samples have been collected and analyzed at each of the seven sites in the Potomac River watershed.

This report constitutes the discharge monitoring report scheduled to be submitted to the EPA by August 19, 2011, as required by Part IV of the Permit. The report contains a description of the monitoring sites, the sampled storm characteristics, the sampling activities, the analytical results at the seven sites, and the estimated annual loads for selected parameters. In addition, this reporting cycle also marks the first time DDOE has submitted data electronically through EPA's NetDMR system.

Table 1-1 DC MS4 STORM WATER SAMPLING AND ANALYSIS SCHEDULE

	Watershed	Monitoring Year	No. of Stations	DMR Due Date
1	Anacostia River	Calendar year 2008	9	August 19, 2009*
2	Rock Creek	Calendar year 2009	6	August 19, 2010*
3	Potomac River	Calendar year 2010	7	August 19, 2011**

* Completed and submitted to the EPA

** Current Report

II. MONITORING SITES

Part IV.A.1 of the Permit lists the sampling locations for the Potomac River watershed. Figure 2-1 shows the locations of the monitoring sites. The seven monitoring sites and the associated drainage areas are provided in Table 2-1.

The drainage areas and land use types for each representative monitoring site were revised based on the most recent available Geographic Information System (GIS) data. The monitoring site point-layer and existing GIS dataset of the storm water sewer system supplied by the DC Water and Sewer Authority (DC Water) were used to digitize the drainage area.

The areas drained by all contributing secondary and higher order storm water drains upstream from the monitoring manhole/outfall were delineated. In addition, the 2008 orthophoto and the ground surface elevation GIS data was used to locate the storm water runoff divide to take into account curbs and unsewered areas. The acreage within the perimeter was automatically computed by the geodatabase file system.

The 2004 land use delineation prepared by the DC Office of Planning was used to represent the land use type within each catchment area. The coverage by each land use type within each drainage area was calculated by GIS analysis by intersecting the drainage area polygons

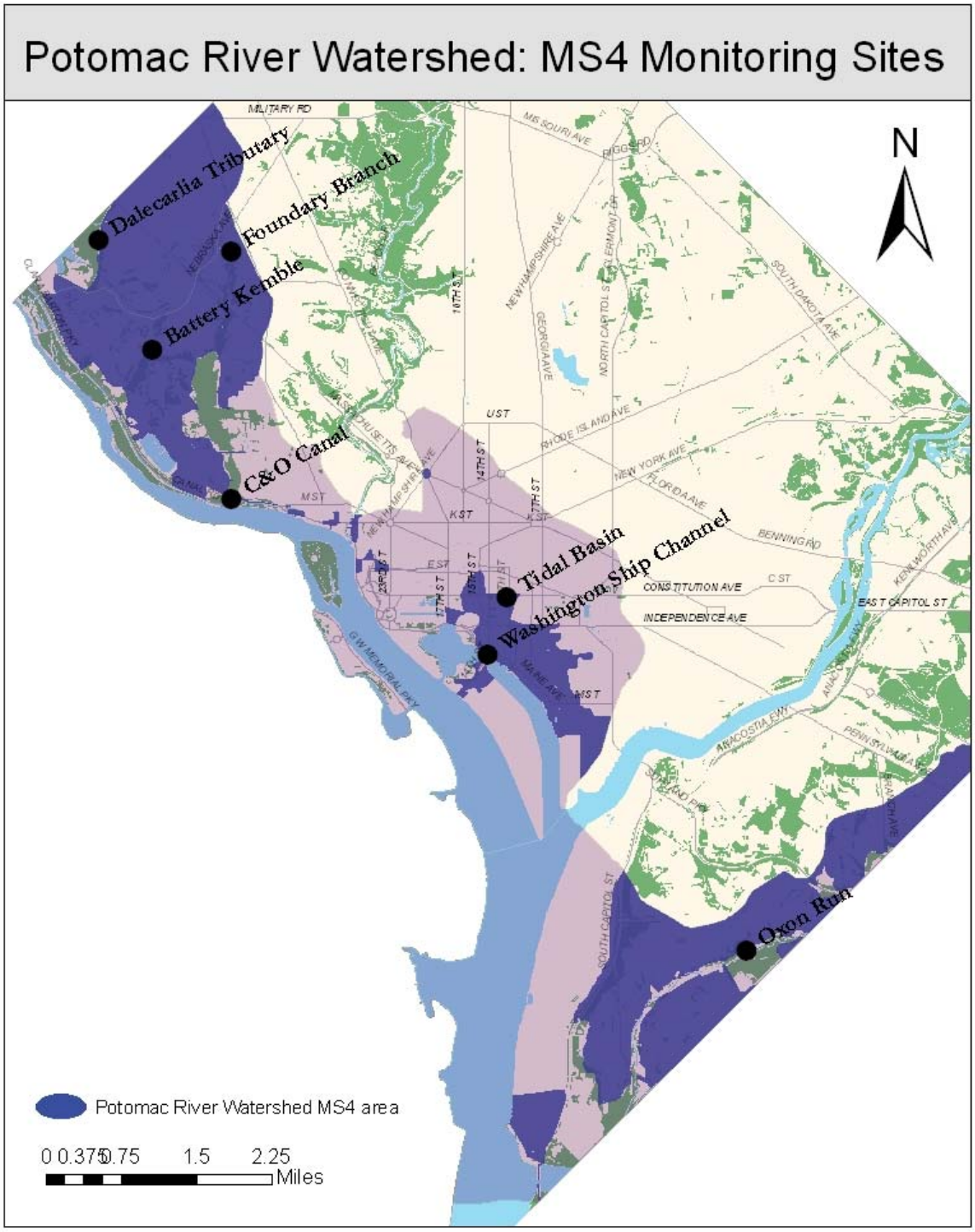
with the Existing Land Use polygon layer and then field calculations were performed. The Potomac River DC MS4 drainage area excludes large federal lands such as the Naval Air Station and Bolling Air Force Base.

Detailed maps of each of the monitoring sites the associated drainage area and land use types are included in Appendix A.

TABLE 2-1 STORM WATER SAMPLING DRAINAGE AREAS

Site Number	Sampling Location	Drainage Area (Acres)
1	Battery Kemble Creek	11
2	Foundary Branch	50
3	Dalecarlia Tributary	24
4	Oxon Run	43
5	Tidal Basin	8
6	Washington Ship Channel	25
7	C and O Canal	1110

FIGURE 2-1 POTOMAC RIVER WATERSHED STORM WATER SAMPLING SITES



Samples were collected and analyzed in accordance with the Permit and monitoring requirements of 40 CFR 122.26(d)(2)(iii), by the DDOE contractor, Environmental Design and Construction, Inc. At each of the seven Potomac River sites, three wet weather and two dry weather samples were collected. Table 2-2 below lists the sampling event dates for each site.

TABLE 2-2 WET AND DRY WEATHER SAMPLING DATES

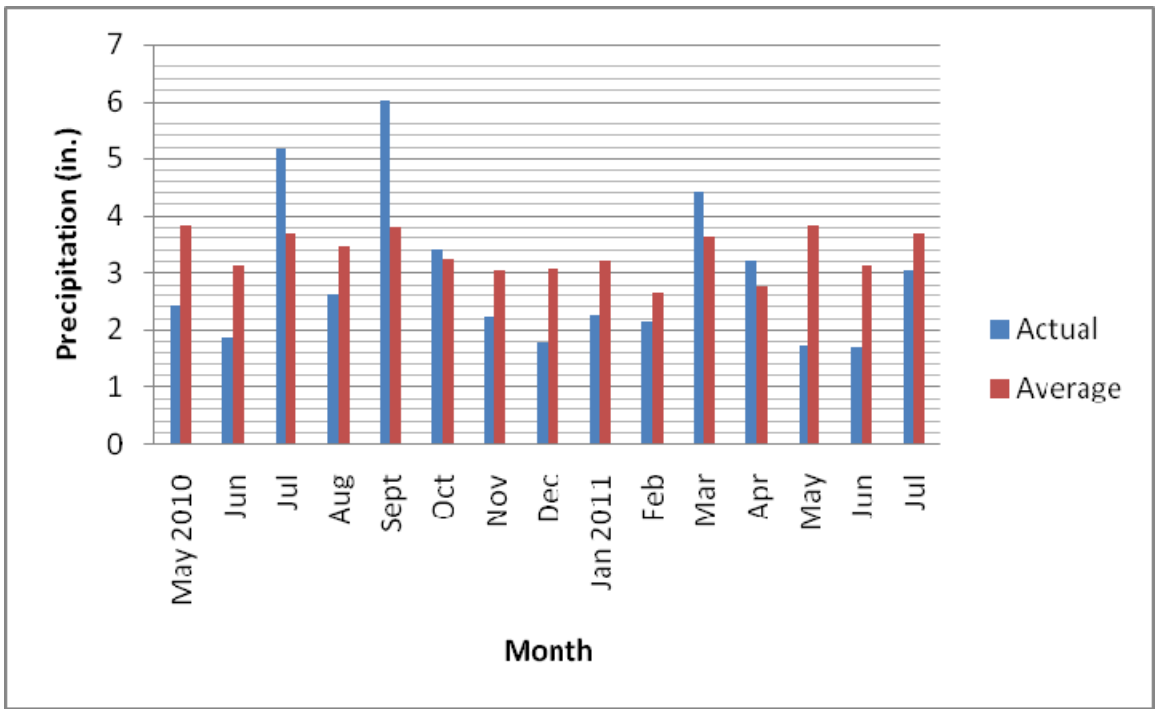
		WET 1	WET 2	WET 3	Dry 1	Dry 2
Site No						
1	Battery Kemble	5-11-10	10-14-10	4-5-11	NDF	10-8-10
2	Foundary Branch	7-10-10	10-14-10	11-30-10	7-9-10	11-23-10
3	Dalecarlia	10-14-10	11-30-10	3-6-11	9-21-10	NDF
4	Oxon Run	10-14-10	3-6-11	4-8-11	7-9-10	10-8-10
5	Tidal Basin	7-10-10	10-14-10	11-30-10	7-9-10	NDF
6	Washington Ship Channel	1-26-11	4-5-11	7-8-11	9-20-10	NDF
7	C&O Canal	7-10-10	10-14-10	4-5-11	9-21-10	2-17-11

NDF - No Dry Weather Flow

III. WEATHER INFORMATION

During the monitoring period May 2010 to July 2011, the rainfall patterns were unpredictable, with accumulations generally below the monthly averages of record. As can be seen in Figure 3-1, the months of July 2010, September 2010 and March 2011 exceeded the monthly average rainfall by appreciable amount. These exceedances were due to one or two sizable events. For September, the accumulation from a single rainfall event exceeded the monthly average of record by 23 percent.

FIGURE 3-1 MONTHLY PRECIPITATION MAY 2010 TO JULY 2011*



* - Actual Values from Gage at Ronald Reagan National Airport

Table 3-1 lists the monthly actual and average precipitation at the Ronald Reagan National Airport. A number of the rainfall events were in the form of short duration thunderstorms followed by a lengthy dry period. The spatial distribution of the rainfall through the region and the city presented special challenges in the collection of qualified samples for analysis.

TABLE 3-1 PRECIPITATION RECORD FOR THE WASHINGTON D.C. AREA

Precipitation			
Month	**Actual (in.)[a]**	**Number of Days in Month with Storms >0.10 in.**	**Monthly Average (in.)**
2010			
May	2.40	8	3.82
June	1.87	4	3.13
July	5.17	6	3.66
August	2.59	6	3.44
September	6.02	5	3.79
October	3.40	4	3.22
November	2.22	5	3.03
December	1.78	3	3.05
2011			
January	2.25	4	3.21
February	2.12	6	2.63
March	4.40	7	3.60
April	3.20	7	2.77
May	1.70	5	3.82
June	1.68	4	3.13
July	3.03	4	3.66

a – gage at Ronald Reagan National Airport

The following is a narrative description of the qualified rainfall events that were sampled, including the duration of the rainfall, the elapsed time between the sampled rainfall and the prior measurable rainfall event and the sites sampled.

May 11, 2010

Battery Kemble site was sampled during this rainfall event. A total of 0.11 inches of rain fell. The storm event lasted for approximately 3.5 hours. The last measurable rainfall occurred about 7 days earlier.

July 10, 2010

Foundary Branch, Washington Ship Channel, and C&O Canal sites were sampled during this event. A total of 1.17 inches of rain fell. The storm event lasted for approximately 8.5 hours. The last measurable rainfall occurred about 11 days earlier.

October 14, 2010

Samples were collected at six Potomac River sites: Battery Kemble, Foundary Branch, Dalecarlia, Oxon Run, Tidal Basin and C& O Canal. The rainfall event lasted for about 7 hours. A total of 1.26 inches of rain fell during that period. The last measurable rainfall occurred about 9 days prior to this event.

November 30, 2010

The sites sampled during this rainfall event were Foudary Branch, Dalecarlia, and Tidal Basin sites. A total of 0.10 inches of rainfall occurred over a total of 5 hours duration. The last measurable rainfall occurred about 12 days prior to this event.

January 26, 2011

Samples were collected at the Washington Ship Channel site. A total of 1.52 inches of rainfall occurred over a total of 24 hours duration. The last measurable rainfall occurred about 6 days prior to this event.

March 6, 2011

The sites sampled during this storm event were Oxon Run and Dalecarlia. A total of 1.39 inches of rain fell over a period of approximately 7 hours. The last measurable rainfall occurred about 5 days prior to this event.

April 5, 2011

The sites sampled during this storm event were Battery Kemble, Washington Ship Channel and C&O Canal. A total of 0.42 inches of rain fell over a period of approximately 7 hours. The last measurable rainfall occurred about 5 days prior to this event.

April 8, 2011

The Oxon Run site was sampled during this storm event. A total of 0.35 inches of rain fell over a period of approximately 7 hours. The last measurable rainfall occurred about 3 days prior to this event.

July 8, 2011

The Washington Ship Channel site was sampled during this storm event. A total of 0.60 inches of rain fell over a period of approximately 2 hours. The last measurable rainfall occurred about 5 days prior to this event.

Table 3-2 below lists a summary of the wet weather events.

TABLE 3-2 STORM CHARACTERISTICS

Date	Precipitation (in.)	Duration (hrs)	Time to Previous (days)	Sites Sampled
5-11-10	0.11	3.5	7	1
7-10-10	1.17	8.5	11	2, 5, 7
10-14-10	1.26	7	9	1, 2, 3, 4, 5, 7
11-30-10	0.10	5.0	12	2, 3, 5
1-26-11	1.52	24	6	6
3-6-11	1.39	7	5	4, 3
4-5-11	0.42	7	5	1, 6, 7
4-8-11	0.35	7	3	4
7-8-11	0.60	2	5	6

IV. SAMPLE COLLECTION AND ANALYSIS

The storm water samples were collected based on the requirement of the Permit. The list of analyzed parameters, the detection limits and EPA-approved methods utilized are included in Table 4-1.

TABLE 4-1. SAMPLE ANALYSIS REQUIREMENTS FOR WET AND DRY WEATHER SAMPLING

Bottle Type	Sample Type	Parameter	Method	Units	MDL
1-L Plastic Unpreserved	Composite	Biochemical Oxygen Demand (5d)	SM5210B	mg/L	<5.0
		Total Dissolved Solids	SM2540C	mg/L	<1.0
		Total Suspended Solids	SM2540D	mg/L	<1.0
500 mL Plastic H_2SO_4	Composite	Ammonia Nitrogen	SM4500-NH3-	mg/L	<1.0
		Phosphorus, Total	E	mg/L	<0.05
		Nitrite + Nitrate	EPA 365.3	mg/L	<0.05
		Chemical Oxygen Demand	EPA 353.2	mg/L	<10.0
		Total Kjeldahl Nitrogen	EPA 410.4	mg/L	<0.5
			EPA 351.3		
250 mL Plastic, Filtered, H_2SO_4	Composite	Phosphorus, Dissolved	EPA 365.3	mg/L	<0.5
1000 mL Plastic HNO_3	Composite	Hardness, Total	EPA 130.2	mg/L	
		Antimony, Total	EPA 200.8	µg/L	0.21
		Arsenic, Total	EPA 200.8	µg/L	0.25
		Beryllium, Total	EPA 200.8	µg/L	0.22
		Cadmium, Total	EPA 200.8	µg/L	0.22
		Chromium, Total	EPA 200.8	µg/L	0.18
		Copper, Total	EPA 200.8	µg/L	1.52
		Lead, Total	EPA 200.8	µg/L	0.23
		Mercury, Total (by cold vapor)	EPA 245.1	µg/L	0.20
		Nickel, Total	EPA 200.8	µg/L	0.46
		Selenium, Total	EPA 200.8	µg/L	0.31
		Silver, Total	EPA 200.8	µg/L	0.35
		Thallium, Total	EPA 200.8	µg/L	0.21
		Zinc, Total	EPA 200.8	µg/L	1.52
(2) 1-L Glass Amber	Grab	Dioxin (2,3,7,8) TCDD	EPA 1613	pg/L	4.4
1000 mL Plastic, Sterile	Grab	Fecal Coliform	SM9221E	MPN	
		Fecal Streptococcus	SM9230B	MPN	
250 mL Plastic, NaOH	Grab	Cyanide, Total	EPA 335.2	mg/L	<0.01
(2) 1-L Glass Amber Unpreserved	Composite	BNA Compounds	EPA 625	µg/L	Various
(2) 40 mL Glass Vials Teflon Lids	Grab	Volatile Organic Compound	EPA 624	µg/L	0.5

Bottle Type	Sample Type	Parameter	Method	Units	MDL
1-L Glass Amber H_2SO_4 Teflon Lids	Grab	Phenols, Total	EPA 420.2	mg/L	1.9
1-L Glass Amber H_2SO_4 Teflon Lids	Composite	PCBs / Pesticides	EPA 608	µg/L	0.01-1.7
1-L Glass Amber Teflon Lids	Composite	PCBs	EPA 8082 modified	ng/L	0.25-5.0
1-L Glass Amber 1:1 HCl	Grab	Fats (oil and grease)	EPA 1664	mg/L	1.6
100 mL Plastic	Composite	Chlorophyll-a	SM 10020H2	mg/m^3	2
500 mL Plastic H_2SO_4	Composite	Total Ammonia + Organic Nitrogen (TKN)	EPA 351.3	mg/L	0.2
	Field Test	Dissolved Oxygen	EPA 360.1	mg/L	N/A
500 mL Plastic H_2SO_4	Composite	Organic Nitrogen		mg/L	N/A
500 mL Plastic H_2SO_4	Composite	Total Nitrogen		mg/L	N/A

V. RECORD KEEPING

DDOE WQD maintains the records of monitoring information including:

- Description of Sampling

  - Sampling protocols
  - Location/Collection time
  - Sample collection procedures
  - Field notes
  - Environmental Design & Construction, DC MS4 sampling personnel

- Storm Event Data

  - Date and duration of storm events sampled
  - Rainfall measurements
  - Duration between storm event sampled and the end of the previous measurable storm event
  - Estimate of the total volume of the discharge sampled

- Storm Water Analysis Data

  - Field test results
  - Laboratory results

VI. MONITORING RESULTS

The water quality results are contained in the following sections

- The ambient wet weather flow and dry weather flow analysis are given in Table 6-1 and Table 6-2, respectively.
- The analytical results in Appendix C complete the sampling and analysis results.
- Results from wet weather sampling events for selected parameters are also reported on EPA Form 3320-1 in Appendix B. Data has also been submitted to EPA on-line via NetDMR.
- In this section, a summary of the results for selected parameters (priority pollutants) are presented. The geometric mean of parameters was calculated as an estimate of the average Event Mean Concentration (EMC). A brief discussion of the EMCs for the wet and dry sampling events shown in Table 6-3 and Table 6-4 is presented.

#Table 6-1 Ambient Water Quality Data for Potomac River Sites - Wet Weather Sampling Events

Site ID	Location	Date	Water Temp (°C)	pH	DO (mg/L)	TRC (mg/L)	Conductivity (µS)
1	Battery Kemble	05/11/10	12.4	8.97	6.26	0	651
		10/14/10	17.1	8.1	9.16	0	567
		04/05/11	10.5	7.11	9.11	<0.03	710
2	Foundary Branch	07/10/10	24.4	7.9	7.2	<0.03	570
		10/14/10	18.5	6.4	9.4	0.06	390
		11/30/10	17.9	7.49	9.76	0	510
3	Dalecarlia	10/14/10	16.1	6.7	7.7	0.03	250
		11/30/10	15.1	8.1	8.6	0	610
		03/06/11	12.0	7.3	8.12	<0.03	380
4	Oxon Run	10/14/10	15.1	8.4	9.87	0.01	815
		03/06/11	13.0	7.4	8.57	<0.03	460
		04/08/11	12.4	8.53	8.15	0	290
5	Tidal Basin	07/10/10	19.1	7.1	13	<0.03	187
		10/14/10	19.5	6.8	8.5	<0.03	270
		11/30/10	17.4	7.26	9.95	0	560
6	Washington Ship Channel	01/26/11	14.7	7.63	10.91	0	13000
		04/05/11	10.8	6.77	7.99	<0.03	410
		07/08/11	24.2	7.45	9.5	0	2100
7	C&O Canal	07/10/10	20.9	7.5	12.7	0.06	642
		10/14/10	18.5	6.5	9.4	<0.03	390
		04/05/11	10.2	6.18	6.91	<0.03	770

#Table 6-2 Ambient Water Quality Data for Potomac River Sites - Dry Weather Sampling Events

Site ID	Location	Date	Water Temp (°C)	pH	DO (mg/L)	TRC (mg/L)	Conductivity (µS)
20	Battery Kemble	NDF					
		10/08/10	20.9	7.41	10.3	0	1400
21	Foundary Branch	07/09/10	23.7	7.8	7.6	<0.06	736
		11/23/10	19.7	7.66	10.1	0	1100
22	Dalecarlia	09/21/10	21.5	7.62	8.72	0	1200
		NDF					
23	Oxon Run	07/09/10	23.3	7.4	8.9	<0.03	473
		10/08/10	19.7	7.13	9.57	0	540
24	Tidal Basin	07/09/10	32.5	6.2	0.7	<0.03	502
		NDF					
25	Washington Ship Channel	09/20/10	21.6	8.76	7.98	0	660
		NDF					
26	C&O Canal	09/21/10	21.9	7.32	9.23	0	970
		02/17/11	16.0	7.73	9.11	<0.03	1300

NDF – No Dry Flow

Wet Weather Events

The geometric mean of the analytical results for each sampled site is provided for twenty priority pollutants in Table 6-3. The highest mean concentration of Total Suspended Solids (TSS) was sampled at the Tidal Basin site (89.0 mg/L), and the lowest was sampled at the C&O Canal site (21.8 mg/L). All other stations had TSS concentrations between 30.0 and 49.5 mg/L. The Foundary Branch site had the highest Biochemical Oxygen Demand (BOD) concentration (30.0 mg/L), while concentrations at all other stations ranged from 10.8 (Battery Kemble) to 29.5 mg/L (Dalecarlia). Concentrations for Total Nitrogen (TN) ranged from 0.27 mg/L (Washington Ship Channel) to 3.85 (Foundary Branch). Total Phosphorus (TP) concentrations ranged from 0.10 mg/L (C&O Canal) to 0.59 (Dalecarlia). The Foundary Branch site had the highest Fecal Coliform (FC) concentration at 7,530 MPN/100 mL. Most of the Potomac stations had moderate FC concentrations ranging from 528 (Washington Ship Channel) to 5,753 MPN/100 ml (Dalecarlia). The highest concentrations of Zinc (Zn) (223.0 µg/L), Copper (Cu) (172.7 µg/L), and Lead (Pb) (86.2 µg/L) were measured at the Washington Ship Channel site. At the remaining sites Zn, Cu and Pb concentrations ranged

from 25.4 to 112.9 µg/L, 29.5 to 77.0 µg/L and non-detect (ND) to 6.3 µg/L, respectively. The highest concentration of Oil and Grease (O&G) was detected at 2.4 mg/L (Foundary Branch). Concentrations of O&G at all other sites ranged from ND to 2.24 mg/L. None of the sites had detectable concentrations of Arsenic (As), Polyaromatic Hydrocarbons (PAHs), Chlordane, Heptachlor, Dieldrin, DDT, DDE, DDD, or PCBs.

Dry Weather Events

The EMC results for dry weather flow samples collected are presented in Table 6-4. It is to be noted that during some dry weather sampling attempts no flow was observed. The concentrations reported for Battery Kemble, Dalecarlia, Tidal Basin and Washington Ship Channel sites are all based on one sample. The highest concentrations of TSS, BOD, TN, TP, FC, O&G and Cu were recorded at the Tidal Basin site. Zn (at190 µg/L) and Pb (at 100 µg/L) were highest at the Washington Ship Channel site. The highest concentration of FC was sampled at Washington Ship Channel (8,000 MPN/100 mL). FC concentrations at all other sites ranged from 456 to1,600 MPN/100 mL. The concentrations of some parameters for the dry weather flow samples at some stations exceeded wet weather concentrations. DDOE will be conducting further investigations into what may be causing this paradox.

None of the Potomac River watershed sites had detectable concentrations of As, PAHs, Chlordane, Heptachlor, Dieldrin, DDT, DDE, DDD, and PCBs.

TABLE 6-3 SUMMARY DATA OF WET WEATHER SAMPLING EVENTS (2010-2011)

VALUES REPRESENT GEOMETRIC MEAN FOR EACH SITE.

Parameters (mg/L, unless otherwise noted)																			
Station	**TSS**	**BOD**	**TN**	**TP**	**FC[a]**	**O&G**	**Zn[bc]**	**Pb[bc]**	**Cu[bc]**	**As[bc]**	**PAH 1[c]**	**PAH 2[c]**	**PAH 3[c]**	**Chlordane[c]**	**Heptachlor[c]**	**Dieldrin[c]**	**DDT[c]**	**DDE[c]**	**DDD[c]**	**PCBs[c]**
Battery Kemble	44.6 (n=3)	10.8 (n=3)	3.18 (n=3)	0.21 (n=3)	678 (n=3)	2.24[d] (n=3)	25.4 (n=3)	6.3[d] (n=3)	47.0 (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)
Foundary Branch	45.1 (n=3)	30.0 (n=3)	3.85 (n=3)	0.53 (n=3)	7,530 (n=3)	2.40[d] (n=3)	112.9 (n=3)	ND (n=3)	47.7 (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)
Dalecarlia	30.0 (n=3)	29.5 (n=3)	0.41[d] (n=3)	0.59 (n=3)	5,753 (n=3)	2.11[d] (n=3)	50.1 (n=3)	2.80[d] (n=3)	77.0 (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)
Oxon Run	42.4 (n=3)	6.11 (n=3)	3.21 (n=3)	0.27 (n=3)	2,736 (n=3)	ND (n=3)	70.2 (n=3)	ND (n=3)	29.5 (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)
Tidal Basin	89.0 (n=3)	28.9 (n=3)	3.73 (n=3)	0.25 (n=3)	4,797 (n=3)	1.98[d] (n=3)	76.2 (n=3)	ND (n=3)	46.2 (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)
Washington Ship Channel	49.5 (n=3)	25.4 (n=3)	0.27[d] (n=3)	0.21 (n=3)	528 (n=3)	ND (n=3)	223.0 (n=3)	86.2 (n=3)	172.7 (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)
C&O Canal	21.8 (n=3)	13.7 (n=3)	2.88 (n=3)	0.10 (n=3)	5,241 (n=3)	ND (n=3)	72.2 (n=3)	5.7[d] (n=3)	36.2 (n=3)	1.8[d] (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)	ND (n=3)

TSS: total suspended solids; BOD: biological oxygen demand; TN: total nitrogen; TP: total phosphorus; FC: fecal coliform bacteria; O&G: oil and grease; PCB: total PCBs
ND: none-detected
[a]Units are in MPN/100mls
[b]Total recoverable metals
[c]Units are in µg/L
[d]geometric mean was calculated using half of detection limit or reporting limit if the analysis results show “none detected” or “below reporting limit”

TABLE 6-4 SUMMARY DATA OF DRY WEATHER SAMPLING EVENTS (2010-2011)

VALUES REPRESENT GEOMETRIC MEAN FOR EACH SITE.

Parameters (mg/L, unless otherwise noted)																			
Station	**TSS**	**BOD**	**TN**	**TP**	**FC[a]**	**O&G**	**Zn[bc]**	**Pb[bc]**	**Cu[bc]**	**As[bc]**	**PAH 1[c]**	**PAH 2[c]**	**PAH 3[c]**	**Chlordane[c]**	**Heptachlor[c]**	**Dieldrin[c]**	**DDT[c]**	**DDE[c]**	**DDD[c]**	**PCBs[c]**
Battery Kemble	31.0 (n=1)	3.30 (n=1)	3.90 (n=1)	0.89 (n=1)	900 (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	1.40 (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)
Foundary Branch	6.69 (n=2)	13.3 (n=2)	3.10 (n=2)	0.53 (n=2)	566 (n=2)	ND (n=2)	60.4 (n=2)	4.73 [d] (n=2)	29.7 (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)
Dalecarlia	ND (n=1)	6.10 (n=1)	17.0 (n=1)	0.13 (n=1)	1,600 (n=1)	ND (n=1)	12.0 (n=1)	ND (n=1)	8.90 (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)
Oxon Run	10.7 (n=2)	2.10 [d] (n=2)	2.61 (n=2)	0.042 (n=2)	456 (n=2)	ND (n=2)	17.3 (n=2)	ND (n=2)	4.25 (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)
Tidal Basin	410 (n=1)	440 (n=1)	37.0 (n=1)	5.2 (n=1)	1,600 (n=1)	14.0 (n=1)	170 (n=1)	15.0 (n=1)	220 (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)
Washington Ship Channel	ND (n=1)	ND (n=1)	8.3 (n=1)	0.44 (n=1)	8,000 (n=1)	ND (n=1)	190 (n=1)	100 (n=1)	160 (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)	ND (n=1)
C&O Canal	ND (n=2)	1.84 [d] (n=2)	0.09 [d] (n=2)	0.09 (n=2)	693 (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	2.10 (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)	ND (n=2)

TSS: total suspended solids; BOD: biological oxygen demand; TN: total nitrogen; TP: total phosphorus; FC: fecal coliform bacteria; O&G: oil and grease; PCB: total PCBs
ND: none detected
n/a: not available
[a]Units are in MPN/100mls
[b]Total recoverable metals
[c]Units are in µg/L
[d]geometric mean was calculated using half of detection limit or reporting limit if the analysis results show “none detected” or “below reporting limit”
--- No data available

VII. ESTIMATES OF CUMMULATIVE POLLUTANT LOADINGS

The annual pollutant loads for each sewershed sampled were calculated by the Simple Method (EPA 1992) utilizing the wet weather event mean concentrations, the total drainage area, and land use distribution within each sewershed. The Simple Method can estimate pollutant loads without extensive rainfall-runoff volume data using the sample analysis results available. Generally, the Simple Method is expected to overestimate pollutant loads as compared to more dynamic models that incorporate pollutant concentration and runoff coefficients as functions of initial conditions and rainfall intensity and duration in estimating total pollutant loads.

The Simple Method is given by the following equation:

$$L = \sum_{i=1}^{\text{No. of landuse types}} \left(\frac{P}{12} \times CF \times Rv_i \times C_i \times A_i \times 2.72 \right) \qquad \textbf{(Equation 1)}$$

where

L = pollutant loading (lb/year for chemical constituents, MPN/yr for bacteria)

P = average annual rainfall (inches)

CF = Correction factor (0.9) to adjust for storms where no runoff occurs (dimensionless) (EPA 1992)

Rv_i = runoff coefficient for the land use type (dimensionless)

C_i = average event mean concentration (mg/L for chemical constituents)

A_i = land use area (acres)

2.72 = unit conversion factor for chemical constituents in concentration units of mg/L; 12,334,885 for bacteria in units of MPN/100 mL.

The average event mean concentration (EMC) for each monitoring station was calculated as the geometric mean of the measured EMCs (*Urban Stormwater BMP Performance Monitoring: Guidance Manual,* ASCE/EPA, 2002).

$$C = \text{Geomean of EMCs} = \left[\prod_{j=1}^{m} EMC_j\right]^{\frac{1}{m}} \qquad \textbf{(Equation 2)}$$

Where:

EMC_j = Event Mean Concentration of storm *j*

m = Number of storms at monitoring location

The annual precipitation of record for the District of Columbia region is 39.35 inches as reported by the National Weather Service (NWS) weather station at Washington National Airport (COOP ID: 448906). The sewershed area was obtained from the DDOE sewershed GIS layer discussed Section II. A key parameter in Equation 1 is the runoff coefficient (Rvi), which is directly related to imperviousness and land use. Surface area for each land use type and the associated runoff coefficients for each sewershed are presented in Appendix D. The pollutant loading was calculated using Equation 1 above. Table 7-1 presents the annual loads for pollutants specified in 40 CFR 122.21(g)(7). Also included are the annual loads for Fecal Coliform Bacteria and Oil and Grease.

Based upon the pollutant loadings calculated for the seven Potomac River watershed monitoring sites, a cumulative load for the entire District of Columbia portion of the Potomac River watershed was estimated. This cumulative load assumes that the seven sampling sites are representative of the watershed. Given this assumption, a simple ratio is used to compute a cumulative load for the Potomac River watershed as follows:

$$L_A = \left(\frac{\sum L_i}{\sum A_t}\right)(A_t) \qquad \textbf{(Equation 3)}$$

$\mathbf{L_A}$ = Potomac River watershed cumulative pollutant load (lb/year)

$\mathbf{A_t}$ = Potomac River watershed total area (acres)

$\mathbf{L_i}$ = Pollutant loading for each monitoring site (lb/year), and

$\mathbf{A_i}$ = Acreage for each monitoring site (acres)

Table 7-2 contains the computed pollutant loads from storm water runoff at each of the contributing sewersheds (sub-watersheds). The monitoring site contributing the highest loads to the Potomac River is the area draining to the C & O Canal monitoring site. This is due in large part to the size of the catchment area (more than 1,000 acres) relative to the area draining to the other monitoring sites (see also Table 2-1

Also included in Table 7-2 are the estimated pollutant loads carried by storm water discharges draining from the DC MS4 area to the Potomac River and not draining to the Anacostia River or Rock Creek.

Table 7-1 Potomac River Watershed Storm Water Pollutant Concentration (2010-2011)

Event Mean Concentrations for Designated Parameters (mg/L unless otherwise noted)														
Station	**BOD**	**COD**	**TDS**	**TSS**	**TN**	**TKN**	**TP**	**DP**	**FC[a]**	**O&G**	**Cd[b]**	**Cu[b]**	**Pb[b]**	**Zn[b]**
Battery Kemble	10.8 (n=3)	61.7 (n=3)	379 (n=3)	44.6 (n=3)	3.18 (n=3)	1.65[c] (n=3)	0.21 (n=3)	0.13 (n=3)	678 (n=3)	2.24[c] (n=3)	ND (n=3)	0.047 (n=3)	0.0063[c] (n=3)	0.025 (n=3)
Foundary Branch	30.0 (n=3)	84.3 (n=3)	344 (n=3)	45.1 (n=3)	3.85 (n=3)	2.88 (n=3)	0.53 (n=3)	0.41 (n=3)	7,530 (n=3)	2.40[c] (n=3)	ND (n=3)	0.048 (n=3)	ND (n=3)	0.11 (n=3)
Dalecarlia	29.5 (n=3)	101 (n=3)	198 (n=3)	30.0 (n=3)	0.41[c] (n=3)	2.38[c] (n=3)	0.63 (n=3)	0.37 (n=3)	5,753 (n=3)	2.11[c] (n=3)	ND (n=3)	0.077 (n=3)	0.0028[c] (n=3)	0.050 (n=3)
Oxon Run	6.11 (n=3)	14.6 (n=3)	228 (n=3)	42.4 (n=3)	3.21 (n=3)	2.99 (n=3)	0.27 (n=3)	0.067 (n=3)	2,736 (n=3)	ND (n=3)	ND (n=3)	0.030 (n=3)	ND (n=3)	0.070 (n=3)
Tidal Basin	28.9 (n=3)	84.5 (n=3)	259 (n=3)	89.0 (n=3)	3.73 (n=3)	2.60 (n=3)	0.25 (n=3)	0.21 (n=3)	4,797 (n=3)	1.98[c] (n=3)	ND (n=3)	0.046 (n=3)	ND (n=3)	0.076 (n=3)
Washington Ship Channel	25.4 (n=3)	66.8 (n=3)	540 (n=3)	49.5 (n=3)	0.27[c] (n=3)	1.57[c] (n=3)	0.21 (n=3)	0.12 (n=3)	528 (n=3)	ND (n=3)	ND (n=3)	0.17 (n=3)	0.086 (n=3)	0.22 (n=3)
C&O Canal	13.7 (n=3)	37.9 (n=3)	481 (n=3)	21.8 (n=3)	2.88 (n=3)	1.59[c] (n=3)	0.10 (n=3)	0.061 (n=3)	5,241 (n=3)	ND (n=3)	ND (n=3)	0.036 (n=3)	0.006[c] (n=3)	0.072 (n=3)

[a]Units are in MPN/100mls
[b]Total Recoverable Metals
[c]geometric mean was calculated using half of detection limit or reporting limit if the analysis results show "none detected" or below reporting limit"
ND: none detected

Table 7-2 Potomac River Watershed Storm Water Annual Pollutant Loading (2010-2011)

Loadings for Designated Parameters (Lbs./year unless otherwise noted)														
Station	**BOD**	**COD**	**TDS**	**TSS**	**TN**	**TKN**	**TP**	**DP**	**FC[a]**	**O&G**	**Cd[b]**	**Cu[b]**	**Pb[b]**	**Zn[b]**
Battery Kemble	6,947	39,691	243,809	28,691	2,045	2,007	135	83.63	2.0E+12	643	ND	30.23	4.05	1.40
Foundary Branch	112,576	316,338	1,290,872	169,239	14,447	13,021	1,988	1,538	1.3E+14	9,006	ND	180	ND	412
Dalecarlia	42,444	6,082	284,884	43,164	589	4,704	848	532	3.8E+13	3,035	ND	110	4.03	71
Oxon Run	20,369	48,673	760,105	141,352	10,701	8,201	900	223	4.1E+13	ND	ND	100	ND	233
Tidal Basin	8,952	26,175	80,231	27,569	1,155	520	77.44	65.05	6.7E+12	613	ND	7.12	ND	23
Washington Ship Channel	52,212	137,261	1,109,599	101,631	554	9,390	431	240	4.9E+12	ND	ND	355	177	458
C&O Canal	940,438	2,601,650	33,018,310	1,496,463	197,697	245,749	6,864	4,187	1.6E+15	ND	ND	2,471	411	4,942
Cumulative Load for all monitoring sites (lbs/yr)	1,183,941	3,175,874	36,787,812	2,008,112	227,192	283,594	11,246	6,871	1.9E+15	13,298	ND	3,254	597	6,143
Potomac Watershed Load Estimates (lbs/yr)	5,284,297	14,174,908	164,195,359	8,962,826	1,014,030	1,265,771	50,194	30,667	8.3E+15	59,355	ND	14,528	2,664	27,421

[a]Units are in MPN/yr
[b]Total Recoverable Metals
ND: none detected

VIII. WATER QUALITY TRENDS

The DC MS4 permit requires that watersheds be sampled on a rotating basis. The Potomac River watershed monitoring sites were sampled for three rounds during this permit cycle. The results of the analyses for the first round (2005-2006) and the second round (2009-2010) are reported in DMRs dated August 19, 2006 and July 22, 2010, respectively. Appendix C of this report contains the results of the 2010-2011 storm water analysis results. The calculated event mean concentration data of selected parameters for the three rounds of sampling are presented in Table 8-1.

Careful consideration is necessary when interpreting these results, as variations in analytical techniques, detection limits, sample size, and computational methods make it difficult to establish a trend from the results from the three rounds.

Several parameters showed spikes in concentration between round 1 and 2. Average rainfall data (measured at Reagan National Airport) during each sampling period was assessed to see if there may have been an effect of rainfall on loads. Average rainfall appeared to decrease over all three rounds. The highest average annual rainfall actually decreased between sampling rounds 1 and 2. It is important to note that variations in rainfall can take place across the District, so readings taken at Reagan National are not completely representative of rainfall received at the various MS4 sampling stations.

Total phosphorous (TP) showed a decrease between rounds 1 and 2, with a slight increase between rounds 2 and 3. Dissolved phosphorous (DP) concentrations decreased between rounds 1 and 2, but stayed the same for rounds 2 and 3. With the exception of COD, which shows a slight increase, all remaining parameters showed consistent decreases during the third round of sampling.

To supplement the data observation, an overview of the sampling and analysis results from sixty three (63) storm water samples collected from 2005 to 2011 at the seven Potomac River

watershed sites is presented in Table 8-2. The Table contains the range of concentrations for the parameters detected over the three rounds of sampling.

Three compounds each were detected among the volatile organic compounds and base/neutral extractable compounds, Toluene and Bis(2-ethylhexyl)phthalate being the most prevalent in their respective category. No acid extractable compounds were encountered at any of the Potomac River watershed sites. Cyanide, Phenols and eleven metals were detected at varying frequencies and concentrations. Mercury and Selenium were recorded at two locations, the highest recorded at Washington Ship Channel and the C&O Canal sites. Lead, Copper, Nickel and Zinc are relatively ubiquitous. Among the conventional pollutants, fecal coliform is detected at higher frequency and concentration.

TABLE 8-1 COMPARISON OF EVENT MEAN CONCENTRATION

Average of Event Mean Concentrations for Designated Parameters (mg/L unless otherwise noted)														
Round	**BOD**	**COD**	**TDS**	**TSS**	**TN**	**TKN**	**TP**	**DP**	**FC[a]**	**O&G**	**Cd[b]**	**Cu[b]**	**Pb[b]**	**Zn[b]**
1	36.3	78.8	145.3	27.1	1.9	1.2	0.3	0.22	1,468	2.9	0.19	46.0	29.0	80.1
2	32.1	57.5	376.2	70.1	3.3	3.2	0.344	0.20	9,140	2.1	0.9	90.0	34.0	130.0
3	20.6	64.4	347	46.1	2.5	2.2	0.277	0.20	3894	0.93	0	60.0	10.0	90.0

[a] Units are in MPN/100 ml
[b] Units are in µg/L

FIGURE 8-3 STORM WATER QUALITY TREND

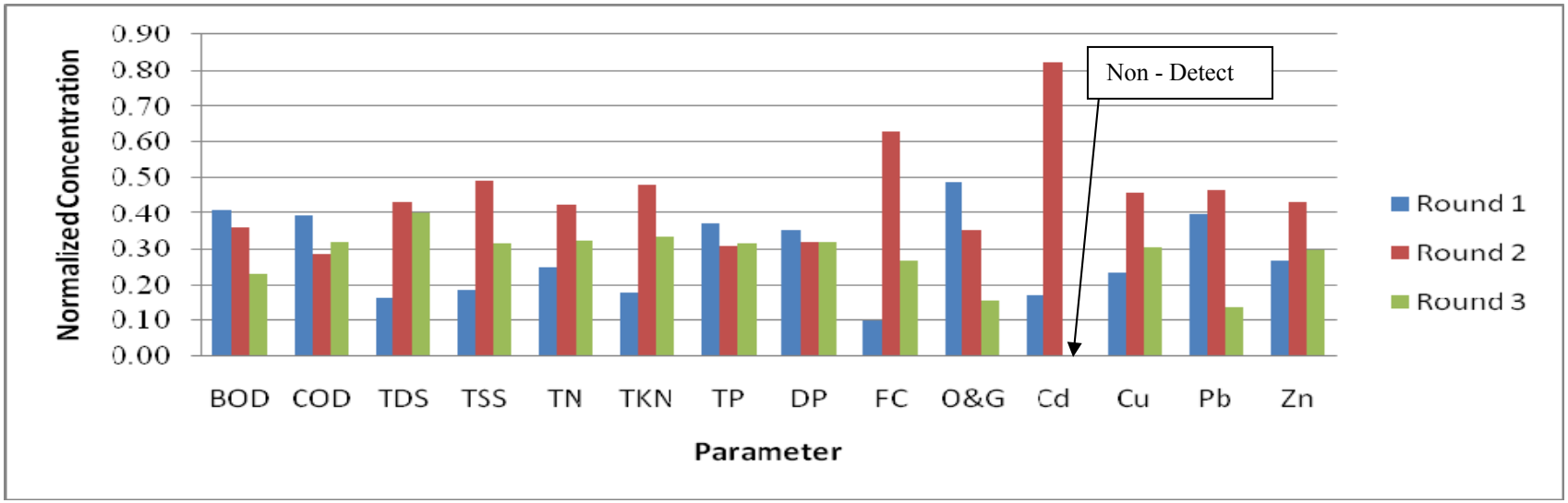


TABLE 8-2. DETECTED PARAMETERS IN THE POTOMAC RIVER WATERSHED (FROM 7 SITES, 63 STORM WATER SAMPLING EVENTS, 2005 THRU 2011)

Parameters	Unit	Concentration	
		From	To
(A) Volatile Organic Compounds			
Bromoform	µg/L	9.4	9.4
Chloroform	µg/L	0.83	5
Tetrachloroethene	µg/L	1.6	5
Toluene	µg/L	0.78	26
(B) Acid Extractable Compounds – None detected			
(C) Base/Neutral Extractable Compounds			
Bis(2-ethylhexyl)phthalate	µg/L	5.6	77
Butylbenzylphthalate	µg/L	200	200
Di-n-butylphthalate	µg/L	5.9	8.3
(D) Pesticides/PCBs			
4,4'-DDT	µg/L	0.18	0.18
Endosulfan I (Alpha-Endosulfan)	µg/L	0.2	0.2
(E) Metals, Cyanide, and Phenols			
Antimony, Total	mg/L	0.00033	0.021
Arsenic, Total	mg/L	0.001	0.027
Cadmium, Total	mg/L	0.00022	0.016
Chromium, Total	mg/L	0.001	0.01
Copper, Total	mg/L	0.0032	0.65
Lead, Total	mg/L	0.0036	0.38
Mercury, Total	mg/L	0.00021	0.0081

TABLE 8-2. DETECTED PARAMETERS IN THE POTOMAC RIVER WATERSHED (SAMPLING EVENTS 2005 THRU 2011) - Continued

Parameters	Unit	From	To
E) Metals, Cyanide, and Phenols (cont'd)			
Nickel, Total	mg/L	0.0024	0.12
Selenium, Total	mg/L	0.0031	0.059
Silver, Total	mg/L	0.0005	0.0023
Zinc, Total	mg/L	0.0095	0.98
Cyanide, Total	mg/L	0.0009	2.4
Phenols, Total	mg/L	0.012	2.5
(F) Conventional Pollutants			
Total suspended solids	mg/L	5.2	558
Total dissolved solids	mg/L	56	5700
COD	mg/L	17	460
BOD_5	mg/L	2.7	980
Oil and Grease	mg/L	2.7	13.5
Fecal Coliform	MPN/100mL	50	>160000
Fecal Streptococcus	MPN/100mL	23	>160000
Total Kjeldahl Nitrogen (TKN)	mg/L	0.84	9.8
Nitrate + Nitrite (NO_2 + NO_3)	mg/L	0.061	3.2
Dissolved Phosphorous	mg/L	0.014	1.5
Total Phosphorous (TP)	mg/L	0.039	2.6
Hardness	mg/L	42	800
Total Nitrogen	mg/L	1	9.2

APPENDIX A

POTOMAC RIVER MONITORING SITES

Battery Kemble

Site 1 (M16-A)

Potomac River Watershed

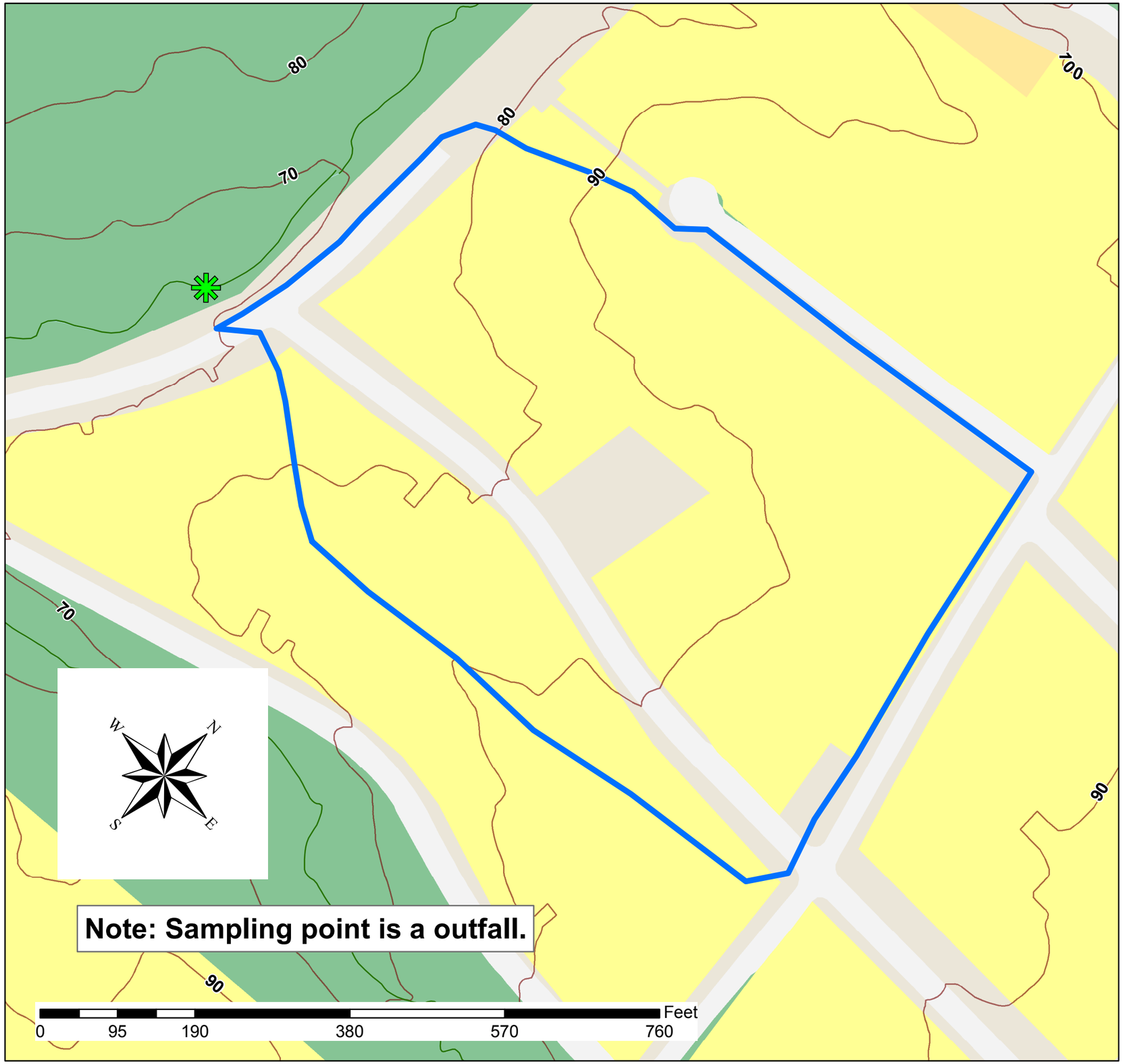
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



Foundary Branch

Site 2 (M17-A)

Potomac River Watershed

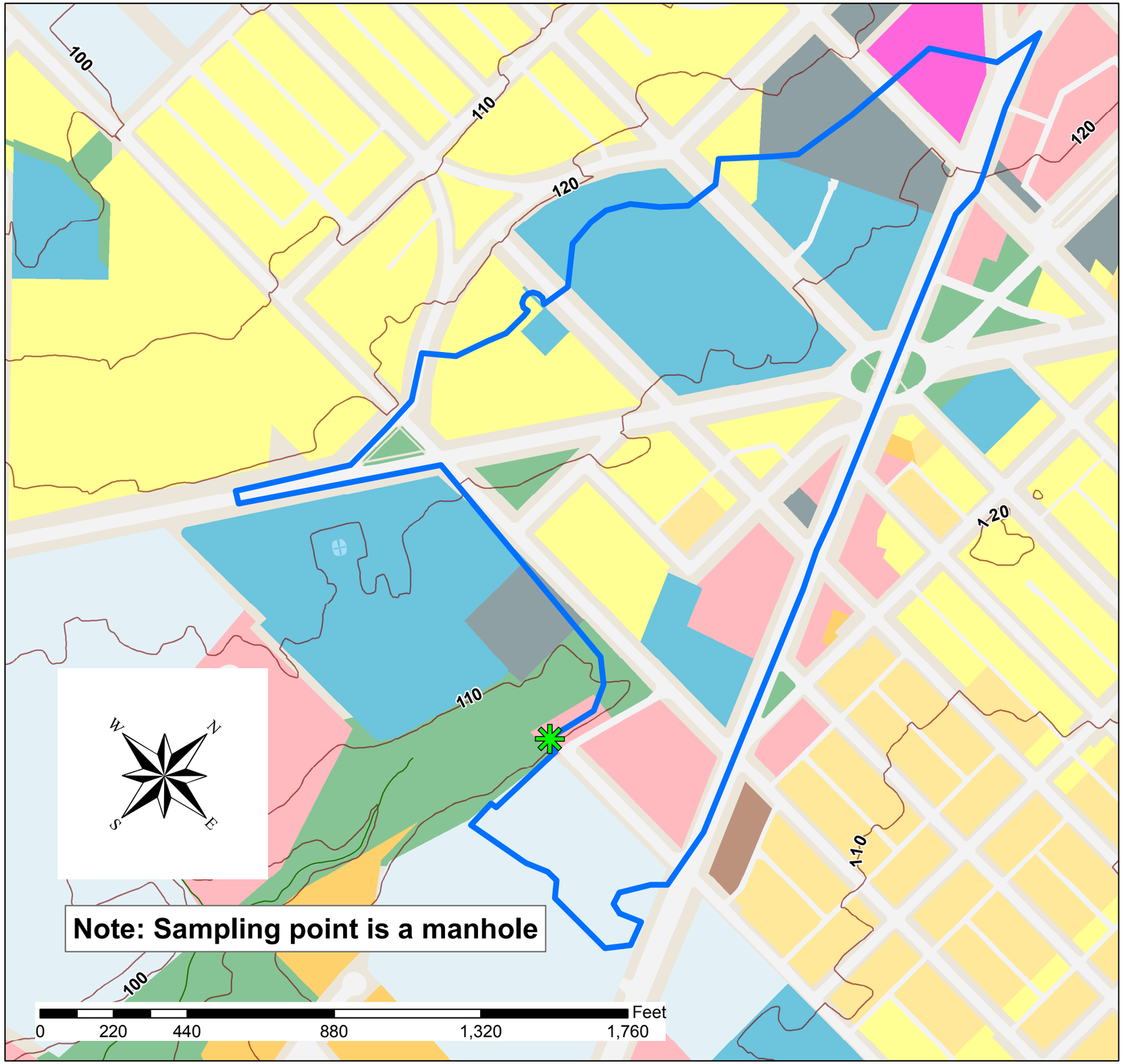
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



Dalecarlia Tributary

Site 3 (M18-A)

Potomac River Watershed

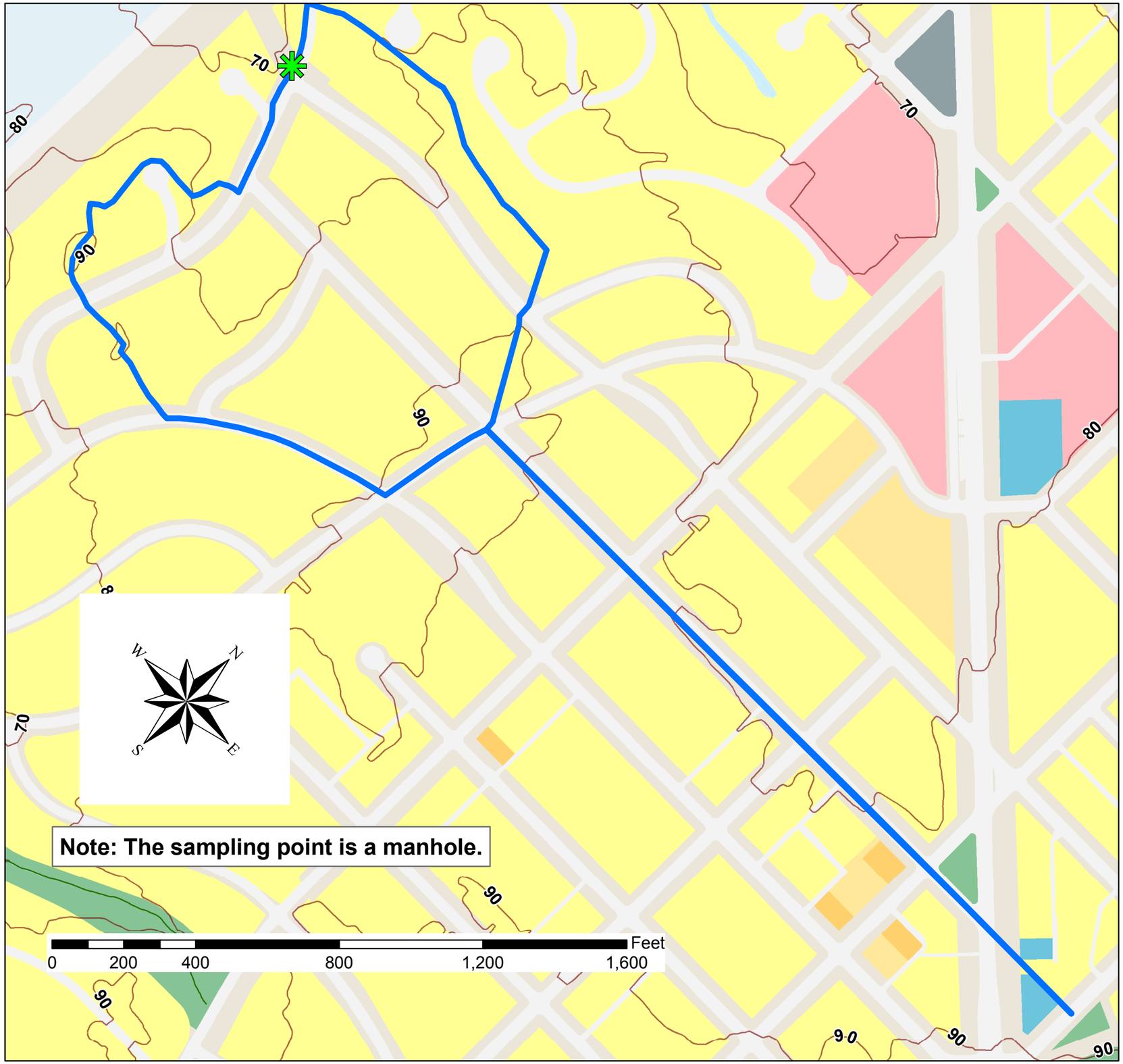
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



Oxon Run

Site 4 (M19-A)

Potomac River Watershed

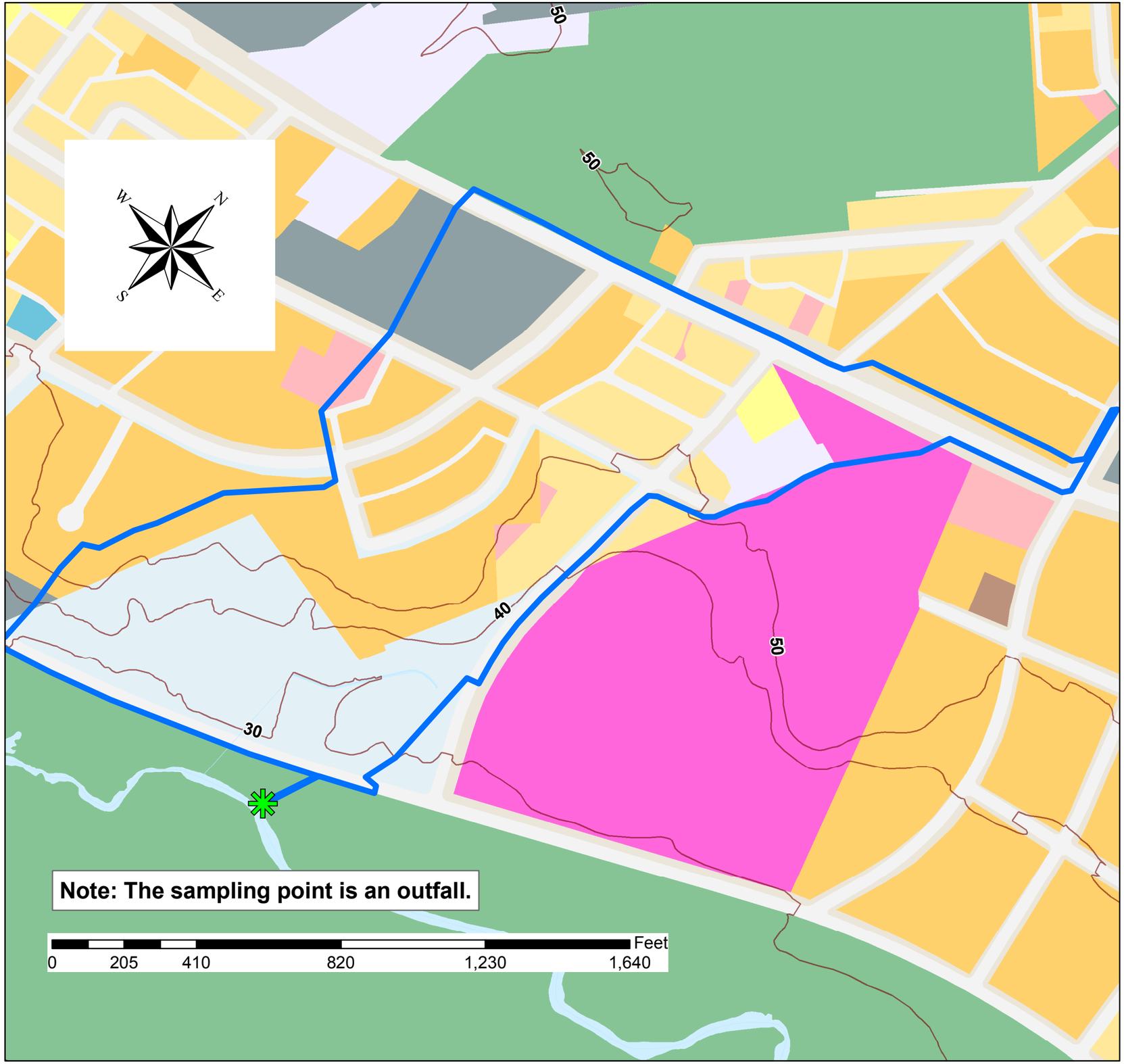
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



Tidal Basin

Site 5 (M20-A)

Potomac River Watershed

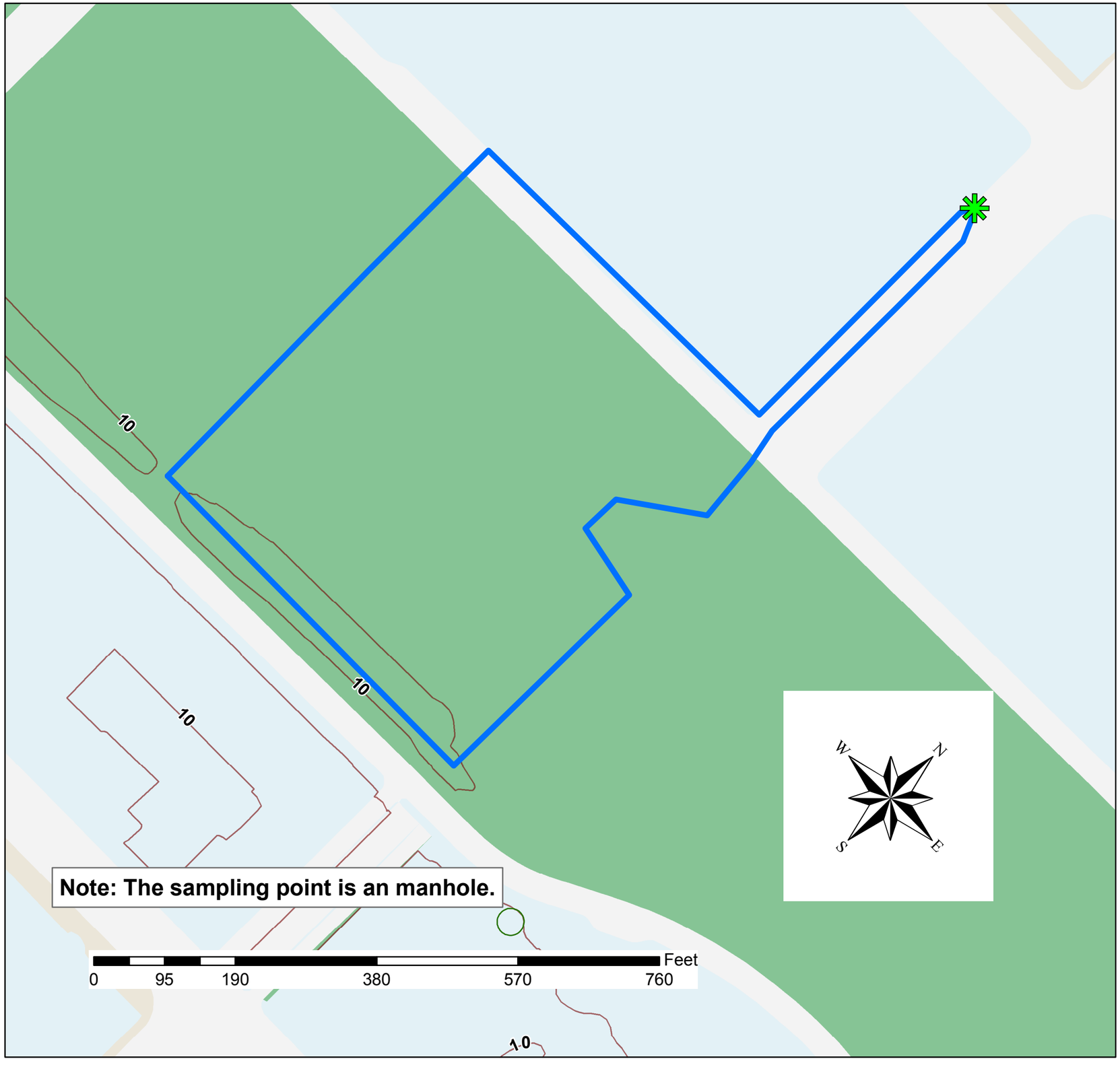
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



Washington Ship Channel

Site 6 (M21-A)

Potomac River Watershed

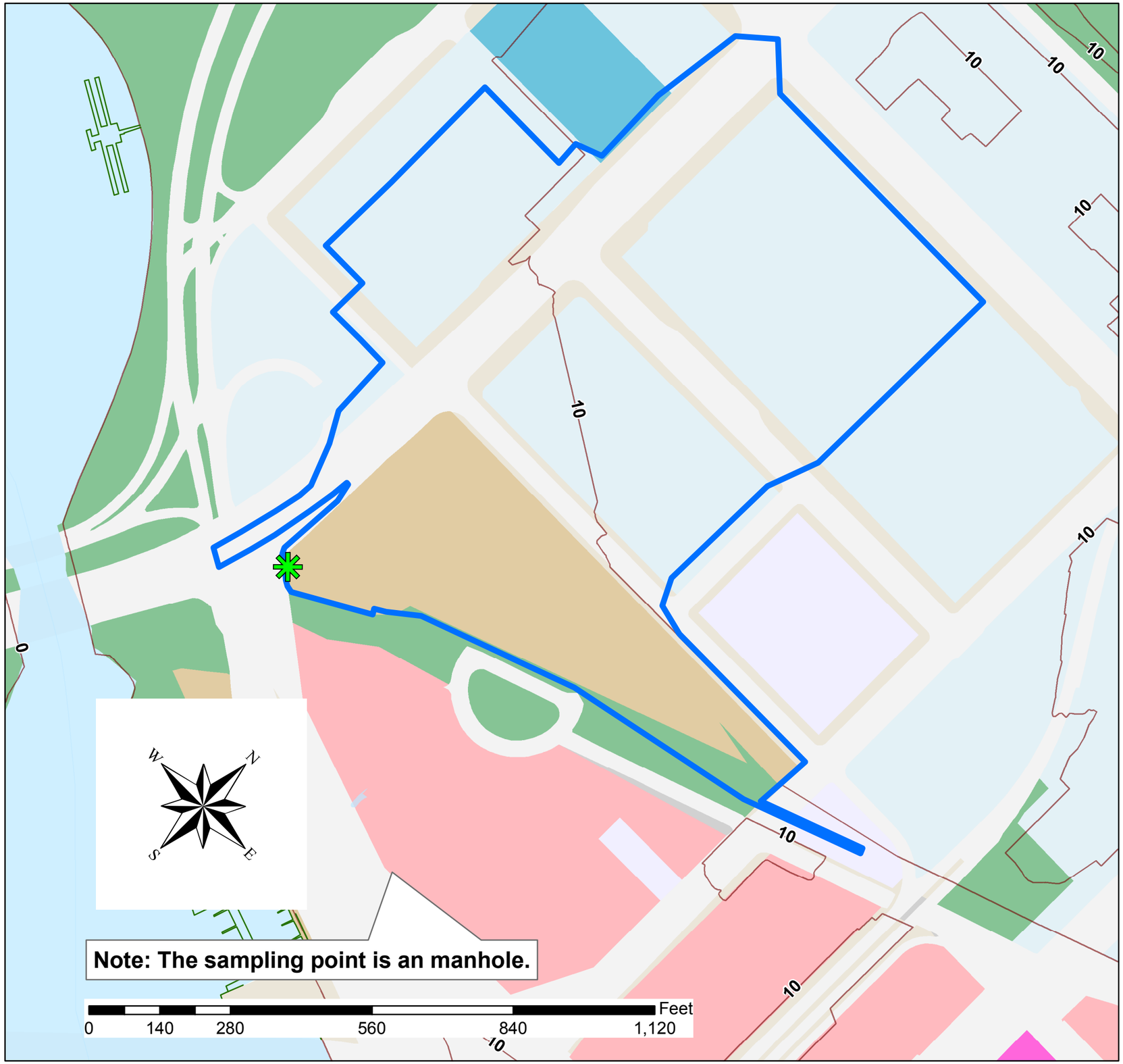
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



C & O Canal

Site 7 (M22-A)

Potomac River Watershed

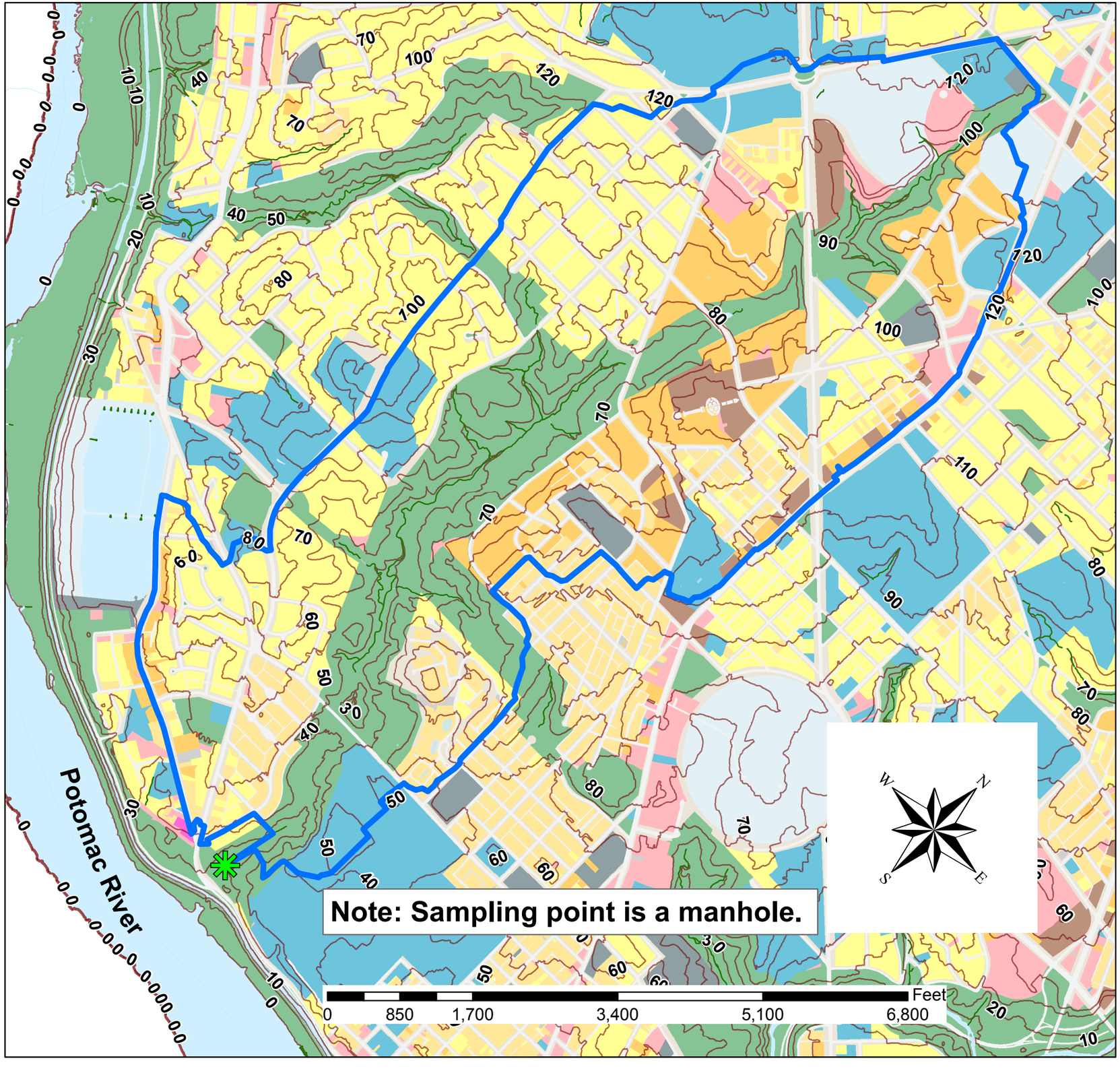
Legend

- Water Quality Monitoring Sites
- Monitoring Site Drainage Area
- DC Water Bodies

Existing Land Use

Land Use Designation

- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Transport, Communication, Utilities
- Industrial
- Mixed Use
- Institutional
- Federal Public
- Local Public
- Public, Quasi-Public, Institutional
- Parks and Open Spaces
- Parking
- Roads; Alleys; Median
- Transportation Right of Way
- Undetermined
- Water



APPENDIX B

POTOMAC RIVER WATERSHED DISCHARGE MONITORING REPORT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001
FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M16-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

BATTERY KEMBLE CREEK
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	62.8				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	21.0				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	7.11	******	8.97				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	94				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	7.2				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	9.2				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jeffrey Seltzer P.E.	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	202-535-1603		08/19/11
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHED- DO TO ROTATING SCHEDULE OUTFALL BECOMES EFFECT. 08/01/07.MON. IS QRTLY, REPORTED ANNLY.
Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M16-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

BATTERY KEMBLE CREEK
External Outfall

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	9.0				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	2.5				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	1.6				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	1.1				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	2.4				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	280				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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POTOMAC RIVER WATERSHED- DO TO ROTATING SCHEDULE OUTFALL BECOMES EFFECT. 08/01/07.MON. IS QRTLY, REPORTED ANNLY.

See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M16-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

BATTERY KEMBLE CREEK
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag 31679 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	160,000				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds 32015 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds 32020 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016 34671 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221 39488 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232 39492 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1242 bot. dep., dry solid 39499 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

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DC0000221	M16-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

BATTERY KEMBLE CREEK
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1248 39500 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1254 39504 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260 39508 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols 46000 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	0.034				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS) 70296 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	490				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general 74053 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general 74055 1 0 Effluent Gross	SAMPLE MEASUREMENT	******	******	******	******	******	30,000				
	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHED- DO TO ROTATING SCHEDULE OUTFALL BECOMES EFFECT. 08/01/07.MON. IS QRTLY, REPORTED ANNLY.

See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M16-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

BATTERY KEMBLE CREEK
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.48				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	0.0017				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	140				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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POTOMAC RIVER WATERSHED- DO TO ROTATING SCHEDULE OUTFALL BECOMES EFFECT. 08/01/07.MON. IS QRTLY, REPORTED ANNLY.
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DC0000221	M17-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

FOUNDARY BRANCH
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	15.9				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	56				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	6.4	******	7.9				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	91				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	8.9				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	4.3				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

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POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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DC0000221	M17-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

FOUNDARY BRANCH
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	4.2				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	2.0				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	0.63				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	0.48				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	200				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jeffrey Seltzer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		202-535-1603		09/19/11
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001

FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M17-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

FOUNDARY BRANCH
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag	SAMPLE MEASUREMENT	******	******	******	******	******	90,000				
31679 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32020 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
34671 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39488 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39492 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1242 bot. dep., dry solid	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39499 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.

See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001
FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M17-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

FOUNDARY BRANCH
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1248	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39500 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1254	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39504 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39508 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols	SAMPLE MEASUREMENT	******	******	******	******	******	0.016				
46000 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS)	SAMPLE MEASUREMENT	******	******	******	******	******	390				
70296 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
74053 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general	SAMPLE MEASUREMENT	******	******	******	******	******	24,000				
74055 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See note 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001

FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M17-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

FOUNDARY BRANCH
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.22				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	0.0094				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	95				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M18-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

DALECARLIA TRIBUTORY
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	61.0				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	52				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	6.7	******	8.1				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	70				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	6.0				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	5.6				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M18-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

DALECARLIA TRIBUTORY
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	5.6				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	0.5				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	2.6				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	2.3				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	NO				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	140				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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DC0000221	M18-A
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		**MM/DD/YYYY**
FROM	09/01/2009	**TO**	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

DALECARLIA TRIBUTORY
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag	SAMPLE MEASUREMENT	******	******	******	******	******	160,000				
31679 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds	SAMPLE MEASUREMENT	******	******	******	******	******	0.077				
32015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32020 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
34671 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39488 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39492 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1248	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39500 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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DC0000221	M18-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

DALECARLIA TRIBUTORY
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1254	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39504 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39508 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols	SAMPLE MEASUREMENT	******	******	******	******	******	0.015				
46000 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS)	SAMPLE MEASUREMENT	******	******	******	******	******	230				
70296 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
74053 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general	SAMPLE MEASUREMENT	******	******	******	******	******	17,000				
74055 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.20				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jeffrey Seltzer P.E.	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		202-535-1603		08/19/11
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001

FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M18-A
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		**MM/DD/YYYY**
FROM	09/01/2009	**TO**	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

DALECARLIA TRIBUTORY
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	240				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M19-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

OXON RUN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	59.2				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	9.7				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	7.4	******	8.5				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	140				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	5.6				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

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WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M19-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

OXON RUN
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	5.6				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	0.81				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	0.54				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	0.15				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	0.04				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	150				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

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WASHINGTON, DC 20001

FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M19-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

OXON RUN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag	SAMPLE MEASUREMENT	******	******	******	******	******	1,600				
31679 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds	SAMPLE MEASUREMENT	******	******	******	******	******	0.0082				
32015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32020 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
34671 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39488 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39492 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1242 bot. dep., dry solid	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39499 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M19-A
PERMIT NUMBER	**DISCHARGE NUMBER**

MONITORING PERIOD			
	MM/DD/YYYY		**MM/DD/YYYY**
FROM	09/01/2009	**TO**	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

OXON RUN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1248	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39500 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1254	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39504 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39508 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols	SAMPLE MEASUREMENT	******	******	******	******	******	0.022				
46000 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS)	SAMPLE MEASUREMENT	******	******	******	******	******	380				
70296 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general	SAMPLE MEASUREMENT	******	******	******	******	******	0.0002				
74053 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general	SAMPLE MEASUREMENT	******	******	******	******	******	8,000				
74055 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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DC0000221	M19-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

OXON RUN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.44				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	47				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M20-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

TIDAL BASIN
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	87.1				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	58				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	6.8	******	7.3				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	220				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	5.0				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	5.7				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

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Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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DC0000221	M20-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

TIDAL BASIN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	5.7				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	1.6				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	0.95				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	0.82				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	190				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jeffrey Seltzer P.E.	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	202-535-1603		08/19/11
TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001
FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M20-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

TIDAL BASIN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag	SAMPLE MEASUREMENT	******	******	******	******	******	160,000				
31679 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds	SAMPLE MEASUREMENT	******	******	******	******	******	0.01				
32015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32020 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
34671 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39488 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39492 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1242 bot. dep., dry solid	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39499 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001
FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M20-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

TIDAL BASIN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1248	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39500 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1254	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39504 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39508 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols	SAMPLE MEASUREMENT	******	******	******	******	******	0.045				
46000 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS)	SAMPLE MEASUREMENT	******	******	******	******	******	380				
70296 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
74053 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general	SAMPLE MEASUREMENT	******	******	******	******	******	30,000				
74055 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001

FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M20-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

TIDAL BASIN
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.19				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	0.0043				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	14o				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
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WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M21-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

WASHINGTON SHIP CHANNEL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	75.9				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	57				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	6.77	******	7.63				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	99				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	3.9				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001
FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M21-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

WASHINGTON SHIP CHANNEL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	3.9				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	0.23				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	0.27				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	0.17				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	0.023				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	800				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

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ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M21-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

WASHINGTON SHIP CHANNEL
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag	SAMPLE MEASUREMENT	******	******	******	******	******	800				
31679 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds	SAMPLE MEASUREMENT	******	******	******	******	******	0.0056				
32015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32020 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
34671 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39488 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39492 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1242 bot. dep., dry solid	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39499 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jeffrey Seltzer PE	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		202-535-1603		08/19/11
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POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

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ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M21-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

WASHINGTON SHIP CHANNEL
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1248	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39500 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1254	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39504 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39508 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols	SAMPLE MEASUREMENT	******	******	******	******	******	0.033				
46000 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS)	SAMPLE MEASUREMENT	******	******	******	******	******	5,900				
70296 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
74053 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general	SAMPLE MEASUREMENT	******	******	******	******	******	1,600				
74055 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
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POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
See page 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: The Government of the District of Columbia-DDOE
ADDRESS: 441 4TH STREET, N.W.
WASHINGTON, DC 20001

FACILITY: DISTRICT DEPARTMENT OF THE ENVIRONMENT NA
LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M21-A
PERMIT NUMBER	DISCHARGE NUMBER

DMR Mailing ZIP CODE: 20002
MAJOR

WASHINGTON SHIP CHANNEL
External Outfall

No Discharge ☐

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.87				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	120				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE
Jeffrey Seltzer P.E.	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		202-535-1608		08/19/11
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.

See page 1.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001
ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M22-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

C&O CANAL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Temperature, water deg. fahrenheit	SAMPLE MEASUREMENT	******	******	******	******	******	65.3				
00011 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	deg F		Three Per Year	GRAB
BOD, 5-day, 20 deg. C	SAMPLE MEASUREMENT	******	******	******	******	******	29				
00310 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS
pH	SAMPLE MEASUREMENT	******	******	******	6.2	******	7.5				
00400 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	Req. Mon. MINIMUM	******	Req. Mon. ANNL MAX	SU		Three Per Year	GRAB
Solids, total suspended	SAMPLE MEASUREMENT	******	******	******	******	******	51				
00530 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Oil & Grease	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
00556 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, total	SAMPLE MEASUREMENT	******	******	******	******	******	5.0				
00600 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, organic total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00605 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	COMPOS

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TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
POTOMAC RIVER WATERSHEDMON. IS QRTLY, REPORTED ANNLY.
Monitoring Year 2010 - Sampling May 2010 - July 2011

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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LOCATION: 51 N. STREET, N.E., 5TH FLOOR
WASHINGTON, DC 20001

ATTN: Julia Evans, P.E./Senior Envir

DC0000221	M22-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

C&O CANAL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Nitrogen, ammonia total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	NR				
00610 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrogen, Kjeldahl, total (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	5.0				
00625 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Nitrite plus nitrate total 1 det. (as N)	SAMPLE MEASUREMENT	******	******	******	******	******	3.0				
00630 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, total (as P)	SAMPLE MEASUREMENT	******	******	******	******	******	0.2				
00665 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phosphorus, dissolved	SAMPLE MEASUREMENT	******	******	******	******	******	0.15				
00666 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Cyanide, total (as CN)	SAMPLE MEASUREMENT	******	******	******	******	******	0.006				
00720 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. MAXIMUM	mg/L		Three Per Year	GRAB
Hardness, total (as CaCO3)	SAMPLE MEASUREMENT	******	******	******	******	******	220				
00900 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004

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DC0000221	M22-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

C&O CANAL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Fecal streptococci, MF m-enterococcus ag	SAMPLE MEASUREMENT	******	******	******	******	******	13,000				
31679 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB
Base/neutral compounds	SAMPLE MEASUREMENT	******	******	******	******	******	0.012				
32015 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Acid compounds	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
32020 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1016	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
34671 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1221	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39488 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1232	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39492 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1242 bot. dep., dry solid	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39499 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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DC0000221	M22-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

C&O CANAL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
PCB-1248	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39500 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1254	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39504 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
PCB-1260	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
39508 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Phenols	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
46000 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Solids, total dissolved (TDS)	SAMPLE MEASUREMENT	******	******	******	******	******	680				
70296 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Pesticides, general	SAMPLE MEASUREMENT	******	******	******	******	******	ND				
74053 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Coliform, fecal general	SAMPLE MEASUREMENT	******	******	******	******	******	30,000				
74055 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	#/100mL		Three Per Year	GRAB

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DC0000221	M22-A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD			
	MM/DD/YYYY		MM/DD/YYYY
FROM	09/01/2009	TO	08/31/2010

DMR Mailing ZIP CODE: 20002
MAJOR

C&O CANAL
External Outfall

No Discharge ☐

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Metals, total	SAMPLE MEASUREMENT	******	******	******	******	******	0.15				
78240 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Volatile compounds, (GC/MS)	SAMPLE MEASUREMENT	******	******	******	******	******	0.0022				
78732 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB
Chemical Oxygen Demand (COD)	SAMPLE MEASUREMENT	******	******	******	******	******	14				
81017 1 0 Effluent Gross	PERMIT REQUIREMENT	******	******	******	******	******	Req. Mon. ANNL MAX	mg/L		Three Per Year	GRAB

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See page 1

APPENDIX C

POTOMAC RIVER WATERSHED SAMPLING ANALYTICAL DATA

POTOMAC WATERSHED
WET WEATHER SAMPLING RAW DATA

Parameter	Units	RL	Battery Kemble			Foundary Branch			Dalecarlia			Oxon Run			Tidal Basin			Ship Channel			C&O Canal		
			Wet 1	Wet 2	Wet3	Wet 1	Wet 2	Wet3	Wet 1	Wet 2	Wet 3	Wet 1	Wet 2	Wet 3	Wet 1	Wet 2	Wet 3	Wet 1	Wet 2	Wet 3	Wet 1	Wet 2	Wet 3
1,1,1-Trichloroethane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,1,2-Trichloroethane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,1-Dichloroethane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,1-Dichloroethene (1,1-Dichloroethylene)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,2,4-Trichlorobenzene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,2-Dichlorobenzene	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
1,2-Dichloroethane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,2-Dichloropropane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,2-Diphenylhydrazine	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,2-Trans-Dichloroethylene (Trance-1,2-Dichloroethane)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,3-Dichlorobenzene	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
1,3-Dichloropropylene (trans-1,3-Dichloropropylene)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
1,4-Dichlorobenzene	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
2,3,7,8-TCDD (Dioxin)	pg/l	1	ND	ND	<1.0	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	ND	ND	ND	ND	<1.0	<1	ND	ND	<1.0
2,4,6-Trichlorophenol	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2,4-Dichlorophenol	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2,4-Dimethylphenol	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2,4-Dinitrophenol	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
2,4-Dinitrotoluene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2,6-Dinitrotoluene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2-Chloroethyl Vinyl Ether	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
2-Chloronaphthalene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2-Chlorophenol	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
2-Nitrophenol	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
3,3´-Dichlorobenzidine	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
3,4-Benzofluoranthene (Benzo[b]fluoranthene)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
4,6-Dinitro-o-Crestol (4,6-Dinitro-2-methylphenol)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
4-Bromophenyl-phenylether	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
4-Chlorophenyl-phenylethe	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
4-Nitrophenol	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Acenaphthene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Acenaphthylene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Acrolein	ug/L	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<100	ND	ND	ND
Acrylonitrile	ug/L	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<100	ND	ND	ND
Aldrin	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Alpha-BHC	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Anthracene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Antimony	mg/L	0.0050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0073	ND	<0.0050	ND	ND	ND
Aroclor 1016 (PCB 1016)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Aroclor 1221 (PCB 1221)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Aroclor 1232 (PCB 1232)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Aroclor 1242 (PCB 1242)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Aroclor 1248 (PCB 1248)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Aroclor 1254 (PCB 1254)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Aroclor 1260 (PCB 1260)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Arsenic	mg/L	0.0020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0020	ND	ND	0.0026
Benzene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Benzidine	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Benzo(a)anthracene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Benzo[a]pyrene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Benzo[g,h,i]perylene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Benzo[k]fluoranthene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Beryllium	mg/L	0.0010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0010	ND	ND	ND
Beta-BHC	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Bis(2-Chloroethoxy)methane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Bis(2-Chloroethyl)ether	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Bis(2-chloroisopropyl)ether	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Bis(2-Ethylhexyl)phthalate	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	77	ND	ND	ND	8.2	10	ND	ND	ND	ND	5.6	ND	12	7.8
BOD	mg/L	5.0	6.5	21	9.2	56	13	37	15	52	33	2.7	8.7	9.7	58	19	22	57	9.0	32	9.1	29	9.7
Bromodichloromethane (Dichlorobromomethane)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Bromoform	ug/L	5.0	ND	ND	ND	ND	ND	9.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Bromomethane (Methyl bromide)	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Butylbenzylphthalate	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Cadmium	mg/L	0.00050	ND	ND	ND	0.00053	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0013	ND	<0.00050	ND	ND	ND
Carbon Tetrachloride	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Chlordane (Technical Chlordane)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Chlorobenzene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Chloroethane	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Chloroform	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Chloromethane (Methyl chloride)	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Chlorophyll a	ug/L	0.50	6.2	ND	16	5.8	1.9	ND	0.64	ND	ND	ND	ND	ND	ND	1.3	4.1	8.2	1.0	<0.50	ND	ND	2.0

Chromium	mg/L	0.0020	ND	0.0054	0.0070	0.0023	0.0048	0.0028	ND	ND	0.0018	ND	0.0017	0.0069	0.010	0.0095	0.0011	0.0060	0.0057	0.0044	ND	0.0041	0.0051
Chrysene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
cis-1,3-Dichloropropylene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Parameter	**Units**	**RL**	**Battery Kemble**			**Foundary Branch**			**Dalecarlia**			**Oxon Run**			**Tidal Basin**			**Ship Channel**			**C&O Canal**		
			Wet 1	**Wet 2**	**Wet3**	**Wet 1**	**Wet 2**	**Wet3**	**Wet 1**	**Wet 2**	**Wet 3**	**Wet 1**	**Wet 2**	**Wet 3**	**Wet 1**	**Wet 2**	**Wet 3**	**Wet 1**	**Wet 2**	**Wet 3**	**Wet 1**	**Wet 2**	**Wet 3**
COD, Total	mg/L	10	41	140	41	95	75	84	39	110	240	ND	35	47	140	56	77	120	37	67	18	74	41
Copper	mg/L	0.0010	0.0074	0.36	0.039	0.086	0.036	0.035	0.053	0.086	0.10	0.0032	0.26	0.031	0.046	0.029	0.074	0.23	0.14	0.16	0.039	0.042	0.029
Cyanide, Total	mg/L	0.0050	2.4	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	0.040	ND	ND	ND	0.023	ND	<0.0050	ND	ND	0.0060
delta-BHC	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Dibenz[a,h]anthracene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Dibromochloromethane (Chlorodibromomethane)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Dieldrin	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Diethylphthalate	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Dimethylphthalate	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Di-n-butylphthalate	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Di-n-octylphthalate	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Endosulfan I (Alpha-endosulfan)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Endosulfan II (Beta-endosulfan)	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Endosulfan Sulfate	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Endrin	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Endrin Aldehyde	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Ethylbenzene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Fecal Coliforms	MPN/100 mL	2.0	80	30000	130	>1600	24000	11000	17000	7000	>1600	8000	>1600	>1600	>1600	30000	2300	400	230	>1600	>1600	30000	3000
Fecal Streptococcus	MPN/100 mL	2.0	350	>160,000	500	>1600	90000	3000	160000	24000	900	400	>1600	>1600	>1600	>160,000	ND	800	500	300	>1600	13000	2400
Fluoranthene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Fluorene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
gamma-BHC	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Hardness (As $CaCO_3$)	mg CaCO3/L	1.0	280	200	190	200	160	180	140	120	120	150	96	64	190	160	190	800	88	75	220	150	200
Heptachlor	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Heptachlor epoxide	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Hexachlorobenzene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Hexachlorobutadiene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Hexachlorocyclopentadiene	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Hexachloroethane	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Indeno[1,2,3-cd]pyrene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Isophorone	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Lead	mg/L	0.0010	ND	0.025	0.0072	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND	0.12	0.086	0.062	ND	0.012	0.011
Mercury	mg/L	0.00020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00026	ND	ND	ND	0.00051	ND	ND	ND	<0.00020	ND	ND	ND
Methylene Chloride	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Naphthalene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Nickel	mg/L	0.0050	ND	ND	0.011	0.012	ND	ND	ND	ND	ND	ND	ND	0.011	0.013	ND	ND	0.067	0.025	0.0056	ND	ND	0.0081
Nitrate/Nitrite as N	mg/L	0.050	0.41	0.22	2.5	ND	0.10	2.0	0.34	0.50	ND	0.81	ND	ND	ND	0.40	1.6	ND	0.23	0.061	ND	ND	3.0
Nitrobenzene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Nitrogen, Total	mg/L	1.0	1.4	9.2	2.5	3.8	4.3	3.5	5.1	ND	5.6	4.2	5.6	1.4	5.7	3.5	2.6	3.9	ND	2.0	1.6	5.0	3.0
N-Nitrosodimethylamine	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
N-Nitroso-di-n-propylamine	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
N-Nitrosodiphenylamine		5.0	n/a	ND	ND	n/a	ND	ND	ND	ND	ND	ND	ND	ND	n/a	ND	ND	ND	ND	<5.0	n/a	ND	ND
Oil & Grease	mg/L	5	ND	7.2	ND	ND	8.9	ND	6.0	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	<5	ND	ND	ND
p,p'-DDD	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
p,p'-DDE	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
p,p'-DDT	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
p-Chloro-m-Crestol (4-Chloro-3-methylphenol)	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Pentachlorophenol	ug/L	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<10	ND	ND	ND
Phenanthrene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Phenol	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Phenolics, Total Recoverable	mg/L	0.010	ND	0.034	ND	ND	ND	0.016	ND	ND	0.015	ND	ND	0.022	0.045	ND	ND	0.033	ND	<0.010	ND	ND	ND
Phosphorus, Dissolved (As P)	mg/L	0.010	0.019	1.1	0.096	0.41	0.36	0.48	0.22	2.3	0.10	0.014	0.15	0.14	0.82	0.042	0.27	0.11	0.17	0.086	0.11	0.014	0.15
Phosphorus, Total (As P)	mg/L	0.010	0.039	1.6	0.15	0.44	0.54	0.63	0.32	2.6	0.25	0.54	0.21	0.18	0.95	0.052	0.31	0.27	0.19	0.18	0.11	0.039	0.20
Pyrene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Selenium	mg/L	0.0050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.059	ND	<0.0050	ND	ND	ND
Silver	mg/L	0.0010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0010	ND	ND	ND
Tetrachloroethene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	1.6	2.2
Thallium	mg/L	0.0010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.094	ND	<0.0010	ND	ND	ND
Toluene	ug/L	5.0	ND	1.7	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	2.4	4.3	ND	ND	ND	<5.0	ND	ND	ND
Total Dissolved Solids	mg/L	20	450	240	490	390	290	360	160	210	230	380	240	130	240	190	380	5700	230	120	680	320	510
Total Kjeldahl Nitrogen	mg/L	1.0	1.0	9.0	ND	3.8	4.2	1.5	4.8	ND	5.6	3.4	5.6	1.4	5.7	3.1	1.0	3.9	ND	2.0	1.6	5.0	ND
Total Organic Carbon	mg/L	0.50	4.5	46	6.6	34	15	31	13	47	15	1.9	8.0	8.2	47	17	20	15	7.3	13	16	22	9.6
Total PCBs	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Total Suspended Solids	mg/L	10	23	94	41	53	91	19	24	16	70	16	34	140	220	89	36	97	43	29	5.2	39	51
Toxaphene	ug/L	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.10	ND	ND	ND
Trichloroethylene	ug/L	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	ND	ND
Vinyl chloride	ug/L	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.0	ND	ND	ND
Zinc	mg/L	0.0050	0.0095	0.086	0.020	0.12	0.10	0.12	0.046	0.033	0.083	0.016	0.18	0.12	0.097	0.095	0.048	0.28	0.22	0.18	0.064	0.089	0.066

RL - reporting limit
n/a - not available
ND - none detected

POTOMAC SUBWATERSHED
DRY WEATHER SAMPLING RAW DATA

Parameter	Units	Battery kemble		Foundary Branch		Dalecarlia		Oxon Run		Tidal Basin		Ship Channel		C&O Canal	
		Dry1 (NDF)	Dry2	Dry1	Dry2	Dry1	Dry2 (NDF)	Dry1	Dry2	Dry1	Dry2 (NDF)	Dry1	Dry2 (NDF)	Dry1	Dry2
1,1,1-Trichloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,1,2,2-Tetrachloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,1,2-Trichloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,1-Dichloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,1-Dichloroethene (1,1-Dichloroethylene)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,2,4-Trichlorobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,2-Dichlorobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,2-Dichloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,2-Dichloropropane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,2-Diphenylhydrazine	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,2-Trans-Dichloroethylene (Trance-1,2-Dichloroethane)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,3-Dichlorobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,3-Dichloropropylene (trans-1,3-Dichloropropylene)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
1,4-Dichlorobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2,3,7,8-TCDD (Dioxin)	pg/l		ND	ND	ND	ND		ND	n/a	ND		ND		ND	ND
2,4,6-Trichlorophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2,4-Dichlorophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2,4-Dimethylphenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2,4-Dinitrophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2,4-Dinitrotoluene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2,6-Dinitrotoluene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2-Chloroethyl Vinyl Ether	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2-Chloronaphthalene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2-Chlorophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
2-Nitrophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
3,3´-Dichlorobenzidine	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
3,4-Benzofluoranthene (Benzo[b]fluoranthene)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
4,6-Dinitro-o-Crestol (4,6-Dinitro-2-methylphenol)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
4-Bromophenyl-phenylether	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
4-Chlorophenyl-phenylethe	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
4-Nitrophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Acenaphthene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Acenaphthylene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Acrolein	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Acrylonitrile	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aldrin	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Alpha-BHC	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Anthracene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Antimony	mg/L		ND	n/a	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1016 (PCB 1016)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1221 (PCB 1221)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1232 (PCB 1232)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1242 (PCB 1242)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1248 (PCB 1248)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1254 (PCB 1254)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Aroclor 1260 (PCB 1260)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Arsenic	mg/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Benzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Benzidine	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Benzo(a)anthracene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Benzo[a]pyrene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Benzo[g,h,i]perylene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Benzo[k]fluoranthene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Beryllium	mg/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Beta-BHC	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Bis(2-Chloroethoxy)methane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Bis(2-Chloroethyl)ether	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Bis(2-chloroisopropyl)ether	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Bis(2-Ethylhexyl)phthalate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
BOD	mg/L		3.3	16	11	6.1		ND	4.4	440		52		3.4	ND
Bromodichloromethane (Dichlorobromomethane)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Bromoform	ug/L		ND	1.0	ND	ND		ND	ND	ND		ND		ND	ND
Bromomethane (Methyl bromide)	ug/L		ND	ND	ND	ND		ND	2.4	ND		ND		ND	ND
Butylbenzylphthalate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Cadmium	mg/L		ND	ND	ND	ND		ND	ND	ND		0.00096		ND	ND
Carbon Tetrachloride	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Chlordane (Technical Chlordane)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Chlorobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Chloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Chloroform	ug/L		ND	1.0	ND	1.8		ND	ND	ND		ND		ND	ND
Chloromethane (Methyl chloride)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Chlorophyll a	ug/L		1.6	3.3	ND	ND		2.5	6.8	3.4		9.8		ND	2.4
Chromium	mg/L		ND	ND	0.0012	ND		ND	ND	0.0043		0.0025		ND	ND

Parameter	Units	Battery kemble		Foundary Branch		Dalecarlia		Oxon Run		Tidal Basin		Ship Channel		C&O Canal	
		Dry1 (NDF)	Dry2	Dry1	Dry2	Dry1	Dry2 (NDF)	Dry1	Dry2	Dry1	Dry2 (NDF)	Dry1	Dry2 (NDF)	Dry1	Dry2
Chrysene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
cis-1,3-Dichloropropylene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
COD, Total	mg/L		ND	23	28	19		ND	25	810		82		14	ND
Copper	mg/L		0.0014	0.055	0.016	0.0089		0.0022	0.0082	0.22		0.16		0.0017	0.0026
Cyanide, Total	mg/L		ND	ND	ND	0.0075		ND	ND	ND		ND		ND	ND
delta-BHC	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Dibenz[a,h]anthracene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Dibromochloromethane (Chlorodibromomethane)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Dieldrin	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Diethylphthalate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Dimethylphthalate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Di-n-butylphthalate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Di-n-octylphthalate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Endosulfan I (Alpha-endosulfan)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Endosulfan II (Beta-endosulfan)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Endosulfan Sulfate	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Endrin	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Endrin Aldehyde	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Ethylbenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Fecal Coliforms	MPN/100 mL		900	>1600	200	>1600		130	>1600	>1600		8000		>1600	300
Fecal Streptococcus	MPN/100 mL		30	>1600	ND	>1600		500	>1600	>1600		1700		>1600	50
Fluoranthene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Fluorene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
gamma-BHC	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Hardness (As $CaCO_3$)	mg CaCO3/L		700	190	140	160		160	170	110		170		310	340
Heptachlor	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Heptachlor epoxide	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Hexachlorobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Hexachlorobutadiene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Hexachlorocyclopentadiene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Hexachloroethane	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Indeno[1,2,3-cd]pyrene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Isophorone	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Lead	mg/L		ND	0.016	ND	ND		ND	ND	0.015		0.10		ND	ND
Mercury	mg/L		ND	ND	ND	ND		ND	0.00035	ND		ND		ND	ND
Methylene Chloride	ug/L		ND	ND	ND	ND		1.2	ND	ND		ND		ND	ND
Naphthalene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Nickel	mg/L		ND	0.020	0.012	ND		ND	ND	0.016		0.036		ND	ND
Nitrate/Nitrite as N	mg/L		3.9	ND	0.43	0.60		ND	0.39	ND		2.1		0.17	ND
Nitrobenzene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Nitrogen, Total	mg/L		3.9	3.0	3.2	17		3.1	2.2	37		8.3		3.0	ND
N-Nitrosodimethylamine	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
N-Nitroso-di-n-propylamine	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
N-Nitrosodiphenylamine	ug/L		ND	n/a	ND	n/a		n/a	ND	n/a		n/a		n/a	ND
Oil & Grease	mg/L		ND	ND	ND	ND		ND	ND	14		ND		ND	ND
p,p'-DDD	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
p,p'-DDE	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
p,p'-DDT	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
p-Chloro-m-Crestol (4-Chloro-3-methylphenol)	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Pentachlorophenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Phenanthrene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Phenol	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Phenolics, Total Recoverable	mg/L		0.015	ND	ND	ND		ND	0.028	0.15		0.056		ND	0.012
Phosphorus, Dissolved (As P)	mg/L		0.015	0.46	ND	0.13		ND	0.015	5.0		0.58		0.076	0.12
Phosphorus, Total (As P)	mg/L		0.89	0.58	0.48	0.13		0.045	0.039	5.2		0.85		0.064	0.14
Pyrene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Selenium	mg/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Silver	mg/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Tetrachloroethene	ug/L		ND	ND	ND	ND		ND	4.0	ND		ND		ND	1.5
Thallium	mg/L		ND	0.020	ND	ND		ND	ND	ND		ND		ND	ND
Toluene	ug/L		ND	2.5	ND	ND		ND	ND	4.5		ND		ND	ND
Total Dissolved Solids	mg/L		1100	430	530	710		290	370	320		380		760	660
Total Kjeldahl Nitrogen	mg/L		ND	3.0	2.8	16		3.1	1.8	37		6.2		2.8	ND
Total Organic Carbon	mg/L		1.9	5.1	4.6	2.8		1.1	2.8	130		15		1.2	1.5
Total PCBs	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Total Suspended Solids	mg/L		31	5.6	8.0	ND		4.4	26	410		160		ND	ND
Toxaphene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Trichloroethylene	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Vinyl chloride	ug/L		ND	ND	ND	ND		ND	ND	ND		ND		ND	ND
Zinc	mg/L		ND	0.083	0.044	0.012		0.0081	0.037	0.17		0.19		ND	ND

RL - reporting limit
n/a - not available
ND - none detected
NDF- No Dry Flow

APPENDIX D

ESTIMATION OF RUNOFF COEFFICIENTS

Estimation of Runoff Coefficients for Monitored Sewersheds

Runoff coefficients were estimated for each of the nine monitored sewersheds contributing flow to the Anacostia River monitoring sites. Land use and acreage calculations within each sewershed were completed using the *'Land Use-Existing'* dataset provided by the District of Columbia Office of Planning. This layer is also available to the public at: http://dcatlas.dcgis.dc.gov/catalog/

Weighted average runoff coefficients were assigned to each sewershed using Equation 2 on page 5-16 of the US EPA *"Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems"*, 1992. The equation is expressed:

$$Rv_i = (\sum A_i R_v) / (\sum A_i) \qquad \textbf{(Equation 2)}$$

Where:

Rv_i = Weighted Average Runoff Coefficient
R_v = Assigned Runoff Coefficient for each land use type
A_i = Catchment area (acres) for corresponding land use type

Runoff coefficients (R_v) were estimated for each land use type in the District of Columbia by taking into consideration both the runoff coefficient ranges for various land use types presented in exhibit 3-12 on page 57 of the US EPA *"NPDES Stormwater Sampling Guidance Document"*, and runoff coefficient values used associated with District of Columbia zoning categories used in previous DMR's. Where the US EPA suggested runoff coefficients from Exhibit 3-12 did not contain a corresponding runoff coefficient range for a District of Columbia land use category, the corresponding code from a previous DMR was used as a substitute. The estimated runoff coefficient values for each land use category is presented in Table D-1.

The calculation of the weighted average runoff coefficient for each monitoring is given in subsequent sections.

Table D-1. Estimated Runoff Coefficients for District of Columbia Existing Land Use Categories

Land Use Code	Description	Rv
C, O	Commercial (ac)	0.85
LDR	Low Density Residential	0.5
LMDR	Low Medium Density Residential	0.65
MDR	Medium Density Residential	0.77
HDR	High Density Residential	0.85
FP	Federal Public Land	0.77
I	Industrial	0.95
TCU	Transport/Communications/Utilities	0.95
LP	Local Public	0.77
MU	Mixed Use	0.905
PQP-I	Public-Quasi Public Institutional	0.8
R	Parks and Open Space	0.35
S	Institutional	0.8
TROW	Transportation Right of Way	0.85
ALLEYS	alleys	0.95
MEDIAN	Median	0.3
PARKING	Parking	0.95
ROADS	Roads	0.95
TRAFFICS	TRAFFIC	0.95

WEIGHTED RUNOFF COEFFICIENT FOR EACH MONITORING SITE

Battery Kemble

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
LDR	0.5	9.072	
ROADS	0.95	0.863	
TROW	0.85	1.556	
			0.58

Foundary Branch

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
ALLEYS	0.95	0.29	
C	0.95	2.74	
FP	0.77	3.43	
LDR	0.5	7.58	
LMDR	0.65	0.42	
LP	0.77	2.23	
MEDIAN	0.3	0.01	
MU	0.905	0.99	
O	0.85	1.36	
R	0.35	1.43	
ROADS	0.95	8.86	
S	0.8	11.81	
TROW	0.85	8.51	
			0.78

Dalecarlia

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
LDR	0.5	16.28	
MEDIAN	0.3	0.01	
ROADS	0.95	3.34	
S	0.8	0.00	
TROW	0.85	4.25	
			0.63

Oxon Run

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
ALLEYS	0.95	0.74	
C	0.95	0.45	
FP	0.77	11.77	
LDR	0.5	0.49	
LMDR	0.65	4.55	
LP	0.77	3.16	
MDR	0.77	10.17	
MU	0.905	1.25	
R	0.35	0.17	
RIVER		0.07	
ROADS	0.95	6.38	
TCU	0.95	1.19	
TROW	0.85	2.96	
			0.80

Tidal Basin

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
FP	0.77	0.09	
MEDIAN	0.3	0.01	
R	0.35	7.04	
ROADS	0.95	0.72	
			0.41

Washington Ship Channel

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
FP	0.77	12.50	
MEDIAN	0.3	0.01	
PARKING	0.95	5.56	
R	0.35	0.52	
ROADS	0.95	4.42	
S	0.8	0.05	
TCU	0.95	0.04	
TROW	0.85	2.31	
			0.84

C and O Canal

Land Use Code	Runoff Coef.	Acrage	Weighted Runoff Coef. (Rv)
ALLEYS	0.95	9.61	
C	0.85	24.16	
FP	0.77	40.35	
HDR	0.85	29.98	
LAKE		0.13	
LDR	0.5	218.36	
LMDR	0.65	78.77	
LP	0.77	17.01	
MDR	0.77	121.18	
MEDIAN	0.3	2.49	
MU	0.905	0.00	
O	0.85	5.80	
R	0.35	258.29	
ROADS	0.95	92.53	
S	0.8	87.08	
TCU	0.95	0.02	
TROW	0.85	121.82	
			0.84