Subcatchment Priority Ranking

REVISED January 31, 2025

Boston Water and Sewer Commission
980 Harrison Avenue
Boston, MA 02119

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APPENDICES

CERTIFICATION

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.

John P. Sullivan, P.E.
Chief Engineer

Dated: 1/16/2025

Section 1 – Introduction

Under the terms of the Consent Decree lodged in federal court on August 23, 2012, the Boston Water and Sewer Commission (BWSC) must implement a subcatchment screening program and establish priorities and a schedule for investigating subcatchments that demonstrate contamination.

As required under the Consent Decree, on November 20, 2012, the BWSC submitted: (a) a revised priority ranking of subcatchments based on information and data available at that time; (b) an MS4 and CSO subcatchment area map showing the revised ranking of each subcatchment; and (c) a schedule for completion of all subcatchment investigations.

Also under the Consent Decree, by January 31st of each calendar year, the BWSC must revise its priority ranking of subcatchments to be investigated to: (a) include all subcatchments newly identified as needing investigation based on evidence of discharges contaminated by human waste; and (b) adjust priorities based on new evidence. As required, revised priority rankings of subcatchments were submitted to EPA by January 31st, each year since 2013.

Pursuant to Section VII, Part B, Paragraph 17 of the Consent Decree, BWSC hereby submits this revised priority ranking of subcatchments as of January 2024. This document and the rankings incorporate agreed revisions proposed to EPA on August 15, 2014.

Section 2 – Screening Protocols

Protocols have been developed for both dry and wet weather screening of subcatchments. The protocols for dry and wet weather sampling were both updated in 2023. Appendix A contains the dry weather screening protocols. Appendix B contains the wet weather screening protocols. The screening protocols were established for conducting visual inspections; screening and sampling of outfalls/interconnections; monitoring weather conditions and tides in order to select appropriate days to conduct screening and sampling visits; and mobilizing field staff. The protocols also defined required sampling procedures, including: specific parameters to be sampled in the field vs. in the lab, equipment calibration and operation, communications, record keeping, and health and safety concerns. The documents also include analytical requirements for collecting water quality samples, sample blanks, and duplicates; sample preservation and holding time requirements; and laboratory analytical quality assurance/quality control (QA/QC) procedures. In general, the following protocols were followed in 2024:

- Visual inspections were conducted to confirm outfall/interconnection locations, collect inspection data, and plan sampling.
- Screening was performed during dry and wet weather for collection of samples for field and lab analysis.
- Ammonia, surfactants, pH, temperature, specific conductivity, total chlorine and salinity were measured using field test kits.
- Samples were delivered by courier to G&L Laboratories for bacterial analysis.
- Bacterial analysis consisted of *E. coli* for freshwater samples and *Enterococci* for marine water samples.

- All samples were taken as grab samples. No confined space entry was required.

All the screening data in 2024 were collected by Commission's consultant, Stacey DePasquale Engineering, under sub-contract to Stantec, Inc.

The purpose of the dry weather sub-catchment screening and inventory effort was to:

- Confirm the location of the outfalls/interconnections.
- Characterize the current condition (size, material, flow, etc.) of each outfall or interconnection.
- Identify outfalls/interconnections with dry weather flow and determine if the flow was potentially contaminated.

The purpose of the wet weather screening was to collect a wet weather sample at all locations where flow was not observed during dry weather screening, as well as locations where dry weather flow was below the Illicit Discharge Detection and Elimination (IDDE) thresholds established by the Consent Decree.

IDDE screening thresholds as defined in the Commission's Consent Decree are as follows:

- *Bacteria:*
    - *Class A and Class B waters*
        - *E. coli: greater than 235 cfu/100 mL*
        - *Enterococcus: greater than 61 cfu/100 mL*
    - *Class SA and Class SB waters*
        - *Enterococcus: greater than 104 cfu/100 mL*
- *Ammonia: = >0.5 mg/L*
- *Surfactants: = > 0.25 mg/L via field kits; => 0.1 mg/L via laboratory analysis*
- *Chlorine: greater than non-detect (0.02 mg/L method detection limit)*

The 2024 wet weather screening followed the modified program set forth in the Commission's Proposed Wet Weather Outfall Monitoring Program, which was approved by EPA in a letter dated April 22, 2014. Under the modified program the same wet weather protocols, parameters and thresholds identified in the Consent Decree were used. However, in order to start wet weather screening earlier in the year the selection of subcatchments included in the 2024 wet weather program was based on the 2023 dry weather screening data.

Section 3 – 2024 Field Screening

There are 256 Commission-owned subcatchments, of which 210 are storm drain outfalls (SDOs)[1], 18 are storm drain manholes where storm drainage is conveyed to other municipalities' MS4s or non-BWSC outfalls (referred to as "interconnections"), and 28 are Combined Sewer Overflow (CSO) outfalls.[2]

[1] Subcatchment 25M005 has been fully separated and now conveys only drainage so it has been moved to the storm drain outfall list. 6DSDO184 was removed from the list of storm drain outfalls since it is a culvert and not a storm drain outfall.

[2] There are still 30 CSO outfalls listed in the BWSC's NPDES Permit. However, CSO 19MCSO083 has been eliminated; therefore, it was not screened in 2024. Outfall 25M005 was fully separated so it now appears on the storm drain outfall list.

All the results of the 2024 dry weather screening program are provided in Appendix C, and a summary of dry weather screening and sampling performed during 2024 is shown in Table 1.

Dry weather field screening took place at 32 CSO locations[3] in 2024. Dry weather samples were collected at 22 CSO locations. Ten (10) locations were not sampled because there was no flow or insufficient flow to sample, or the outfall had standing water or was submerged, and upstream manholes also had standing water or were submerged.

Dry weather screening took place at 246 SDO and interconnection locations during 2024. All these results are included in Appendix C. Dry weather samples were collected at 143 of the locations visited. The remaining 103 locations were not sampled because there was no flow or insufficient flow to sample; the outfall had standing water or was submerged, and upstream manholes also had standing water or were submerged; or the outfall and upstream features could not be accessed or located.

TABLE 1.

2024 Dry Weather Screening Samples Collected versus Not Collected

Results of Dry Weather Sampling CSOs	2024
Total CSO Screenings Performed	32
Samples Collected	22
Samples Not Collected	10
No flow, dry	5
No flow, standing water/submerged	5
Could not access outfall/no suitable sampling location	0
Results of Dry Weather Sampling SDO/Interconnections	**2024**
Total SDOs/Interconnect Screenings Performed	246
Samples Collected	143
Samples Not Collected	103
No flow, dry	71
No flow, standing water/submerged	30
Could not access outfall/no suitable sampling location	2

All results of the 2024 wet weather screening program are provided in Appendix D, and a summary of the wet weather screening and sampling performed is shown in Table 2.

Wet weather field screening took place at 13 CSO locations during 2024. Wet weather samples were collected at ten (10) of the CSO locations. The remaining three (3) location was not sampled because the outfall had standing water or was submerged.

Wet weather screening took place at 116 SDO and interconnection locations during 2024. Wet weather samples were collected at 85 of the locations visited. Samples could not be collected at 31 locations because there was no flow, insufficient flow to sample or the outfall had standing water, was submerged or couldn't locate.

[3] The Stony Brook Conduit CSO 21HCSO046 was screened in three locations in 2024. All three locations are ranked in the 2024 prioritization.

TABLE 2.
2024 Wet Weather Screening Samples Collected versus Not Collected

Results of Wet Weather Sampling CSOs	2024
Total CSO Screenings Performed	13
Samples Collected	10
Samples Not Collected	3
No flow, dry	0
No flow, standing water/submerged	3
Could not access outfall/no suitable sampling location	0
Results of Wet Weather Sampling SDO/Interconnections	**2024**
Total SDOs/Interconnect Screenings Performed	116
Samples Collected	85
Samples Not Collected	31
No flow, dry/insufficient flow	1
No flow, standing water/submerged	27
Could not access outfall/no suitable sampling location	3

Section 4 – 2025 Ranking and Prioritization

As of August 23, 2019, illicit discharge investigations in all the Commission's subcatchments were complete. As a result, the prioritization methodology was updated for the 2021 priority ranking and continued in the 2022, 2023 and 2024 priority ranking as the Commission has moved toward a long-term IDDE maintenance program.

As required by the Consent Decree, 12 subcatchments discharging to beach areas were given first priority. Interconnections with other MS4s were ranked next, and then all remaining subcatchments followed. Subcatchments in each of these groupings were scored against four criteria as follows:

- Discharge location: Discharge to a beach or interconnection discharging to another MS4.
- Dry weather screening: Based on 2024 dry weather screening data. Considers flow conditions at sampling location, bacteria type, and bacteria result. Score is given based on where the bacteria result falls in the criteria table.
- Wet weather screening: If a wet weather sample is taken, it is currently weighted 20%, and the dry weather is weighted 60%. If no wet weather sample is taken, the dry weather is weighted 80%. A lack of a wet weather screening means that the threshold was already exceeded in the dry weather sample from the previous year. Outfalls contaminated in dry weather are given the highest priority.
- Most recent inspection date: A score is assigned by comparing the most recent date of inspection (dye test or pipe inspection) to the criteria table. Areas that haven't had inspections since 2004, including the upper Stony Brook, receive a higher score.

Scores were assigned to each outfall in each of the four categories from zero to ten as indicated in Tables 3 through 6 below.

TABLE 3. Priority Ranking Criteria – Discharge Location

CRITERIA		**SCORE**
Discharge Location	Public Beach	10
	Interconnections	10
	Not a Public Beach or Interconnection	0

TABLE 4. Priority Ranking Criteria – Dry Weather Outfall Screening

CRITERIA			**SCORE**
Dry Weather Outfall Screening Flow Conditions and Bacteria Sampling Results	**E.coli**	**Enterococci**	
	≥80,000	≥80,000	10
	50,000 - 79,999	40,000 - 79,999	9
	40,000 - 49,999	30,000 - 39,999	8
	30,000 - 39,999	20,000 - 29,999	7
	20,000 - 29,999	10,000 - 19,999	6
	10,000 - 19,999	5,000 - 9,999	5
	5,000 - 9,999	1,000 - 4,999	4
	1,000 - 4,999	500 – 999	3
	235 - 999	104 – 499	2
	Standing Water/Submerged		1
	No Access/CNL		1
	<235	<104	0
	Dry		0

TABLE 5. Priority Ranking Criteria – Wet Weather Outfall Screening

CRITERIA			SCORE
Wet Weather Outfall Screening Flow Conditions and Bacteria Sampling Results	**E.coli**	**Enterococci**	
	≥80,000	≥80,000	10
	50,000 - 79,999	40,000 - 79,999	9
	40,000 - 49,999	30,000 - 39,999	8
	30,000 - 39,999	20,000 - 29,999	7
	20,000 - 29,999	10,000 - 19,999	6
	10,000 - 19,999	5,000 - 9,999	5
	5,000 - 9,999	1,000 - 4,999	4
	1,000 - 4,999	500 – 999	3
	235 - 999	104 – 499	2
	Standing Water/Submerged		1
	No Access/CNL		1
	<235	<104	0
	Dry		NA
	Not Required/Incomplete		NA

TABLE 6. Priority Ranking Criteria – Date of Last Inspection

CRITERIA		SCORE
Date of Last Manhole or Building Inspection	Prior to November 2004 (SBI)	10
	Nov 2004 - Dec 2012 (CWI1/2)	5
	Jan 2013 - present (CWI3/4/5)	0

Each of the four criteria were weighted in accordance with Table 7 to arrive at an overall score for each outfall. The weighting is such that the 2024 outfall screening results as a whole account for 80% of the score, regardless of whether wet weather screening was required. For locations that had a field duplicate bacteria sample collected or were sampled more than once, the higher bacteria result was used for prioritization purposes.

TABLE 7. Criteria Weighting

CRITERIA	Weight with 2024 wet weather screening data	Weight without 2024 wet weather screening data
Discharge Location	10%	10%
Dry Weather Outfall Screening	60%	80%
Wet Weather Outfall Screening	20%	0%
Date of Last Inspection	10%	10%

The 2025 Priority Ranking includes a scoring, ranking, and color-coding scheme as follows:

TABLE 8. Scoring, Ranking and Color-Coding Scheme

RANKING	RANKING SCORE	NUMBER OF SUBCATCHMENTS BY RANK	MAP COLOR CODE
1	Beach	12	Orange
2	Interconnection	16	Yellow
3	High >= 2	66	Green
4	Medium < 2 and > = 1	70	Blue
5	Low < 1	95	Purple
6	CSO or Unranked	NA	Gray

The results of the 2025 priority ranking are shown in Table 9 and a map illustrating the 2024 rankings of the subcatchments is provided as Figure 1.

Section 5 – Follow-up Illicit Discharge Investigations

Although investigations in all of the Commission's subcatchments were completed as of August 23, 2019, recent outfall screening results show discharges from some subcatchments still demonstrate levels of contamination above the thresholds established in the Consent Decree.

In August 2020, the Commission contracted with Stantec, Inc. to perform the next phase of its Illicit Connection Investigation Program (Phase 5). The primary purpose of Phase 5 is to perform follow-up investigations in subcatchments still demonstrating elevated levels of contamination, and to explore alternative methods for identifying sources of sewage contamination in the Commission's storm drain system. The CWI5 contract includes annual wet and dry weather field screening of the Commission's outfalls and interconnections, field investigations to identify illicit connections, and annual compilation of field screening data to produce Revised Priority Rankings of subcatchments to provide to EPA by January 31, each year. The duration of the Phase 5 contract has been extended until June 30, 2025.

During Phase 5 the Commission is focusing efforts on investigating subcatchments that discharge to beach outfalls, interconnections, and those that have a ranking equal to or greater than 2, as shown in Table 9. During 2024, follow-up investigations focused heavily on the Upper Stony Brook catchments, 13LSDO090, 07HSDO105, 07HSDO285, 12BSDO124 and 18GSDO233. In addition to the Commission's standard manhole sampling procedures, bacteria samples were collected in addition to field test kits at strategic locations to further prioritize sub-areas within some of the large subcatchments and to pinpoint remaining sources of contamination. During 2025, the Commission will continue to focus its investigative efforts on those subcatchments with the highest priority rankings.

TABLE 9. 2025 REVISED PRIORITY RANKING

				2024 Data				2024 Data						
	WEIGHT (w/ WW):		**10%**				**60%**				**20%**		**10%**	
	WEIGHT (w/o WW):		**10%**				**80%**				**0%**		**10%**	
FACILITY ID[A]	**CRITERIA:**	*Beach*	**Discharge Location SCORE**	*Dry Weather Flow Cond at "sampling location"*	*Dry Weather Bacteria (type)*	*Dry Weather Bacteria (result)*	**Dry Weather SCORE**	*Wet Weather Flow Cond at "sampling location"*	*Wet Weather Bacteria (type)*	*Wet Weather Bacteria (result)*	**Wet Weather SCORE**	*Most Recent Pipe/Bldg Insp Date[B]*	**Most Recent Insp SCORE**	**TOTAL SCORE**
12LMH304	Interconnection	*Yes*	10	*Flow*	*Enterococci*	*>80,000*	10	*Not Required*				*11/20/2023*	0	9.00
28PSDO1	SDO	*Yes*	10	*Flow*	*Enterococci*	*4,900*	4	*Not Required*				*12/16/2024*	0	4.20
13LSDO090	SDO	*Yes*	10	*Flow*	*Enterococci*	*3,300*	4	*Not Required*				*12/26/2024*	0	4.20
29PSDO44	SDO	*Yes*	10	*Flow*	*Enterococci*	*1,300*	4	*Not Required*				*10/22/2024*	0	4.20
15LSDO089	SDO	*Yes*	10	*Flow*	*Enterococci*	*770*	3	*Not Required*				*10/6/2015*	0	3.40
29OSDO001	SDO	*Yes*	10	*Flow*	*Enterococci*	*290*	2	*Not Required*				*7/25/2016*	0	2.60
28NSDO207	SDO	*Yes*	10	*Flow*	*Enterococci*	*190*	2	*Not Required*				*11/7/2016*	0	2.60
28NSDO156	SDO	*Yes*	10	*Dry*			0	*Flow*	*Enterococci*	*620*	3	*10/17/2012*	5	2.10
12LMH374	Interconnection	*Yes*	10	*Flow*	*Enterococci*	*60*	0	*Not Required*				*1/3/2023*	0	1.00
15LSDO088	SDO	*Yes*	10	*Flow*	*Enterococci*	*60*	0	*Not Required*				*12/6/2023*	0	1.00
12LSDO092	SDO	*Yes*	10	*Flow*	*Enterococci*	*30*	0	*Not Required*				*12/4/2014*	0	1.00
28OSDO25	SDO	*Yes*	10	*Flow*	*Enterococci*	*10*	0	*Not Required*				*7/22/2014*	0	1.00
21DMH319	Interconnection	*No*	10	*Flow*	*E.coli*	*>80,000*	10	*Not Required*				*12/16/2024*	0	9.00
21EMH64	Interconnection	*No*	10	*Flow*	*E.coli*	*150*	0	*Flow*	*E.coli*	*>80,000*	10	*11/20/2024*	0	3.00
20DMH62	**Interconnection**	***No***	**10**	***Flow***	***E.coli***	***<10***	**0**	***Flow***	***E.coli***	***30,000***	**7**	***9/16/2019***	**0**	**2.40**
23HMH80	Interconnection	*No*	10	*Dry*			0	*Dry*				*Pre-Consent Decree*	10	2.00
2FMH120	Interconnection	*No*	10	*Dry*			0	*Flow*	*E.coli*	*640*	2	*9/30/2005*	5	1.90
14EMH36	Interconnection	*No*	10	*Dry*			0	*Flow*	*E.coli*	*9,000*	4	*3/7/2016*	0	1.80
6CMH117	Interconnection	*No*	10	*Dry*			0	*Flow*	*E.coli*	*2,300*	3	*5/30/2018*	0	1.60
11BMH49	Interconnection	*No*	10	*Dry*			0	*Flow*	*E.coli*	*1,400*	3	*2/28/2017*	0	1.60
28IMH15	Interconnection	*No*	10	*Flow*	*E.coli*	*150*	0	*Submerged*			1	*7/17/2018*	0	1.20
20DMH19	Interconnection	*No*	10	*Flow*	*E.coli*	*210*	0	*Not Required*				*12/8/2020*	0	1.00
20DNP140	**Interconnection**	***No***	**10**	***Flow***	***E.coli***	***90***	**0**	***Not Required***				***12/10/2024***	**0**	**1.00**
23BMH89	Interconnection	*No*	10	*Flow*	*E.coli*	*70*	0	*Not Required*				*7/31/2024*	0	1.00
3FMH56	Interconnection	*No*	10	*Flow*	*E.coli*	*40*	0	*Not Required*				*11/9/2015*	0	1.00
6DMH97	Interconnection	*No*	10	*Flow*	*E.coli*	*<10*	0	*Not Required*				*7/30/2024*	0	1.00
21EMH86	Interconnection	*No*	10	*Dry*			0	*Not Required*				*3/15/2021*	0	1.00
4FMH90	Interconnection	*No*	10	*Dry*			0	*Not Required*				*10/29/2015*	0	1.00
23GSDO132	SDO	*No*	0	*Flow*	*E.coli*	*>80,000*	10	*Not Required*				*11/22/2021*	0	8.00
19GSDO043	SDO	*No*	0	*Flow*	*E.coli*	*>80,000*	10	*Not Required*				*11/12/2024*	0	8.00
8ISDO158	SDO	*No*	0	*Flow*	*E.coli*	*50,000*	9	*Not Required*				*12/10/2024*	0	7.20
3ESDO186	SDO	*No*	0	*Flow*	*E.coli*	*>80,000*	10	*Flow*	*E.coli*	*5,000*	4	*10/21/2024*	0	6.80
4FSDO118	SDO	*No*	0	*Flow*	*E.coli*	*>80,000*	10	*Flow*	*E.coli*	*6,500*	4	*12/26/2024*	0	6.80
11BSDO123	SDO	*No*	0	*Flow*	*E.coli*	*>80,000*	10	*Submerged*			1	*3/16/2021*	0	6.20
11ISDO577	SDO	*No*	0	*Flow*	*E.coli*	*37,000*	7	*Not Required*				*9/16/2024*	0	5.60
3ESDO185	SDO	*No*	0	*Flow*	*E.coli*	*30,000*	7	*Not Required*				*10/21/2024*	0	5.60
25MSDO007	SDO	*No*	0	*Flow*	*Enterococci*	*22,000*	7	*Flow*	*Enterococci*	*6,800*	5	*1/11/2016*	0	5.20
8ISDO156	SDO	*No*	0	*Flow*	*E.coli*	*24,000*	6	*Not Required*				*12/19/2024*	0	4.80
19GSDO194	SDO	*No*	0	*Flow*	*E.coli*	*22,000*	6	*Not Required*				*1/16/2020*	0	4.80
22KCSO068	CSO	*No*	0	*Flow*	*Enterococci*	*11,000*	6	*Not Required*				*1/20/2022*	0	4.80
28LCSO012	CSO	*No*	0	*Flow*	*Enterococci*	*1,200*	4	*Not Required*				*NA*	10	4.20

	WEIGHT (w/ WW):		10%				60%				20%		10%	
	WEIGHT (w/o WW):		10%				80%				0%		10%	
FACILITY ID[A]	CRITERIA:	Beach	Discharge Location SCORE	Dry Weather Flow Cond at "sampling location"	Dry Weather Bacteria (type)	Dry Weather Bacteria (result)	Dry Weather SCORE	Wet Weather Flow Cond at "sampling location"	Wet Weather Bacteria (type)	Wet Weather Bacteria (result)	Wet Weather SCORE	Most Recent Pipe/Bldg Insp Date[B]	Most Recent Insp SCORE	TOTAL SCORE
21HCSO046-1 (15GMH290)	CSO	No	0	Flow	E.coli	11,000	5	Not Required				12/14/2021	0	4.00
10LSDO096	SDO	No	0	Flow	Enterococci	6,900	5	Not Required				12/2/2024	0	4.00
23LCSO062	CSO	No	0	Flow	Enterococci	510	3	Not Required				NA	10	3.40
5GSDO116	SDO	No	0	Flow	E.coli	3,100	3	Flow	E.coli	14,000	5	3/23/2009	5	3.30
7HSDO105	SDO	No	0	Flow	E.coli	8,000	4	Not Required				12/26/2024	0	3.20
5GSDO116A	SDO	No	0	Flow	E.coli	7,400	4	Not Required				12/24/2018	0	3.20
8JSDO103	SDO	No	0	Flow	E.coli	7,000	4	Not Required				2/7/2017	0	3.20
21HSDO045	SDO	No	0	Flow	E.coli	6,100	4	Not Required				10/25/2018	0	3.20
28KSDO010	SDO	No	0	Flow	Enterococci	3,700	4	Not Required				3/13/2019	0	3.20
21MSDO010	SDO	No	0	Flow	Enterococci	3,500	4	Not Required				5/9/2024	0	3.20
10LSDO094	SDO	No	0	Flow	Enterococci	2,800	4	Not Required				10/22/2024	0	3.20
29MCSO013	CSO	No	0	Flow	Enterococci	1,800	4	Not Required				1/23/2020	0	3.20
26KSDO099	SDO	No	0	Flow	Enterococci	1,600	4	Not Required				9/29/2015	0	3.20
26KSDO35	SDO	No	0	Flow	Enterococci	1,500	4	Not Required				8/2/2019	0	3.20
9ESDO243	SDO	No	0	Flow	E.coli	14,000	5	Flow	E.coli	150	0	1/17/2024	0	3.00
6GSDO109	SDO	No	0	Flow	E.coli	7,500	4	Flow	E.coli	4,100	3	9/3/2024	0	3.00
13FSDO97	SDO	No	0	Dry			0	Flow	E.coli	>80,000	10	NA	10	3.00
6DSDO83	SDO	No	0	Dry			0	Flow	E.coli	>80,000	10	NA	10	3.00
23LSDO195	SDO	No	0	Flow	Enterococci	610	3	Not Required				5/20/2006	5	2.90
12HSDO92	SDO	No	0	Flow	E.coli	330	2	Not Required				NA	10	2.60
24LSDO22	SDO	No	0	Flow	Enterococci	170	2	Not Required				NA	10	2.60
24LCSO060	CSO	No	0	Standing Water			1	Flow	Enterococci	>80,000	10	7/25/2019	0	2.60
25LCSO057	CSO	No	0	Standing Water			1	Flow	Enterococci	>80,000	10	7/29/2019	0	2.60
12ESDO418	SDO	No	0	Flow	E.coli	4,800	3	Not Required				3/20/2023	0	2.40
7HSDO285	SDO	No	0	Flow	E.coli	4,300	3	Not Required				12/23/2024	0	2.40
18GSDO233	SDO	No	0	Flow	E.coli	3,800	3	Not Required				6/27/2024	0	2.40
6GSDO110	SDO	No	0	Flow	E.coli	2,900	3	Not Required				8/28/2023	0	2.40
12BSDO124	SDO	No	0	Flow	E.coli	2,200	3	Not Required				12/18/2024	0	2.40
21HCSO046-1 (19HMH222)	CSO	No	0	Flow	E.coli	2,100	3	Not Required				11/1/2021	0	2.40
21HCSO046-1 (23IMH1)	CSO	No	0	Flow	E.coli	2,000	3	Not Required				2/13/2020	0	2.40
8ESDO31	SDO	No	0	Flow	E.coli	1,900	3	Not Required				11/18/2015	0	2.40
24GSDO035	SDO	No	0	Flow	E.coli	1,900	3	Flow	E.coli	3,900	3	12/13/2021	0	2.40
6GSDO111	SDO	No	0	Flow	E.coli	1,900	3	Not Required				9/24/2013	0	2.40
7CSDO006	SDO	No	0	Flow	E.coli	1,700	3	Not Required				6/15/2023	0	2.40
6DSDO187	SDO	No	0	Flow	E.coli	1,500	3	Not Required				8/12/2024	0	2.40
6DSDO57	SDO	No	0	Flow	E.coli	1,500	3	Not Required				4/16/2019	0	2.40
21HSDO001	SDO	No	0	Flow	E.coli	1,300	3	Not Required				1/13/2020	0	2.40
20GSDO161	SDO	No	0	Flow	E.coli	1,200	3	Not Required				8/8/2024	0	2.40
21KCSO070	CSO	No	0	Flow	Enterococci	900	3	Not Required				7/11/2022	0	2.40
28LSDO074/28LSDO075/28LSDO076	SDO	No	0	Flow	Enterococci	750	3	Not Required				11/7/2018	0	2.40
28KSDO61	SDO	No	0	Flow	Enterococci	720	3	Not Required				1/11/2016	0	2.40
17MSDO33	SDO	No	0	Flow	Enterococci	630	3	Not Required				12/18/2019	0	2.40
23LSDO196	SDO	No	0	Flow	Enterococci	630	3	Flow	Enterococci	900	3	6/21/2018	0	2.40
21MSDO50	SDO	No	0	Flow	Enterococci	610	3	Not Required				12/20/2023	0	2.40

	WEIGHT (w/ WW):		10%				60%				20%		10%	
	WEIGHT (w/o WW):		10%				80%				0%		10%	
FACILITY ID[A]	CRITERIA:	Beach	Discharge Location SCORE	Dry Weather Flow Cond at "sampling location"	Dry Weather Bacteria (type)	Dry Weather Bacteria (result)	Dry Weather SCORE	Wet Weather Flow Cond at "sampling location"	Wet Weather Bacteria (type)	Wet Weather Bacteria (result)	Wet Weather SCORE	Most Recent Pipe/Bldg Insp Date [B]	Most Recent Insp SCORE	TOTAL SCORE
21MCSO078	CSO	No	0	Flow	Enterococci	560	3	Not Required				11/25/2019	0	2.40
30JSDO30	SDO	No	0	Flow	Enterococci	510	3	Not Required				3/12/2015	0	2.40
27LCSO10	CSO	No	0	Flow	Enterococci	170	2	Flow	Enterococci	16,000	6	3/12/2024	0	2.40
29PSDO005	SDO	No	0	Submerged			1	Flow	Enterococci	1,300	4	NA	10	2.40
4ESDO64	SDO	No	0	Dry			0	Flow	E.coli	68,000	9	4/28/2009	5	2.30
13FSDO95	SDO	No	0	Dry			0	Flow	E.coli	21,000	6	NA	10	2.20
24CSDO174	SDO	No	0	Flow	E.coli	820	2	Not Required				4/14/2009	5	2.10
21KSDO069	SDO	No	0	Flow	Enterococci	910	3	Submerged			1	4/1/2024	0	2.00
13FSDO96	SDO	No	0	Dry			0	Flow	E.coli	18,000	5	NA	10	2.00
4FSDO189	SDO	No	0	Dry			0	Flow	E.coli	30,000	7	6/6/2012	5	1.90
8KSDO49	SDO	No	0	Dry			0	Flow	Enterococci	25,000	7	11/16/2009	5	1.90
30PSDO62	SDO	No	0	Standing Water			1	Flow	Enterococci	1,200	4	9/20/2012	5	1.90
6DSDO86	SDO	No	0	Standing Water			1	Insufficient Flow			0	NA	10	1.80
12HSDO1 (12HMH26)	SDO	No	0	Submerged			1	Submerged			1	NA	10	1.80
12HSDO1 (12HMH27)	SDO	No	0	Submerged			1	Submerged			1	Pre-Consent Decree	10	1.80
27JSDO044	SDO	No	0	StandingWater			1	Standing Water			1	NA	10	1.80
5ESDO181	SDO	No	0	Standing Water			1	Submerged			1	Pre-Consent Decree	10	1.80
28LSDO077	SDO	No	0	CNL			1	Not Required				NA	10	1.80
26KSDO050	SDO	No	0	Flow	Enterococci	<10	0	Flow	Enterococci	1,500	4	NA	10	1.80
8JSDO102	SDO	No	0	Dry			0	Flow	Enterococci	16,000	6	11/16/2009	5	1.70
4FSDO119	SDO	No	0	Standing Water			1	Flow	E.coli	2,000	3	9/18/2007	5	1.70
15FSDO288	SDO	No	0	Flow	E.coli	910	2	Not Required				12/28/2020	0	1.60
13FSDO11	SDO	No	0	Flow	E.coli	460	2	Not Required				12/24/2018	0	1.60
21LCSO076	CSO	No	0	Flow	Enterococci	460	2	Not Required				2/7/2022	0	1.60
8BSDO122	SDO	No	0	Flow	E.coli	440	2	Not Required				9/18/2019	0	1.60
25LSDO058	SDO	No	0	Flow	Enterococci	390	2	Not Required				8/27/2018	0	1.60
25LSDO144	SDO	No	0	Flow	Enterococci	370	2	Not Required				3/13/2024	0	1.60
5FSDO117	SDO	No	0	Flow	E.coli	320	2	Not Required				12/10/2013	0	1.60
9LSDO095	SDO	No	0	Flow	Enterococci	320	2	Not Required				5/23/2018	0	1.60
23LSDO075	SDO	No	0	Flow	Enterococci	310	2	Not Required				3/12/2024	0	1.60
24LSDO233	SDO	No	0	Flow	Enterococci	250	2	Not Required				7/22/2019	0	1.60
19MCSO082	CSO	No	0	Flow	Enterococci	240	2	Not Required				5/24/2021	0	1.60
29MSDO049	SDO	No	0	Flow	Enterococci	220	2	Not Required				7/10/2017	0	1.60
23LSDO164	SDO	No	0	Flow	Enterococci	210	2	Not Required				3/16/2016	0	1.60
22LCSO073	CSO	No	0	Flow	Enterococci	160	2	Not Required				8/22/2019	0	1.60
31OSDO4	SDO	No	0	Flow	Enterococci	160	2	Not Required				4/5/2021	0	1.60
11MSDO093	SDO	No	0	Flow	Enterococci	110	2	Not Required				6/10/2019	0	1.60
26LCSO009	CSO	No	0	Flow	Enterococci	110	2	Not Required				6/3/2019	0	1.60
10BSDO15	SDO	No	0	Submerged			1	Flow	E.coli	15,000	5	2/12/2020	0	1.60
5ESDO182	SDO	No	0	Subermged			1	Flow	E.coli	14,000	5	11/18/2015	0	1.60
5FSDO245	SDO	No	0	Standing Water			1	Flow	E.coli	14,000	5	5/8/2018	0	1.60
4FSDO1	SDO	No	0	Dry			0	Flow	E.coli	2,800	3	NA	10	1.60
5ESDO180	SDO	No	0	Dry			0	Flow	E.coli	1,300	3	NA	10	1.60
4FSDO203	SDO	No	0	Dry			0	Flow	E.coli	1,300	3	NA	10	1.60

	WEIGHT (w/ WW):		10%				60%				20%		10%	
	WEIGHT (w/o WW):		10%				80%				0%		10%	
FACILITY ID[A]	CRITERIA:	Beach	Discharge Location SCORE	Dry Weather Flow Cond at "sampling location"	Dry Weather Bacteria (type)	Dry Weather Bacteria (result)	Dry Weather SCORE	Wet Weather Flow Cond at "sampling location"	Wet Weather Bacteria (type)	Wet Weather Bacteria (result)	Wet Weather SCORE	Most Recent Pipe/Bldg Insp Date[B]	Most Recent Insp SCORE	TOTAL SCORE
2FSDO85	SDO	No	0	Submerged			1	Flow	E.coli	480	2	6/11/2012	5	1.50
26FSDO038	SDO	No	0	Standing Water			1	Flow	E.coli	330	2	1/11/2007	5	1.50
1ESDO24	SDO	No	0	Standing Water			1	Flow	E.coli	320	2	1/18/2012	5	1.50
14CSDO9	SDO	No	0	Submerged			1	Flow	E.coli	7,700	4	5/13/2014	0	1.40
24NCSO003	CSO	No	0	Standing Water			1	Flow	Enterococci	4,900	4	3/12/2024	0	1.40
29NCSO014	CSO	No	0	Standing Water			1	Flow	Enterococci	2,900	4	6/5/2018	0	1.40
5FSDO254	SDO	No	0	Dry			0	Flow	E.coli	530	2	Pre-Consent Decree	10	1.40
23LSDO15	SDO	No	0	Flow	Enterococci	10	0	Flow	Enterococci	490	2	NA	10	1.40
9KSDO16	SDO	No	0	Dry			0	Flow	Enterococci	13,000	6	12/19/2024	0	1.20
4FSDO16	SDO	No	0	Standing Water			1	Flow	E.coli	4,700	3	7/29/2014	0	1.20
6DSDO85	SDO	No	0	Standing Water			1	Flow	E.coli	3,000	3	11/18/2015	0	1.20
25ESDO037	SDO	No	0	Submerged			1	Flow	E.coli	1,600	3	11/11/2021	0	1.20
24DSDO032	SDO	No	0	Submerged			1	Flow	E.coli	1,600	3	1/16/2023	0	1.20
26JSDO101	SDO	No	0	Standing Water			1	Flow	Enterococci	620	3	7/22/2019	0	1.20
6FSDO233	SDO	No	0	Dry			0	Standing Water			1	Pre-Consent Decree	10	1.20
6DSDO84	SDO	No	0	Dry			0	Submerged			1	Pre-Consent Decree	10	1.20
12BSDO10	SDO	No	0	Dry			0	Flow/CNA			1	Pre-Consent Decree	10	1.20
20GSDO164	SDO	No	0	Dry			0	Submerged			1	NA	10	1.20
7HSDO347	SDO	No	0	Dry			0	Flow	E.coli	1,800	3	3/25/2009	5	1.10
1FSDO31	SDO	No	0	Dry			0	Flow	E.coli	1,700	3	12/17/2011	5	1.10
5CSDO110	SDO	No	0	Dry			0	Flow	E.coli	12,000	5	5/30/2018	0	1.00
25MCSO005	CSO	No	0	Flow	Enterococci	60	0	Flow	Enterococci	6,700	5	12/10/2018	0	1.00
13BSDO11	SDO	No	0	Flow	E.coli	10	0	Not Required				Pre-Consent Decree	10	1.00
9BSDO49	SDO	No	0	Flow	E.coli	10	0	Not Required				NA	10	1.00
5ESDO184	SDO	No	0	Flow	E.coli	<10	0	Flow	E.coli	17,000	5	2/1/2018	0	1.00
12BSDO33	SDO	No	0	Flow	E.coli	<10	0	Not Required				NA	10	1.00
9ESDO229	SDO	No	0	Dry			0	Flow	E.coli	19,000	5	4/10/2014	0	1.00
13ESDO174	SDO	No	0	Dry			0	Flow	E.coli	12,000	5	1/8/2024	0	1.00
26KSDO052	SDO	No	0	Dry			0	Flow	Enterococci	6,800	5	5/30/2017	0	1.00
20GSDO163	SDO	No	0	Dry			0	Flow	E.coli	230	0	Pre-Consent Decree	10	1.00
3ESDO207	SDO	No	0	Dry			0	Flow	E.coli	200	0	NA	10	1.00
21HSDO048	SDO	No	0	Dry			0	Flow	E.coli	170	0	NA	10	1.00
26KSDO254	SDO	No	0	Dry			0	Not Required				NA	10	1.00
29JSDO029	SDO	No	0	Dry			0	Not Required				NA	10	1.00
26LSDO109	SDO	No	0	Dry			0	Not Required				NA	10	1.00
24GSDO034	SDO	No	0	Flow	E.coli	<10	0	Flow	E.coli	266	2	5/18/2009	5	0.90
2ESDO5	SDO	No	0	Dry			0	Flow	E.coli	750	2	1/9/2012	5	0.90
7HSDO346	SDO	No	0	Dry			0	Flow	E.coli	710	2	3/24/2009	5	0.90
8ISDO153	SDO	No	0	Dry			0	Flow	E.coli	400	2	6/2/2009	5	0.90
8ISDO155	SDO	No	0	Dry			0	Flow	E.coli	270	2	6/2/2009	5	0.90
22LSDO580	SDO	No	0	Flow	Enterococci	90	0	Flow	Enterococci	1,600	4	1/11/2016	0	0.80
29JSDO129	SDO	No	0	Flow	Enterococci	10	0	Flow	Enterococci	4,200	4	5/14/2018	0	0.80
8BSDO126	SDO	No	0	Flow	E.coli	<10	0	Flow	E.coli	5,100	4	1/14/2014	0	0.80
2FSDO93	SDO	No	0	Submerged			1	Submerged			1	11/3/2015	0	0.80

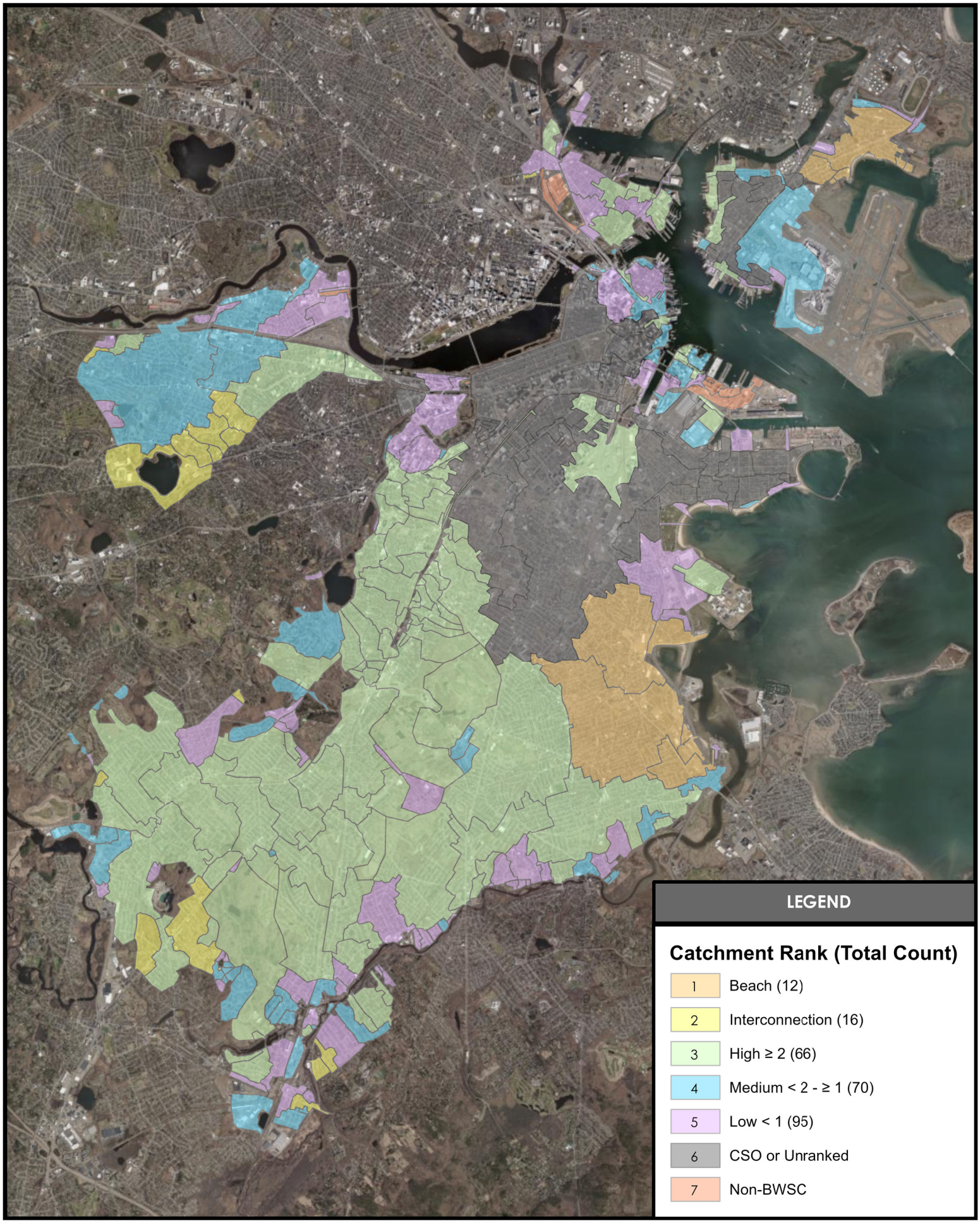
	WEIGHT (w/ WW):		10%				60%				20%		10%	
	WEIGHT (w/o WW):		10%				80%				0%		10%	
FACILITY ID[A]	CRITERIA:	Beach	Discharge Location SCORE	Dry Weather Flow Cond at "sampling location"	Dry Weather Bacteria (type)	Dry Weather Bacteria (result)	Dry Weather SCORE	Wet Weather Flow Cond at "sampling location"	Wet Weather Bacteria (type)	Wet Weather Bacteria (result)	Wet Weather SCORE	Most Recent Pipe/Bldg Insp Date[B]	Most Recent Insp SCORE	TOTAL SCORE
12BSDO14	SDO	No	0	Standing Water			1	Submerged			1	12/11/2018	0	0.80
19LCSO085	CSO	No	0	Standing Water			1	Standing Water			1	3/21/2017	0	0.80
6DSDO91	SDO	No	0	Standing Water			1	Standing Water			1	12/18/2018	0	0.80
4ESDO69	SDO	No	0	Standing Water			1	Not Required				10/21/2024	0	0.80
21HSDO047	SDO	No	0	Standing Water			1	Not Required				10/25/2018	0	0.80
27JSDO001	SDO	No	0	Standing Water			1	Not Required				8/23/2018	0	0.80
25MSDO006	SDO	No	0	Standing Water			1	Not Required				2/6/2023	0	0.80
11GSDO344 (11GMH247)	SDO	No	0	Dry			0	Flow	E.coli	8,000	4	10/2/2018	0	0.80
6HSDO107	SDO	No	0	Dry			0	Flow	E.coli	5,900	4	5/9/2017	0	0.80
22KCSO072	CSO	No	0	Dry			0	Flow	Enterococci	2,100	4	5/6/2019	0	0.80
23LSDO074	SDO	No	0	Dry			0	Flow	Enterococci	1,700	4	11/14/2018	0	0.80
5FSDO244	SDO	No	0	Dry			0	Standing Water			1	5/19/2009	5	0.70
21HSDO002	SDO	No	0	Flow	E.coli	190	0	Flow	E.coli	2,000	3	1/13/2020	0	0.60
5GSDO115	SDO	No	0	Flow	E.coli	<10	0	Flow	E.coli	2,200	3	11/16/2015	0	0.60
23HSDO042	SDO	No	0	Dry			0	Flow	E.coli	1,500	3	3/12/2024	0	0.60
11GSDO344 (11GMH246)	SDO	No	0	Dry			0	Flow	E.coli	1,300	3	10/2/2018	0	0.60
21CSDO212	SDO	No	0	Flow	E.coli	90	0	Not Required				3/19/2012	5	0.50
29NSDO135	SDO	No	0	Flow	Enterococci	70	0	Not Required				8/1/2007	5	0.50
2FSDO120	SDO	No	0	Flow	E.coli	40	0	Not Required				10/22/2007	5	0.50
25GSDO041	SDO	No	0	Flow	E.coli	20	0	Not Required				5/18/2009	5	0.50
28KSDO386	SDO	No	0	Flow	Enterococci	20	0	Not Required				4/21/2011	5	0.50
31PSDO84	SDO	No	0	Flow	Enterococci	<10	0	Not Required				5/18/2009	5	0.50
24DSDO150	SDO	No	0	Flow	E.coli	<10	0	Flow	E.coli	10	0	1/9/2006	5	0.50
30PSDO107	SDO	No	0	Dry			0	Not Required				5/18/2009	5	0.50
6HSDO106	SDO	No	0	Dry			0	Dry				9/6/2011	5	0.50
29NSDO015	SDO	No	0	Flow	Enterococci	80	0	Flow	Enterococci	250	2	8/5/2019	0	0.40
8JSDO41	SDO	No	0	Flow	E.coli	50	0	Flow	E.coli	310	2	9/15/2015	0	0.40
8ESDO33	SDO	No	0	Dry			0	Flow	E.coli	740	2	11/18/2015	0	0.40
7HSDO348	SDO	No	0	Dry			0	Flow	E.coli	330	2	5/20/2019	0	0.40
5GSDO112	SDO	No	0	Dry			0	Flow	E.coli	260	2	11/16/2015	0	0.40
8FSDO1	SDO	No	0	Dry			0	Submerged			1	3/14/2019	0	0.20
19GSDO199	SDO	No	0	Dry			0	Standing Water			1	8/22/2013	0	0.20
28LSDO073	SDO	No	0	Dry			0	Standing Water			1	8/23/2018	0	0.20
5ESDO183	SDO	No	0	Dry			0	Submerged			1	6/15/2015	0	0.20
9KSDO100	SDO	No	0	Flow	E.coli	230	0	Not Required				1/12/2016	0	0.00
13DSDO078	SDO	No	0	Flow	E.coli	130	0	Not Required				5/21/2024	0	0.00
26GSDO01	SDO	No	0	Flow	E.coli	120	0	Not Required				10/31/2018	0	0.00
24CSDO39	SDO	No	0	Flow	E.coli	90	0	Not Required				3/1/2018	0	0.00
5FSDO253	SDO	No	0	Flow	E.coli	90	0	Not Required				7/16/2015	0	0.00
13FSDO12	SDO	No	0	Flow	E.coli	80	0	Not Required				2/21/2017	0	0.00
27LSDO020/27LSDO022	SDO	No	0	Flow	Enterococci	80	0	Not Required				12/7/2020	0	0.00
9KSDO101	SDO	No	0	Flow	Enterococci	60	0	Not Required				9/23/2021	0	0.00
29JSDO212	SDO	No	0	Flow	Enterococci	60	0	Not Required				2/24/2022	0	0.00
25NCSO004	CSO	No	0	Flow	Enterococci	60	0	Not Required				7/15/2019	0	0.00

	WEIGHT (w/ WW):		10%				60%				20%		10%	
	WEIGHT (w/o WW):		10%				80%				0%		10%	
FACILITY ID[A]	**CRITERIA:**	*Beach*	**Discharge Location SCORE**	*Dry Weather Flow Cond at "sampling location"*	*Dry Weather Bacteria (type)*	*Dry Weather Bacteria (result)*	**Dry Weather SCORE**	*Wet Weather Flow Cond at "sampling location"*	*Wet Weather Bacteria (type)*	*Wet Weather Bacteria (result)*	**Wet Weather SCORE**	*Most Recent Pipe/Bldg Insp Date[B]*	**Most Recent Insp SCORE**	**TOTAL SCORE**
13DSDO077	SDO	*No*	0	*Flow*	*E.coli*	*55*	0	*Not Required*				*5/21/2024*	0	0.00
22KCSO065	CSO	*No*	0	*Flow*	*Enterococci*	*50*	0	*Not Required*				*1/10/2019*	0	0.00
8ISDO154	SDO	*No*	0	*Flow*	*E.coli*	*50*	0	*Not Required*				*6/3/2019*	0	0.00
13ESDO175	SDO	*No*	0	*Flow*	*E.coli*	*45*	0	*Not Required*				*1/14/2015*	0	0.00
6GSDO108	SDO	*No*	0	*Flow*	*E.coli*	*40*	0	*Not Required*				*8/19/2024*	0	0.00
23LCSO064	CSO	*No*	0	*Flow*	*Enterococci*	*40*	0	*Not Required*				*1/17/2019*	0	0.00
16LSDO122	SDO	*No*	0	*Flow*	*Enterococci*	*40*	0	*Not Required*				*1/11/2022*	0	0.00
29JCSO017	CSO	*No*	0	*Flow*	*Enterococci*	*30*	0	*Not Required*				*7/19/2018*	0	0.00
21MCSO079	CSO	*No*	0	*Flow*	*Enterococci*	*30*	0	*Not Required*				*8/2/2021*	0	0.00
8CSDO26	SDO	*No*	0	*Flow*	*E.coli*	*30*	0	*Not Required*				*7/12/2018*	0	0.00
23LSDO202	SDO	*No*	0	*Flow*	*Enterococci*	*30*	0	*Not Required*				*12/10/2018*	0	0.00
16LSDO097	SDO	*No*	0	*Flow*	*Enterococci*	*30*	0	*Not Required*				*1/18/2022*	0	0.00
22CSDO384	SDO	*No*	0	*Flow*	*E.coli*	*30*	0	*Not Required*				*11/12/2015*	0	0.00
19NCSO081	CSO	*No*	0	*Flow*	*Enterococci*	*20*	0	*Not Required*				*1/16/2019*	0	0.00
30JSDO6	SDO	*No*	0	*Flow*	*Enterococci*	*10*	0	*Not Required*				*12/17/2019*	0	0.00
8CSDO25	SDO	*No*	0	*Flow*	*E.coli*	*10*	0	*Not Required*				*7/12/2018*	0	0.00
23HSDO040	SDO	*No*	0	*Flow*	*E.coli*	*10*	0	*Not Required*				*1/13/2020*	0	0.00
12HSDO2	SDO	*No*	0	*Flow*	*E.coli*	*10*	0	*Not Required*				*8/30/2021*	0	0.00
26JSDO049	SDO	*No*	0	*Flow*	*Enterococci*	*<10*	0	*Not Required*				*7/29/2019*	0	0.00
30JSDO19	SDO	*No*	0	*Flow*	*Enterococci*	*<10*	0	*Not Required*				*5/13/2015*	0	0.00
17FSDO12	SDO	*No*	0	*Flow*	*E.coli*	*<10*	0	*Not Required*				*5/24/2021*	0	0.00
8ESDO35	SDO	*No*	0	*Flow*	*E.coli*	*<10*	0	*Not Required*				*2/21/2017*	0	0.00
12MSDO091	SDO	*No*	0	*Flow*	*Enterococci*	*<10*	0	*Not Required*				*5/9/2018*	0	0.00
12FSDO305	SDO	*No*	0	*Dry*			0	*Not Required*				*12/19/2024*	0	0.00
6GSDO165	SDO	*No*	0	*Dry*			0	*Not Required*				*4/11/2014*	0	0.00
13ESDO176	SDO	*No*	0	*Dry*			0	*Not Required*				*11/2/2015*	0	0.00
26LSDO106	SDO	*No*	0	*Dry*			0	*Not Required*				*5/1/2018*	0	0.00
25DSDO040	SDO	*No*	0	*Dry*			0	*Not Required*				*9/4/2018*	0	0.00
18LCSO086	CSO	*No*	0	*Dry*			0	*Not Required*				*1/9/2019*	0	0.00
8JSDO50	SDO	*No*	0	*Dry*			0	*Not Required*				*5/29/2019*	0	0.00
19LCSO084	CSO	*No*	0	*Dry*			0	*Not Required*				*6/21/2018*	0	0.00
21NCSO80	CSO	*No*	0	*Dry*			0	*Not Required*				*4/16/2019*	0	0.00
4FSDO204	SDO	*No*	0	*Dry*			0	*Not Required*				*12/7/2022*	0	0.00
26LSDO70	SDO	*No*	0	*Dry*			0	*Not Required*				*6/26/2018*	0	0.00
6GSDO166	SDO	*No*	0	*Dry*			0	*Not Required*				*8/28/2023*	0	0.00
26LSDO084	SDO	*No*	0	*Dry*			0	*Not Required*				*12/10/2018*	0	0.00
26JSDO052	SDO	*No*	0	*Dry*			0	*Flow*	*E.coli*	*150*	0	*1/17/2019*	0	0.00
8ISDO207	SDO	*No*	0	*Dry*			0	*Flow*	*E.coli*	*140*	0	*3/2/2017*	0	0.00
28LCSO019	CSO	*No*	0	*Dry*			0	*Flow*	*Enterococci*	*90*	0	*1/14/2019*	0	0.00
8ISDO209	SDO	*No*	0	*Dry*			0	*Flow*	*E.coli*	*30*	0	*2/22/2017*	0	0.00
6DSDO184	SDO	*No*	0	*NA[C]*			0	*NA[C]*				*NA*	0	0.00
27JSDO096	SDO	*No*	0	*NA[D]*			0	*NA[D]*				*NA*	0	0.00

NOTES:

[A]Outfalls in Bold were prioritized by EPA in 2014

[B]Outfalls with Date of Last Inspection "NA" were complete based on outfall screening and did not require upstream investgation of manholes or buildings. Outfalls listed as "Pre-Consent Decree" were completed prior to lodging of the Consent Decree in August 2012.



Stantec

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Notes:
1. Coordinate System: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet
2. Source data: Boston Water Subcatchment Data
3. Imagery: USGS 2019 Ortho Imagery

Figure1: Subcatchment Priority Ranking Map

Boston Water and Sewer Commission

December 2024

Boston Water and Sewer Commission

0 3,000 6,000 Feet

N

Prepared by: J.Z. 12/31/2024

Appendix I

Citywide Illegal Connection Investigation Program
Dry Weather Screening Protocols

Stantec

Citywide Illegal Connection Investigation, Phase 5 (CWI5)

Dry Weather Outfall Screening Protocols

To:	Amy Schofield Boston Water and Sewer Commission 980 Harrison Ave Boston, MA	From:	Jennifer Zoppo, PMP Stantec 226 Causeway Street 6th Floor, Boston, MA
File:	195150656	Last Revised Date:	January 20, 2023

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INTRODUCTION

The purpose of this document is to outline field procedures to perform dry weather outfall screening and sampling of the Boston Water and Sewer Commission's (Commission's or BWSC's) storm drain outfalls (SDOs), combined sewer overflow outfalls (CSOs), and storm drain interconnections between the Commission and storm drains owned by other Municipal Separate Storm Sewer Systems (MS4s). This document was originally developed in 2010 under Phase 2 and has been revised numerous times as the program evolved, primarily capturing changes to the list of outfalls to be screened. Appendix A provides a history of revisions. A significant update was completed in November of 2020. At that time the protocols were revised to capture changes to the sample collection and analysis procedures that had occurred over time, to update the definition of dry weather, to address locations that have not been sampled in the past due to standing water or other reasons, and to include an updated health and safety plan addressing impacts of COVID-19. This January 2023 revision includes two changes to the list of outfalls to be screened. Outfall 25MCSO005 was moved from the list of CSOs to the list of SDOs, as separation work was completed during 2022 and the outfall now conveys only stormwater. A note was added for outfall 6DSDO184 because it appears to be a cross-culvert only with no connected storm drain infrastructure. It remains on the SDO list but does not require screening.

The goal of the dry weather outfall screening program is to identify locations with dry weather flow and determine if the flow is contaminated. Screening will consist of recording weather conditions, characterizing each location's current condition (size, material, defects, etc.), observing visual and olfactory characteristics of dry weather flow, and collecting samples to be analyzed for bacteria and other parameters as discussed below.

Stacey DePasquale Engineering, Inc. (SDE), under contract to Stantec, will perform the outfall screening field work. SDE has been completing dry weather outfall screening and sampling for the Commission since 2010 and is therefore familiar with each sampling location. The current (2023) list of approved storm drain outfalls (Table B-1), interconnections (Table B-2), and CSO outfalls (Table B-3) are included in Appendix B. The interconnection sampling locations will be storm drain manholes.

Each outfall will be identified by its unique outfall Facility ID, and interconnections will be identified by their unique manhole Facility ID, as shown in Appendix B.

WEATHER AND TIDE MONITORING

SDE will continuously monitor (and keep records of) weather forecasts as a basis for determining when a period of acceptable dry weather exists in order to mobilize field crews to perform the dry weather screening. "Screening and Sampling" as described below may proceed under the following conditions:

Less than 0.1 inch of rainfall in the preceding 24 hours.

SDE will use the Commission's rain gauges to confirm that dry weather conditions have been met prior to mobilizing. For tidal locations, Screening and Sampling must be performed near low tide.

SCREENING AND SAMPLING

One day prior to screening and sampling visits, SDE will notify the laboratory and the courier of the schedule for the sampling day.

Sampling Location

A two-person field crew will conduct the screening and sampling by visiting the location of each outfall or interconnection manhole. In cases where the outfall is accessible and is not submerged, the outfall itself will be used for screening and sampling. The field crew will re-assess the recommended sampling location each year to determine if it is suitable. The Commission prefers to get the sample at the outfall if possible.

It is known that some outfalls will not be accessible and that some locations will be in areas subject to tidal inflows or will otherwise be subject to backwater effects. For these outfall locations field crews will locate a suitable screening site in an upstream manhole. The selected manhole will be as near the outfall as possible and free of standing water or back flow from the receiving water. It is anticipated that selected manholes in these cases will be no more than three manholes or 750 feet upstream outside of backflow or tidal influence.

For locations that are submerged or have standing water present[1], SDE will inspect up to three manholes directly upgradient but no more than 750 feet from the outlet. SDE will note which of these locations also has

[1]The term "submerged" is typically used only for outfalls and means that the outfall opening is below the water level of the receiving water. The term "standing water" means there is water present at the invert which is not flowing, and at least a portion of the outfall opening is above the water level of the receiving water. Standing water occurs at both outfalls and manholes but is more common at manholes.

standing water and then, at the first upstream accessible manhole location from the outfall free of standing water, perform the same data recording and sampling as described below. If all manholes inspected upstream of the outfall contain standing water, then a sample will not be collected. Outfalls that are unable to be sampled because they are submerged or have standing water must be reported to the Commission so that an alternate sampling location may be identified. Based on historical outfall screening data, a list of outfalls that are typically submerged or have standing water are provided in Appendix C with recommendations on how to proceed. Recommendations include CCTV, cleaning, continuing investigations upstream with multiple sampling points, and coordinating with other MS4s to improve mapping and confirm system ownership. In the meantime, SDE should continue to visit these outfalls and attempt to identify a suitable sampling location.

If an upstream manhole is used for screening and sampling SDE will note if there is more than one inlet to the manhole as well as the flow characteristics from each pipe. It is important at CSO outfalls to collect a sample at a manhole downstream of the regulator.

Data Collection and Reporting

All observations and activities conducted at each screening location will be recorded on the screening and sampling form included in Appendix D, including the Manhole Facility ID numbers of structures unsuitable for screening and sampling along with the reason for unsuitability. Forms will be completed electronically. Data will be exported to a spreadsheet and paper reports will also be generated and posted on the project SharePoint site on a weekly basis.

Photos will include both close-up and locational shots where possible. The field crew will also record dimensions, shape, material (e.g., concrete, PVC), physical condition, and presence and location of an outfall sign. The outfall signs are posted in various locations depending on the surroundings at each site.

At each location where flow is observed, an observation of flow characteristics will be recorded (odor, color, clarity, turbidity, deposits/stains). Samples will be collected for laboratory analysis of the dry-weather flow for either *E. coli* bacteria or *Enterococcus* bacteria. Tables provided in Appendix B designate each outfall and interconnection location as discharging to fresh or marine waters. Discharges to fresh water bodies shall be sampled for *E. coli* analysis, and those discharging to marine water bodies shall be sampled for *Enterococcus* analysis.

Analytical samples collected will be immediately labeled, sealed, and stored in ice-filled coolers. Samples will be transferred to G&L Laboratories of Quincy, MA for analysis within six hours of sample collection. Completed chains of custody will accompany each shipment to the lab. It is estimated that between 6 and 12 samples will be collected per day for a single crew, depending on distance among outfall locations. All samples will be collected in accordance with the detailed sampling procedures below.

In addition to each analytical sample collected, the field crews will estimate the flow and collect a sample for on-site evaluation of the following parameters:

- Temperature,
- pH,
- Specific Conductivity,
- Surfactants,
- Ammonia,
- Total Residual Chlorine,
- Salinity.

SAMPLING PROCEDURES

The following procedure outlines, in detail, the steps to be taken during outfall and interconnection screening and sampling:

- Prior to the start of sampling, a trip blank sample must be prepared by filling a laboratory-provided sample container with clean bottled water (distilled or bottled drinking water is acceptable). This trip blank sample will be labeled and kept in a cooler with all samples collected that particular day.
- Upon arrival at the appropriate screening location, begin a new Screening and Sampling Form. Blank forms are included in Appendix D.
- Indicate whether the screening location is a storm drain outfall, combined sewer overflow outfall, or interconnection manhole.
- Record all pertinent observational information, including a general description of flow velocity, depth of water, appearance of water, etc. *Note: flow rate will not be calculated in the field during inspections because it would significantly slow down the inspection process. However, flow can be calculated after-the-fact based on information that SDE records in the field during inspections, including the estimated velocity, the diameter of the outfall, and the approximate depth of water.*
- If outfall sampling location is a manhole, complete information related to manhole appearance and condition.
- Record the time of sampling.
- Place a clean grab sampling container into the middle of the flow stream facing upstream. Retrieve the container after it has filled and swirl the contents to coat all inside surfaces with sample water. Dump the contents of the container away from or downstream of sampling location. Repeat this twice, so that sample container is fully rinsed with sample water three times.
- Using the same method, fill and retrieve the sample container a fourth time. Gently swirl container to maintain mixing of the grab sample.
- Open the sterile container for bacterial sampling. Use caution to handle only the outside of each sample container and to maintain sterile conditions during collection of bacterial samples. Fill sterile container with sample water and seal container. If duplicate samples are being collected at a particular location, they should be poured from the same container. The appropriate analysis will be conducted at sample locations as follows:
    - *E. coli* – freshwater discharge locations;
    - *Enterococcus* – marine discharge locations.
- Verify that the sample container is properly sealed and label each sample container with sample identifier, date, time, preservative type (ice only), and initials of sampling personnel. Duplicate samples shall be labeled with a “D” preceding the sample identifier. All information shall be also recorded on the field form.
- Place sample containers in ice-filled coolers until later transport to the lab takes place.
- Conduct on-site measurements of field parameters on remaining volume in sample container. If more volume is needed, a subsequent grab sample may be collected in the manner described for analytical sample collection.

1. Test kits will be used for field measurements of surfactants, ammonia, and total residual chlorine as follows:
    - Ammonia: CHEMetrics K-1510 or Hach Ammonia (Nitrogen) test strips,
    - Surfactants: CHEMetrics K-9400
    - Total Residual Chlorine: CHEMetrics K-2504
2. Oakton PCTSTesr50, a portable meter, will be used for measurements of pH, salinity, temperature, and specific conductivity. (Note that instrumentation shall be checked and calibrated at least bi-weekly.)

- Gently swirl the container to maintain mixing.
- Use manufacture instructions to run the sample for the required field parameters.
- Record results and time of measurements on the field form.
- Clean and store meter during travel between sampling locations.
- For any reusable sampling equipment, decontamination shall be performed as follows:
    1. Rinse equipment with a 70% isopropyl alcohol solution. Rinsate shall be collected in a bucket and disposed of properly.
    2. Rinse equipment with distilled water.
- Note that samples must be transferred to G&L Laboratories within six hours of sample collection, and samples must be analyzed within an **eight-hour holding time** from sample collection.
- Prior to transfer to the lab, a chain of custody shall be filled out and must accompany samples at all times. The person receiving samples at the lab must sign each chain of custody.

QUALITY ASSURANCE/QUALITY CONTROL

This Quality Assurance/Quality Control (QA/QC) section will establish the data quality objectives (DQOs) for the program, as follows:

- Data must be complete and of sufficient detail to assess water quality at each screening location.
- Data should represent actual conditions at the outfall outlet or interconnection manhole inlet.
- Data should be generated by accepted sampling methodologies.
- Data must be reproducible and accurate.

The screening and sampling program has been developed to encompass these DQOs as they pertain to characterizing the physical condition and water quality at each screening location. Sampling techniques selected were based upon past methods employed in the Boston Water & Sewer Commission's monitoring programs and upon standard industry practice. Field crew members from SDE have prior experience with sample methods and equipment usage. The methods proposed for field testing are standard methods, as stated in EPA guidance (EPA, 1986; 2002; 2014). In addition, G&L Laboratories is State and EPA certified to conduct the required analyses.

Table 1-1 lists the analytical methods to be used for each of the parameters to be tested.

Table 1-1: Analytical Methods to be used for Bacterial Analysis

Parameter	Analytical Method
E. Coli	EPA 1603
Enterococcus	EPA1600

Measures employed to ensure that QA/QC DQOs are met are described as follows.

Precision

Precision is the ability to obtain reproducible results when analyzing duplicate samples. The overall sampling precision will be determined by the collection and analysis of field duplicate samples that are not identified as such to the analytical laboratory. Duplicate samples will be collected for the same analysis as the parent samples. They will be assigned an identical sample identifier, except for the addition of "D" preceding the identifier. Duplicate samples are to be collected at the frequency of one per twenty samples.

Because bacteria are living organisms that reproduce and die after sample collection, some degree of disparity between the duplicate sample and the original sample is expected and not necessarily reflective of sample collection or laboratory error.

Accuracy

Accuracy is the degree of difference between a reported value and its true value. As part of ensuring sufficient accuracy, minimization of false positive and false negative analytical data is attempted.

The potential for false positive data values will be assessed through the analysis of laboratory blanks, which must be less than the method detection limit (MDL) or instrument detection limit. Each batch of samples analyzed will be run with a laboratory blank.

Accuracy will also be assessed through the use of control samples of known composition. Laboratory control samples and calibration standards will be used by the laboratory, as needed.

Representativeness

Sample collection under this program is intended to provide data representative of actual conditions at particular screening locations. In order to ensure representativeness, outfall sample locations are selected as close to actual outfall outlets as possible. Where an outfall is unsuitable for sampling at its outlet due to inaccessibility, tidal inflows, or backwater effects, locations upstream may be selected with prior Commission approval only. However, since grab samples are only representative of a snapshot of water quality conditions at a given point in time, they may not be representative of long-term conditions. Data collected must be evaluated while recognizing this limitation.

In addition, samples collected must be representative of water quality at the location they were taken and not be influenced by cross-contamination from other samples collected the same day and stored in the same ice cooler. In order to ensure this, trip blank samples must be collected at the start of each day by filling a laboratory-provided container with clean bottled water. This filled container will be carried throughout the day in the same ice cooler with samples collected.

Sample Handling and Custody

All filled sample containers will be placed on ice immediately following sample collection. They shall then be transported to the lab, G&L Laboratories, within six hours for analysis within 8 hours. (Note that the holding time is applicable from time of sample collection to time of analysis.) A completed chain of custody must accompany each sample shipment to the lab, and sample custody will be tracked throughout the full analytical process in the lab. These forms will be included in the analytical report to Stantec. Table 1-2 lists required types of containers and preservation for each analysis to be performed.

Table 1-2: Requirements for Sample Holding

Parameter	Container Volume	Container Type	Preservative	Holding Time
E. Coli	100 mL	Sterile plastic	Cooled to <10°C	8 hours
Enterococcus	100 mL	Sterile plastic	Cooled to <10°C	8 hours

Instrument/Equipment Testing, Inspection, and Maintenance

Testing, inspection, and maintenance will be performed for all instruments and equipment to be employed for the lab analyses to be conducted as part of this program, and such activities will be done in accordance with G&L Laboratories' quality procedures.

All field sampling equipment and instrumentation will be inspected on a regular basis, and preventative maintenance will be performed. Prior to mobilization to the field sites, equipment and instrumentation will be checked and calibrated in the office. Following each sampling event, all field equipment and instrumentation will be cleaned and stored properly.

Performance Audits and Corrective Actions

Periodic audits of the field program will be conducted by Stantec at the start of the screening and sampling activities and on a random basis to evaluate adherence to and appropriateness of QA/QC requirements in the field. If unacceptable conditions are noted, Stantec and SDE will initiate corrective actions together. These corrective actions may include:

- Re-analyzing samples (if holding times permit doing so);
- Re-sampling and subsequent analysis;
- Evaluating and amending sampling and analytical procedures;
- Accepting potentially flawed data with acknowledgement of uncertainty or inaccuracy by flagging of data and providing a qualifying explanation.

GENERAL FIELD REQUIREMENTS

Any major blockages, collapses, or defects to the storm drainage system or sanitary sewer system (that may pose a public health and safety threat) observed during any field operations will be reported to the Commission with 48 hours.

Field crews are authorized to request a police detail for personal safety reasons at any time.

SDE's Health and Safety Plan is provided in Appendix E and has been updated to include COVID-19 protocols. The Commission does not require safety vests to be issued by the Commission, but crews must have safety vests and they must be worn in the field.

REFERENCES

US Environmental Protection Agency, September 2014. Method 1600: Enterococci in Water by Membrane Filtration Using membrane- Enterococcus Indoxyl- β-D-Glucoside Agar (mEI), EPA 821-R-14-011. US Environmental Protection Agency, Office of Water (4303T), Washington DC.

U.S. Environmental Protection Agency. September 2014. Method 1603: Escherichia coli (E. coli) in Water by Membrane Filtration Using Modified membrane-Thermotolerant Escherichia coli Agar (Modified mTEC). EPA-821-R-14-010. U.S. Environmental Protection Agency, Office of Water (4303T), Washington, DC.

EPA. 1986. Ambient Water Quality Criteria for Bacteria – 1986. January.

EPA. 2009. Urban Stormwater BMP Performance Monitoring. October 2009.

APPENDIX

Appendix A	History of Revisions to Dry Weather Outfall Screening Protocols	
Appendix B	Locations Approved for Inspection *(to be updated annually)*	
	Table B-1	Storm Drain Outfalls 2023
	Table B-2	Interconnection Manholes 2023
	Table B-3	Combined Sewer Overflow Outfalls 2023
Appendix C	Table C-1	Recommendations for Locations with Standing Water
Appendix D	Outfall Screening Form (Blank)	
Appendix E	SDE Health and Safety Plan (Updated 2022)	

APPENDIX A

History of Revisions to Dry Weather Outfall Screening Protocols

APPENDIX A

History of Revisions to Dry Weather Outfall Screening Protocols

1/20/2023	Outfall 25MCSO005 separation was completed in the tributary area in the latter part of 2022 and it now conveys only stormwater. GIS updates have not been made yet.
12/28/2021	Outfall 06DSDO184 appears to be a cross-culvert only with no connected storm drain infrastructure. Keep on SDO list but screening not required.
3/23/2021	Add new storm drain outfall 26LSDO109.
2/18/2021	Add new storm drain outfall 12HSDO2. It was built by others but is now owned by BWSC.
11/12/2020	CWI5 Kickoff Updates: • Stantec review of EPA Methods 1600 and 1603 revised 2014 (prior protocols based on 2002 versions). Revisions made accordingly, including update of sample holding time to clarify that samples must be delivered to the lab within 6 hours from the time of sample collection and analyzed by the lab within 8 hours from the time of sample collection. Also updated sample preservation temperature from 4 °C to <10 °C. • Updated field instrument and test kit manufacturer/model, and calibration frequency • Updated the definition of dry weather to align with the MA Small MS4 permit (change from less than 0.1 inches of rain in the prior 48 hours, to less than 0.1 inches of rain in the prior 24 hours) • Additional information/guidance provided for locations that are consistently submerged or have standing water present during dry weather screening • Updated Outfall Screening Form • Add SDE Health and Safety Plan, including information about COVID safety measures
3/14/2019	21HSDO001 and 21HSDO002 were added as a result of the Muddy Brook Restoration Project.
2/21/2017	19MCSO083 has been abandoned and does not need to be screened anymore.
11/20/2015	Add two new South Street storm drain outfalls 13FSDO96 and 13FSDO97 to the list of outfalls to be screened during 2015 (Appendix B). Map added to Appendix C.
6/24/2015	Add new Hyde Park storm drain outfall 8FSDO1 to the list of outfalls to be screened during 2015 (Appendix B). This outfall was previously private; now confirmed owned by BWSC. Map added to Appendix C.
3/26/2015	Add new East Boston storm drain outfall 29PSDO005 to the list of outfalls to be screened during 2015 (Appendix B). Map added to Appendix C.
6/23/2014	Add two SDOs to the list of outfalls for 2014 dry weather screening: • 20GSDO164/2007640005 (previously thought to be owned by DCR) • 4FSDO1/406640010

5/9/2014	Add 24LSDO22/2412640005 to list of outfalls for dry weather 2014. Change designation of 26KSDO35, 26KSDO050 and 26JSDO049 to Marine.
4/11/2014	Remove 7HSDO287 from the list because during 2013 dry weather screening SDE determined that this outfall is no longer active; the outlet from the upstream catch basin has been bricked and flows are directed to 7HSDO285.
3/13/2014	Replaced 26KSDO245 with 26KSDO254. It was determined that 26KSDO245 belongs to DCR. Also replaced interconnection 21DMH055 with 20DNP140, an unmapped manhole near 42 Strathmore Road that has been sampled in the past.
2/19/2014	Updated Facility ID and Feature ID for 25MSDO007, 26JSDO049, and 21NCSO80. Updated Facility ID for 25MSDO006.
1/20/2014	Added outfall 24CSDO039 to replace interconnection 24CMH14, which was sampled in 2012 and 2013.
10/3/2013	Changed Interconnections 12LMH374 and 12LMH204 to Marine.
8/12/2013	Changed 26JCSO049, 26JSDO101, and 26KSDO050 from Fresh water to Marine.
5/20/2013	Six outfalls that were previously removed or "Pending Approval" were added back to the list of approved outfalls for sampling. These outfalls are the following: 12BSDO010, 12BSDO031, 12BSDO033, 07HSDO287, 28LSDO073, and 28LSDO077. SDE should attempt to screen these outfalls for the 2013 round of dry weather screening. If the outfall is inaccessible and there is no upstream manhole just observations should be noted on the screening form.
4/12/2013	Updated the facility ID for outfall 7CSDO006.
4/8/2013	Six outfalls that had not previously been located were investigated by BWSC and have been removed from the list for sampling. These outfalls are the following: 12BSDO031, 12BSDO033, 20LSDO081, 20LSDO083, 29PSDO015, and 21HSDO201. Three outfalls are still under investigation and have been moved to "Pending Approval". These outfalls are the following: 12BSDO010, 28LSDO073, and 28LSDO077.
3/25/2013	Stony Brook Outfall 21HCSO046 was added to the approved outfall list. Maps for three approved sampling locations were attached.
2/12/2013	SDE was authorized to begin the second (2013) round of dry weather screening on 1/14/2013. The tables in Appendix B have been revised to show approved SDOs, CSO outfalls and interconnections for 2013 dry weather screening. This includes changing interconnection 28MMH15 to 28IMH15. Despite the label being incorrect, the correct manhole was sampled in the past. On 2/12/2013 SDE was reminded to collect field duplicate samples in one container and then pour from the one container into two separate sample bottles. Prior to this field duplicates had been collected separately.
12/13/2012	Added approved 21HCSO046 and Interconnection 20DMH062 to the list in Appendix B. SDE is approved to take three samples at 21HCSO046 as discussed in the meeting on 12/5/12. SDE is also approved to return to Interconnection 20DMH055 and take a sample at a downstream manhole.
12/4/2012	Added SDO 24L057 to the list of approved outfalls. Added Map 9 (old map) and Map 10 (new map). The old map shows the outfall as existing, but new GIS shows the drainage being diverted to CSO 060. No plans confirmed this change, so SDE is approved to check to see if the outfall exists. MH 24L056 should be inspected for an outlet, and if that cannot be located MH24L056 should be sampled.

11/19/2012	Added one approved SDO to the list in Appendix B: 26L106.
10/23/2012	Added six approved CSOs to the list in Appendix B: BOS 081, BOS 082, BOS 083, BOS 084, BOS 085, and BOS 086.
10/2/2012	Added storm drain outfall 26L070 to list of approved SDOs in Appendix B.
9/24/2012	Added special maps for outfalls 08B122 and 26K050 to Appendix C.
9/17/2012	The Fort Point Channel Outfalls were approved for dry weather screening during the August 29th technical progress meeting. In addition, select CSOs and interconnections were approved for dry weather screening during a September 6th working meeting (to commence after dry weather screening of all storm drain outfalls is complete). Approved locations can be found in Appendix B. Other changes to Appendix B Tables: SDO 12L296 was moved to the interconnection list Six not approved SDOs were added to the bottom of the SDO list for reference The sampling method for E. coli was also changed from SM9213 to EPA 1603.
7/27/2012	Protocols were revised July 27, 2012 to put Fort Point Channel Outfalls on hold until further notice. See Appendix B.
7/25/2012	SDE is authorized to begin dry weather screening at storm drain outfalls only starting on Monday 7/30/2012

APPENDIX B

Locations Approved for Inspection

2024

Appendix B
Table B-1
2024 Outfall Screening and Sampling
List of Approved Storm Drain Outfalls - Dry Weather
Updated 2/26/2024

OUTFALL FACILITY ID	OUTFALL FEATURE ID	STREET LOCATION	DRAINAGE AREA	NEIGHBORHOOD	SIZE (INCHES)	TIDEGATES	RECEIVING WATER	Fresh/ Marine
1ESDO24	105640001	EASEMENT/LAKESIDE	01E024	HYDE PARK	15		SPRAGUE POND/NEPONSET RIVER	FRESH
1FSDO31	106640001	EASEMENT/MILLSTONE RD	01F031	HYDE PARK	48X24		NEPONSET RIVER	FRESH
2ESDO5	205640001	WEST MILTON STREET	02E086	HYDE PARK	24		UNAMED WETLANDS	FRESH
2FSDO85	206640005	LAWTON STREET	02F085	HYDE PARK	12		NEPONSET RIVER RESERVATION	FRESH
2FSDO93	206640003	EASEMENT/SIERRA RD	02F093	HYDE PARK	15		NEPONSET RIVER	FRESH
2FSDO120	206640002	EASEMENT/WOLCOTT CT/HYDE PARK AVE EXT	02F120	HYDE PARK	54		NEPONSET RIVER	FRESH
3ESDO185	305640003	NORTON ST	03E185	HYDE PARK	2-18		WETLANDS/NEPONSET RIVER	FRESH
3ESDO186	305640002	RIVER STREET	03E186	HYDE PARK	24		MILL POND/MOTHER BROOK	FRESH
3ESDO207	305640001	RIVER STREET	NA	HYDE PARK	UNKNOWN		MILL POND/MOTHER BROOK	FRESH
4ESDO64	405640002	ALVARDO AVE/RIVER ST BRIDGE	04E064	HYDE PARK	12		MILL POND/MOTHER BROOK	FRESH
4ESDO69	405640001	KNIGHT ST DAM	04E069	HYDE PARK	36		MOTHER BROOK	FRESH
4FSDO1	406640010	RESERVATION RD		HYDE PARK			MOTHER BROOK/NEPONSET RIVER	FRESH
4FSDO16	406640003	EASEMENT RIVER ST	04F016	HYDE PARK	30		MOTHER BROOK/NEPONSET RIVER	FRESH
4FSDO118	406640005	MASON STREET EXT.	04F118	HYDE PARK	18		NEPONSET RIVER	FRESH
4FSDO119	406640009	EASEMENT/HYDE PARK AVE/RESERVATION RD	04F119	HYDE PARK	24		NEPONSET RIVER	FRESH
4FSDO189	406640001	RESERVATION RD	04F189	HYDE PARK	36		MOTHER BROOK/NEPONSET RIVER	FRESH
4FSDO203	406640004	GLENWOOD AVE	04F203	HYDE PARK	28		NEPONSET RIVER	FRESH
4FSDO204	406640002	TRUMAN HWY/CHITTICK ST	04F204	HYDE PARK	36		NEPONSET RIVER	FRESH
5CSDO110	503640001	EASEMENT/PLEASANTDALE ST EXT	06C110	WEST ROXBURY	60		CHARLES RIVER	FRESH
5ESDO180	505640002	GEORGETOWN DRIVE	05E180	HYDE PARK	12		NONE SHOWN/CHARLES RIVER	FRESH
5ESDO181	505640006	GEORGETOWN DRIVE	05E181	HYDE PARK	12		NONE SHOWN/CHARLES RIVER	FRESH
5ESDO182	505640005	DEDHAM STREET	05E182	HYDE PARK	21		UNNAMED STREAM/CHARLES RIVER	FRESH
5ESDO183	505640007	GEORGETOWN PLACE/DEDHAM ST	05E183	HYDE PARK	12		UNNAMED STREAM	FRESH
5ESDO184	505640008	TURTLE POND PARKWAY	05E184	HYDE PARK	21		UNAMED WETLANDS	FRESH
5FSDO117	506640001	EASEMENT/TRUMAN HWY/WILLIAMS AVE	05F117	HYDE PARK	33		NEPONSET RIVER	FRESH
5FSDO244	506640008	HYDE PARK AVE BRIDGE	05F244	HYDE PARK	20		MOTHER BROOK/NEPONSET RIVER	FRESH
5FSDO245	506640007	HYDE PARK AVE	05F245	HYDE PARK	33		MOTHER BROOK/NEPONSET RIVER	FRESH
5FSDO253	506640006	EASEMENT/BUSINESS ST, NEAR BUSINESS TER	05F253	HYDE PARK	48X24		MOTHER BROOK/NEPONSET RIVER	FRESH
5FSDO254	506640004	DANA AVENUE	05F254	HYDE PARK	12		NEPONSET RIVER	FRESH
5GSDO112	507640002	EASEMENT/RR ROW/WATER ST EXT	05G112	HYDE PARK	30		NEPONSET RIVER	FRESH
5GSDO115	507640006	FAIRMOUNT AVE BRIDGE (NORTH BANK)	05G115	HYDE PARK	24		NEPONSET RIVER	FRESH
5GSDO116	507640007	FAIRMOUNT AVE BRIDGE (SOUTH BANK)	05G116	HYDE PARK	24		NEPONSET RIVER	FRESH
5GSDO116A	507640005	WARREN AVENUE	05G116A	HYDE PARK	24		NEPONSET RIVER	FRESH
6DSDO57	604640001	CEDAR CREST CIRCLE	06D057	WEST ROXBURY	21		CHARLES RIVER	FRESH
6DSDO83	604640007	MARGARETTA DRIVE	06D084	WEST ROXBURY	15		WETLANDS/CHARLES RIVER	FRESH
6DSDO84	604640008	EASEMENT/MARGARETTA DRIVE	06D083	WEST ROXBURY	12		WETLANDS/CHARLES RIVER	FRESH
6DSDO85	604640006	GEORGETOWN DRIVE	06D085	WEST ROXBURY	12		WETLANDS/CHARLES RIVER	FRESH
6DSDO86	604640005	GEORGETOWN DRIVE	06D086	WEST ROXBURY	10		WETLANDS/CHARLES RIVER	FRESH
6DSDO91	604640003	GEORGETOWN DRIVE	06D091	WEST ROXBURY	10		WETLANDS/CHARLES RIVER	FRESH
6DSDO187	604640004	EASEMENT/GROVE ST	06D187	WEST ROXBURY	36		BROOK GROVE ST CEMETERY	FRESH

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6FSDO233	606640001	MOUNT ASH ROAD	05F253	HYDE PARK	UNKNOWN		WETLAND - STONY BROOK RESERVATION	FRESH
6GSDO108	607640005	EASEMENT/WEST OF WOOD AVE EXT	06G108	HYDE PARK	69		NEPONSET RIVER	FRESH
6GSDO109	607640001	RIVER TER EXT, NEAR ROSA ST	06G109	HYDE PARK	48		NEPONSET RIVER	FRESH
6GSDO110	607640002	EASEMENT/WEST STREET EXT	06G110	HYDE PARK	30		NEPONSET RIVER	FRESH
6GSDO111	607640003	EASEMENT/VOSE ST EXT., TRUMAN HWY	06G111	HYDE PARK	24		NEPONSET RIVER	FRESH
6GSDO165	607640006	TRUMAN HWT/METROPOLITAN AVE	06G165	HYDE PARK	10		NEPONSET RIVER	FRESH
6GSDO166	607640004	ABOUT 30' FROM GUARDRAIL NORTH SIDE OF TRUMAN HWY NEAR N	06G166	HYDE PARK	36X36		NEPONSET RIVER	FRESH
6HSDO106	608640004	OSCEOLA STREET	06H106	HYDE PARK	24		NEPONSET RIVER	FRESH
6HSDO107	608640005	EASEMENT/BELNEL RD	06H107	HYDE PARK	24		NEPONSET RIVER	FRESH
7CSDO006	703640001	EASEMENT/VFW PARKWAY/BELLE AVE	07C006	WEST ROXBURY	126X126		CHARLES RIVER	FRESH
7HSDO105	708640003	EASEMENT/EDGEWATER/S RIVER ST	07H105	NEPONSET/MATTAPAN	102X72		NEPONSET RIVER	FRESH
7HSDO285	708640001	BLUE HILL AVE	07H285	NEPONSET/MATTAPAN	106X63		NEPONSET RIVER	FRESH
7HSDO346	708640009	EDGEWATER DRIVE/HOLMFIELD AVE	07H346	HYDE PARK	18		NEPONSET RIVER	FRESH
7HSDO347	708640008	EDGEWATER DRIVE/BURMAH ROAD	07H347	NEPONSET/MATTAPAN	21		NEPONSET RIVER	FRESH
7HSDO348	708640007	EDGEWATER DRIVE/TOPALIAN STREET	07H348	NEPONSET/MATTAPAN	24		NEPONSET RIVER	FRESH
8BSDO122	802640001	EASEMENT/NORTH OF SPRING ST.	08B122	WEST ROXBURY	30		CHARLES RIVER	FRESH
8BSDO126	802640003	SPRING STREET EXTENDED	08B126	WEST ROXBURY	30		CHARLES RIVER	FRESH
8CSDO25	803640004	WEDGEMERE ROAD	08C025/026	WEST ROXBURY	two 24		NONE SHOWN	FRESH
8CSDO26	803640005	WEDGEMERE ROAD	08C025/026	WEST ROXBURY	two 24		NONE SHOWN	FRESH
8ESDO31	805640002	TURTLE POND PARKWAY	08E031	WEST ROXBURY	30		TURTLE POND	FRESH
8ESDO33	805640003	TURTLE POND PARKWAY	08E033				TURTLE POND	FRESH
8ESDO35	805640001	WASHINGTON STREET	08E035	WEST ROXBURY	15		TURTLE POND	FRESH
8FSDO1	806640001	SHERRIN STREET	NA	HYDE PARK	24		NONE SHOWN	FRESH
8ISDO153	809640001	DUXBURY ROAD	08I153	NEPONSET/MATTAPAN	15		NEPONSET RIVER	FRESH
8ISDO154	809640005	EASEMENT/RIVER ST/GLADESIDE AVE	08I154	NEPONSET/MATTAPAN	18		NEPONSET RIVER	FRESH
8ISDO155	809640002	EASEMENT/RIVER ST/MAMELON CIR	08I155	NEPONSET/MATTAPAN	24		NEPONSET RIVER	FRESH
8ISDO156	809640003	EASEMENT/RIVER ST/MAMELON CIR	08I156	NEPONSET/MATTAPAN	24		NEPONSET RIVER	FRESH
8ISDO158	809640006	EASEMENT/RIVER ST/FREMONT ST	08I158	NEPONSET/MATTAPAN	18		NEPONSET RIVER	FRESH
8ISDO207	809640008	MEADOWBANK AVE EXT	08I207	NEPONSET/MATTAPAN	15		NEPONSET RIVER	FRESH
8ISDO209	809640004	MEADOWBANK AVE EXT	08I209	NEPONSET/MATTAPAN	12		NEPONSET RIVER	FRESH
8JSDO41	810640003	RIVER STREET	08J036/041	DORCHESTER	18		NEPONSET RIVER	FRESH
8JSDO50	810640004	DESMOND RD	08J050/049	DORCHESTER	2-18&24		NEPONSET RIVER	FRESH
8JSDO102	810640001	ADAMS STREET	08J102	DORCHESTER	15X15		NEPONSET RIVER	MARINE
8JSDO103	810640002	EASEMENT/CENTRAL AVE BRIDGE	08J103	DORCHESTER	30		NEPONSET RIVER	FRESH
8KSDO49	811640001	BEARSE AVENUE	08K049	DORCHESTER	12		NEPONSET RIVER	MARINE
9BSDO49	902640001	EASEMENT/RIVERMOOR ST	09B049	WEST ROXBURY	30		COW ISLAND POND/CHARLES RIVER	FRESH
9ESDO229	905640001	GRANDVIEW STREET	09E229	WEST ROXBURY	12		NONE SHOWN	FRESH
9ESDO243	905640002	BLUE LEDGE TR/EASEMENT	09E243	WEST ROXBURY	30		UNNAMED STREAM	FRESH
9KSDO16	911640003	EASEMENT/BEARSE AVE EXT	09K016	DORCHESTER	15		NEPONSET RIVER	MARINE
9KSDO100	911640001	EASEMENT/MELLISH RD	09K100	DORCHESTER	34X24		NEPONSET RIVER	MARINE

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9KSDO101	911640002	EASEMENT/HUNTOON ST EXT	09K101	DORCHESTER	24		NEPONSET RIVER	MARINE
9LSDO095	912640001	GRANITE AVENUE	09L095	DORCHESTER	36X48		NEPONSET RIVER	MARINE
10BSDO15	1002640004	EASEMENT/CHARLES RIVER ROAD	10B015	WEST ROXBURY	21		COW ISLAND POND/CHARLES RIVER	FRESH
10LSDO094	1012640001	EASEMENT/GALLIVAN BLVD	10L094	DORCHESTER	74X93		NEPONSET RIVER VIA DAVENPORT BROOK	MARINE
10LSDO096	1012640002	HILLTOP & LEXONDALE STS	10L096	DORCHESTER	36		NEPONSET RIVER	MARINE
11BSDO123	1102640003	EASEMENT/EAST OF BAKER ST EXT.	11B123	WEST ROXBURY	72		BROOK FARM BROOK/CHARLES RIVER	FRESH
11GSDO344 (1	1107640002 (	CULVERT UNDER WALK HILL STREET	11G344	ROSLINDALE	24		CANTERBURY BROOK	FRESH
11GSDO344 (1	1107640002 (	CULVERT UNDER WALK HILL STREET	11G344	ROSLINDALE	18		CANTERBURY BROOK	FRESH
11ISDO577	1109640001	HARVARD ST	11I577	NEPONSET/MATTAPAN	102X102		CANTERBURY BROOK	FRESH
11MSDO093	1113640001	NEPONSET AVE AT NW END OF NEPONSET AVE BRIDGE	11M093	DORCHESTER	48		NEPONSET RIVER	MARINE
12BSDO10	1202640001	BAKER STREET	12B010	WEST ROXBURY	15		BROOK FARM BROOK	FRESH
12BSDO14	1202640003	BAKER STREET	12B014	WEST ROXBURY	12		BROOK FARM BROOK	FRESH
12BSDO033	1202640002	EASEMENT/BAKER STREET	12B033	WEST ROXBURY	18		BROOK FARM BROOK	FRESH
12BSDO124	1202640004	EASEMENT/LAGRANGE STREET	12B124	WEST ROXBURY	120		BROOK FARM BROOK	FRESH
12ESDO418	1205640001	EASEMENT/WALTER STREET (renumbered from 12F322)	12F418	ROSLINDALE	18		NONE SHOWN	FRESH
12FSDO305	1206660240	EASEMENT/ARBOROUGH ROAD	12F305	ROSLINDALE	12		UNAMED WETLANDS	FRESH
12HSDO1 (12I	1208640006 (	MORTON STREET	12H085	ROSLINDALE	15		CANTERBURY BROOK	FRESH
12HSDO1 (12I	1208640006 (	MORTON STREET	12H087	ROSLINDALE	15		CANTERBURY BROOK	FRESH
12HSDO2	1208640007	CANTERBURY STREET	12H092	WEST ROXBURY	24		CANTERBURY BROOK	FRESH
12HSDO92	1208640001	AMERICAN LEGION HIGHWAY	12H092	WEST ROXBURY	24		CANTERBURY BROOK	FRESH
12LSDO092	1212460001	PINE NECK CREEK/TENEAN ST WEST OF LAWLEY	12L092	DORCHESTER	72	2 / 12L294	NEPONSET RIVER	MARINE
12MSDO091	1213640001	ERICSSON/WALNUT ST	12M091	NEPONSET/MATTAPAN	36		NEPONSET RIVER	MARINE
13BSDO11	1302640001	LAGRANGE STREET	13B011	WEST ROXBURY	12		UNNAMED STREAM	FRESH
13DSDO077	1304640003	WEST ROXBURY PKY/VFW PKY	13D077/078	WEST ROXBURY	60		BUSSEY BROOK	FRESH
13DSDO078	1304640004	WEST ROXBURY PKY/VFW PKY	13D077/078	WEST ROXBURY	60		BUSSEY BROOK	FRESH
13ESDO174	1305640002	EASEMENT/VFW PARKWAY	13E174	ROSLINDALE	24		BUSSEY BROOK	FRESH
13ESDO175	1305640003	EASEMENT/VFW PKY	13E175	ROSLINDALE	108X86		BUSSEY BROOK	FRESH
13ESDO176	1305640004	EASEMENT/WELD ST	13E176	ROSLINDALE	15		NONE SHOWN	FRESH
13FSDO11	1306640004	ALLANDALE STREET	13F011	ROSLINDALE	24		BUSSEY BROOK	FRESH
13FSDO12	1306640005	WALTER STREET	13F093	ROSLINDALE	15		BUSSEY BROOK	FRESH
13FSDO95	1306640001	EASEMENT/BUSSEY STREET	13F095	ROSLINDALE	12		BUSSEY BROOK	FRESH
13FSDO96	1306640006	SOUTH STREET		ROSLINDALE			MARSH	FRESH
13FSDO97	1306640007	SOUTH STREET		ROSLINDALE			MARSH	FRESH
13LSDO090	1312640012	VICTORY RD. 200 FT SOUTH	13L090	DORCHESTER	144X180		DORCHESTER BAY	MARINE
14CSDO9	1403640001	EASEMENT/WESTGATE RD	14C009	WEST ROXBURY	36		UNNAMED WETLANDS	FRESH
15FSDO288	1506640002	ARNOLD ARBORETUM/MURRAY CIRCLE	15F288	JAMAICA PLAIN	54		GOLDSMITH BROOK	FRESH
15LSDO088	1512640010	FREEPORT WAY EXTENDED	15L088/089	DORCHESTER	2-78"		DORCHESTER BAY	MARINE
15LSDO089	1512640011	FOX POINT RD EXTENDED	15L088/089	DORCHESTER	2-90X82"		DORCHESTER BAY	MARINE
16LSDO097	1612640001	EASEMENT/OFF SAVIN HILL AVE	16L097	DORCHESTER	24		PATTEN'S COVE	MARINE
16LSDO122	1612640002	MORRISSEY BLVD	UNMAPPED	DORCHESTER	two 108X96		DORCHESTER BAY	MARINE

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17FSDO12	1706640001	FRANCIS PARKMAN DRIVE	17F012	JAMAICA PLAIN	15		JAMAICA POND	FRESH
17MSDO33	1713640001	HARBOR POINT PARK (RELOCATED MT VERNON ST DRAIN)	17M033	DORCHESTER	72		OLD HARBOR	MARINE
18GSDO233	1807640002	X-COUNTRY BTN WILLOW POND RD AND JAMAICAWAY	18G233	JAMAICA PLAIN	18		MUDDY RIVER-LEVERETT POND	FRESH
19GSDO043	1907640001	HUNTINGTON AVE	19G043	ROXBURY/MISSION HILL	45X45		MUDDY RIVER	FRESH
19GSDO194	1907640002	SOUTH HUNTINGTON AVE	19G194	ROXBURY/MISSION HILL	24		MUDDY RIVER	FRESH
19GSDO199	1907640003	JAMAICA WAY	19G199	ROXBURY/MISSION HILL	10		MUDDY RIVER	FRESH
20GSDO161	2007640002	EASEMENT/BROOKLINE AVE	20G161	ROXBURY/MISSION HILL	36		MUDDY RIVER	FRESH
20GSDO163	2007640001	EASEMENT/RIVERWAY	20G163	ROXBURY/MISSION HILL	20		MUDDY RIVER	FRESH
20GSDO164	2007640005	BROOKLINE AVE		ROXBURY/MISSION HILL			MUDDY RIVER	FRESH
21CSDO212	2103640001	EASEMENT/LAKE SHORE ROAD	21C212	ALLSTON/BRIGHTON	30		CHANDLER POND	FRESH
21HSDO001	2108640009	BROOKLINE AVE AT RIVERWAY		BOSTON PROPER	45		Charles River; Muddy River	Fresh
21HSDO002	2108640010	BROOKLINE AVE AT RIVERWAY		BOSTON PROPER	51 x 51		Charles River; Muddy River	Fresh
21HSDO045	2108640003	PARK DRIVE	21H045	BOSTON PROPER			MUDDY RIVER	FRESH
21HSDO047 (2	2108640006 (	PALACE ROAD EXT	21H047	BOSTON PROPER	24		MUDDY RIVER	FRESH
21HSDO048	2108640004	EASEMENT/FENWAY/EVANS WAY	21H048	BOSTON PROPER	15		MUDDY RIVER	FRESH
21KSDO069	2111640007	125' NORTH OF W.FOURTH STREET (RELOCATED BY CA/T)	21K069	BOSTON PROPER	48		FORT POINT CHANNEL	MARINE
21MSDO010	2113640007	D STREET EXTENDED	21M010	SOUTH BOSTON	30		RESERVED CHANNEL	MARINE
21MSDO50	2113640008	SUMMER STREET	21M050	SOUTH BOSTON	72	1/21M25	RESERVED CHANNEL	MARINE
22CSDO384	2203640001	EASEMENT/LAKE SHORE RD	22C384	ALLSTON/BRIGHTON	36		CHANDLER POND	FRESH
22LSDO580	2212640002	NECCO STREET EXTENDED	22L580	SOUTH BOSTON	54		FORT POINT CHANNEL	MARINE
23GSDO132	2307640002	EASEMENT/MASS TURNPIKE/WEST OF BU BRIDGE	23G132	ALLSTON/BRIGHTON	60		CHARLES RIVER	FRESH
23HSDO040	2308640004	RALEIGH STREET EXT	23H040	BOSTON PROPER	24		CHARLES RIVER	FRESH
23HSDO042	2308640002	DEERFIELD ST	23H042	BOSTON PROPER	116X120		CHARLES RIVER	FRESH
23LSDO15	2312640010	NORTHERN AVE	23L015	SOUTH BOSTON	24		BOSTON INNER HARBOR	MARINE
23LSDO074	2312640006	SUMMER ST BRIDGE	23L074	SOUTH BOSTON	15		FORT POINT CHANNEL	MARINE
23LSDO075	2312640004	CONGRESS ST BRIDGE	23L075	SOUTH BOSTON	54		FORT POINT CHANNEL	MARINE
23LSDO164	2312640013	CONGRESS ST BRIDGE	23L164	BOSTON PROPER	48	1 / 23L164 IN CHANNEL WA	FORT POINT CHANNEL	MARINE
23LSDO195	2312640007	NORTHERN AVE	23L195	SOUTH BOSTON	36		BOSTON INNER HARBOR	MARINE
23LSDO196	2312640002	NEW NORTHERN AVE BRIDGE	23L196	SOUTH BOSTON	36		FORT POINT CHANNEL	MARINE
23LSDO202	2312640008	NORTHERN AVE	23L202	SOUTH BOSTON	36		BOSTON INNER HARBOR	MARINE
24CSDO039	2403640003	MASSACHUSETTS TURNPIKE	24CMH014	BRIGHTON			CHARLES RIVER	FRESH
24CSDO174	2403640002	EASEMENT/NEWTON STREET	24C174	ALLSTON/BRIGHTON	24		CHARLES RIVER	FRESH
24DSDO032	2404640004	N OF BEACON ST, ABOUT 800' E OF PARSONS ST	24D032	ALLSTON/BRIGHTON	119X130	1 / 24D032-18	CHARLES RIVER	FRESH
24DSDO150	2404640003	SOLDIERS FIELD PLACE	24D150	ALLSTON/BRIGHTON	36		CHARLES RIVER	FRESH
24GSDO034	2407640003	SOLDIERS FIELD ROAD, S OF CAMBRDIGE ST	24G034	ALLSTON/BRIGHTON	36	1 / 24G034-1	CHARLES RIVER	FRESH
24GSDO035	2407640002	SOLDIERS FIELD ROAD/BABCOCK ST	24G035	ALLSTON/BRIGHTON	90X84		CHARLES RIVER	FRESH
24LSDO22	2412640005	COURTHOUSE WAY		BOSTON PROPER			BOSTON HARBOR	MARINE
24LSDO233	2412640004	ROWE'S WHARF/ATLANTIC AVE	24L233	BOSTON PROPER	42		BOSTON HARBOR	MARINE
25DSDO040	2504640001	ABOUT 390' N OF INTERSECTION OF SOLDIERS FIELD RD & WESTERN ,	25D040	ALLSTON/BRIGHTON	36		CHARLES RIVER	FRESH
25ESDO037	2505640001	EASEMENT/TELFORD ST	25E037	ALLSTON/BRIGHTON	66		CHARLES RIVER	FRESH

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25GSDO041	2507640001	SOLDIERS FIELD RD/NORTH OF WESTERN AVE BRIDGE	25G041	ALLSTON/BRIGHTON	24		CHARLES RIVER	FRESH
25LSDO058	2512640003	CHRISTOPHER COLUMBUS PARK-WATERFRONT	25L058	BOSTON PROPER	84		BOSTON INNER HARBOR	MARINE
25LSDO144	2512640001	CLARK STREET	25L144	BOSTON PROPER	12		BOSTON INNER HARBOR	MARINE
25MCSO005	2513640001	Porzio Park II	25MCSO005DR	EAST BOSTON	24" x 27"		Inner Harbor- Lower	Marine
25MSDO006	2513640002	MARGINAL ST	UNMAPPED	EAST BOSTON			BOSTON HARBOR	MARINE
25MSDO007	2513640005	MARGINAL ST	UNMAPPED	EAST BOSTON			BOSTON HARBOR	MARINE
26FSDO038	2606640001	HARVARD ST EXT	26F038	ALLSTON/BRIGHTON	36		CHARLES RIVER	FRESH
26GSDO01	2607640001	SOLDIERS FIELD ROAD/EAST OF HARVARD UNIVERSITY	26G001	ALLSTON/BRIGHTON	36		CHARLES RIVER	FRESH
26JSDO049	2610640008	NASHUA ST	UNMAPPED	BOSTON PROPER	60		CHARLES RIVER	MARINE
26JSDO052	2610640003	MONSIGNOR O'BRIEN HWY	26J052	BOSTON PROPER	12		CHARLES RIVER	FRESH
26JSDO101	2610640007	LEVERETT CIRCLE	26J055	BOSTON PROPER	36		CHARLES RIVER	MARINE
26KSDO35	2611640019	BEVERLY STREET NEAR WARREN BRIDGE	26K035	BOSTON PROPER	48x72		CHARLES RIVER	MARINE
26KSDO050	2611640023	NASHUA ST		BOSTON PROPER	36		CHARLES RIVER	MARINE
26KCSO052	2611640009	COMMERCIAL STREET AT CHARTER ST		BOSTON PROPER	16x24?		CHARLES RIVER	MARINE
26KSDO099	2611640003	CHELSEA ST EXT (JOINER ST)	26K099	CHARLESTOWN	84		CHARLES RIVER	MARINE
26KSDO254	2611640005	EASEMENT		CHARLESTOWN	36		CHARLES RIVER	MARINE
26LSDO70	2612640007	HANOVER STREET EXT	26L070	BOSTON PROPER	36		BOSTON INNER HARBOR	MARINE
26LSDO084	2612640006	LEWIS STREET	26L084	EAST BOSTON	18		BOSTON INNER HARBOR	MARINE
26LSDO106	2612640009	NEAR BATTERY WHARF	26L055	BOSTON PROPER	24x24		BOSTON INNER HARBOR	MARINE
26LSDO109	2612640012	CLIPPER SHIP LANE	27LCSO009	EAST BOSTON			BOSTON INNER HARBOR	MARINE
27JSDO001	2710640005	EASEMENT/INTERSTATE 93	27J001	CHARLESTOWN	72		MILLERS RIVER	MARINE
27JSDO044	2710640001	PRISON POINT BRIDGE	27J044	CHARLESTOWN	15		MILLERS RIVER	MARINE
27LSDO020/2	2712640003/1	PIER 4 EASEMENT - NAVY YARD	27L020/22	CHARLESTOWN	20&24	1 / 27K020-1	BOSTON INNER HARBOR	MARINE
28KSDO010	2811640002	OLD LANDING WAY EXT	28K010	CHARLESTOWN	42	1 / 28K058	LITTLE MYSTIC CHANNEL	MARINE
28KSDO61	2811640001	EASEMENT/MEDFORD ST	28K061	CHARLESTOWN	42	1 / 28K062	LITTLE MYSTIC CHANNEL	MARINE
28KSDO386	2811640003	EASEMENT/TERMINAL ST	28K386	CHARLESTOWN	30	1 / 28K385	LITTLE MYSTIC CHANNEL	MARINE
28LSDO073	2812640001	EASEMENT/4TH ST - NAVY YARD	28L073	CHARLESTOWN	6		LITTLE MYSTIC CHANNEL	MARINE
28LSDO074/2	2812640002/1	16TH ST/4TH AVE - NAVY YARD	28L074/076	CHARLESTOWN	three 30		LITTLE MYSTIC CHANNEL	MARINE
28LSDO077	2812640005	EASEMENT/4TH ST - NAVY YARD	28L077	CHARLESTOWN	10		LITTLE MYSTIC CHANNEL	MARINE
28NSDO156	2814640001	COLERIDGE ST EXT	28N156	EAST BOSTON	12		BOSTON HARBOR	MARINE
28NSDO207	2814640003	MOORE ST	28N207	EAST BOSTON	54X57		BOSTON HARBOR	MARINE
28OSDO25	2815640001	COLERIDGE/WADSWORTH ST. EXT	28O025	EAST BOSTON	30		BOSTON HARBOR	MARINE
28PSDO1	2816640001	EASEMENT/NANCIA STREET	28P001	EAST BOSTON	12		BOSTON HARBOR NEAR CONSTITUTION BEA	MARINE
29JSDO029	2910640003	ALFORD STREET/RYAN PLGD. EXT	29J029	CHARLESTOWN	15		MYSTIC RIVER	MARINE
29JSDO129	2910640002	ALFORD STREET	29J129	CHARLESTOWN	15		MYSTIC RIVER	MARINE
29JSDO212	2910640005	EASEMENT/MEDFORD ST(NEXT TO CSO 017)	29J212	CHARLESTOWN	72		MYSTIC RIVER	MARINE
29MSDO049	2913640004	CONDOR STREET	29M049	EAST BOSTON	48		CHELSEA RIVER	MARINE
29NSDO015	2914640001	CHELSEA STREET	29N015	EAST BOSTON	42X44.5	1 / 015-1	CHELSEA RIVER	MARINE
29NSDO135	2914640003	ADDISON ST	29N135	EAST BOSTON	30X30		CHELSEA RIVER	MARINE
29OSDO001	2915640001	BENNINGTON ST (CONSTITUTION BEACH)	29O001	EAST BOSTON	66	1 / 29O062	BOSTON HARBOR NEAR CONSTITUTION BEA	MARINE

Appendix B
Table B-1
2024 Outfall Screening and Sampling
List of Approved Storm Drain Outfalls - Dry Weather
Updated 2/26/2024

OUTFALL FACILITY ID	OUTFALL FEATURE ID	STREET LOCATION	DRAINAGE AREA	NEIGHBORHOOD	SIZE (INCHES)	TIDEGATES	RECEIVING WATER	Fresh/ Marine
29PSDO005	2916640008	BELLE ISLE MARSH (SARATOGA ST)		EAST BOSTON			BELLE ISLE INLET	MARINE
29PSDO44	2916640002	SHAWSHEEN ST	29P044	EAST BOSTON	12		BOSTON HARBOR	MARINE
30JSDO6	3010640001	EASEMENT/ALFORD ST	30J006	CHARLESTOWN	18		MYSTIC RIVER	MARINE
30JSDO19	3010640002	ALFORD ST	30J019	CHARLESTOWN	15		MYSTIC RIVER	MARINE
30JSDO30	3010640003	EASEMENT/ARLINGTON AVE	30J030	CHARLESTOWN	42	1/NOT MAPPED	MYSTIC RIVER	MARINE
30PSDO62	3016640002	PALERMO AVE EXT	30P062	EAST BOSTON	12		WETLANDS	MARINE
30PSDO107	3016640001	WALDEMAR AVENUE	30P107	EAST BOSTON	15		WETLANDS	MARINE
31OSDO4	3115640001	EASEMENT/WALDEMAR AVE	31O004	EAST BOSTON	15		CHELSEA RIVER	MARINE
31PSDO84	3116640001	EASEMENT/BENNINGTON ST	31P084	EAST BOSTON	30		BELLE ISLE INLET, REVERE	MARINE

Appendix B
Table B-2
2024 Outfall Screening and Sampling
List of Approved Interconnections - Dry Weather
UDATED 10/23/2024

Manhole 6 Digit ID	Manhole Facility ID	Manhole Feature ID	Street Location	Drainage Area	Outfall No.	Neighborhood	Size (inches) of largest pipe inlet	Receiving Water	Fresh/ Marine	Commission Comments
02F120	2FMH120	206660110	Neponset Valley Parkway		DCR 02F099	Hyde Park	15	DCR Drain to Neponset	Fresh	Discharges to DCR Outfall 02F099
03F056	3FMH56	306660073	Wakefield Avenue		DCR 03F159	Hyde Park	15	DCR Drain to Neponset	Fresh	Discharges to DCR Outfall 03F159. This drain actually connects to outfall 3F159 which is a DCR drain.
04F090	4FMH90	406660171	Faraday Street	04F191	DCR 03F162	Hyde Park	21	DCR Drain to Neponset	Fresh	Discharges to DCR Outfall 03F162. The drain from Faraday Street connects to a DCR owned drain on Truman Highway, which runs south and connects to a DCR drain running across the tennis courts to outfall 03F162.
06C117	6CMH117	603660086	Washington Street near Meshaka Street			West Roxbury	12	Dedham Drains	Fresh	Drains to Dedham
06D097	6DMH97	604660108	Easement/Edgemere Road	06D097		West Roxbury	51	Dedham Drains	Fresh	Drains to Dedham
11B049	11BMH49	1102660014	VFW Pkwy @ Glenham Street		DCR 11B028	West Roxbury	15	DCR Drain to Charles	Fresh	Discharges to DCR Outfall 11B028
12L304	12LMH304	1212660005	Tenean Street	13L137		Dorchester	30	DCR Drain to Dorchester Bay	Marine	Discharges to DCR drain
12L374	12LMH374	1212660256	Conley Street	12L296	MDOT 12L296	Dorchester	36	DOT Drain to Dorchester Bay	Marine	Discharges to MDOT Outfall 12L296
14E036	14EMH36	1405660029	Payson Road @ Hackensack Road			West Roxbury	12	Brookline Drains	Fresh	Drains to Brookline
20D019	20DMH19	2004660109	Prendergast Ave (BC/Chestnut Hill)	20DMH019		Brighton	77 x 84	Brookline Drains	Fresh	Drains to Brookline
20D062	20DMH62	2004660026	Kilsyth at Englewood	20DMH055		Brighton	12	Brookline Drains	Fresh	Drains to Brookline
NA	20DNP140		42 Strathmore Road	21DMH055		Brighton	36	Brookline Drains to Village Brook	Fresh	Drains to Brookline. Near 42 Strathmore Rd; replaced 21DMH055
21D319	21DMH319	2104660307	Village Brook-Kilsyth	21DMH319		Brighton	20x30	Brookline Drains to Village Brook	Fresh	Drains to Brookline
21E064	21EMH64	2105660048	Tannery Brook	21EMH064		Brighton	24	Brookline Drains to Tannery Brook	Fresh	Drains to Brookline
21E086	21EMH86	2105660076	Village Brook-Cummings	21EMH086		Brighton	15	Brookline Drains to Village Brook	Fresh	Drains to Brookline
23B089	23BMH89	2302660010	Hunnewell Avenue	23BMH089		Brighton	18	Newton Drains	Fresh	Drains to Newton
23H080	23HMH80	2308660076	Beacon Street		23I019	Back Bay	12	DCR Drain to Muddy River	Fresh	Drains to Muddy River DCR outfall
28I015	28IMH15	2809660012	Roland Street			Charlestown	12	Somerville Drains	Fresh	Drains to Somerville

Appendix B
Table B-3
2024 Outfall Screening and Sampling
List of Approved Combined Sewer Overflow (CSO) Outfalls - Dry Weather

Outfall Facility ID	Outfall Feature ID	BOS ID	Street Location	Neighborhood	Size (inches)	Receiving Water	Class	Fresh/ Marine
18LCSO086	1812640006	BOS 086	Carson Beach	South Boston		Dorchester Bay-North	SB	Marine
19LCSO084	1912640001	BOS 084	Carson Beach	South Boston		Dorchester Bay-North	SB	Marine
19LCSO085	1912640002	BOS 085	Carson Beach	South Boston		Dorchester Bay-North	SB	Marine
19MCSO082	1913640001	BOS 082	M Street Beach	South Boston		Dorchester Bay-North	SB	Marine
19NCSO081	1914640001	BOS 081	Farragut Rd at Columbia Rd	South Boston		Dorchester Bay-North	SB	Marine
21KCSO070	2111640004	BOS 070	West Fourth St	South Boston	240" x 186	Inner Harbor-Fort Point Channel	SB-CSO	Marine
21LCSO076	2112640001	BOS 076	Pappas Way	South Boston	72"	Inner Harbor- Reserve Channel	SB-CSO	Marine
21MCSO078	2113640004	BOS 078	East 1st St at I St	South Boston	36" x 42"	Inner Harbor- Reserve Channel	SB-CSO	Marine
21MCSO079	2113640003	BOS 079	Summer St Bridge	South Boston	60"	Inner Harbor- Reserve Channel	SB-CSO	Marine
21NCSO80	2114640002	BOS 080	Conley Marine Terminal	South Boston	72" x 72"	Inner Harbor- Reserve Channel	SB-CSO	Marine
22KCSO065	2211640001	BOS 065	Dorchester Ave	Central	81" x 81"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
22KCSO068	2211640007	BOS 068	Fort Point Channel North of Broadway Bridge	Central	72"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
22KCSO072	2211640008	BOS 072	Dorchester Ave	South Boston	60"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
22LCSO073	2212640004	BOS 073	Binford Street Park	South Boston	72"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
23LCSO062	2312640001	BOS 062	New Northern Ave	Central	72" x 54"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
23LCSO064	2312640005	BOS 064	Summer St	Central	60"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
24LCSO060	2412640002	BOS 060	Aquarium	Central	72" x 72"	Inner Harbor-Upper	SB-CSO	Marine
24NCSO003	2414640001	BOS 003	Harborside Dr	East Boston	144" x 120	Inner Harbor- Lower	SB-CSO	Marine
25LCSO057	2512640004	BOS 057	Eastern Ave	Central	96"	Inner Harbor-Upper	SB-CSO	Marine
25NCSO004	2514640001	BOS 004	Tomahawk Dr	East Boston	51"	Inner Harbor- Lower	SB-CSO	Marine
26LCSO009	2612640001	BOS 009	LoPresti Park	East Boston	36"	Inner Harbor-Upper	SB-CSO	Marine
27LCSO010	2712640001	BOS 010	Border St at Decatur St	East Boston	60"	Inner Harbor-Upper	B-CSO	Marine
28LCSO012	2812660067	BOS 012	Umana Schoolyard	East Boston	54" x 36"	Inner Harbor-Upper	SB-CSO	Marine
28LCSO019	2812640008	BOS 019	Mystic River Bridge	Charlestown	36" x 40"	Inner Harbor-Upper	SB-CSO	Marine
29JCSO017	2910640004	BOS 017	Schraffts Center Harborwalk	Charlestown	63"	Inner Harbor-Mystic/Chelsea	SB-CSO	Marine
29MCSO013	2913640001	BOS 013	Andrew P McArdle Bridge	East Boston	24"	Inner Harbor-Mystic/Chelsea	SB-CSO	Marine
29NCSO014	2914640002	BOS 014	E Eagle St	East Boston	48" x 60"	Inner Harbor-Mystic/Chelsea	SB-CSO	Marine
21HCSO046-1	2108640002	BOS 046	Fens Gate House (drains stony brook); Three locations approved include 15GMH290, 19HMH222, and 23IMH1	Fenway		Muddy River	B-CSO	Fresh

Note: There are 30 CSO Outfalls in the Commission's NPDES Permit. However, CSO 19MCSO083 has been eliminated, therefore it is no longer screened and CSO 25MCSO005 has been separated and is now screened as an SDO.

APPENDIX C

Recommendations for Locations with Standing Water

Appendix C
Table C-1
2021 Dry Weather Screening
Recommendations for Locations Historically Unable to Sample due to Standing Water

Recommendation	Outfall ID	Comments
CCTV	6DSDO184	Upstream features have never been located; mapping is likely incorrect. Attempt to CCTV from the outfall upstream to locate upstream structures.
Clean	28IMH15	Standing water all the way up to the starter
	6DSDO91	Small catchment with just a couple of catch basins that always have standing water
Continue Upstream	11BSDO123	Outfall always 100% submerged, upstream MHs also have standing water. Attempt to locate/check 11BMH73 on the East side of VFW Parkway (this may be the most downstream manhole owned by BWSC anyway).
	25ESDO037	Standing water upstream to 25EMH131. If we continue further upstream the system branches off so it will require multiple samples. Possibly at Western Ave MHs 25EMH222 and 25EMH129.
	5FSDO245	Standing water observed up to 5FMH210. Could continue further but will have to collect multiple samples. Possibly at west inlet to 5FMH210 and also upstream along Hyde Park Ave.
Coordinate with MassDOT to see if they have better mapping of this area and to confirm ownership	27JSDO001	Standing water observed up to 27JMH17, and the system has already branched at this point so it would require multiple samples if we continue further upstream. Note - SDE was able to sample during wet weather a few times. Mapping is not good, and DOT may own portions of this catchment area.
	27JSDO096	Standing water observed up to 27JMH94 which has 4 inlets, so it would require multiple samples if we continue upstream. Mapping is not good, and DOT may own portions of this catchment area.

Note: This table contains outfall and interconnections that could not be sampled during dry weather due to standing water or being submerged between 2016 and 2020.

APPENDIX D

Outfall Screening Form (Blank)

Boston Water and Sewer Commission

OUTFALL SCREENING LOG

FACILITY ID

CITYWIDE ILLEGAL CONNECTION INVESTIGATION PROGRAM, PHASE 5

INSPECTION DATE:

STREET LOCATION:

FEATURE ID:

RECEIVING WATER:

OUTFALL FIELD SCREENING PROGRAM

CONDITION ASSESSMENT

Inspector Company:

Inspector(s):

Needs to Be Repaired:

Needs to Be Cleaned:

Pipe Material:

Other:

Pipe Shape:

Other:

Bar Screen-Needs to Be Cleared:

Bar Screen-Broken/Missing/Deteriorated:

Head wall-Corrode/Pitted/Spalled:

Pipe End-Debris/Deposition:

Pipe End-Broken/Collapsed:

Rip-Rap/Channel or Basin-Debris/Deposition:

Rip-Rap/Channel or Basin-Broken/Missing:

Tide Gate-Broken/Missing:

Comments:

PHOTOS

Report Date:

SCREENING AND SAMPLING

GENERAL INFORMATION:

Inspection Type:
Weather:
Air Temp:
Tidal Impact:
Time of Inspection:
Time Since Last Rain:
Qty of Rain Last 24 hours:
If Tidal, Time of Closest Low Tide:

VISUAL OBSERVATIONS AT OUTFALL:

Outfall Located:
Outfall Accessible:
Outfall Sign:
Is there Flow:
If Flow, Velocity:
Submerged:
Sampling Location:
Approx. Sediment Depth:
Approx. Depth Water and Sediment:
Odor:
Other:
Color:
Other:
Turbidity:
Floatables:
Other:
Deposit/Stain:
Other:

FIELD ANALYSIS INFORMATION:

Were Samples Collected:
If No, Reason:
Other Reason No Sample:
pH:
Ammonia:
Temperature:
Surfactants:
Specific Conductivity:
Salinity:
Total Residual Chlorine:
Orthophosphate:

LAB ANALYSIS INFORMATION:

Bacteria Type:
Bacteria Result:
(CFU/100mL)
Bacteria Duplicate Sample Collected:
Bacteria Duplicate Sample Collected Results:
(CFU/100mL)
Total Phosphorous:
mg/L
Phosphorus Duplicate Sample Collected:
Phosphorus Duplicate Sample Collected Results:
mg/L

COMMENTS:

Report Date:

APPENDIX E

SDE Health and Safety Plan
REVISED 2024

Table of Contents

1.0 General Safety

While in the office or out in the field, all SDE personnel are to refrain from using horseplay and distracting others. Horseplay, scuffling, distraction of fellow workers, throwing of objects, running, and practical jokes may lead to serious injuries. Possession, consumption, or being under the influence of alcohol or drugs is also prohibited during working hours.

- Site work should be performed during daylight hours whenever possible. Work conducted during hours of darkness require enough illumination intensity to read a newspaper without difficulty.
- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.

2.0 Personal Security and Crime Prevention

While conducting your work stay alert, become familiar with your surroundings, report any activity/circumstances that you feel is unusual and always stay in frequent contact with other project personnel. Use the following to help protect yourself from danger while in/out of your vehicle, working alone or in an unsafe area:

- Avoid working alone as much as possible.
- When working at night on the project, plan for extra precautions such as additional lighting, security, police presence or escorts when leaving the project.
- If you are a witness or the victim of a crime, an accident or suspicious/threatening circumstances, report it to the Police as soon as possible.
- Always lock your car doors while driving, and roll windows up far enough to keep anyone from reaching inside.
- At stop signs and lights keep the car in gear, windows rolled up, doors locked and stay alert.
- Travel well-lighted, busy streets. You can spare those extra minutes it may take to avoid an unsafe area.
- Keep your wallet/purse, laptop, and other valuable out of sight, even when you are driving in your locked car.
- Park in safe, well-lighted areas near your destination.
- Always let a project member know where you are and your destination if you must travel alone.
- Always lock your car, even for a short absence. And before unlocking your car, quickly check to make sure no one is hiding on your seats or floors of your vehicle.
- If your car should break down:

- Get off the roadway, out of the path of oncoming traffic, even if you have to drive on a flat tire. The tire is replaceable.

- Turn on your emergency flashers.

- If a motorist stops to render assistance, it is better to remain in the car, and ask them to get help.

3.0 Working Alone

Working alone may not be hazardous in itself, but the work conditions or tasks to be performed on a project site may affect a person's ability to safely perform the work alone or to receive assistance in the event of an emergency.

Personnel can be assigned to work alone only by their project manager, who must assess potential hazards and appropriate control measures.

Listed below are some examples, not all-inclusive, of workplace conditions that must be considered and impact the ability of the employee to safely work alone:

- Is the amount of time needed for the employee to complete the task reasonable, or will fatigue become a factor?

- Do tasks include handling and lifting materials; operating machinery or powered tools; maintaining electrical, pneumatic, or steam powered systems; or working with hazardous substances?

- Is access to the work area difficult, requiring working at heights, below ground, or in structures that are difficult to enter or exit?

- Does the work location present a risk of violence to the employee; require travel off public roads through desolate or steep terrain; or involve work at a remote location or over or near rivers, pools, or lakes?

- What are the environmental conditions, such as temperature extremes or weather conditions?

- Must the work be performed beyond normal business hours or on weekends or holidays?

- Is the person working alone able to communicate with another employee in the event of an emergency or are emergency services readily available?

Examples (not all-inclusive) of precautionary or control measures that can be used to address the conditions or hazards of working alone:

- Conducting a review of the work schedule to determine whether the task could be completed during a time when the employee does not have to work alone.

- Establishing a communication process that will reliably allow contact with the employee working alone, requires check-in at designated time intervals, includes response actions when communication is lost or check-in is not completed, and verifies the employee has returned to their base of operation after completing the task.

- Requiring supervisors to periodically visit and observe worksites where employees work alone.

- Issuing the proper personal protective equipment (PPE) to the employee and ensure it is maintained in acceptable condition.

- Ensuring emergency supplies are provided for employee to use in event of fire, injury/illness, or survival provisions when working in a remote area.

4.0 Personal Protective Equipment

- Long pants, safety shoes (steel toe with non-skid soles), and safety vests are to be worn at all work sites unless specifically instructed otherwise.
- Hard hats to be worn in all construction zones although none are anticipated to be encountered during this project.
- Latex gloves are to be used when handling bacteria samples.
- Pocket-size tracking devices that can act as a wearable panic button are available for use by all employees, at all times.

5.0 Cold Stress

- Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.
- Monitor the work conditions and adjust the work schedule as needed.

6.0 Heat Stress

- Drink 16 ounces of water before beginning work. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of or avoid consumption of coffee, carbohydrate-rich beverages, and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads (e.g., do not begin with extremely demanding activities).
- Conduct field activities in the early morning or evening and rotate shifts of workers, if possible.
- Avoid direct sun whenever possible, which can decrease physical efficiency and increase the probability of heat stress. Take regular breaks in a cool, shaded area.

7.0 Roadway Work Safety

Work along/in roadways must be done according to local/state/federal requirements.
The following precautions must be taken when working around traffic:

- Exercise caution when exiting traveled way or parking along street – avoid sudden stops, use flashers, etc.
- Park in a manner that will allow for safe exit from vehicle, and where practicable, park vehicle so that it can serve as a barrier.
- All staff working adjacent to traveled way or within work area must wear the appropriate ANSI/ISEA 107-2004 high-visibility safety vests.
- Remain aware of factors that influence traffic related hazards and required controls – sun glare, rain, wind, flash flooding, limited sight-distance, hills, curves, guardrails, width of shoulder (i.e., breakdown lane), etc.

- Always remain aware of an escape route -- behind an established barrier, parked vehicle, guardrail, etc.
- Always pay attention to moving traffic – never assume drivers are looking out for you
- Work as far from traveled way as possible to avoid creating confusion for drivers.
- When workers must face away from traffic, a "buddy system" should be used, where one worker is looking towards traffic.
- Review traffic control devices to ensure that they are adequate to protect your work area. Traffic control devices should: 1) convey a clear meaning, 2) command respect of road users, and 3) give adequate time for proper traffic response. The adequacy of these devices are dependent on limited sight distance, proximity to ramps or intersections, restrictive width, duration of job, and traffic volume, speed, and proximity.

8.0 Driving Safety

- Abide by all traffic laws.
- Seat belts must be worn at all times.
- Although utilizing cell phones while driving is discouraged, hands-free cell phone devices may be used when necessary. The use of hand held cell phones are strictly prohibited while driving.
- Practice defensive driving. Defensive driving starts from the moment you get behind the wheel. Always be alert to the hazards around you, including changing weather. Driving defensively means taking every possible precaution to avoid an accident, despite the hazards around you.
- Inspect your vehicle before a trip. Make sure tires are properly inflated and loads are securely tied down.
- Eliminate or reduce hazards whenever possible. Make sure that no loose items are on the dashboard or by your feet, or that items are not piled to high on seats or floors.
- Keep a safe distance from the vehicle in front of you.
- Let problem drivers move ahead of you. Do not challenge them.
- Use extra caution when driving in the winter. Clear all snow and ice from the vehicle before driving, leave plenty of room for stopping, and drive slow.
- All vehicles must be equipped with basic emergency response and safety equipment including:
  - Potable water
  - First aid kit
  - Flashlight with extra batteries
  - Anti-bacterial wipes, gel, or solution
  - Minimal personal protective equipment necessary for work at the destination, appropriate for the expected exposures

9.0 Confined Space Awareness

SDE field staff has had training in confined space awareness. Although this project does not require confine space entry, the awareness training was completed in case of an emergency situation.

10.0 Slip and Fall Protection

- Portable ladder safety: always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step and always face the ladder while climbing. Ladders must be free of any slippery material on the rungs, steps or feet. Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement. An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support. Do not stand on the three top rungs of a straight, single or extension ladder. The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface. Be sure that all locks on an extension ladder are properly engaged.
- Wear shoes with non-slip soles and be particularly careful when walking on slick or icy surfaces during the winter. Extra care should also be taken to prevent slip and fall accidents when going on roofs and/or standing over open manholes.
- Employees walking in ditches, swales and other drainage structures adjacent to roads or across undeveloped land must use caution to prevent slips and falls which can result in twisted or sprained ankles, knees, and backs.
- Whenever possible observe the conditions from a flat surface and do not enter a steep ditch or side of a steep road bed.
- If steep terrain must be negotiated, sturdy shoes or boots that provide ankle support should be used. The need for ladders or ropes to provide stability should be evaluated.

11.0 Manual Lifting

- Proper lifting techniques must be used when lifting any object.
- Plan storage and staging to minimize lifting or carrying distances.
- Split heavy loads into smaller loads.
- Use mechanical lifting aids whenever possible.
- Have someone assist with the lift -- especially for heavy or awkward loads.
- Make sure the path of travel is clear prior to the lift.

12.0 Working Around Untreated Wastewater

When working around untreated wastewater, employees should exercise the following precautions:

- Do not eat or drink.
- Minimize contact with surfaces.
- Don’t touch eyes, ears, nose and mouth.

- Wash hands immediately upon leaving the site or going into office areas or vehicles. Ensure that adequate washing facilities are available for employees. For situations where hand washing facilities are not readily available, antibacterial hand gels can be used to prevent the spread of germs.
- If touching contaminated surfaces is unavoidable, wear surgical-type nitrile gloves. Carefully remove gloves by rolling them inside out, and wash hands immediately.
- Avoid shaking hands with other employees, and maintain a distance of approximately 3 feet during conversations to avoid spread of colds, flu and other contagious diseases.

13.0 Dog Safety

- Avoid all dogs – both leashed and stray.
- Don't disturb a dog while it is sleeping, eating, or caring for puppies.
- If a dog approaches to sniff you, stay still and do not reach out to the dog as it may be interpreted as an act of aggression.
- An aggressive dog has a tight mouth, flattened ears, and a direct stare.
- If you are threatened by a dog, remain calm, don't scream, and avoid direct eye contact.
- If you say anything, speak calmly and firmly.
- Don't turn and run. Try to stay still until the dog leaves, or back away slowly until the dog is out of sight or you have reached safety (e.g., vehicle, outside a gated/fenced area).
- If attacked, retreat to vehicle or attempt to place something between you and the dog.
- If you fall or are knocked to the ground, curl into a ball with your hands over your head and neck, and protect your face.
- If bitten, immediately scrub the bite site vigorously with soap and water, seek medical attention as soon as possible, and report the incident to the local authorities.

14.0 Emergency Contacts

Medical Emergency	911		
Fire/Spill Emergency	911	Boston FD	617-343-3550
Security and Police	911	Boston PD	617-343-4200
Utilities Emergency			
Water/Sewer		BWSC	671-989-7800
Gas		NSTAR Gas	800-592-2000
Electric		NSTAR Electric	800-592-2000

15.0 Hospital Contact Information and Directions

Hospital Name/Address: Boston Medical Center
One Boston Medical Center Place
Boston, MA 02118

Hospital Phone #: 617-638-8000

Directions to the Hospital

Access by Car

From the North:
1. Follow Route 1 (Via Mystic/ Tobin Bridge) to Route 93 South.
2. Take Exit 18 (Mass Ave).
3. At traffic light, take right onto access road; stay in right lane.
4. At end of access road, turn right onto Massachusettes Ave.

For directions to your BUMC/BMC destination, please follow signs.

From the South:
1. Take Expressway North (Route 93/3).
2. Take Exit 18.
3. At the third traffic light, take left onto access road stay in right lane.
4. At end of access road, turn right onto Massachusetts Ave.

For directions to your BUMC/BMC destination, please follow signs.

From the West:
1. Take the Massachusetts Turnpike (Route 90) East to end.
2. Take Expressway South (Route 93).
3. Take Exit 18 (Mass Ave.).
4. At traffic light, take right onto access road; stay in the right lane.
5. At end of access road, turn right onto Massachusetts Ave.

For directions to your BUMC/BMC destination, please follow signs.

From Logan Airport:
1. Go through the Sumner Tunnel (Route 1A South) to Expressway South.
2. Take Expressway South (Route 93.)
3. Take Exit 18 (Mass Ave.)
4. At the traffic light, take right onto access road; stay in right lane.
5. At end of access road, turn right onto Massachusetts Ave.

Appendix II

Citywide Illegal Connection Investigation Program, Wet Weather Screening Protocols

Stantec

Citywide Illegal Connection Investigation, Phase 5 (CWI5)

Wet Weather Outfall Screening Protocols

To:	Amy Schofield Boston Water and Sewer Commission 980 Harrison Ave Boston, MA	From:	Jennifer Zoppo, PMP Stantec 226 Causeway Street 6th Floor, Boston, MA
File:	195150656	Last Revised Date:	January 20, 2023

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INTRODUCTION

The purpose of this document is to outline field procedures to perform wet weather screening and sampling of the Boston Water and Sewer Commission's (Commission's or BWSC's) storm drain outfalls (SDOs), combined sewer overflow outfalls (CSOs), and storm drain interconnections between the Commission and storm drains owned by other Municipal Separate Storm Sewer Systems (MS4s). This document was originally developed in 2012 under Phase 3 and has been revised numerous times as the program evolved, primarily capturing changes to the list of outfalls to be screened. Appendix A provides a history of revisions. A significant update was completed November of 2020. At that time the protocols were revised to capture changes to the sample collection and analysis procedures which have occurred over time, to address locations that have not been sampled in the past due to standing water, and to include an updated health and safety plan addressing impacts of COVID-19.

The goal of the wet weather field screening program is to collect a sample at all locations where flow was not observed during dry weather screening as well as locations where dry weather flow was below all Illicit Discharge Detection and Elimination (IDDE) thresholds as defined in paragraph 11 of Section VII Remedial Measures of Civil Action No. 10-10250-RGS, and determine if the wet weather flow is contaminated. Screening will consist of recording weather conditions, observing visual and olfactory characteristics of wet weather flow, and collecting samples to be analyzed for bacteria and other parameters as discussed below.

Stacey DePasquale Engineering, Inc. (SDE), as a subcontractor to Stantec, will perform the outfall screening field work. SDE has been completing wet weather outfall screening and sampling for the Commission since 2013 and is therefore familiar with each sampling location. The current (2023) list of approved storm drain outfalls (Table B-1), interconnections (Table B-2), and CSO outfalls (Table B-3) are included in Appendix B. The interconnection sampling locations will be storm drain manholes. Each year these lists are re-generated based on the Commission's previous year dry weather screening and sampling data.

Each outfall will be identified by its unique outfall Facility ID, and interconnections will be identified by their unique manhole Facility ID, as shown in Appendix B.

WEATHER AND TIDE MONITORING

SDE will continuously monitor (and keep records of) weather forecasts as a basis for determining when a period of acceptable wet weather exists in order to mobilize field crews to perform the wet weather screening. "Screening and Sampling" as described below may proceed under the following conditions, as stipulated in paragraph 13 of Section VII Remedial Measures of Civil Action No. 10-10250-RGS:

At least 0.25 inches of rainfall in the preceding 24 hours, or precipitation event sufficient to produce flow in an outfall

SDE will use the Commission's rain gauges to confirm that wet weather conditions have been met prior to mobilizing. For tidal locations, Screening and Sampling must be performed near low tide.

SCREENING AND SAMPLING

One day prior to screening and sampling visits, SDE will notify the laboratory and the courier of the schedule for the sampling day.

A two-person field crew will conduct the screening and sampling by visiting the location of each outfall or interconnection manhole. SDE may have multiple two-person crews working simultaneously in order to visit as many locations as possible during the most ideal wet weather conditions.

Where possible, the same screening location will be used each year for wet and dry weather screening. If the same location is not accessible, field crews will locate an alternate suitable screening site. The selected screening site will be as near the outfall as possible and free of standing water or back flow from the receiving water. It is anticipated that selected manholes in these cases will be no more than three manholes or 750 feet upstream outside of backflow or tidal influence. In any case where the sampling location for wet weather screening differs from the sampling location for dry weather screening, the reason for the change will be noted in the field form.

For locations that are submerged or have standing water present[1], SDE will inspect up to three manholes directly upgradient but no more than 750 feet from the outlet. SDE will note which of these locations also has

[1]The term "submerged" is typically used only for outfalls and means that the outfall opening is below the water level of the receiving water. The term "standing water" means there is water present at the invert which is not flowing, and at least a

standing water and then, at the first upstream accessible manhole location from the outfall free of standing water, perform the same data recording and sampling as described above. If all manholes inspected upstream of the outfall contain standing water, then a sample will not be collected. Outfalls that are unable to be sampled because they are submerged or have standing water must be reported to the Commission so that an alternate sampling location may be identified. Based on historical outfall screening data, a list of outfalls that are typically submerged or have standing water are provided in Appendix C with recommendations on how to proceed which include cleaning and CCTV. In the meantime, SDE should continue to visit these outfalls and attempt to identify a suitable sampling location.

If an upstream manhole is used for screening and sampling SDE will note if there is more than one inlet to the manhole as well as the flow characteristics from each pipe. It is important at CSO outfalls to collect a sample at a manhole downstream of the regulator. Sampling at CSO outfalls should be done prior to activation of the upstream CSO regulator(s) or during a precipitation event that does not cause any upstream CSO regulator(s) to activate. At the time of sample collection, SDE will check the upstream regulator(s) to confirm that they have not activated.

All observations and activities conducted at each screening location will be recorded on the screening and sampling form included in Appendix D. Forms will be completed electronically. Data will be exported to a spreadsheet and paper reports will also be generated and posted on the project SharePoint site on a weekly basis. The information recorded on the forms will include weather conditions during, and in the 24 hours prior to, each sampling event. At each location where flow is observed, an observation of flow characteristics will be recorded (odor, color, clarity, turbidity, deposits/stains). Samples will be collected for laboratory analysis of the wet-weather flow for either *E. coli* bacteria or *Enterococcus* bacteria. Tables provided in Appendix B designate each outfall and interconnection location as discharging to fresh or marine waters. Discharges to fresh water bodies shall be sampled for *E. coli* analysis, and those discharging to marine water bodies shall be sampled for *Enterococcus* analysis.

Analytical samples collected will be labeled, sealed, and stored in ice-filled coolers. Samples will be transferred to G&L Laboratories of Quincy, MA for analysis within six hours of sample collection. Completed chains of custody will accompany each shipment to the lab. It is estimated that between 6 and 12 samples will be collected per day for a single crew, depending on distance among outfall locations. All samples will be collected in accordance with the detailed sampling procedures below.

In addition to each analytical sample collected, the field crews will estimate the flow and collect a sample for on-site evaluation of the following parameters:

- Temperature,
- pH,
- Specific conductivity,
- Surfactants,
- Ammonia,
- Total Residual Chlorine,
- Salinity

portion of the outfall opening is above the water level of the receiving water. Standing water occurs at both outfalls and manholes but is more common at manholes.

SAMPLING PROCEDURES

The following procedure outlines, in detail, the steps to be taken during outfall and interconnection screening and sampling:

- Prior to the start of sampling, a trip blank sample must be prepared by filling a laboratory-provided sample container with clean bottled water (distilled or bottled drinking water is acceptable). This trip blank sample will be labeled and kept in a cooler with all samples collected that particular day.
- Upon arrival at the appropriate screening location, begin a new Screening and Sampling Form. Blank forms are included in Appendix D.
- Indicate whether the screening location is a storm drain outfall, combined sewer overflow outfall, or interconnection manhole.
- Record all pertinent observational information, including a general description of flow velocity, depth of water, appearance of water, etc. *Note: flow rate will not be calculated in the field during inspections because it would significantly slow down the inspection process. However, flow can be calculated after-the-fact based on information that SDE records in the field during inspections, including the estimated velocity, the diameter of the outfall, and the approximate depth of water.*
- If outfall sampling location is a manhole, complete information related to manhole appearance and condition.
- Record the time of sampling.
- Place a clean grab sampling container into the middle of the flow stream facing upstream. Retrieve the container after it has filled and swirl the contents to coat all inside surfaces with sample water. Dump the contents of the container away from or downstream of sampling location. Repeat this twice, so that sample container is fully rinsed with sample water three times.
- Using the same method, fill and retrieve the sample container a fourth time. Gently swirl container to maintain mixing of the grab sample.
- Open the sterile container for bacterial sampling. Use caution to handle only the outside of each sample container and to maintain sterile conditions during collection of bacterial samples. Fill sterile container with sample water and seal container. If duplicate samples are being collected at a particular location, they should be poured from the same container. The appropriate analysis will be conducted at sample locations as follows:
    - *E. coli* – freshwater discharge locations;
    - *Enterococcus* – marine discharge locations.
- Verify that the sample container is properly sealed and label each sample container with sample identifier, date, time, preservative type (ice only), and initials of sampling personnel. Duplicate samples shall be labeled with a “D” preceding the sample identifier. All information shall be also recorded on the field form.
- Place sample containers in ice-filled coolers until later transport to the lab takes place.
- Conduct on-site measurements of field parameters on remaining volume in sample container. If more volume is needed, a subsequent grab sample may be collected in the manner described for analytical sample collection.
    1. Test kits will be used for field measurements of surfactants, ammonia, and total residual chlorine as follows:

- Ammonia: CHEMetrics K-1510 or Hach Ammonia (Nitrogen) test strips
- Surfactants: CHEMetrics K-9400
- Total Residual Chlorine: CHEMetrics K-2504

2. Oakton PCTSTestr50, a portable meter, will be used for measurements of pH, salinity, temperature, and specific conductivity. (Note that instrumentation shall be checked and calibrated at least bi-weekly.)

- Gently swirl the container to maintain mixing.
- Use manufacture instructions to run the sample for the required field parameters.
- Record results and time of measurements on the field form.
- Clean and store meter during travel between sampling locations.
- For any reusable sampling equipment, decontamination shall be performed as follows:

1. Rinse equipment with a 70% isopropyl alcohol solution. Rinsate shall be collected in a bucket and disposed of properly.

2. Rinse equipment with distilled water.

- Note that samples must be transferred to G&L Laboratories within six-hours of sample collection, and samples must be analyzed within an **eight-hour holding time** from sample collection.
- Prior to transfer to the lab, a chain of custody shall be filled out and must accompany samples at all times. The person receiving samples at the lab must sign each chain of custody.

QUALITY ASSURANCE/QUALITY CONTROL

This Quality Assurance/Quality Control (QA/QC) section will establish the data quality objectives (DQOs) for the program, as follows:

- Data must be complete and of sufficient detail to assess water quality at each screening location.
- Data should represent actual conditions at the outfall outlet or interconnection manhole inlet.
- Data should be generated by accepted sampling methodologies.
- Data must be reproducible and accurate.

The screening and sampling program has been developed to encompass these DQOs as they pertain to characterizing the physical condition and water quality at each screening location. Sampling techniques selected were based upon past methods employed in the Boston Water and Sewer Commission's monitoring programs and upon standard industry practice. Field crew members from SDE have prior experience with sample methods and equipment usage. The methods proposed for field testing are standard methods, as stated in EPA guidance (EPA, 1986; 2002; 2014). In addition, G&L Laboratories is State and EPA certified to conduct the required analyses.

Table 1-1 lists the analytical methods to be used for each of the parameters to be tested.

Table 1-1: Analytical Methods to be used for Bacterial Analysis

Parameter	Analytical Method
E. coli	EPA 1603
Enterococcus	EPA1600

Measures employed to ensure that QA/QC DQOs are met are described as follows.

Precision

Precision is the ability to obtain reproducible results when analyzing duplicate samples. The overall sampling precision will be determined by the collection and analysis of field duplicate samples that are not identified as such to the analytical laboratory. Duplicate samples will be collected for the same analysis as the parent samples. They will be assigned an identical sample identifier, except for the addition of "D" preceding the identifier. Duplicate samples are to be collected at the frequency of one per twenty samples.

Because bacteria are living organisms that reproduce and die after sample collection, some degree of disparity between the duplicate sample and the original sample is expected and not necessarily reflective of sample collection or laboratory error.

Accuracy

Accuracy is the degree of difference between a reported value and its true value. As part of ensuring sufficient accuracy, minimization of false positive and false negative analytical data is attempted.

The potential for false positive data values will be assessed through the analysis of laboratory blanks, which must be less than the method detection limit (MDL) or instrument detection limit. Each batch of samples analyzed will be run with a laboratory blank.

Accuracy will also be assessed through the use of control samples of known composition. Laboratory control samples and calibration standards will be used by the laboratory, as needed.

Representativeness

Sample collection under this program is intended to provide data representative of actual conditions at particular screening locations. In order to ensure representativeness, outfall sample locations are selected as close to actual outfall outlets as possible. Where an outfall is unsuitable for sampling at its outlet due to inaccessibility, tidal inflows, or backwater effects, locations upstream may be selected with Commission approval only. However, since grab samples are only representative of a snapshot of water quality conditions at a given point in time, they may not be representative of long-term conditions. Data collected must be evaluated while recognizing this limitation.

In addition, samples collected must be representative of water quality at the location they were taken and not be influenced by cross-contamination from other samples collected the same day and stored in the same ice cooler. In order to ensure this, trip blank samples will be collected at the start of each day by filling a laboratory-provided container with clean bottled water. This filled container will be carried throughout the day in the same ice cooler with samples collected.

Sample Handling and Custody

All filled sample containers will be placed on ice immediately following sample collection. They shall then be transported to the lab, G&L Laboratories, within six hours for analysis within 8 hours. (Note that the holding time is applicable from time of sample collection to time of analysis.) A completed chain of custody must accompany each sample shipment to the lab, and sample custody will be tracked throughout the full analytical process in the lab. These forms will be included in the analytical report to Stantec. Table 1-2 lists required types of containers and preservation for each analysis to be performed.

Table 1-2: Requirements for Sample Holding

Parameter	Container Volume	Container Type	Preservative	Holding Time
E. coli	100 mL	Sterile plastic	Cooled to <10°C	8 hours
Enterococcus	100 mL	Sterile plastic	Cooled to <10°C	8 hours

Instrument/Equipment Testing, Inspection, and Maintenance

Testing, inspection, and maintenance will be performed for all instruments and equipment to be employed for the lab analyses to be conducted as part of this program, and such activities will be done in accordance with G&L Laboratories' quality procedures.

All field sampling equipment and instrumentation will be inspected on a regular basis, and preventative maintenance will be performed. Prior to mobilization to the field sites, equipment and instrumentation will be checked and calibrated in the office. Following each sampling event, all field equipment and instrumentation will be cleaned and stored properly.

Performance Audits and Corrective Actions

Periodic audits of the field program will be conducted by Stantec at the start of the screening and sampling activities and on a random basis to evaluate adherence to and appropriateness of QA/QC requirements in the field. If unacceptable conditions are noted, Stantec and SDE will initiate corrective actions together. These corrective actions may include:

- Re-analyzing samples (if holding times permit doing so);
- Re-sampling and subsequent analysis;
- Evaluating and amending sampling and analytical procedures;
- Accepting potentially flawed data with acknowledgement of uncertainty or inaccuracy by flagging of data and providing a qualifying explanation.

GENERAL FIELD REQUIREMENTS AND SAFETY

Any major blockages, collapses, or defects to the storm drainage system or sanitary sewer system (that may pose a public health and safety threat) observed during any field operations will be reported to the Commission within 48 hours.

Field crews are authorized to request a police detail for personal safety reasons at any time.

SDE's Health and Safety Plan is provided in Appendix E and has been updated to include COVID-19 protocols. The Commission does not require safety vests to be issued by the Commission, but crews must have safety vests and they must be worn in the field.

REFERENCES

US Environmental Protection Agency, September 2014. Method 1600: Enterococci in Water by Membrane Filtration Using membrane- Enterococcus Indoxyl- β-D-Glucoside Agar (mEI), EPA 821-R-14-011. US Environmental Protection Agency, Office of Water (4303T), Washington DC.

U.S. Environmental Protection Agency. September 2014. Method 1603: Escherichia coli (E. coli) in Water by Membrane Filtration Using Modified membrane-Thermotolerant Escherichia coli Agar (Modified mTEC). EPA-821-R-14-010. U.S. Environmental Protection Agency, Office of Water (4303T), Washington, DC.

EPA. 1986. Ambient Water Quality Criteria for Bacteria – 1986. January.

EPA. 2009. Urban Stormwater BMP Performance Monitoring. October 2009.

APPENDIX

Appendix A History of Revisions to Wet Weather Outfall Screening Protocols

Appendix B Locations Approved for Inspection *(to be updated annually)*

- Table B-1 Storm Drain Outfalls 2023
- Table B-2 Interconnection Manholes 2023
- Table B-3 Combined Sewer Overflow Outfalls 2023

Appendix C Table C-1 Recommendations for Locations with Standing Water

Appendix D Outfall Screening Form (Blank)

Appendix E SDE Health and Safety Plan (Updated 2022)

APPENDIX A

History of Revisions to Wet Weather Outfall Screening Protocols

APPENDIX A

History of Revisions to Wet Weather Outfall Screening Protocols

10/9/2020	CWI5 Kickoff Updates: • Stantec review of EPA Methods 1600 and 1603 revised 2014 (prior protocols based on 2002 versions). Revisions made accordingly, including update of sample holding time to clarify that samples must be delivered to the lab within 6 hours from the time of sample collection and analyzed by the lab within 8 hours from the time of sample collection. Also updated sample preservation temperature from 4 °C to <10 °C. • Updated field instrument and test kit manufacturer/model, and calibration frequency • Removed Appendix C, "Wet Weather Screening of CSOs Memorandum". No longer needed; SDE samples as close to the 0.25 inch wet threshold making sure that the rainfall intensity is not too high. • Additional information/guidance provided for locations that are consistently submerged or have standing water present during wet weather screening • Updated Outfall Screening Form • Added SDE Health and Safety Plan, including information about COVID safety measures
5/7/2020	9BSDO049 has been added to the 2020 list of outfalls to be screened for wet weather, in response to observations made by the Charles River Watershed Association.
2/21/2017	19MCSO083 has been abandoned and does not need to be screened anymore.
4/11/2014	Remove 7HSDO287 from the list because during 2013 dry weather screening SDE determined that this outfall is no longer active; the outlet from the upstream catch basin has been bricked and flows are directed to 7HSDO285.
3/13/2014	Replaced 26KSDO245 with 26KSDO254. It was determined that 26KSDO245 belongs to DCR.
2/19/2014	Updated the Facility ID and Feature ID for 25MCSO007, 26JCSO049, and 21NCSO80.
1/20/2014	Added outfall 24CSDO039 to replace interconnection 24CMH14, which was sampled in 2012 and 2013.
9/10/2013	Added 7HSDO287 to the list with screening not required per BWSC request. Also added a comment field to the SDO table and included 12BMH032 as the recommended manhole for sampling for 12BSDO033 and 12BSDO031.
9/5/2013	Updated protocols with new lists of SDOs, CSOs, and interconnections for 2013 wet weather screening

4/12/2013	Added CSO 19N081 to the approved CSO screening list. Updated Facility ID for 7CSDO006.
3/25/2013	Added CSOs to the approved outfall list and added the 3/5/2013 Wet Weather Screening of CSOs memorandum for reference.
3/5/2013	Added language regarding wet weather sample collection at CSO outfalls (SDE must check the upstream regulator(s) at the time of sampling to confirm that the regulator(s) have not activated).
2/13/2013	Table A-2 in Appendix A has been updated to change 28MMH15 to 28IMH15. Despite the label being incorrect, the correct manhole was sampled in the past.
2/12/2013	SDE was reminded to collect field duplicate samples in one container and then pour from the one container into two separate sample bottles. Prior to this field duplicates had been collected separately.
1/8/2013	Added Facility ID to the Tables in Appendix A
12/7/2012	Original document created

APPENDIX B

Locations Approved for Inspection

2024

Appendix B
Table B-1
2024 Outfall Screening and Sampling
List of Approved Storm Drain Outfalls - Wet Weather
Updated 2/27/2024

OUTFALL FACILITY ID	OUTFALL FEATURE ID	STREET LOCATION	DRAINAGE AREA	NEIGHBORHOOD	SIZE (INCHES)	TIDEGATES	RECEIVING WATER	Fresh/ Marine
1ESDO24	105640001	EASEMENT/LAKESIDE	01E024	HYDE PARK	15		SPRAGUE POND/NEPONSET RIVER	FRESH
1FSDO31	106640001	EASEMENT/MILLSTONE RD	01F031	HYDE PARK	48X24		NEPONSET RIVER	FRESH
2ESDO5	205640001	WEST MILTON STREET	02E086	HYDE PARK	24		UNAMED WETLANDS	FRESH
2FSDO85	206640005	LAWTON STREET	02F085	HYDE PARK	12		NEPONSET RIVER RESERVATION	FRESH
2FSDO93	206640003	EASEMENT/SIERRA RD	02F093	HYDE PARK	15		NEPONSET RIVER	FRESH
3ESDO186	305640002	RIVER STREET	03E186	HYDE PARK	24		MILL POND/MOTHER BROOK	FRESH
3ESDO207	305640001	RIVER STREET	NA	HYDE PARK	UNKNOWN		MILL POND/MOTHER BROOK	FRESH
4ESDO64	405640002	ALVARDO AVE/RIVER ST BRIDGE	04E064	HYDE PARK	12		MILL POND/MOTHER BROOK	FRESH
4FSDO1	406640010	RESERVATION RD		HYDE PARK			MOTHER BROOK/NEPONSET RIVER	FRESH
4FSDO16	406640003	EASEMENT RIVER ST	04F016	HYDE PARK	30		MOTHER BROOK/NEPONSET RIVER	FRESH
4FSDO118	406640005	MASON STREET EXT.	04F118	HYDE PARK	18		NEPONSET RIVER	FRESH
4FSDO119	406640009	EASEMENT/HYDE PARK AVE/RESERVATION RD	04F119	HYDE PARK	24		NEPONSET RIVER	FRESH
4FSDO189	406640001	RESERVATION RD	04F189	HYDE PARK	36		MOTHER BROOK/NEPONSET RIVER	FRESH
4FSDO203	406640004	GLENWOOD AVE	04F203	HYDE PARK	28		NEPONSET RIVER	FRESH
5CSDO110	503640001	EASEMENT/PLEASANTDALE ST EXT	06C110	WEST ROXBURY	60		CHARLES RIVER	FRESH
5ESDO180	505640002	GEORGETOWN DRIVE	05E180	HYDE PARK	12		NONE SHOWN/CHARLES RIVER	FRESH
5ESDO181	505640006	GEORGETOWN DRIVE	05E181	HYDE PARK	12		NONE SHOWN/CHARLES RIVER	FRESH
5ESDO182	505640005	DEDHAM STREET	05E182	HYDE PARK	21		UNNAMED STREAM/CHARLES RIVER	FRESH
5ESDO183	505640007	GEORGETOWN PLACE/DEDHAM ST	05E183	HYDE PARK	12		UNNAMED STREAM	FRESH
5ESDO184	505640008	TURTLE POND PARKWAY	05E184	HYDE PARK	21		UNAMED WETLANDS	FRESH
5FSDO244	506640008	HYDE PARK AVE BRIDGE	05F244	HYDE PARK	20		MOTHER BROOK/NEPONSET RIVER	FRESH
5FSDO245	506640007	HYDE PARK AVE	05F245	HYDE PARK	33		MOTHER BROOK/NEPONSET RIVER	FRESH
5FSDO254	506640004	DANA AVENUE	05F254	HYDE PARK	12		NEPONSET RIVER	FRESH
5GSDO112	507640002	EASEMENT/RR ROW/WATER ST EXT	05G112	HYDE PARK	30		NEPONSET RIVER	FRESH
5GSDO115	507640006	FAIRMOUNT AVE BRIDGE (NORTH BANK)	05G115	HYDE PARK	24		NEPONSET RIVER	FRESH
5GSDO116	507640007	FAIRMOUNT AVE BRIDGE (SOUTH BANK)	05G116	HYDE PARK	24		NEPONSET RIVER	FRESH
6DSDO83	604640007	MARGARETTA DRIVE	06D084	WEST ROXBURY	15		WETLANDS/CHARLES RIVER	FRESH
6DSDO84	604640008	EASEMENT/MARGARETTA DRIVE	06D083	WEST ROXBURY	12		WETLANDS/CHARLES RIVER	FRESH
6DSDO85	604640006	GEORGETOWN DRIVE	06D085	WEST ROXBURY	12		WETLANDS/CHARLES RIVER	FRESH
6DSDO86	604640005	GEORGETOWN DRIVE	06D086	WEST ROXBURY	10		WETLANDS/CHARLES RIVER	FRESH
6DSDO91	604640003	GEORGETOWN DRIVE	06D091	WEST ROXBURY	10		WETLANDS/CHARLES RIVER	FRESH
6FSDO233	606640001	MOUNT ASH ROAD	05F253	HYDE PARK	UNKNOWN		WETLAND - STONY BROOK RESERVATION	FRESH
6GSDO109	607640001	RIVER TER EXT, NEAR ROSA ST	06G109	HYDE PARK	48		NEPONSET RIVER	FRESH
6HSDO106	608640004	OSCEOLA STREET	06H106	HYDE PARK	24		NEPONSET RIVER	FRESH
6HSDO107	608640005	EASEMENT/BELNEL RD	06H107	HYDE PARK	24		NEPONSET RIVER	FRESH
7HSDO346	708640009	EDGEWATER DRIVE/HOLMFIELD AVE	07H346	HYDE PARK	18		NEPONSET RIVER	FRESH
7HSDO347	708640008	EDGEWATER DRIVE/BURMAH ROAD	07H347	NEPONSET/MATTAPAN	21		NEPONSET RIVER	FRESH
7HSDO348	708640007	EDGEWATER DRIVE/TOPALIAN STREET	07H348	NEPONSET/MATTAPAN	24		NEPONSET RIVER	FRESH
8BSDO126	802640003	SPRING STREET EXTENDED	08B126	WEST ROXBURY	30		CHARLES RIVER	FRESH

Appendix B
Table B-1
2024 Outfall Screening and Sampling
List of Approved Storm Drain Outfalls - Wet Weather
Updated 2/27/2024

OUTFALL FACILITY ID	OUTFALL FEATURE ID	STREET LOCATION	DRAINAGE AREA	NEIGHBORHOOD	SIZE (INCHES)	TIDEGATES	RECEIVING WATER	Fresh/ Marine
8ESDO33	805640003	TURTLE POND PARKWAY	08E033				TURTLE POND	FRESH
8FSDO1	806640001	SHERRIN STREET	NA	HYDE PARK	24		NONE SHOWN	FRESH
8ISDO153	809640001	DUXBURY ROAD	08I153	NEPONSET/MATTAPAN	15		NEPONSET RIVER	FRESH
8ISDO155	809640002	EASEMENT/RIVER ST/MAMELON CIR	08I155	NEPONSET/MATTAPAN	24		NEPONSET RIVER	FRESH
8ISDO207	809640008	MEADOWBANK AVE EXT	08I207	NEPONSET/MATTAPAN	15		NEPONSET RIVER	FRESH
8ISDO209	809640004	MEADOWBANK AVE EXT	08I209	NEPONSET/MATTAPAN	12		NEPONSET RIVER	FRESH
8JSDO41	810640003	RIVER STREET	08J036/041	DORCHESTER	18		NEPONSET RIVER	FRESH
8JSDO102	810640001	ADAMS STREET	08J102	DORCHESTER	15X15		NEPONSET RIVER	MARINE
8KSDO49	811640001	BEARSE AVENUE	08K049	DORCHESTER	12		NEPONSET RIVER	MARINE
9ESDO229	905640001	GRANDVIEW STREET	09E229	WEST ROXBURY	12		NONE SHOWN	FRESH
9ESDO243	905640002	BLUE LEDGE TR/EASEMENT	09E243	WEST ROXBURY	30		UNNAMED STREAM	FRESH
9KSDO16	911640003	EASEMENT/BEARSE AVE EXT	09K016	DORCHESTER	15		NEPONSET RIVER	MARINE
10BSDO15	1002640004	EASEMENT/CHARLES RIVER ROAD	10B015	WEST ROXBURY	21		COW ISLAND POND/CHARLES RIVER	FRESH
11BSDO123	1102640003	EASEMENT/EAST OF BAKER ST EXT.	11B123	WEST ROXBURY	72		BROOK FARM BROOK/CHARLES RIVER	FRESH
11GSDO344 (1	1107640002 (	CULVERT UNDER WALK HILL STREET	11G344	ROSLINDALE	18		CANTERBURY BROOK	FRESH
12BSDO10	1202640001	BAKER STREET	12B010	WEST ROXBURY	15		BROOK FARM BROOK	FRESH
12BSDO14	1202640003	BAKER STREET	12B014	WEST ROXBURY	12		BROOK FARM BROOK	FRESH
12HSDO1 (12H	1208640006 (	MORTON STREET	12H085	ROSLINDALE	15		CANTERBURY BROOK	FRESH
12HSDO1 (12H	1208640006 (	MORTON STREET	12H087	ROSLINDALE	15		CANTERBURY BROOK	FRESH
13ESDO174	1305640002	EASEMENT/VFW PARKWAY	13E174	ROSLINDALE	24		BUSSEY BROOK	FRESH
13FSDO95	1306640001	EASEMENT/BUSSEY STREET	13F095	ROSLINDALE	12		BUSSEY BROOK	FRESH
13FSDO96	1306640006	SOUTH STREET		ROSLINDALE			MARSH	FRESH
13FSDO97	1306640007	SOUTH STREET		ROSLINDALE			MARSH	FRESH
14CSDO9	1403640001	EASEMENT/WESTGATE RD	14C009	WEST ROXBURY	36		UNNAMED WETLANDS	FRESH
19GSDO199	1907640003	JAMAICA WAY	19G199	ROXBURY/MISSION HILL	10		MUDDY RIVER	FRESH
20GSDO163	2007640001	EASEMENT/RIVERWAY	20G163	ROXBURY/MISSION HILL	20		MUDDY RIVER	FRESH
20GSDO164	2007640005	BROOKLINE AVE		ROXBURY/MISSION HILL			MUDDY RIVER	FRESH
21HSDO002	2108640010	BROOKLINE AVE AT RIVERWAY		BOSTON PROPER	51 x 51		Charles River; Muddy River	Fresh
21HSDO048	2108640004	EASEMENT/FENWAY/EVANS WAY	21H048	BOSTON PROPER	15		MUDDY RIVER	FRESH
21KSDO069	2111640007	125' NORTH OF W.FOURTH STREET (RELOCATED BY CA/T)	21K069	BOSTON PROPER	48		FORT POINT CHANNEL	MARINE
22LSDO580	2212640002	NECCO STREET EXTENDED	22L580	SOUTH BOSTON	54		FORT POINT CHANNEL	MARINE
23HSDO042	2308640002	DEERFIELD ST	23H042	BOSTON PROPER	116X120		CHARLES RIVER	FRESH
23LSDO15	2312640010	NORTHERN AVE	23L015	SOUTH BOSTON	24		BOSTON INNER HARBOR	MARINE
23LSDO074	2312640006	SUMMER ST BRIDGE	23L074	SOUTH BOSTON	15		FORT POINT CHANNEL	MARINE
23LSDO196	2312640002	NEW NORTHERN AVE BRIDGE	23L196	SOUTH BOSTON	36		FORT POINT CHANNEL	MARINE
24DSDO032	2404640004	N OF BEACON ST, ABOUT 800' E OF PARSONS ST	24D032	ALLSTON/BRIGHTON	119X130	1 / 24D032-18	CHARLES RIVER	FRESH
24DSDO150	2404640003	SOLDIERS FIELD PLACE	24D150	ALLSTON/BRIGHTON	36		CHARLES RIVER	FRESH
24GSDO034	2407640003	SOLDIERS FIELD ROAD, S OF CAMBRDIGE ST	24G034	ALLSTON/BRIGHTON	36	1 / 24G034-1	CHARLES RIVER	FRESH
24GSDO035	2407640002	SOLDIERS FIELD ROAD/BABCOCK ST	24G035	ALLSTON/BRIGHTON	90X84		CHARLES RIVER	FRESH

Appendix B
Table B-1
2024 Outfall Screening and Sampling
List of Approved Storm Drain Outfalls - Wet Weather
Updated 2/27/2024

OUTFALL FACILITY ID	OUTFALL FEATURE ID	STREET LOCATION	DRAINAGE AREA	NEIGHBORHOOD	SIZE (INCHES)	TIDEGATES	RECEIVING WATER	Fresh/ Marine
25ESDO037	2505640001	EASEMENT/TELFORD ST	25E037	ALLSTON/BRIGHTON	66		CHARLES RIVER	FRESH
25MSDO007	2513640005	MARGINAL ST	UNMAPPED	EAST BOSTON			BOSTON HARBOR	MARINE
26FSDO038	2606640001	HARVARD ST EXT	26F038	ALLSTON/BRIGHTON	36		CHARLES RIVER	FRESH
26JSDO052	2610640003	MONSIGNOR O'BRIEN HWY	26J052	BOSTON PROPER	12		CHARLES RIVER	FRESH
26JSDO101	2610640007	LEVERETT CIRCLE	26J055	BOSTON PROPER	36		CHARLES RIVER	MARINE
26KSDO050	2611640023	NASHUA ST		BOSTON PROPER	36		CHARLES RIVER	MARINE
26KCSO052	2611640009	COMMERCIAL STREET AT CHARTER ST		BOSTON PROPER	16x24?		CHARLES RIVER	MARINE
27JSDO044	2710640001	PRISON POINT BRIDGE	27J044	CHARLESTOWN	15		MILLERS RIVER	MARINE
28LSDO073	2812640001	EASEMENT/4TH ST - NAVY YARD	28L073	CHARLESTOWN	6		LITTLE MYSTIC CHANNEL	MARINE
28NSDO156	2814640001	COLERIDGE ST EXT	28N156	EAST BOSTON	12		BOSTON HARBOR	MARINE
29JSDO129	2910640002	ALFORD STREET	29J129	CHARLESTOWN	15		MYSTIC RIVER	MARINE
29NSDO015	2914640001	CHELSEA STREET	29N015	EAST BOSTON	42X44.5	1 / 015-1	CHELSEA RIVER	MARINE
29PSDO005	2916640008	BELLE ISLE MARSH (SARATOGA ST)		EAST BOSTON			BELLE ISLE INLET	MARINE
30PSDO62	3016640002	PALERMO AVE EXT	30P062	EAST BOSTON	12		WETLANDS	MARINE

Appendix B
Table B-2
2024 Outfall Screening and Sampling
List of Approved Interconnections - Wet Weather

Manhole 6 Digit ID	Manhole Facility ID	Manhole Feature ID	Street Location	Drainage Area	Other Outfall No.	Neighborhood	Size (inches) of largest pipe inlet	Receiving Water	Fresh/ Marine	Commission Comments
02F120	2FMH120	206660110	Neponset Valley Parkway		DCR 02F099	Hyde Park	15	DCR Drain to Neponset	Fresh	Discharges to DCR Outfall 02F099
06C117	6CMH117	603660086	Washington Street near Meshaka Street			West Roxbury	12	Dedham Drains	Fresh	Drains to Dedham
11B049	11BMH49	1102660014	VFW Pkwy @ Glenham Street		DCR 11B028	West Roxbury	15	DCR Drain to Charles	Fresh	Discharges to DCR Outfall 11B028
14E036	14EMH36	1405660029	Payson Road @ Hackensack Road			West Roxbury	12	Brookline Drains	Fresh	Drains to Brookline
20D062	20DMH62	2004660026	Kilsyth at Englewood	20DMH055		Brighton	12	Brookline Drains	Fresh	Drains to Brookline
21E064	21EMH64	2105660048	Tannery Brook	21EMH064		Brighton	24	Brookline Drains to Tannery Brook	Fresh	Drains to Brookline
23H081	23HMH81	2308660073	Beacon Street		23I019	Back Bay	12	DCR Drain to Muddy River	Fresh	Drains to Muddy River DCR outfall
28I015	28IMH15	2809660012	Roland Street			Charlestown	12	Somerville Drains	Fresh	Drains to Somerville

Appendix B
Table B-3
2024 Outfall Screening and Sampling
List of Approved Combined Sewer Overflow (CSO) Outfalls - Wet Weather

Outfall Facility ID	Outfall Feature ID	BOS ID	Street Location	Neighborhood	Size (inches)	Receiving Water	Class	Fresh/ Marine
19LCSO085	1912640002	BOS 085	Carson Beach	South Boston		Dorchester Bay-North	SB	Marine
22KCSO072	2211640008	BOS 072	Dorchester Ave	South Boston	60"	Inner Harbor-Fort Point Channel	SB-CSO	Marine
24LCSO060	2412640002	BOS 060	Aquarium	Central	72" x 72"	Inner Harbor-Upper	SB-CSO	Marine
24NCSO003	2414640001	BOS 003	Harborside Dr	East Boston	144" x 120"	Inner Harbor- Lower	SB-CSO	Marine
25LCSO057	2512640004	BOS 057	Eastern Ave	Central	96"	Inner Harbor-Upper	SB-CSO	Marine
28LCSO019	2812640008	BOS 019	Mystic River Bridge	Charlestown	36" x 40"	Inner Harbor-Upper	SB-CSO	Marine
29NCSO014	2914640002	BOS 014	E Eagle St	East Boston	48" x 60"	Inner Harbor-Mystic/Chelsea	SB-CSO	Marine

APPENDIX C

Recommendations for Locations with Standing Water

Appendix C
Table C-1
2020 Wet Weather Screening
Recommendations for Locations Historically Unable to Sample due to Standing Water

Recommendation	Outfall ID	Comments
CLEAN	2FSDO93	Small area with standing water throughout
	6DSDO86	Small catchment with just a couple of catch basins that always have standing water
	6DSDO91	Small catchment with just a couple of catch basins that always have standing water
	12HSDO1 (12HMH26)	SE branch: likely has standing water all the way to the starter. Floatables observed
	12HSDO1 (12HMH27)	NW branch: standing water/floatables observed
	23HSDO042	Entire area has a lot of standing water. All buildings were dye tested to complete the catchment investigation.
	23HMH81	Standing water all the way up to the starter
	28IMH15	Standing water all the way up to the starter
CCTV	6DSDO184	Upstream features have never been located; mapping is likely incorrect. Attempt to CCTV from the outfall upstream to locate upstream structures.
CONTINUE UPSTREAM	26FSDO038	Continue upstream until eventually hit a spot that is either dry or flowing
	3ESDO186	Continue upstream

APPENDIX D

Outfall Screening Form (Blank)

Boston Water and Sewer Commission

OUTFALL SCREENING LOG

FACILITY ID

CITYWIDE ILLEGAL CONNECTION INVESTIGATION PROGRAM, PHASE 5

INSPECTION DATE:

STREET LOCATION:

FEATURE ID:

RECEIVING WATER:

OUTFALL FIELD SCREENING PROGRAM

CONDITION ASSESSMENT

Inspector Company:

Inspector(s):

Needs to Be Repaired:

Needs to Be Cleaned:

Pipe Material:

Other:

Pipe Shape:

Other:

Bar Screen-Needs to Be Cleared:

Bar Screen-Broken/Missing/Deteriorated:

Head wall-Corrode/Pitted/Spalled:

Pipe End-Debris/Deposition:

Pipe End-Broken/Collapsed:

Rip-Rap/Channel or Basin-Debris/Deposition:

Rip-Rap/Channel or Basin-Broken/Missing:

Tide Gate-Broken/Missing:

Comments:

PHOTOS

Report Date:

SCREENING AND SAMPLING

GENERAL INFORMATION:

Inspection Type:
Weather:
Air Temp:
Tidal Impact:
Time of Inspection:
Time Since Last Rain:
Qty of Rain Last 24 hours:
If Tidal, Time of Closest Low Tide:

VISUAL OBSERVATIONS AT OUTFALL:

Outfall Located:
Outfall Accessible:
Outfall Sign:
Is there Flow:
If Flow, Velocity:
Submerged:
Sampling Location:
Approx. Sediment Depth:
Approx. Depth Water and Sediment:
Odor:
Other:
Color:
Other:
Turbidity:
Floatables:
Other:
Deposit/Stain:
Other:

FIELD ANALYSIS INFORMATION:

Were Samples Collected:
If No, Reason:
Other Reason No Sample:
pH:
Ammonia:
Temperature:
Surfactants:
Specific Conductivity:
Salinity:
Total Residual Chlorine:
Orthophosphate:

LAB ANALYSIS INFORMATION:

Bacteria Type:
Bacteria Result:
(CFU/100mL)
Bacteria Duplicate Sample Collected:
Bacteria Duplicate Sample Collected Results:
(CFU/100mL)
Total Phosphorous:
mg/L
Phosphorus Duplicate Sample Collected:
Phosphorus Duplicate Sample Collected Results:
mg/L

COMMENTS:

Report Date:

APPENDIX E

SDE Health and Safety Plan

Table of Contents

1.0 General Safety

While in the office or out in the field, all SDE personnel are to refrain from using horseplay and distracting others. Horseplay, scuffling, distraction of fellow workers, throwing of objects, running, and practical jokes may lead to serious injuries. Possession, consumption, or being under the influence of alcohol or drugs is also prohibited during working hours.

- Site work should be performed during daylight hours whenever possible. Work conducted during hours of darkness require enough illumination intensity to read a newspaper without difficulty.
- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.

2.0 Personal Security and Crime Prevention

While conducting your work stay alert, become familiar with your surroundings, report any activity/circumstances that you feel is unusual and always stay in frequent contact with other project personnel. Use the following to help protect yourself from danger while in/out of your vehicle, working alone or in an unsafe area:

- Avoid working alone as much as possible.
- When working at night on the project, plan for extra precautions such as additional lighting, security, police presence or escorts when leaving the project.
- If you are a witness or the victim of a crime, an accident or suspicious/threatening circumstances, report it to the Police as soon as possible.
- Always lock your car doors while driving, and roll windows up far enough to keep anyone from reaching inside.
- At stop signs and lights keep the car in gear, windows rolled up, doors locked and stay alert.
- Travel well-lighted, busy streets. You can spare those extra minutes it may take to avoid an unsafe area.
- Keep your wallet/purse, laptop, and other valuable out of sight, even when you are driving in your locked car.
- Park in safe, well-lighted areas near your destination.
- Always let a project member know where you are and your destination if you must travel alone.
- Always lock your car, even for a short absence. And before unlocking your car, quickly check to make sure no one is hiding on your seats or floors of your vehicle.
- If your car should break down:

- Get off the roadway, out of the path of oncoming traffic, even if you have to drive on a flat tire. The tire is replaceable.

- Turn on your emergency flashers.

- If a motorist stops to render assistance, it is better to remain in the car, and ask them to get help.

3.0 Working Alone

Working alone may not be hazardous in itself, but the work conditions or tasks to be performed on a project site may affect a person's ability to safely perform the work alone or to receive assistance in the event of an emergency.

Personnel can be assigned to work alone only by their project manager, who must assess potential hazards and appropriate control measures.

Listed below are some examples, not all-inclusive, of workplace conditions that must be considered and impact the ability of the employee to safely work alone:

- Is the amount of time needed for the employee to complete the task reasonable, or will fatigue become a factor?

- Do tasks include handling and lifting materials; operating machinery or powered tools; maintaining electrical, pneumatic, or steam powered systems; or working with hazardous substances?

- Is access to the work area difficult, requiring working at heights, below ground, or in structures that are difficult to enter or exit?

- Does the work location present a risk of violence to the employee; require travel off public roads through desolate or steep terrain; or involve work at a remote location or over or near rivers, pools, or lakes?

- What are the environmental conditions, such as temperature extremes or weather conditions?

- Must the work be performed beyond normal business hours or on weekends or holidays?

- Is the person working alone able to communicate with another employee in the event of an emergency or are emergency services readily available?

Examples (not all-inclusive) of precautionary or control measures that can be used to address the conditions or hazards of working alone:

- Conducting a review of the work schedule to determine whether the task could be completed during a time when the employee does not have to work alone.

- Establishing a communication process that will reliably allow contact with the employee working alone, requires check-in at designated time intervals, includes response actions when communication is lost or check-in is not completed, and verifies the employee has returned to their base of operation after completing the task.

- Requiring supervisors to periodically visit and observe worksites where employees work alone.

- Issuing the proper personal protective equipment (PPE) to the employee and ensure it is maintained in acceptable condition.

- Ensuring emergency supplies are provided for employee to use in event of fire, injury/illness, or survival provisions when working in a remote area.

4.0 Personal Protective Equipment

- Long pants, safety shoes (steel toe with non-skid soles), and safety vests are to be worn at all work sites unless specifically instructed otherwise.
- Hard hats to be worn in all construction zones although none are anticipated to be encountered during this project.
- Latex gloves are to be used when handling bacteria samples.
- Pocket-size tracking devices that can act as a wearable panic button are available for use by all employees, at all times.

5.0 Cold Stress

- Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.
- Monitor the work conditions and adjust the work schedule as needed.

6.0 Heat Stress

- Drink 16 ounces of water before beginning work. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of or avoid consumption of coffee, carbohydrate-rich beverages, and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads (e.g., do not begin with extremely demanding activities).
- Conduct field activities in the early morning or evening and rotate shifts of workers, if possible.
- Avoid direct sun whenever possible, which can decrease physical efficiency and increase the probability of heat stress. Take regular breaks in a cool, shaded area.

7.0 Roadway Work Safety

Work along/in roadways must be done according to local/state/federal requirements.
The following precautions must be taken when working around traffic:

- Exercise caution when exiting traveled way or parking along street – avoid sudden stops, use flashers, etc.
- Park in a manner that will allow for safe exit from vehicle, and where practicable, park vehicle so that it can serve as a barrier.
- All staff working adjacent to traveled way or within work area must wear the appropriate ANSI/ISEA 107-2004 high-visibility safety vests.
- Remain aware of factors that influence traffic related hazards and required controls – sun glare, rain, wind, flash flooding, limited sight-distance, hills, curves, guardrails, width of shoulder (i.e., breakdown lane), etc.

- Always remain aware of an escape route -- behind an established barrier, parked vehicle, guardrail, etc.
- Always pay attention to moving traffic – never assume drivers are looking out for you
- Work as far from traveled way as possible to avoid creating confusion for drivers.
- When workers must face away from traffic, a "buddy system" should be used, where one worker is looking towards traffic.
- Review traffic control devices to ensure that they are adequate to protect your work area. Traffic control devices should: 1) convey a clear meaning, 2) command respect of road users, and 3) give adequate time for proper traffic response. The adequacy of these devices are dependent on limited sight distance, proximity to ramps or intersections, restrictive width, duration of job, and traffic volume, speed, and proximity.

8.0 Driving Safety

- Abide by all traffic laws.
- Seat belts must be worn at all times.
- Although utilizing cell phones while driving is discouraged, hands-free cell phone devices may be used when necessary. The use of hand held cell phones are strictly prohibited while driving.
- Practice defensive driving. Defensive driving starts from the moment you get behind the wheel. Always be alert to the hazards around you, including changing weather. Driving defensively means taking every possible precaution to avoid an accident, despite the hazards around you.
- Inspect your vehicle before a trip. Make sure tires are properly inflated and loads are securely tied down.
- Eliminate or reduce hazards whenever possible. Make sure that no loose items are on the dashboard or by your feet, or that items are not piled to high on seats or floors.
- Keep a safe distance from the vehicle in front of you.
- Let problem drivers move ahead of you. Do not challenge them.
- Use extra caution when driving in the winter. Clear all snow and ice from the vehicle before driving, leave plenty of room for stopping, and drive slow.
- All vehicles must be equipped with basic emergency response and safety equipment including:
  - Potable water
  - First aid kit
  - Flashlight with extra batteries
  - Anti-bacterial wipes, gel, or solution
  - Minimal personal protective equipment necessary for work at the destination, appropriate for the expected exposures

9.0 Confined Space Awareness

SDE field staff has had training in confined space awareness. Although this project does not require confine space entry, the awareness training was completed in case of an emergency situation.

10.0 Slip and Fall Protection

- Portable ladder safety: always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step and always face the ladder while climbing. Ladders must be free of any slippery material on the rungs, steps or feet. Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement. An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support. Do not stand on the three top rungs of a straight, single or extension ladder. The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface. Be sure that all locks on an extension ladder are properly engaged.
- Wear shoes with non-slip soles and be particularly careful when walking on slick or icy surfaces during the winter. Extra care should also be taken to prevent slip and fall accidents when going on roofs and/or standing over open manholes.
- Employees walking in ditches, swales and other drainage structures adjacent to roads or across undeveloped land must use caution to prevent slips and falls which can result in twisted or sprained ankles, knees, and backs.
- Whenever possible observe the conditions from a flat surface and do not enter a steep ditch or side of a steep road bed.
- If steep terrain must be negotiated, sturdy shoes or boots that provide ankle support should be used. The need for ladders or ropes to provide stability should be evaluated.

11.0 Manual Lifting

- Proper lifting techniques must be used when lifting any object.
- Plan storage and staging to minimize lifting or carrying distances.
- Split heavy loads into smaller loads.
- Use mechanical lifting aids whenever possible.
- Have someone assist with the lift -- especially for heavy or awkward loads.
- Make sure the path of travel is clear prior to the lift.

12.0 Working Around Untreated Wastewater

When working around untreated wastewater, employees should exercise the following precautions:

- Do not eat or drink.
- Minimize contact with surfaces.
- Don’t touch eyes, ears, nose and mouth.

- Wash hands immediately upon leaving the site or going into office areas or vehicles. Ensure that adequate washing facilities are available for employees. For situations where hand washing facilities are not readily available, antibacterial hand gels can be used to prevent the spread of germs.
- If touching contaminated surfaces is unavoidable, wear surgical-type nitrile gloves. Carefully remove gloves by rolling them inside out, and wash hands immediately.
- Avoid shaking hands with other employees, and maintain a distance of approximately 3 feet during conversations to avoid spread of colds, flu and other contagious diseases.

13.0 Dog Safety

- Avoid all dogs – both leashed and stray.
- Don't disturb a dog while it is sleeping, eating, or caring for puppies.
- If a dog approaches to sniff you, stay still and do not reach out to the dog as it may be interpreted as an act of aggression.
- An aggressive dog has a tight mouth, flattened ears, and a direct stare.
- If you are threatened by a dog, remain calm, don't scream, and avoid direct eye contact.
- If you say anything, speak calmly and firmly.
- Don't turn and run. Try to stay still until the dog leaves, or back away slowly until the dog is out of sight or you have reached safety (e.g., vehicle, outside a gated/fenced area).
- If attacked, retreat to vehicle or attempt to place something between you and the dog.
- If you fall or are knocked to the ground, curl into a ball with your hands over your head and neck, and protect your face.
- If bitten, immediately scrub the bite site vigorously with soap and water, seek medical attention as soon as possible, and report the incident to the local authorities.

14.0 Emergency Contacts

Medical Emergency	911		
Fire/Spill Emergency	911	Boston FD	617-343-3550
Security and Police	911	Boston PD	617-343-4200
Utilities Emergency			
Water/Sewer		BWSC	671-989-7800
Gas		NSTAR Gas	800-592-2000
Electric		NSTAR Electric	800-592-2000

15.0 Hospital Contact Information and Directions

Hospital Name/Address: Boston Medical Center
One Boston Medical Center Place
Boston, MA 02118

Hospital Phone #: 617-638-8000

Directions to the Hospital

Access by Car

From the North:
1. Follow Route 1 (Via Mystic/ Tobin Bridge) to Route 93 South.
2. Take Exit 18 (Mass Ave).
3. At traffic light, take right onto access road; stay in right lane.
4. At end of access road, turn right onto Massachusettes Ave.

For directions to your BUMC/BMC destination, please follow signs.

From the South:
1. Take Expressway North (Route 93/3).
2. Take Exit 18.
3. At the third traffic light, take left onto access road stay in right lane.
4. At end of access road, turn right onto Massachusetts Ave.

For directions to your BUMC/BMC destination, please follow signs.

From the West:
1. Take the Massachusetts Turnpike (Route 90) East to end.
2. Take Expressway South (Route 93).
3. Take Exit 18 (Mass Ave.).
4. At traffic light, take right onto access road; stay in the right lane.
5. At end of access road, turn right onto Massachusetts Ave.

For directions to your BUMC/BMC destination, please follow signs.

From Logan Airport:
1. Go through the Sumner Tunnel (Route 1A South) to Expressway South.
2. Take Expressway South (Route 93.)
3. Take Exit 18 (Mass Ave.)
4. At the traffic light, take right onto access road; stay in right lane.
5. At end of access road, turn right onto Massachusetts Ave.

Appendix III

Dry Weather Screening Results
January 1, 2024 - December 31, 2024

APPENDIX III DRY WEATHER SCREENING RESULTS JANUARY 1, 2024 THROUGH DECEMBER 31, 2024

Updated: 1/16/2025

GENERAL INFORMATION

Facility ID	Location Type	Inspection Date	Outfall Sign	Tidal Impact	Outfall Located	Outfall Accessible	Weather	Air Temp F	Time Since Last Rain	Quantity Rain24h	Time Low Tide	Sampling Location
21HSDO047	SDO	1/3/24 11:56 AM	No	No	No	No	Sunny	40	> 24 Hours	< 0.1 in.		Manhole
21HSDO045	SDO	1/3/24 12:26 PM	No	No	Yes	Yes	Sunny	40	> 24 Hours	< 0.1 in.		Manhole
28KSDO010	SDO	3/11/24 8:00 AM	Yes	Yes	Yes	No	Sunny	37	> 24 Hours	< 0.1 in.	6:30 AM	Manhole
28KSDO386	SDO	3/11/24 8:10 AM	No	Yes	Yes	No	Sunny	37	> 24 Hours	< 0.1 in.	6:30 AM	Manhole
28KSDO61	SDO	3/11/24 8:20 AM	No	Yes	Yes	Yes	Sunny	38	> 24 Hours	< 0.1 in.	6:30 AM	Manhole
24GSDO035	SDO	3/11/24 9:40 AM	No	No	No	No	Cloudy	38	> 24 Hours	< 0.1 in.		Manhole
24GSDO034	SDO	3/11/24 10:45 AM	No	No	No	No	Sunny	43	> 24 Hours	< 0.1 in.		Manhole
24DSDO150	SDO	3/11/24 11:20 AM	Yes	No	Yes	Yes	Sunny	43	> 24 Hours	< 0.1 in.		Outfall
24CSDO174	SDO	3/11/24 11:30 AM	No	No	Yes	Yes	Sunny	44	> 24 Hours	< 0.1 in.		Outfall
24DSDO032	SDO	3/11/24 12:00 PM	Yes	No	Yes	Yes	Sunny	44	> 24 Hours	< 0.1 in.		Manhole
8ISDO154	SDO	3/13/24 9:21 AM	No	No	Yes	Yes	Sunny	39	> 24 Hours	< 0.1 in.		Outfall
8ISDO155	SDO	3/13/24 9:53 AM	Yes	No	Yes	Yes	Sunny	42	> 24 Hours	< 0.1 in.		Outfall
8ISDO156	SDO	3/13/24 9:55 AM	No	No	Yes	Yes	Sunny	42	> 24 Hours	< 0.1 in.		Outfall
6DSDO83	SDO	3/13/24 10:15 AM	Yes	No	Yes	Yes	Sunny	50	> 24 Hours	< 0.1 in.		Outfall
8ISDO158	SDO	3/13/24 10:16 AM	Yes	No	Yes	Yes	Sunny	42	> 24 Hours	< 0.1 in.		Outfall
6DSDO85	SDO	3/13/24 10:32 AM	Yes	No	Yes	Yes	Sunny	50	> 24 Hours	< 0.1 in.		Manhole
8ISDO207	SDO	3/13/24 10:39 AM	Yes	No	Yes	Yes	Sunny	46	> 24 Hours	< 0.1 in.		Outfall

OUTFALL OBSERVATIONS

Facility ID	Is There Flow	If Flow Velocity	If Submerged Percent	Sediment Depth percent	Depth Water plus Sed percent	Odor	Other Odor	Color	Other Color	Turbidity	Floatables	Other Floatables	Deposits Stains	Other Deposits Stains
21HSDO047	Submerged	NA	100	0	100									
21HSDO045	Submerged	NA	100	0	100	None		Clear		Clear	None		None	
28KSDO010	Submerged	NA	100	0	100									
28KSDO386	Submerged	NA	80	0	80	None		Clear		Clear	None		None	
28KSDO61	Submerged	NA	80	0	80	None		Clear		Clear	None		Unknown	
24GSDO035	Submerged	NA	100		100									
24GSDO034	Submerged	NA	100		100									
24DSDO150	Flow	Moderate		1	10	None		Clear		Clear	None		Other	Algae
24CSDO174	Flow	Moderate		2	9	None		Clear		Clear	None		Other	Algae
24DSDO032	Standing Water	NA		10	50	None		Clear		Clear	None		Unknown	
8ISDO154	Flow	Moderate		0	10	None		Clear		Clear	None		Sediments	
8ISDO155	Dry	NA		0	0	None							None	
8ISDO156	Flow	Moderate		0	10	None		Clear		Clear	None		None	
6DSDO83	Dry	NA		0	0	None							None	
8ISDO158	Flow	Slow		0	5	None		Clear		Clear	None		None	
6DSDO85	Standing Water	NA		1	1	None		Clear		Clear	None		None	
8ISDO207	Dry	NA		0	0	None							None	

MANHOLE OBSERVATIONS

Facility ID	Manhole Facility ID	Is There Flow	If Flow Velocity	Sediment Depth percent	Depth Water plus Sed percent	Odor	Other Odor	Color	Other Color	Turbidity	Floatables	Other Floatables	Deposits Stains	Other Deposits Stains
21HSDO047	21HMH14	Flow	Slow	0	40	None		Clear		Clear	Oily Sheen		None	
21HSDO045	21HMH37	Flow	Slow	0	20	None		Clear		Clear	None		None	
28KSDO010	28KMH57	Flow	Moderate	1	10	None		Clear		Clear	None		None	
28KSDO386	CH69097	Flow	Moderate	5	15	None		Clear		Clear	None		None	
28KSDO61	28KMH63	Flow	Moderate	0	15	None		Clear		Clear	None		None	
24GSDO035	23FMH183	Flow	Moderate	0	20	None		Clear		Clear	None		None	
24GSDO034	25GMH5	Flow	Moderate	0	40	None		Clear		Clear	None		None	
24DSDO150														
24CSDO174														
24DSDO032	24DMH337	Submerged	NA	0	100	None		Clear		Clear	Garbage		Unknown	
8ISDO154														
8ISDO155														
8ISDO156														
6DSDO83														
8ISDO158														
6DSDO85	no MH results													
8ISDO207														

OUTFALL CONDITION

Facility ID	Pipe Shape	Other Pipe Shape	Pipe Material	Other Pipe Material	Needs Repair	Needs Cleaning	Pipe End Debris	Pipe End Broken Collapsed	Bar Screen Needs Cleared	Bar Screen Broken Missing Deter	Head Wall Corroded Pit Spall	Rip Rap Debris Deposition	Rip Rap Broken Missing	Tide Gate Broken Missing	Outfall Condition Comments
21HSDO047															
21HSDO045			Concrete		No	No	0 - No	0 - No	NA	NA	0 - No	NA	NA	NA	
28KSDO010															
28KSDO386			Concrete		No	No	0 - No	0 - No	NA	NA	NA	0 - No	0 - No	0 - No	
28KSDO61			Concrete		No	No	0 - No	0 - No	NA	NA	NA	0 - No	0 - No	NA	
24GSDO035															
24GSDO034															
24DSDO150			Concrete		No	No	0 - No	0 - No	NA	NA	NA	NA	NA	NA	
24CSDO174			Metal		No	No	1 - Min: <1	0 - No	NA	NA	NA	NA	NA	NA	
24DSDO032			Concrete		No	No	0 - No	0 - No	NA	NA	2 - Mod: generally et	NA	NA	NA	
8ISDO154			Concrete		No	No	0 - No	0 - No	NA	NA	0 - No	NA	NA	NA	
8ISDO155			Concrete		No	No	0 - No	0 - No	NA	NA	0 - No	0 - No	0 - No	NA	
8ISDO156			Concrete		No	No	0 - No	0 - No	NA	NA	0 - No	NA	NA	NA	There are 2 pipes at
6DSDO83			Concrete		No	No	0 - No	0 - No	NA	NA	NA	NA	NA	NA	
8ISDO158			Concrete		No	No	0 - No	0 - No	NA	NA	0 - No	NA	NA	NA	
6DSDO85			Concrete		No	No	0 - No	0 - No	NA	NA	0 - No	NA	NA	NA	
8ISDO207			Concrete		No	No	0 - No	NA	NA	NA	0 - No	NA	NA	NA	

SAMPLING DATA

Facility ID	Samples Collected	If No Reason	Other Reason No Sample	Surfactants	Ammonia	Chlorine	pH	Conductivity	Temperature	Salinity	Outfall Comments	MH Comments	Bacteria Type	Bacteria Result	Bacteria Duplicate Sample Collect	Bacteria Duplicate Sample Result
21HSDO047	Yes			0.25	0.8	0	7.54	2590	8.9	1.7	Outfall submerged - sampled upstre	sampled from outlet - both inlets were flow	E.coli	900	No	
21HSDO045	Yes			0.5	0.8	0	7.68	5.5	10.2	0	Outfall submerged	Sampled collected from the outlet	E.coli	6,100	No	
28KSDO010	Yes			1.5	7	0	8.43	1410	7.7	7.9	Submerged		Enterococci	3,700	No	
28KSDO386	Yes			3	0.6	0	7.5	-999	7	-999	Submerged		Enterococci	20	No	
28KSDO61	Yes			0.75	0	0	7.99	5700	8	3	Submerged		Enterococci	720	No	
24GSDO035	Yes			0	0	0	8.11	843	8.6	0.4	Cannot locate		E.coli	1,900	No	
24GSDO034	Yes			0.2	6	0	7.69	1475	9.5	0.7	Submerged		E.coli	<10	No	
24DSDO150	Yes			0.75	0.1	0	7.54	3020	11.1	1.1			E.coli	<10	No	
24CSDO174	Yes			0.25	0	0	7.43	1649	12.3	0.8			E.coli	820	No	
24DSDO032	No	Other	Submerged													
8ISDO154	Yes			0.25	0	0	7.43	763	10.5	0.4			E.coli	50	No	
8ISDO155	No	No Flow														
8ISDO156	Yes			0.5	0.1	0	6.97	225	10.6	0.1			E.coli	24,000	No	
6DSDO83	No	No Flow														
8ISDO158	Yes			0.5	0.4	0	7.13	809	11.4	0.4			E.coli	50,000	No	
6DSDO85	No	Standing Water														
8ISDO207	No	No Flow														

Appendix IV

Wet Weather Screening Results
January 1, 2024 - December 31, 2024

APPENDIX IV. WET WEATHER SCREENING RESULTS JANUARY 1, 2024 THROUGH DECEMBER 31, 2024

Updated: 12/27/2024

GENERAL INFORMATION													OUTFALL OBSERVATIONS											
Facility ID	Location Type	Inspection Date	Outfall Sign	Tidal Impact	Outfall Located	Outfall Accessible	Weather	Air Temp F	Time Since Last Rain	Quantity Rain24h	Time Low Tide	Sampling Location	Is There Flow	If Flow Velocity	If Submerged Percent	Sediment Depth percent	Depth Water plus Sed percent	Odor	Other Odor	Color	Other Color	Turbidity	Floatables	Other Floatables
10BSDO15	SDO	5/16/24 11:48 AM	No	No	No	No	Raining	57	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100		100							
11BMH49	Interconnection	11/21/24 12:00 AM										Manhole												
11BSDO123	SDO	5/16/24 9:06 AM	No	No	No	No	Raining	59	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100		100							
11GSDO344 (11GMH246)	SDO	1/26/24 12:00 AM	No	No	No	No	Raining	39	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
11GSDO344 (11GMH246)	SDO	5/16/24 12:00 AM	No	No	No	No	Raining	58	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100		100							
11GSDO344 (11GMH249)	SDO	1/26/24 12:00 AM	No	No	No	No	Raining	39	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
11GSDO344 (11GMH249)	SDO	5/16/24 12:00 AM	No	No	No	No	Raining	58	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100		100							
12BSDO10	SDO	5/16/24 11:54 AM	No	No	No	No	Raining	58	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100		100							
12BSDO14	SDO	5/16/24 2:33 PM	No	No	No	No	Raining	58	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100		100							
12HSDO1 (12HMH24)	SDO	1/26/24 8:00 AM	No	No	No	No	Raining	39	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
12HSDO1 (12HMH24)	SDO	8/6/24 4:42 PM	No	No	Yes	No	Sunny	80	> 24 Hours	< 0.1 in.		Manhole	Submerged	NA	100	0	100							
12HSDO1 (12HMH29)	SDO	1/26/24 8:00 AM	No	No	No	No	Raining	39	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
12HSDO1 (12HMH29)	SDO	8/6/24 4:42 PM	No	No	Yes	No	Sunny	80	> 24 Hours	< 0.1 in.		Manhole	Submerged	NA	100	0	100							
13ESDO174	SDO	5/30/24 10:40 AM	No	No	Yes	Yes	Raining	53	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	15	None		Clear		Clear	None	
13FSDO95	SDO	5/8/24 11:35 AM	No	No	Yes	Yes	Raining	58	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	95	0	100	None		Clear		Clear	None	
13FSDO96	SDO	5/8/24 12:30 PM	No	No	Yes	Yes	Raining	58	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	5	None		Brown		Opaque	None	
13FSDO97	SDO	5/8/24 12:33 PM	No	No	Yes	Yes	Raining	60	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	1	None		Brown		Opaque	None	
14CSDO9	SDO	5/30/24 9:47 AM	No	No	Yes	Yes	Raining	53	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	20	None		Clear		Clear	None	
14EMH36	Interconnection	5/30/24 12:00 AM										Manhole												
19GSDO199	SDO	3/28/24 1:44 PM	No	No	Yes	No	Raining	53	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	50	100							
19LCSO085	CSO	1/26/24 5:50 AM	No	Yes	Yes	Yes	Raining	38	< 24 Hours	0.1 in. to 0.25	5:15	Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
19LCSO085	CSO	8/6/24 8:30 AM	No	Yes	No	No	Raining	67	< 24 Hours	0.1 in. to 0.25	7:17 AM	Manhole	Submerged	NA	100	0	100							
1ESDO24	SDO	3/28/24 3:14 PM	No	No	Yes	Yes	Raining	47	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
1FSDO31	SDO	3/28/24 3:03 PM	No	No	No	No	Raining	47	< 24 Hours	0.1 in. to 0.25 in.		Manhole		NA										
20DMH62	Interconnection	5/30/24 12:00 AM										Manhole												
20GSDO163	SDO	3/28/24 1:00 PM	No	No	Yes	No	Raining	52	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100							
20GSDO164	SDO	3/28/24 1:35 PM	No	No	No	No	Raining	53	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100							
21EMH64	Interconnection	8/6/24 12:00 AM										Manhole												
21HSDO002	SDO	3/28/24 12:51 PM	No	No	No	No	Raining	51	< 24 Hours	>= 0.25 in.		Manhole		NA										
21HSDO048	SDO	3/28/24 12:20 PM	No	No	Yes	Yes	Raining	48	< 24 Hours	>= 0.25 in.		Outfall	Submerged	NA	100	100	100	None		Clear		Cloudy	None	
21KSDO069	SDO	4/4/24 1:35 PM	No	Yes	Yes	No	Raining	38	< 24 Hours	>= 0.25 in.	2:10 PM	Manhole	Submerged	NA	100	0	100							
22KCSO072	CSO	1/26/24 6:16 AM	No	Yes	No	No	Raining	38	< 24 Hours	0.1 in. to 0.25	5:15	Manhole												
22KCSO072	CSO	8/6/24 7:55 AM	No	Yes	No	No	Raining	65	< 24 Hours	0.1 in. to 0.25	7:17 AM	Manhole	Submerged	NA	100	0	100							
22LSDO580	SDO	4/12/24 8:15 AM	No	Yes	No	No	Raining	60	< 24 Hours	>= 0.25 in.	8:44 AM	Outfall	Flow	Heavy		0	60	None		Clear		Clear	None	
23HMH80	Interconnection	11/22/24 12:00 AM										Manhole												
23HMH80	Interconnection	12/11/24 12:00 AM										Manhole												
23HSDO042 (23HMH109)	SDO	4/4/24 9:35 AM	No	No	No	No	Raining	37	< 24 Hours	>= 0.25 in.		Manhole												
23HSDO042 (23HMH131)	SDO	4/4/24 9:35 AM	No	No	No	No	Raining	37	< 24 Hours	>= 0.25 in.		Manhole												
23LSDO074	SDO	4/12/24 8:00 AM	No	Yes	No	No	Raining	60	< 24 Hours	>= 0.25 in.	8:44 AM	Manhole												
23LSDO15 (23LMH351)	SDO	4/4/24 12:50 PM	No	Yes	No	No	Raining	38	< 24 Hours	>= 0.25 in.	2:10 PM	Manhole												
23LSDO15 (SDE0034P)	SDO	4/4/24 12:50 PM	No	Yes	No	No	Raining	38	< 24 Hours	>= 0.25 in.	2:10 PM	Manhole												
23LSDO196	SDO	4/4/24 1:20 PM	No	Yes	No	No	Raining	38	< 24 Hours	>= 0.25 in.	2:10 PM	Manhole	Submerged	NA	100	0	100							
24DSDO032	SDO	3/29/24 7:10 AM	No	No	No	No	Raining	41	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100									
24DSDO150	SDO	3/29/24 6:55 AM	Yes	No	Yes	Yes	Raining	41	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		1	10	None		Clear		Clear	None	
24GSDO034	SDO	4/4/24 11:20 AM	No	No	No	No	Raining	37	< 24 Hours	>= 0.25 in.		Manhole		NA										
24GSDO035	SDO	4/4/24 11:00 AM	No	No	No	No	Raining	37	< 24 Hours	>= 0.25 in.		Manhole												
24LCSO060	CSO	7/31/24 1:20 PM	No	Yes	No	No	Raining	81	< 24 Hours	0.1 in. to 0.25	2:30 PM	Manhole		NA										
24NCSO003 (SDE00002MH)	CSO	1/26/2024, 6:36 AM	No	Yes	Yes	Yes	Raining	38	< 24 Hours	0.1 in. to 0.25	5:15	Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
24NCSO003	CSO	8/6/24 7:30 AM	Yes	Yes	Yes	Yes	Raining	75	< 24 Hours	0.1 in. to 0.25	7:17 AM	Outfall	Flow	Heavy		0	50	None		Yellow		Clear	OilySheen	
25ESDO037	SDO	4/4/24 11:55 AM	No	No	Yes	Yes	Raining	37	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	95	None		Clear		Clear	Other	Trash
25LCSO057	CSO	7/31/24 2:35 PM	No	Yes	Yes	Yes	Cloudy	88	< 24 Hours	0.1 in. to 0.25	2:30 PM	Outfall	Flow	Slow		5	20	SourMilk		Grey		Cloudy	OilySheen	
25MCSO005	CSO	1/26/24 6:45 AM	Yes	Yes	Yes	Yes	Raining	38	< 24 Hours	0.1 in. to 0.25	5:15	Outfall	Flow	Heavy		0	15	None		Clear		Clear	None	
25MSDO007	SDO	3/28/24 10:00 AM	No	Yes	No	No	Raining	48	< 24 Hours	>= 0.25 in.	46	Manhole												
26FSDO038	SDO	4/4/24 11:40 PM	No	No	No	No	Raining	37	< 24 Hours	>= 0.25 in.		Manhole		NA										
26JSDO052	SDO	3/29/24 6:15 AM	No	No	No	No	Raining	42	< 24 Hours	>= 0.25 in.		Manhole												
26JSDO101	SDO	3/29/24 8:00 AM	No	Yes	Yes	No	Raining	41	< 24 Hours	>= 0.25 in.	8:44 AM	Manhole	Submerged	NA	100	0	100							
26KSDO050	SDO	3/29/24 8:15 AM	No	Yes	Yes	No	Raining	41	< 24 Hours	>= 0.25 in.	8:44 AM	Manhole	Submerged	NA	100	0	100							
26KSDO052	SDO	3/29/24 9:00 AM	No	Yes	No	No	Raining	41	< 24 Hours	>= 0.25 in.	8:44 AM	Manhole												
27JSDO044	SDO	3/29/24 9:43 AM	No	Yes	No	No	Raining	41	< 24 Hours	>= 0.25 in.	8:44 AM	Manhole												
27LCSO10	CSO	1/26/24 6:30 AM	Yes	Yes	Yes	No	Raining	38	< 24 Hours	0.1 in. to 0.25	5:15	Manhole	Submerged	NA	50	10	50	SaltWater		Clear		Clear	None	
28HMH30	Interconnection	12/11/24 12:00 AM										Manhole												
28HMH80	Interconnection	12/11/24 12:00 AM										Manhole												
28IMH015	Interconnection	4/4/24 12:00 AM										Manhole												
28IMH15	Interconnection	4/4/24 12:00 AM										Manhole												
28LCSO019	CSO	7/31/24 2:30 PM	Yes	Yes	Yes	Yes	Raining	88	< 24 Hours	0.1 in. to 0.25	2:30 PM	Outfall	Flow	Slow		5	10	SaltWater		Clear		Clear	None	
28LSDO073	SDO	3/28/24 9:37 AM	No	Yes	No	No	Raining	47	< 24 Hours	0.1 in. to 0.25	8:05 AM	Manhole	Submerged	NA	100		100	None		Clear		Clear	None	
28NSDO156	SDO	3/28/24 9:45 AM	No	Yes	Yes	Yes	Raining	46	< 24 Hours	>= 0.25 in.	10:04 AM	Outfall	Flow	Slow		0	5	None		Clear		Clear	None	
29JSDO129	SDO	3/28/24 8:44 AM	No	Yes	Yes	Yes	Raining	47	< 24 Hours	>= 0.25 in.	8:05 AM	Outfall	Flow	Heavy		0	0	RottenEggs		Grey		Cloudy	None	
29NCSO014	CSO	1/26/24 6:00 AM	Yes	Yes	Yes	Yes	Raining	38	< 24 Hours	0.1 in. to 0.25	5:15	Outfall	Flow	Heavy		20	50	SaltWater		Brown		Suspended	None	
29NCSO014	CSO	7/31/24 1:10 PM	Yes	Yes	Yes	Yes	Raining	81	< 24 Hours	0.1 in. to 0.25	2:30 PM	Outfall	Flow	Slow		20	23	SourMilk		Clear		Clear	None	
29NSDO015	SDO	3/28/24 9:35 AM	No	Yes	Yes	Yes	Raining	44	< 24 Hours	>= 0.25 in.	10:04 AM	Outfall	Flow	Moderate		0	50	None		Clear		Clear	None	
29PSDO005	SDO	3/28/24 9:15 AM	No	Yes	Yes	No	Raining	44	< 24 Hours	>= 0.25 in.	10:04 AM	Manhole	Submerged	NA	100	0	100	None		Clear		Cloudy	None	
2ESDO5	SDO	3/28/24 11:39 AM	No	No	Yes	Yes	Raining	47	< 24 Hours	0.1 in. to 0.25 in.		Outfall	Flow	Slow		0	80	None		Clear		Opaque	None	
2FMH120	Interconnection	11/21/24 12:00 AM										Manhole												
2FSDO85	SDO	3/28/24 3:12 PM	No	No	Yes	Yes	Raining	47	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
2FSDO93 (2FMH70)	SDO	11/21/24 2:42 PM	No	No	No	No	Raining	44	< 24 Hours	0.1 in. to 0.25 in.		Manhole	Submerged	NA	100		100							
2FSDO93 (2FMH74)	SDO	11/21/24 2:42 PM	No	No	No	No	Raining	44	< 24 Hours	0.1 in. to 0.25 in.		Manhole	Submerged	NA	100		100							
30PSDO62	SDO	3/28/24 8:55 AM	No	Yes	No	No	Raining	43	< 24 Hours	>= 0.25 in.	10:04 AM	Manhole	Submerged	NA	100	100								
3ESDO186	SDO	11/22/24 10:33 AM	No	No	No	No	Sunny	51	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100							
3ESDO186	SDO	12/11/24 9:51 AM	No	No	No	No	Raining	43	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear		Clear	None	
3ESDO207	SDO	3/28/24 1:22 PM	No	No	Yes	Yes	Raining	47	< 24 Hours	0.1 in. to 0.25 in.		Outfall	Flow	Slow		0	5	None		Clear		Clear	Garbage	
4ESDO64	SDO	5/16/24 8:57 AM	No	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	5	None		Clear		Clear	None	
4FSDO1	SDO	11/21/24 3:40 PM	No	No	Yes	Yes	Raining	42	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	25	None		Clear		Clear	None	
4FSDO118	SDO	8/6/24 10:35 AM	No	No	Yes	Yes	Cloudy	65	< 24 Hours	0.1 in. to 0.25 in.		Outfall	Flow	Slow		0	5	None		Clear		Clear	None	
4FSDO119	SDO	11/21/24 3:10 PM	Yes	No	Yes	Yes	Raining	42	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	99	None		Clear		Clear	None	
4FSDO16	SDO	8/6/24 11:00 AM	No	No	Yes	Yes	Cloudy	70	< 24 Hours	0.1 in. to 0.25 in.		Outfall	Flow	Slow		5	8	None		Clear		Clear	None	
4FSDO189	SDO	11/21/24 3:30 PM	No	No	Yes	Yes	Raining	42	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	25	None		Yellow		Clear	None	
4FSDO203	SDO	11/21/24 3:20 PM	Yes	No	Yes	Yes	Raining	42	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		2	10	None		Clear		Clear	Other	Leaves
5CSDO110	SDO	5/16/24 9:52 AM	Yes	No	Yes	Yes	Raining	57	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	5	None		Clear		Clear	None	
5ESDO180	SDO	5/16/24 11:15 AM	Yes	No	Yes	Yes	Raining	57	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	10	None		Clear		Clear	None	
5ESDO181	SDO	5/16/24 11:30 AM	Yes	No	Yes	Yes	Raining	57	< 24 Hours	>= 0.25 in.		Outfall	Submerged	NA	100	95	100	None		Clear		Clear	None	
5ESDO182	SDO	5/16/24 10:50 AM	No	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	95	0	95	None		Clear		Clear	None	
5ESDO183	SDO	5/16/24 12:03 PM	Yes	No	No	No	Cloudy	57	< 24 Hours	>= 0.25 in.		Outfall	Submerged	NA	50	50	60	None		Clear		Clear	None	
5ESDO184	SDO	5/16/24 9:23 AM	No	No	Yes	Yes	Raining	57	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	15	None		Clear		Clear	None	
5FSDO244	SDO	5/16/24 8:58 AM	Yes	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Manhole	Standing Water	NA		0	50	None		Clear		Clear	None	
5FSDO245	SDO	5/16/24 9:47 AM	Yes	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Manhole	Standing Water	NA		0	75	None		Clear		Clear	None	
5FSDO254	SDO	4/12/24 10:40 AM	No	No	Yes	Yes	Raining	63	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	15	None		Clear		Clear	None	
5GSDO112	SDO	4/12/24 10:30 AM	No	No	No	No	Raining	63	< 24 Hours	>= 0.25 in.		Manhole												
5GSDO115	SDO	4/12/24 9:55 AM	No	No	Yes	Yes	Raining	63	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	2	None		Clear		Clear	None	
5GSDO116	SDO	4/12/24 10:15 AM	No	No	Yes	Yes	Raining	63	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	20	None		Clear		Clear	None	
6CMH117	Interconnection	11/21/24 12:00 AM										Manhole												
6DSDO83	SDO	4/12/24 10:32 AM	Yes	No	Yes	Yes	Raining	60	< 24 Hours	0.1 in. to 0.25 in.		Outfall	Flow	Moderate		0	20	None		Clear		Clear	None	
6DSDO84	SDO	4/12/24 1:59 PM	No	No	No	No	Raining	50	< 24 Hours	0.1 in. to 0.25 in.		Manhole		NA										
6DSDO85	SDO	4/12/24 2:08 PM	Yes	No	Yes	Yes	Raining	50	< 24 Hours	0.1 in. to 0.25 in.		Manhole	Submerged	NA	100	0	100	None		Clear				
6DSDO86	SDO	5/8/24 11:30 AM	No	No	Yes	No	Raining	58	< 24 Hours	>= 0.25 in.		Catch Basin		NA										
6DSDO91	SDO	5/8/24 11:43 AM	No	No	Yes	No	Raining	58	< 24 Hours	>= 0.25 in.		Catch Basin	Flow	Slow										
6FSDO233	SDO	5/8/24 11:49 AM	No	No	Yes	Yes	Raining	60	< 24 Hours	>= 0.25 in.		Catch Basin	Submerged	NA	60	0	60	None		Clear		Clear	None	
6GSDO109	SDO	5/8/24 11:29 AM	Yes	No	Yes	Yes	Raining	60	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		0	10	None		Clear		Clear	None	
6HSDO106	SDO	5/16/24 11:13 AM	No	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Outfall	Dry	NA		0	0	None						
6HSDO107	SDO	5/16/24 12:40 PM	Yes	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	10	None		Clear		Clear	None	
7HSDO346	SDO	4/12/24 9:40 AM	No	No	Yes	Yes	Raining	63	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	2	None		Clear		Clear	None	
7HSDO347	SDO	4/12/24 9:35 AM	Yes	No	Yes	Yes	Raining	63	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	2	None		Clear		Clear	None	
7HSDO348	SDO	4/12/24 9:20 AM	Yes	No	Yes	Yes	Raining	63	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	5	None		Clear		Clear	None	
8BSDO126	SDO	5/30/24 12:44 PM	No	No	No	No	Raining	54	< 24 Hours	>= 0.25 in.		Manhole												
8ESDO33	SDO	3/7/24 10:55 AM	Yes	No	Yes	Yes	Raining	45	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	5	None		Clear		Clear	None	
8FSDO1	SDO	5/30/24 11:57 AM	No	No	Yes	Yes	Raining	56	< 24 Hours	>= 0.25 in.		Manhole	Submerged	NA	70	0	70	None		Clear		Clear	None	
8ISDO153	SDO	3/7/24 8:50 AM	Yes	No	Yes	Yes	Raining	40	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	5	None		Clear		Clear	None	
8ISDO155	SDO	3/7/24 9:30 AM	Yes	No	Yes	Yes	Raining	41	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	10	None		Clear		Clear	None	
8ISDO207	SDO	3/7/24 9:15 AM	Yes	No	Yes	Yes	Raining	40	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	8	None		Clear		Clear	None	
8ISDO209	SDO	3/7/24 8:59 AM	Yes	No	Yes	Yes	Raining	40	< 24 Hours	>= 0.25 in.		Outfall	Flow	Slow		0	0	None		Clear		Clear	None	
8JSDO102	SDO	3/7/24 9:45 AM	Yes	Yes	Yes	Yes	Raining	41	< 24 Hours	>= 0.25 in.	8:06 AM	Outfall	Flow	Heavy		0	80	None		Clear		Clear	None	
8JSDO102	SDO	12/11/24 11:10 AM	Yes	Yes	Yes	Yes	Raining	47	< 24 Hours	>= 0.25 in.	12:41	Outfall	Flow	Heavy		0	15	None		Clear		Clear	None	
8JSDO41	SDO	3/7/24 9:35 AM	No	No	Yes	Yes	Raining	41	< 24 Hours	>= 0.25 in.		Outfall	Flow	Moderate		0	10	None		Clear		Clear	None	
8KSDO049	SDO	3/7/24 9:35 AM	Yes	Yes	Yes	Yes	Raining	42	< 24 Hours	>= 0.25 in.	8:06 AM	Outfall	Flow	Slow		0	5	None		Clear		Clear	None	
8KSDO049	SDO	12/11/24 11:30 AM	Yes	Yes	Yes	Yes	Raining	42	< 24 Hours	>= 0.25 in.	12:41	Outfall	Flow	Moderate		0	5	None		Clear		Clear	None	
9ESDO229	SDO	3/7/24 12:40 PM	No	No	No	No	Raining	45	< 24 Hours	>= 0.25 in.		Manhole		NA										
9ESDO243	SDO	3/7/24 11:20 AM	No	No	Yes	Yes	Raining	45	< 24 Hours	>= 0.25 in.		Outfall	Flow	Heavy		5	25	None		Clear		Clear	None	
9KSDO016	SDO	3/7/24 10:15 AM	No	Yes	No	No	Raining	42	< 24 Hours	>= 0.25 in.	8:06 AM	Manhole		NA										
9KSDO016	SDO	12/11/24 11:57 AM	No	Yes	No	No	Raining	45	< 24 Hours	>= 0.25 in.	12:41 PM	Manhole		NA										