



VM CONSULTING ENGINEERS, LLC

Victoria A. Masone, P.E.

Founder & Principal Engineer

Office: 99 Essex Street | Salem, MA 01970

Ph: (978) 853-5112

Email: victoria@vmconsultingllc.com

Website: www.vmconsultingllc.com

October 13, 2021

Robert Dever
DPW Director
Town of Marblehead
3 Tower Way
Marblehead MA. 01945

RE: Letter Report
Marblehead Fall 2021 Outfall Screening and Sampling Results, MS4 General Permit

Dear Rob:

The Town of Marblehead (Town) received authorization to discharge stormwater from its Small Municipal Separate Storm Sewer System (MS4) in accordance with the corresponding MS4 General Permit effective July 1, 2018. The Town developed an Illicit Discharge Detection and Elimination Program Manual (IDDE Plan) in June 2019 to satisfy the requirement in Section 2.3.4 of the MS4 General Permit and support the Best Management Practices (BMPs) identified in the Town's Stormwater Management Plan (SWMP). The work described in this letter report supports BMP 3.4 in the SWMP and section 2.3.4.7 b. of the permit, which mandate that the Town conduct dry weather outfall/interconnection screening and sampling of all outfalls/interconnections in Town over a period of three permit years.

This letter report includes results of the second phase of dry weather outfall screening and sampling performed on three separate days in the spring of 2021 (5/17/21, 6/24/21 and 6/25/21), and constitutes Permit Year 3 screening and sampling efforts. A letter report by VM Consulting Engineers dated January 10, 2020 summarized the results of the first phase of outfall/interconnection screening and sampling (Permit Year 1 and 2).

During Permit Year 1, 2 and 3, a total of 77 outfalls were successfully screened and sampled during dry weather. Three of these 77 outfalls were sampled by Haley & Ward Engineers on August 6, 2019.

VM CONSULTING ENGINEERS, LLC

99 Essex Street | Salem, MA 01970 :: (978) 853-5112 :: victoria@vmconsultingllc.com :: www.vmconsultingllc.com

Appendix A includes an outfall inspection index that lists each outfall in numeric order and gives the date each was inspected. The outfall inspection reports are organized by date in the appendices of this letter report, and in the previous letter report by VM Consulting Engineers dated January 10, 2020. The inspection date from Appendix A can be used to cross-reference the inspection report for each outfall.

Program Background

The U.S. Environmental Protection Agency (EPA) established the National Pollution Discharge Elimination System (NPDES) program as part of the Clean Water Act (CWA) to regulate discharges to surface water. The EPA and Massachusetts Department of Environmental Protection (MassDEP) are the co-permitting authorities that regulate stormwater runoff that enter local water bodies through MS4's in Massachusetts within "Urbanized Areas." The Town is an automatically designated MS4 area based on the 2000 and 2010 census data. Therefore, the Town is required to obtain a permit for stormwater discharges from the EPA and MassDEP.

The Town is currently covered under a NPDES General Permit for Stormwater Discharges for MS4's in Massachusetts (the MS4 General Permit). There are six minimum control measures in the MS4 General Permit that will result in a reduction in pollutants discharging into receiving waters. The Town developed an IDDE Plan to satisfy the third minimum control measure of its MS4 General Permit.

The IDDE Plan establishes a strategic, written program to address illicit discharges to the MS4 or to waters of the state. Outfall screening and sampling assessments, during wet weather and dry weather, are part of the IDDE Plan to help identify drainage areas with illicit discharge indicators and/or to verify that illicit discharges previously abated have been eliminated. The following section describes the process and analysis methods used to perform the Permit Year 3 dry weather outfall screening and sampling assessments.

Outfall Screening and Sampling Assessments

Outfall screening and sampling assessments will be used to help identify drainage areas with illicit discharge indicators. The screening included a visual and olfactory inspection of each outfall, and the condition of each outfall was observed and recorded using the Outfall Inspection Form in the IDDE Plan. Copies of the inspection forms and photographs of each outfall, sorted by date inspected, are included in Appendix B.

Analysis Methods Used

If flow was not observed during screening, the non-flowing condition was noted on the Outfall Inspection Form and no sample was collected.

If flow was observed during screening, two (2) samples were collected from the outfall. If the outfall was inaccessible, the nearest accessible upstream drainage structure was used, in accordance with EPA's Draft Bacterial Source Tracking Protocol (2012).

The first sample was analyzed in the field for ammonia, chlorine, surfactants, conductivity, salinity and temperature. Ammonia was measured with HACH Ammonia test strips. Total Chlorine was measured with a CHEMetrics K-2504 Field Kit. Surfactants were measured with a CHEMetrics K-9400 Field Kit. Conductivity, salinity and temperature were measured with an Oakton PCTSTestr™ 5 Waterproof Pocket Tester.

The second sample was submitted to Northeast Environmental Lab, Inc. (Danvers, MA) and analyzed for Enterococci utilizing the Enterolert method. The testing results were measured in Most Probable Number (MPN) per 100mL. The benchmark concentration from MassDEP for Enterococci is 61 Colony Forming Unit (CFU) per 100mL, however, one MPN is equivalent to one CFU. Both units measure the estimated number of bacteria in a water sample; the difference is how the measurement is obtained. MPN uses a liquid medium to grow bacteria colonies and CFU uses a solid medium.

Field Test Results

The screening results tables are separated by sampling day and included in Appendix C. The tables summarize the observations and testing results of the outfall screening and sampling. Each table includes the ID number for the outfall screened, screening date, sample location and field notes. The table also includes the average air temperature on the day of the sampling and inches of rainfall that occurred within 24 and 48 hours of the sampling. If there was flow at the outfall location, the water was tested for the following indicators: ammonia, surfactants, chlorine, enterococci, conductivity, salinity and temperature.

NOAA precipitation data for May and June from Marblehead Station 0.8 SW, MA US US1MAES0008 is presented in Appendix D.

The Laboratory reports from Northeast Environmental Laboratories are presented in Appendix E.

Benchmark concentrations for each measured parameter were established as part of the IDDE Plan. Table 1 lists the outfalls with results that exceeded a benchmark concentration. The result(s) that exceeded the benchmark is highlighted.

Table 1 – Samples Exceeding Benchmark

Outfall Unique ID	Screening Date	Ammonia (mg/L)	Salinity (ppt)	Surfactants (mg/L)	Chlorine (mg/L)	Enterococci per 100mL
Benchmark Concentration		≥0.5		≥0.25	≥0.05	61
2880	6/25/2021	0.0	2.8	2.0	0.0	>2,420
2808	6/25/2021	0.0	7.3	2.0	0.0	>2,420
3583	6/25/2021	0.0	8.3	2.0	0.0	>2,420
2683	5/17/2021	1.0	0.4	0.75	0	>2,420
1997	5/17/2021	0.25	0.3	0.25	0	135
2002	5/17/2021	0.25	0.4	0.50	0	130
2014	5/17/2021	0	0.6	0.25	0	16.8
2630	5/17/2021	0	0.3	0.25	0	1

Outfall Inspections by Others

Outfall 2677, Outfall 3703 and Outfall 10398 were inspected by Haley & Ward Engineers on August 6, 2019.

Unlocated and Inaccessible Outfalls

There are 11 outfalls identified in the Town's GIS that could not be inspected. Six of these outfalls were found to be catch basins, an inlet, no longer in use or did not exist. Five outfalls were inaccessible, could not be located or were surcharged. The following Table 2 lists these outfalls with each corresponding observation. Photos are included in Appendix F when applicable.

Table 2 – Outfalls Inspections Not Possible

Outfall ID (GIS)	Observation
1209	Not an outfall. This is a catch basin.
1973	This is an inlet, not an outfall.
3197	There is no Outfall 3197. It is a catch basin numbered 3198. Catch basin 3198 flows to Outfall 3200 which was inspected on 10/15/19.
3202	There is no Outfall 3202. It is a catch basin numbered 3201. Catch basin 3201 flows to Outfall 3206 which was inspected on 10/15/19.
3346	Full of sand and inaccessible for sampling on 6/25/21. See photo in Appendix F.
3521	Could not access. Pipe expected to be buried in debris/vegetation on beach. Grate over opening. Could not determine flow. Inspection attempted on 9/26/19. See photo in Appendix F.
3605	No longer in use.
3729	Could not locate, even at extreme low tide. See photos in Appendix F.
3792	Could not locate. Overgrown vegetation and dangerous slope. See photos in Appendix F.
3842	This outfall does not exist. It is in the same location as Outfall 2964 and there is only one outfall at this location. Outfall 2964 was inspected on 10/15/19.
3845	Could not locate on 11/26/19, submerged in pond. Only manhole is visible and it is surcharged. Water level in the manhole is at the same level as the pond. See photo in Appendix F.

Next Steps

The work summarized in this report comprises the Permit Year 3 dry weather sampling effort. This completes the dry weather sampling. Wet weather screening of selected outfalls will commence after the dry weather results have been evaluated and catchments reprioritized using updated System Vulnerability Factors. This work is expected to be completed by others. The Town has until the end of the permit term to complete wet weather screening.

Please do not hesitate to contact me directly to discuss the materials presented in this letter report. I can be reached at 978-853-5112 or victoria@vmconsultingllc.com.

Sincerely,



Victoria A. Masone, P.E.
VM Consulting Engineers LLC

APPENDIX A

OUTFALL INSPECTION INDEX

Outfall Inspection Index
(Permit Year 1, 2 and 3)

Outfall ID	IL 2014 Receiving Water	Date of Inspection or Inspection Attempt	Comments
Outfall ID listed in GIS but not in field. (GIS should be updated)			
1209		6/24/2021	Not an outfall - this is a catch basin per MW in DPW on 6/24/21
1973	Intermediate	N/A	This is an inlet, not an outfall.
3197	Marblehead Harbor	N/A	This is a catch basin, numbered 3198 (not 3197). It flows to Outfall 3200.
3202	Marblehead Harbor	N/A	This is a catch basin, numbered 3201 (not 3202). It flows to Outfall 3206.
3605	Marblehead Harbor	N/A	No longer in use.
3842	Marblehead Harbor	N/A	Does not exist. Adjacent to 2964 which was inspected on 10/15/19.
Inaccessible Outfalls			
3346	Atlantic Ocean (not an IL 2014 waterbody)	6/25/2021	Full of cobble & inaccessible for sampling. See photos.
3521	Marblehead Harbor	9/26/2019	Could not access. Pipe expected to be buried in debris/vegetation on beach. Grate over opening. Could not determine flow. Inspection attempted on 9/26/19. See photos.
3729	Salem Sound	6/25/2021	Could not locate, even at extreme low tide. See photos.
3792	Intermediate	6/24/2021	Could not locate - overgrown vegetation and dangerous slope. See photo.
3845	Intermediate	11/26/2019	Could not locate. Outfall is submerged in pond. Only manhole visible and it is surcharged. See photos.
Sampled by Haley & Ward on 8/6/19			
2677	Salem Sound	8/16/2019	Grace Oliver. Sampled by Haley & Ward on 8/6/19.
3703	Intermediate	8/16/2019	Inspected by Haley & Ward on 8/6/19, DRY
10398	Marblehead Harbor	8/16/2019	Sampled by Haley & Ward on 8/6/19. This is also shown in Town GIS mapping as Outfall 1, and named "Riverhead."
Complete Inspections			
1963	Intermediate	11/26/2019	Inspected 11/26/19, DRY
1964	Intermediate	6/24/2021	Inspected on 6/24/21, DRY
1966	Atlantic Ocean (not an IL 2014 waterbody)	9/17/2019	Inspected 9/17/19, DRY
1968	Atlantic Ocean (not an IL 2014 waterbody)	9/17/2019	Sampled on 9/17/19
1969	Atlantic Ocean (not an IL 2014 waterbody)	9/17/2019	Inspected 9/17/19, DRY
1971	Atlantic Ocean (not an IL 2014 waterbody)	9/17/2019	Crown Way. Sampled on 9/17/19.
1977	Intermediate	6/24/2021	Inspected on 6/24/21, DRY
1978	Forest River	6/24/2021	Inspected on 6/24/21, DRY
1979	Forest River	6/24/2021	Inspected on 6/24/21, DRY
1985	Salem Harbor	11/26/2019	Sampled on 11/26/19
1986	Salem Harbor	11/26/2019	Sampled on 11/26/19
1987	Salem Harbor	11/26/2019	Inspected on 11/26/19, DRY
1988	Salem Harbor	11/26/2019	Inspected on 11/26/19, DRY
1990	Salem Harbor	11/26/2019	Sampled on 11/26/19
1993	Salem Harbor	11/26/2019	Sampled on 11/26/19
1994	Salem Harbor	11/26/2019	Inspected on 11/26/19, DRY
1997	Salem Harbor	5/17/2021	Sampled on 5/17/21
1999	Salem Harbor	11/26/2019	Sampled on 11/26/19
2002	Intermediate	5/17/2021	Sampled on 5/17/21
2004	Intermediate	5/17/2021	Inspected on 5/17/21, DRY
2005	Salem Harbor	11/26/2019	Inspected on 11/26/19, DRY
2011	Intermediate	5/17/2021	Inspected on 5/17/21, DRY
2013	Salem Harbor	11/26/2019	Sampled on 11/26/19
2014	Salem Harbor	5/17/2021	Sampled on 5/17/21
2575	Salem Harbor	5/17/2021	Inspected on 5/17/21, DRY
2580	Salem Harbor	10/15/2019	Inspected 10/15/19, DRY
2630	Salem Harbor	5/17/2021	Sampled on 5/17/21
2638	Salem Sound	10/15/2019	Inspected 10/15/19, DRY
2648	Salem Sound	10/15/2019	Inspected 10/15/19, DRY
2663	Intermediate	5/17/2021	Inspected on 5/17/21, DRY
2670	Salem Sound	10/15/2019	Sampled on 10/15/19
2679	Salem Sound	10/15/2019	Inspected 10/15/19, DRY
2682	Salem Sound	10/15/2019	Inspected 10/15/19, DRY
2683	Salem Sound	5/17/2021	Sampled on 5/17/21
2808	Salem Sound	6/25/2021	Sampled on 6/25/21
2880	Salem Sound	6/25/2021	Sampled on 6/25/21
2961	Marblehead Harbor	10/15/2019	Inspected 10/15/19, DRY
2964		10/15/2019	Inspected 10/15/19, DRY
3001	Marblehead Harbor	9/17/2019	The Landing. Sampled on 9/17/19
3110	Marblehead Harbor	9/17/2019	Boston Yacht Club. Sampled one MH up at 3108 on 9/17/19
3182	Marblehead Harbor	10/15/2019	Sampled on 10/15/19
3195	Marblehead Harbor	10/15/2019	Sampled on 10/15/19
3200	Marblehead Harbor	10/15/2019	Inspected 10/15/19, DRY
3206	Marblehead Harbor	10/15/2019	Inspected 10/15/19, DRY
3207		10/15/2019	Inspected 10/15/19, DRY
3213	Marblehead Harbor	10/15/2019	Inspected 10/15/19, DRY
3278	Intermediate	5/17/2021	Inspected on 5/17/21, DRY
3356	Atlantic Ocean (not an IL 2014 waterbody)	9/26/2019	Sampled on 9/26/19
3418	Atlantic Ocean (not an IL 2014 waterbody)	9/17/2019	Inspected 9/17/19, DRY
3426	Atlantic Ocean (not an IL 2014 waterbody)	9/26/2019	Sampled on 9/26/19
3457A		9/26/2019	Sampled on 9/26/19
3457B		9/26/2019	Sampled on 9/26/19
3457C		9/26/2019	Inspected on 9/26/19, DRY
3468A		9/26/2019	Sampled on 9/26/19
3468B		9/26/2019	Sampled on 9/26/19
3471A	Atlantic Ocean (not an IL 2014 waterbody)	9/26/2019	Inspected 9/26/19, DRY
3474	Marblehead Harbor	9/26/2019	Inspected 9/26/19, DRY
3486	Marblehead Harbor	9/26/2019	Inspected 9/26/19, DRY
3495	Atlantic Ocean (not an IL 2014 waterbody)	9/26/2019	Sampled on 9/26/19
3503	Atlantic Ocean (not an IL 2014 waterbody)	9/26/2019	Inspected 9/26/19, DRY
3508	Marblehead Harbor	9/26/2019	Inspected 9/26/19, DRY
3516	Marblehead Harbor	9/26/2019	Inspected 9/26/19, DRY
3569	Marblehead Harbor	9/26/2019	Sampled on 9/26/19
3583	Marblehead Harbor	6/25/2021	Sampled on 6/25/21
3718	Salem Harbor	11/26/2019	Inspected on 11/26/19, DRY
3735	Salem Sound	10/15/2019	Sampled on 10/15/19
3742	Marblehead Harbor	9/26/2019	Inspected 9/26/19, DRY
3764	Marblehead Harbor	9/17/2019	Red Steps. Sampled per AM's request on 9/17/19
3785	Salem Harbor	10/15/2019	Sampled on 10/15/19
3841	Marblehead Harbor	10/15/2019	Inspected 10/15/19, DRY
3844	Intermediate	5/17/2021	Inspected on 5/17/21, DRY
3971	Intermediate	5/17/2021	Inspected on 5/17/21, DRY
4043	Intermediate	6/24/2021	Inspected on 6/24/21, DRY
DMH 927	Atlantic Ocean (not an IL 2014 waterbody)	9/17/2019	Manhole upstream of combination with Swampscott and discharge to Preston Beach outfall. Incorrectly identified as Outfall 1120 in the January 2020 report. It discharges to a Swampscott outfall, so the outfall is not in Marblehead GIS.

APPENDIX B

PHOTOS AND SAMPLING

Outfall 2683, Inspected on 5/17/21

Closed, ~36-inch RCP, Singular, Circular, not submerged, partial sediment, moderate flow. Seaweed at bottom of pipe.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2683</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>1330</u>	
Investigators: <u>Vn/PS</u>		Form completed by: <u>Vn</u>	
Temperature (°F): <u>70°</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>~ 36"</u>
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature	<u>16.7</u>		<u>C</u>	Probe
Conductivity	<u>794</u>		<u>µS/cm</u>	Probe
Salinity (as Applicable)	<u>0.4</u>		ppt	Probe
Ammonia	<u>1.0</u>		mg/L	Field test kit
Surfactants	<u>0.75</u>		mg/L	Field test kit
Chlorine	<u>0</u>		mg/L	Field test kit

2683

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Seaweed @ bottom of pipe that flow passes through, may influence sample.

Outfall 2663, Inspected on 5/17/21

Closed, ~24-inch RCP, Singular, Circular, not submerged, partial sediment. Outlet obstructed (about 75%) with organic yard debris. Can only see crown of pipe.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2663</u>	
Today's date: <u>5/17/12</u>		Time (Military): <u>1310</u>	
Investigators: <u>Vm/PS</u>		Form completed by: <u>Vm</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>~24"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

263

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

outlet obstructed ~ 75% with organic yard debris
can just see crown of pipe.

Outfall 3971, Inspected on 5/17/21

Closed, Unknown pipe diameter and pipe material, Singular, Circular, not submerged, partial sediment. Outfall clogged with branches/yard waste. Cannot see pipe. Can only see pipe opening.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>3971</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>1255</u>	
Investigators: <u>W-IPS</u>		Form completed by: <u>Wm</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Other: <u>unk.</u>	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____ In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

3971

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

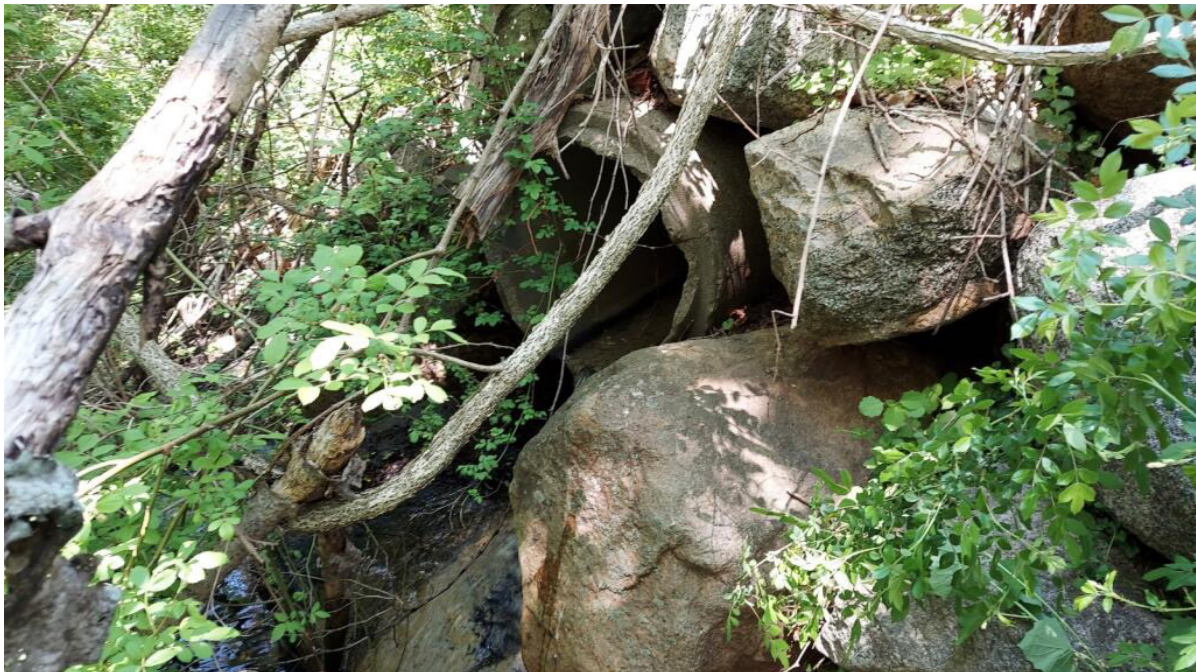
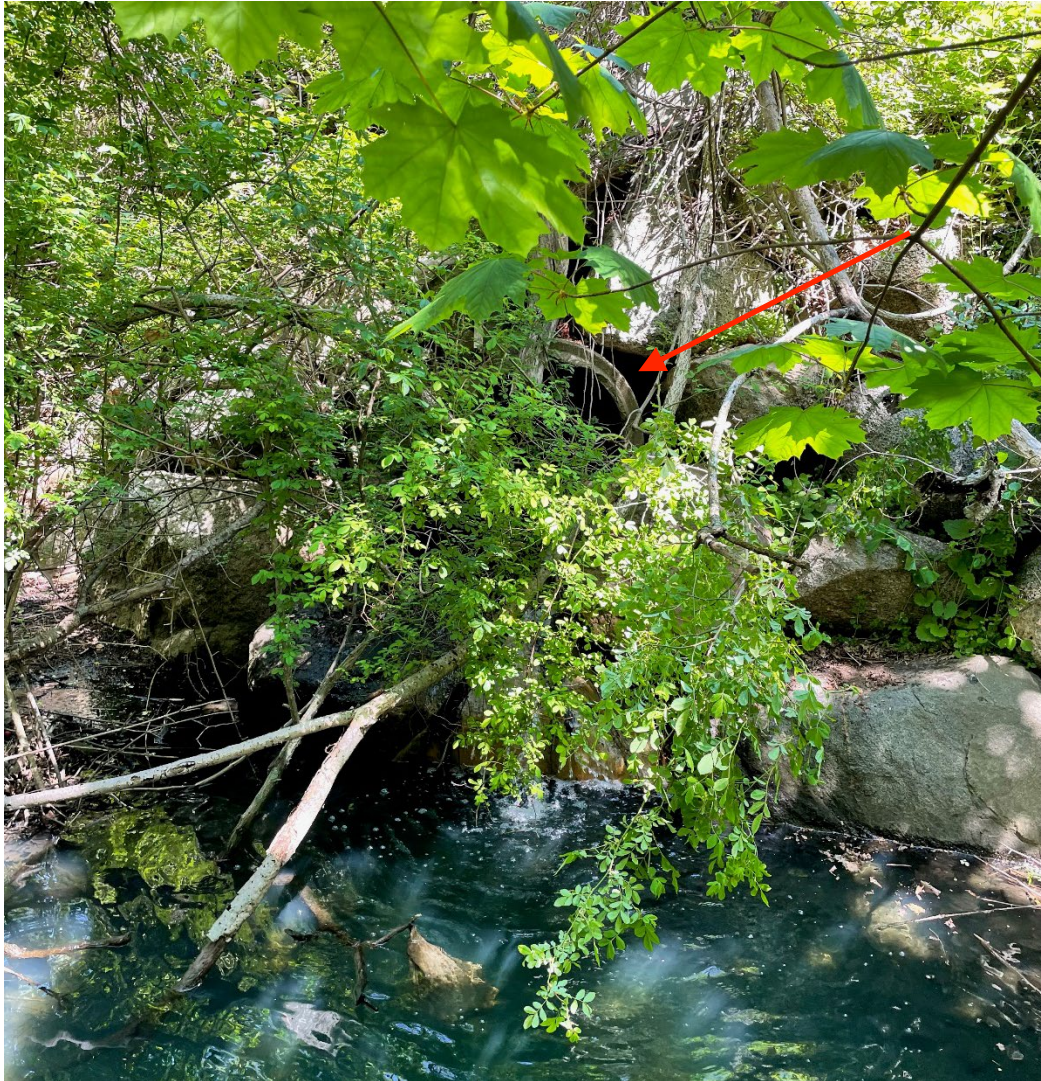
1. Sample for the lab?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

outfall clogged with branches / yard waste
can't see pipe, just opening.

Outfall 2002, Inspected on 5/17/21

Closed, ~36-inch RCP, Singular, Circular, not submerged, no sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2002</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>1220</u>	
Investigators: <u>Ym/PS</u>		Form completed by: <u>Ym</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>~ 36"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature	<u>15.0</u>		<u>TC</u>	Probe
Conductivity	<u>961</u>		µS/cm	Probe
Salinity (as Applicable)	<u>0.40</u>		ppt	Probe
Ammonia	<u>0.25</u>		mg/L	Field test kit
Surfactants	<u>0.5</u>		mg/L	Field test kit
Chlorine	<u>0</u>		mg/L	Field test kit

Outfall Reconnaissance Inventory Field Sheet

2002

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☒ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK If Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input checked="" type="checkbox"/>	See severity	<input checked="" type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK If Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. If yes, collected from:	<input checked="" type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2004, Inspected on 5/17/21

Closed, ~10-inch CMP, Singular, Circular, not submerged, no sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2004</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>1210</u>	
Investigators: <u>vm/ps</u>		Form completed by: <u>vm</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input checked="" type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>16"</u> In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

Outfall Reconnaissance Inventory Field Sheet

2004

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK If Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK If Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 3278, Inspected on 5/17/21

Closed, 8-inch RCP, Singular, Circular, partially submerged, partial sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>3278</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>1155</u>	
Investigators: <u>VR/PS</u>		Form completed by: <u>VR</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input checked="" type="checkbox"/> Institutional - <u>K-5 school</u>	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>8"</u>	In Water: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2011, Inspected on 5/17/21

Closed, ~24-inch RCP, Singular, Circular, not submerged, partial sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2011</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>1140</u>	
Investigators: <u>dm/PS</u>		Form completed by: <u>dm</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>~24"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature			°F	Probe
Conductivity			µS/cm	Probe
Salinity (as Applicable)			ppt	Probe
Ammonia			mg/L	Field test kit
Surfactants			mg/L	Field test kit
Chlorine			mg/L	Field test kit

2011

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

 Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

 Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

<input checked="" type="checkbox"/> Unlikely <input type="checkbox"/> Potential (presence of two or more indicators) <input type="checkbox"/> Suspect (one or more indicators with a severity of 3) <input type="checkbox"/> Obvious
--

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2014, Inspected on 5/17/21

Closed, CMP inside RCP, Singular, Circular, not submerged, partial sediment. Outfall is obstructed. CMP broken inside.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 2014	
Today's date: 5/17/21		Time (Military): 1100	
Investigators: Vm/PS		Form completed by: Vm	
Temperature (°F): 70	Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input checked="" type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____ CMP inside 26"	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>~ 36"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input checked="" type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature		15.7	°C	Probe
Conductivity		1101	µS/cm	Probe
Salinity (as Applicable)		0.50	ppt	Probe
Ammonia		0	mg/L	Field test kit
Surfactants		0.25	mg/L	Field test kit
Chlorine		0	mg/L	Field test kit

2014

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☒ Yes ☐ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input checked="" type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	outfall is obstructed / imp. broken inside. see pics
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input checked="" type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2630, Inspected on 5/17/21

Closed, RCP, Singular, Circular, not submerged, partial sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 2630	
Today's date: 5/17/21		Time (Military): 1035	
Investigators: vn-IPS		Form completed by: vn	
Temperature (°F): 70	Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>~24"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature	13.1	°C	Probe	
Conductivity	709	µS/cm	Probe	
Salinity (as Applicable)	0.30	ppt	Probe	
Ammonia	0	mg/L	Field test kit	
Surfactants	0.25	mg/L	Field test kit	
Chlorine	0	mg/L	Field test kit	

2630

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
2. If yes, collected from:	<input checked="" type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2575, Inspected on 5/17/21

Closed, 8-inch clay, Singular, Circular, not submerged, no sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2575</u>	
Today's date: <u>5/17/11</u>		Time (Military): <u>1015</u>	
Investigators: <u>Ym/PS</u>		Form completed by: <u>Ym</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Other: <u>CLAY</u>	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>628"</u> In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

Outfall Reconnaissance Inventory Field Sheet

2575

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 3844, Inspected on 5/17/21

Closed, 4-inch PVC, Singular, Circular, not submerged, no sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 3844	
Today's date: 5/17/21		Time (Military): 0955	
Investigators: Ym/PS		Form completed by: Ym	
Temperature (°F): 70	Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: 24" In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature		°F		Probe
Conductivity		µS/cm		Probe
Salinity (as Applicable)		ppt		Probe
Ammonia		mg/L		Field test kit
Surfactants		mg/L		Field test kit
Chlorine		mg/L		Field test kit

3844

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 1997, Inspected on 5/17/21

Closed, 24-inch RCP, Singular, Circular, not submerged.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>1197</u>	
Today's date: <u>5/17/21</u>		Time (Military): <u>0925</u>	
Investigators: <u>VM/PS</u>		Form completed by: <u>VM</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input checked="" type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>24"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature	<u>15.1</u>	<u>°C</u>	Probe	
Conductivity	<u>579</u>	<u>µS/cm</u>	Probe	
Salinity (as Applicable)	<u>0.3</u>	ppt	Probe	
Ammonia	<u>0.05</u>	mg/L	Field test kit	
Surfactants	<u>0.25</u>	mg/L	Field test kit	
Chlorine	<u>0</u>	mg/L	Field test kit	

1997

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 – Cloudy	<input type="checkbox"/> 3 – Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. If yes, collected from:	<input checked="" type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 1979, Inspected on 6/24/21

Closed, 12-inch RCP, Singular, Circular, not submerged, no sediment, no flow.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>1979</u>	
Today's date: <u>6/24/21</u>		Time (Military): <u>0930</u>	
Investigators: <u>VH/PS</u>		Form completed by: <u>VH</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <input checked="" type="checkbox"/> Last 48 hours: <u>0.88</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>12"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

1979

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 1978, Inspected on 6/24/21

Closed, 36-inch RCP, Singular, Circular, crescent opening, partially submerged (tidal), partial sediment.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>1978</u>	
Today's date: <u>6/24/21</u>		Time (Military): <u>0950</u>	
Investigators: <u>Vn/PS</u>		Form completed by: <u>Vn</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>6.88</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input checked="" type="checkbox"/> Other: <u>insured opening</u>	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>36"</u>	In Water: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially (tidal) <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>				
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

1978

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 1977, Inspected on 6/24/21

Closed, 8-inch CMP, Singular, Circular, not submerged, no flow.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>1977</u>	
Today's date: <u>6/29/21</u>		Time (Military): <u>1000</u>	
Investigators: <u>YH/RS</u>		Form completed by: <u>YH</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0.88</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input checked="" type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>6"</u> In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

1977

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK If Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK If Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 1964 Inspected on 6/24/21

Closed, 18-inch RCP, Circular, partially submerged (50%), no flow.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>1964</u>	
Today's date: <u>6/24/21</u>		Time (Military): <u>1015</u>	
Investigators: <u>Vn-1PS</u>		Form completed by: <u>Vn</u>	
Temperature (°F): <u>70</u>	Rainfall (in.): Last 24 hours: <u>0</u> Last 48 hours: <u>0.88</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>18"</u>	In Water: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially (50%) <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

Outfall Reconnaissance Inventory Field Sheet

1964

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 4043 Inspected on 6/24/21

Closed, 8-inch RCP, Circular, singular, no flow.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 4043	
Today's date: 6/24/21		Time (Military): 1125	
Investigators: Vm JPS		Form completed by: Vm	
Temperature (°F): 70	Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0.88		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: 8" In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature		°F	Probe	
Conductivity		µS/cm	Probe	
Salinity (as Applicable)		ppt	Probe	
Ammonia		mg/L	Field test kit	
Surfactants		mg/L	Field test kit	
Chlorine		mg/L	Field test kit	

4043

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
2. If yes, collected from:	<input type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2880, Inspected on 6/25/21

Closed, 48-inch CMP, Singular, Circular, not submerged, no flow, no sediment, substantial flow, cloudy (turbidity), potential source of contamination.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: 2880	
Today's date: 6/25/21		Time (Military): 0720	
Investigators: Jm-IPS		Form completed by: Jm	
Temperature (°F): 60		Rainfall (in.): Last 24 hours: 40.1 Last 48 hours: 40.1	
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: 48" In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, Skip to Section 5			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature	17.4	°C		Probe
Conductivity	5.22	µS/cm		Probe
Salinity (as Applicable)	2.80	ppt		Probe
Ammonia	0	mg/L		Field test kit
Surfactants	2.0	mg/L		Field test kit
Chlorine	0	mg/L		Field test kit

2880

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

 Are Any Physical Indicators Present in the flow? ☒ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input checked="" type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input checked="" type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

 Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☒ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

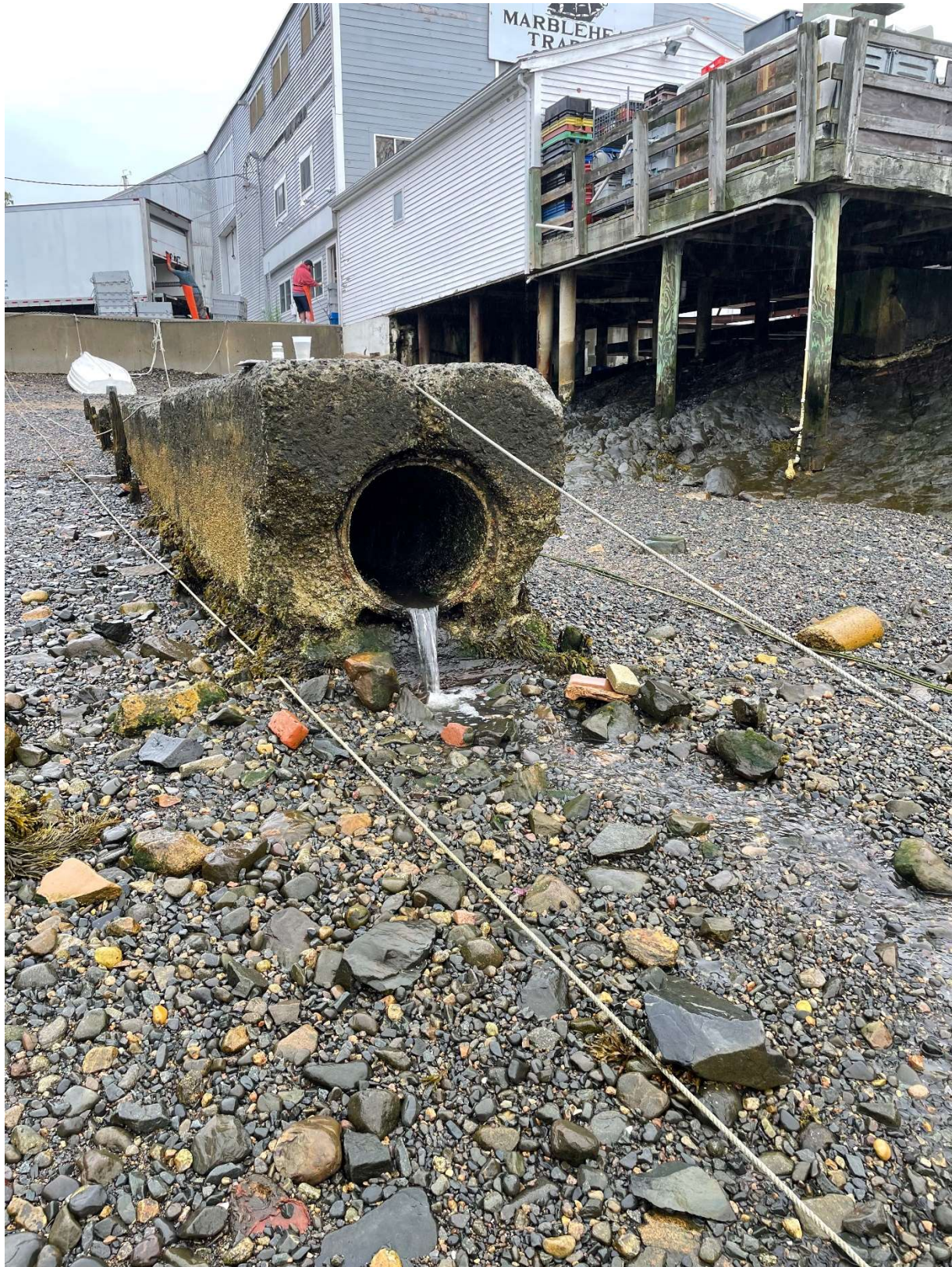
Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
2. If yes, collected from:	<input checked="" type="checkbox"/> Flow	<input type="checkbox"/> Pool	
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 2808, Inspected on 6/25/21

Closed, 2'x4' Box Culvert, RCP, not submerged, moderate flow, slight cloudiness.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>2808</u>	
Today's date: <u>6/25/21</u>		Time (Military): <u>0735</u>	
Investigators: <u>Ym-jps</u>		Form completed by: <u>Ym</u>	
Temperature (°F): <u>60</u>	Rainfall (in.): Last 24 hours: <u>40.1</u> Last 48 hours: <u>20.1</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input checked="" type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>2' x 4'</u> In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume	Liter	Bottle	
	Time to fill	Sec		
Temperature	<u>16.6</u>	°F	Probe	
Conductivity	<u>12.63</u>	µS/cm	Probe	
Salinity (as Applicable)	<u>7.30</u>	ppt	Probe	
Ammonia	<u>0</u>	mg/L	Field test kit	
Surfactants	<u>2.0</u>	mg/L	Field test kit	
Chlorine	<u>0</u>	mg/L	Field test kit	

Outfall Reconnaissance Inventory Field Sheet

2808

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☒ Yes ☒ No (If No, Skip to Section 5)

INDICATOR	CHECK If Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input checked="" type="checkbox"/>	See severity	<input checked="" type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK If Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☒ Unlikely
 ☐ Potential (presence of two or more indicators)
 ☐ Suspect (one or more indicators with a severity of 3)
 ☐ Obvious

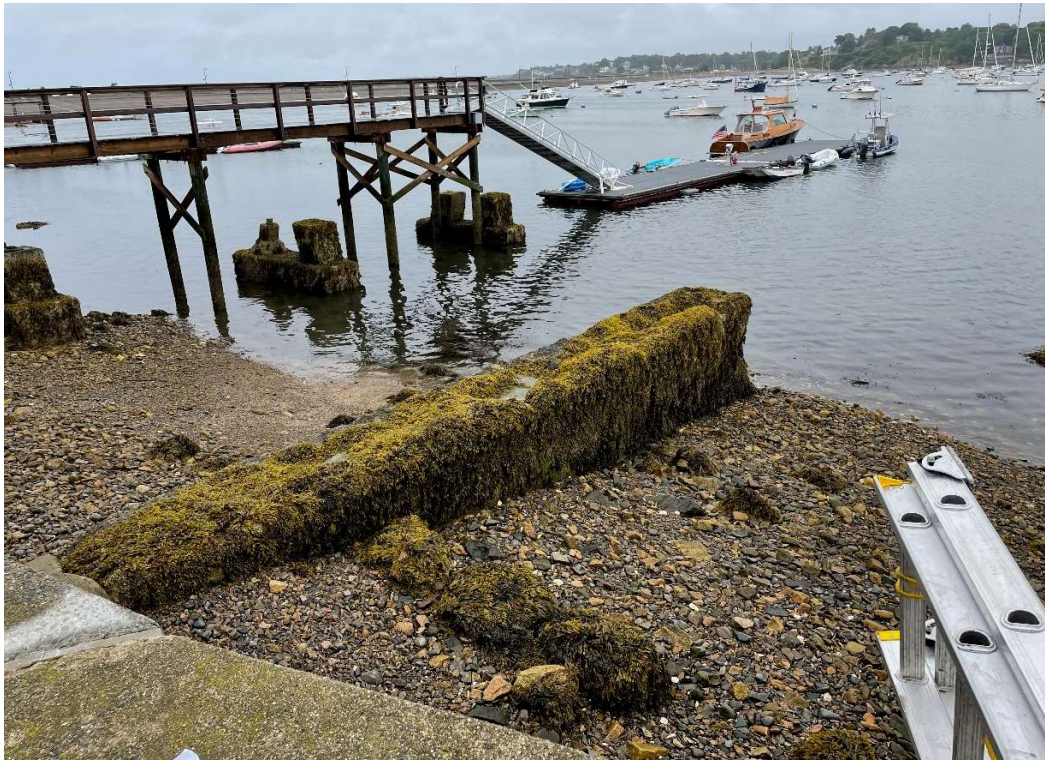
Section 7: Data Collection

1. Sample for the lab?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. If yes, collected from:	<input checked="" type="checkbox"/> Flow	<input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Outfall 3583, Inspected on 6/25/21

Closed, 48-inch RCP, Circular, Single, not submerged, no sediment, substantial flow, slight cloudiness (turbidity), white suds, potential source of contamination.



OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID: <u>3583</u>	
Today's date: <u>6/25/21</u>		Time (Military): <u>0820</u>	
Investigators: <u>VR-1PS</u>		Form completed by: <u>VR</u>	
Temperature (°F): <u>60</u>	Rainfall (in.): Last 24 hours: <u>40.1</u> Last 48 hours: <u>40.1</u>		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input checked="" type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Rain began as we were collecting this final sample.

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: <u>48"</u>	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>			
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER	RESULT	UNIT	EQUIPMENT	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
Temperature	<u>16.8</u>	<u>°C</u>	Probe	
Conductivity	<u>14.04</u>	<u>µS/cm</u>	Probe	
Salinity (as Applicable)	<u>8.30</u>	<u>ppt</u>	Probe	
Ammonia	<u>0</u>	<u>mg/L</u>	Field test kit	
Surfactants	<u>2.0</u>	<u>mg/L</u>	Field test kit	
Chlorine	<u>0</u>	<u>mg/L</u>	Field test kit	

3583

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

 Are Any Physical Indicators Present in the flow? ☒ Yes ☐ No (If No, Skip to Section 5)

INDICATOR	CHECK IF Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input checked="" type="checkbox"/>	See severity	<input checked="" type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input checked="" type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input checked="" type="checkbox"/> Suds (white) <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input checked="" type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

 Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)

INDICATOR	CHECK IF Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☒ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

- | | | | |
|--------------------------------|--|-------------------------------|---|
| 1. Sample for the lab? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| 2. If yes, collected from: | <input checked="" type="checkbox"/> Flow | <input type="checkbox"/> Pool | |
| 3. Intermittent flow trap set? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam |

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

APPENDIX C

OUTFALL SCREENING RESULTS TABLE

Outfall Screening Results - May 17, 2021 (1 of 1)

Outfall Unique ID	Screening Date	Sample Location	Field Notes	Weather Conditions (at time of Sampling)	Precipitation in previous 24 hours (in.)	Precipitation in previous 48 hours (in.)	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Enterococci per 100mL	Conductivity (uS/cm)	Salinity (ppt)	Temperature (°C)
2683	5/17/2021	Suburban Residential	Closed, ~36-inch RCP, Single, Circular, not submerged, partial sediment, moderate flow. Seaweed at bottom of pipe that flow passes through. May influence sample.	70 °F	0	0	1.0	0.75	0	2,420	794	0.40	16.7
2663	5/17/2021	Suburban Residential	Closed, ~24-inch RCP, Single, Circular, not submerged, partial sediment. Outlet obstructed (about 75%) with organic yard debris. Can only see crown of pipe.	70 °F	0	0	No flow. No sample taken.						
3971	5/17/2021	Suburban Residential	Closed, Unknown pipe diameter, unknown pipe material, Single, Circular, not submerged, partial sediment. Outfall clogged with branches/yard waste. Can't see pipe, Just the pipe opening.	70 °F	0	0	No flow. No sample taken.						
2002	5/17/2021	Suburban Residential	Closed, ~36-inch RCP, Single, Circular, not submerged, no sediment.	70 °F	0	0	0.25	0.50	0	130	961	0.40	15
2004	5/17/2021	Suburban Residential	Closed, ~10-inch CMP, Single, Circular, not submerged, no sediment.	70 °F	0	0	No flow. No sample taken.						
3278	5/17/2021	Institutional (K thru 5 school)	Closed, 8-inch RCP, Single, Circular, partially submerged, partial sediment.	70 °F	0	0	No flow. No sample taken.						
2011	5/17/2021	Suburban Residential	Closed, ~24-inch RCP, Single, Circular, not submerged, partial sediment.	70 °F	0	0	No flow. No sample taken.						
2014	5/17/2021	Suburban Residential	Closed, CMP inside RCP, Single, Circular, not submerged, partial sediment. Outfall is obstructed. CMP broken inside.	70 °F	0	0	0	0.25	0	16.8	1,101	0.6	15.7
2630	5/17/2021	Suburban Residential	Closed, RCP, Single, Circular, not submerged, partial sediment.	70 °F	0	0	0	0.25	0	1	709	0.3	13.1
2575	5/17/2021	Suburban Residential	Closed, 8" Clay, Single, Circular, not submerged, no sediment.	70 °F	0	0	No flow. No sample taken.						
3844	5/17/2021	Suburban Residential	Closed, 4" PVC, Single, Circular, not submerged, no sediment.	70 °F	0	0	No flow. No sample taken.						
1997	5/17/2021	Open Space	Closed, 24" RCP, Single, Circular, not submerged,	70 °F	0	0	0.25	0.25	0	135	579	0.3	15.1

Outfall Screening Results - June 24, 2021 (1 of 1)

[illegible]

Outfall Screening Results - June 25, 2021 (1 of 1)

Outfall Unique ID	Screening Date	Sample Location	Field Notes	Weather Conditions (at time of Sampling)	Precipitation in previous 24 hours (in.)	Precipitation in previous 48 hours (in.)	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Enterococci per 100mL	Conductivity (uS/cm)	Salinity (ppt)	Temperature (°C)
2880	6/25/2021	Suburban Residential	Closed, 48-inch CMP, Circular, Single, not submerged, no flow, no sediment, substantial flow, cloudy (turbidity) , potential source of contamination.	60 °F	<0.1	<0.1	0.0	2.0	0.0	>2,420	5.22	2.8	17.4
2808	6/25/2021	Suburban Residential	Closed, 2'x4' Box Culvert, RCP, not submerged, moderate flow, slight cloudiness (turbidity), unlikely source of contamination.	60 °F	<0.1	<0.1	0.0	2.0	0.0	>2,420	12.63	7.3	16.6
3583	6/25/2021	Suburban Residential	Closed, 48-inch RCP,Circular, Single, not submerged, no sediment, substantial flow, Slight cloudiness (turbidity), white suds, potential source of contamination.	60 °F	<0.1	<0.1	0.0	2.0	0.0	>2,420	14.04	8.3	16.8

APPENDIX D

NOAA PRECIPITATION DATA

**Record of Climatological
Observations**
These data are quality controlled and may not
be identical to the original observations.
Generated on 07/03/2021

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	05	01				0.09												
2021	05	02				0.00		0.0										
2021	05	03				0.00		0.0										
2021	05	04																
2021	05	05				1.04												
2021	05	06				0.20		0.0										
2021	05	07				0.00		0.0										
2021	05	08				0.00		0.0										
2021	05	09				0.00		0.0										
2021	05	10				0.36												
2021	05	11				0.00		0.0										
2021	05	12				0.00		0.0										
2021	05	13				T												
2021	05	14				0.00		0.0										
2021	05	15				T												
2021	05	16				0.00		0.0										
2021	05	17				T												
2021	05	18				0.00		0.0										
2021	05	19				0.00		0.0										
2021	05	20				0.00		0.0										
2021	05	21				0.00		0.0										
2021	05	22				0.00		0.0										
2021	05	23				0.05												
2021	05	24				T												
2021	05	25				0.00		0.0										
2021	05	26				0.00		0.0										
2021	05	27				0.41												
2021	05	28				0.00		0.0										
2021	05	29																
2021	05	30				2.45												
2021	05	31				1.10												
Summary						5.70		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Current Location: Elev: 38 ft. Lat: 42.4922° N Lon: -70.8758° W
Station: MARBLEHEAD 0.8 SW, MA US US1MAES0008

Record of Climatological
Observations
These data are quality controlled and may not
be identical to the original observations.

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Generated on 07/03/2021

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)			Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2021	06	01				0.00		0.0										
2021	06	02				0.00		0.0										
2021	06	03				0.00		0.0										
2021	06	04				0.00		0.0										
2021	06	05				0.00		0.0										
2021	06	06				0.01												
2021	06	07				0.00		0.0										
2021	06	08				0.00		0.0										
2021	06	09				0.03												
2021	06	10				0.00		0.0										
2021	06	11				0.00		0.0										
2021	06	12				0.55												
2021	06	13				0.00		0.0										
2021	06	14				0.00		0.0										
2021	06	15				0.23												
2021	06	16				0.00		0.0										
2021	06	17				0.00		0.0										
2021	06	18				0.00		0.0										
2021	06	19				T												
2021	06	20				0.00		0.0										
2021	06	21				0.00		0.0										
2021	06	22				0.00		0.0										
2021	06	23				0.88												
2021	06	24				0.00		0.0										
2021	06	25				0.13												
2021	06	26				T												
2021	06	27				0.00		0.0										
2021	06	28				0.00		0.0										
2021	06	29																
2021	06	30																
Summary						1.83		0.0										

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

APPENDIX E

LABORATORY RESULTS

VM Consulting Engineers LLC
99 Essex St.
Salem, MA 01970

05/19/21
Report# 56333

NEL# A52505: 1997 collected 05/17/21 at 09:25 by VM and received at NEL 05/17/21 at 15:00 by SA.

Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	135 /100ml	1	n/a	Enterolert	05/17/21 15:28	EP	MA123	N

NEL# A52506: 2630 collected 05/17/21 at 10:35 by VM and received at NEL 05/17/21 at 15:00 by SA.

Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	1 /100ml	1	n/a	Enterolert	05/17/21 15:28	EP	MA123	N

NEL# A52507: 2014 collected 05/17/21 at 11:00 by VM and received at NEL 05/17/21 at 15:00 by SA.

Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	16.8 /100ml	1	n/a	Enterolert	05/17/21 15:28	EP	MA123	N

NEL# A52508: 2002 collected 05/17/21 at 12:20 by VM and received at NEL 05/17/21 at 15:00 by SA.


Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	130 /100ml	1	n/a	Enterolert	05/17/21 15:28	EP	MA123	N

NEL# A52509: 2683 collected 05/17/21 at 13:30 by VM and received at NEL 05/17/21 at 15:00 by SA.

Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	>2,420 /100ml	1	n/a	Enterolert	05/17/21 15:28	EP	MA123	N

*Analyses conducted in accordance with MA DEP certification standards for potable water (P) or non-potable water (N) unless noted otherwise.

Not Detected (ND) indicates that if the analyte is present, the concentration is below the detection limit. Detection Limit (DL) is the method detection limit adjusted for dilutions. Practical Quantification Limit (PQL) is the lowest instrument calibration level adjusted for dilutions, below which concentrations are estimated.


Tyler F. Marcet
Laboratory Director

56333



Northeast

ENVIRONMENTAL LABORATORY, INC.

Chain of Custody

Required Analyses

Client info: *Im Consulting Engineers LLC*
for: Town of Marblehead msy
99 Essex St.
Salem MA 01970

Sample Description	Bottle	Preservation	Enterococci MPN									NEL ID
1997	120ml Sterile plastic	4°C	X									A 52505
5/17/21 0925												
Date & Time Collected:												
2630	" "	" "	X									A 52506
5/17/21 1035												
Date & Time Collected:												
2014	" "	" "	X									A 52507
5/17/21 1100												
Date & Time Collected:												
2002	" "	" "	X									A 52508
5/17/21 1220												
Date & Time Collected:												
2683	" "	" "	X									A 52509
5/17/21 1330												
Date & Time Collected:												
Collected by: <i>Victoria Masone</i>	5/17/21	Comments:										
Relinquished by: <i>Victoria Masone</i>	5/17/21 1500											
Received at lab by: <i>Sharon Agnew</i>	Date & Time: 5/17/21 15:00											

Northeast Environmental Laboratory, Inc.

41 Dayton Street

(978) 777-4442

Danvers, MA 01923

DEP # M-MA123

IDV
COCV

VM Consulting Engineers LLC
99 Essex St.
Salem, MA 01970

06/28/21
Report# 56604

NEL# A53419: 2880 collected 06/25/21 at 07:20 by VM and received at NEL 06/25/21 at 09:22 by SA.

Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	>2,420 /100ml	1	n/a	Enterolert	06/25/21 12:11	EP	MA123	N

NEL# A53420: 2808 collected 06/25/21 at 07:35 by VM and received at NEL 06/25/21 at 09:22 by SA.

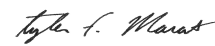
Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	>2,420 /100ml	1	n/a	Enterolert	06/25/21 12:11	EP	MA123	N

NEL# A53421: 3583 collected 06/25/21 at 08:20 by VM and received at NEL 06/25/21 at 09:22 by SA.

Parameter	Result	DL	PQL	Method	Analyzed	By	Lab	Cert.*
Enterococci, MPN	>2,420 /100ml	1	n/a	Enterolert	06/25/21 12:11	EP	MA123	N

*Analyses conducted in accordance with MA DEP certification standards for potable water (P) or non-potable water (N) unless noted otherwise.

Not Detected (ND) indicates that if the analyte is present, the concentration is below the detection limit. Detection Limit (DL) is the method detection limit adjusted for dilutions. Practical Quantification Limit (PQL) is the lowest instrument calibration level adjusted for dilutions, below which concentrations are estimated.


Tyler F. Marcet
Laboratory Director

56604



Northeast

ENVIRONMENTAL LABORATORY, INC.

Chain of Custody

Required Analyses

Client info:

Vm Consulting Engineers LLC
 For: Town of Marblehead MS4
 99 Essex St.
 Salem, MA 01970

Sample Description	Bottle	Preservation	Enterococci / MPN								NEL ID
2880	120 mL Sterile Plastic	4°C	X								A53419
Date & Time Collected: 6/25/21 0720											
2808	120 mL Sterile plastic	4°C	X								A53420
Date & Time Collected: 6/25/21 0735											
3583	120 mL Sterile Plastic	4°C	X								A53421
Date & Time Collected: 6/25/21 0820											
Date & Time Collected:											
Date & Time Collected:											
Collected by: <i>Vm</i>	Comments:										
Relinquished by: <i>Vm</i> 6/25/21 0922											
Received at lab by: <i>Shawn Agnew</i> Date & Time: 6/25/21 09:22											

Northeast Environmental Laboratory, Inc.

41 Dayton Street

(978) 777-4442

Danvers, MA 01923

DEP # M-MA123

RPT
RVW
☐
☒

IDV

COCV

☐
☒

APPENDIX F

UNLOCATED AND INACCESSIBLE OUTFALLS

Outfall 3346, Attempted inspection on 6/25/21

Completely obstructed with cobble.



Outfall 3521, Inspected on 9/26/19

Could not access. Pipe expected to be buried in debris/vegetation on beach.
Grate over opening. Could not determine flow.



Outfall 3729, Attempted inspection on 6/25/21

Could not locate outfall, even at extreme low tide.



Outfall 3792, Attempted inspection on 6/24/21

Could not locate. Overgrown vegetation and dangerous slope.



Outfall 3845, Attempted inspection on 11/26/19

This outfall is submerged in the pond. Only a manhole is visible and it is surcharged. Water level in the manhole is at the same level as the pond.

