

On Tuesday, February 21st, 2017, bacteria samples were collected from a storm drainage manhole in front of Mombo restaurant on Marcy St. in Portsmouth, NH. Samples were also collected from a nearby outfall which releases its effluent into the Piscataqua River off Prescott Parks' shore. Samples were collected by City's Water Quality and Resource Protection Specialist, Jesse Pearce. Ray Pezzullo was present at the time helping direct traffic and assisting with sample collection. Samples were immediately taken to nearby state accredited laboratory, Absolute Resource Associates (ARA), for analyses. Samples were tested for Total Coliform and E. coli. Results were received on Thursday, February 23rd, 2017.

The two initial sample sites were sampled again on Thursday, February 23rd, 2017. An additional site was also sampled from the Piscataqua River, off the shore of Prescott Park to the right of the outfall. Samples were collected by Jesse Pearce with the assistance of Ray Pezzullo and Jim Tow. Fecal Coliform samples were submitted to state accredited laboratory, EnviroSystems in Hampton, NH. Total Coliform and E.coli samples were taken to Absolute Resource Associates.

Samples collected on February 21st and February 23rd were first sampled from the Marcy St. storm drainage manhole by attaching two bacteria bottles to a long sampling pole and lowering the pole into the manhole. Bottles were submersed in the water which collects at the bottom of the manhole and once full, were carefully lifted out. Samples collected from the outfall were collected directly from the outfall by reaching into the outfall about 1-2 feet and allowing the flowing water to fill the bottle. City employees noticed no smell in either the storm drain manhole or the outfall during sampling events on both days. Also, the surrounding vicinity to the outfall was clear of all litter and/or feces on both days. Samples were collected from the river using the sampling pole to reach off-shore and submerge the bottle in the water. In reviewing our bacteria sampling procedures practiced during the two sampling events, the following could have potentially affected the outfall sampling results: a) the upstream manhole from the outlet was sampled prior to sampling the downstream outfall which could have disturbed the sediment at the bottom of the manhole, b) the outfall samples were collected from the top of the discharge stream by placing the collection bottle just under the top of the water and therefore a representative sample of the entire stream was not obtained.

The initial sampling results were above the detection limit for Total Coliform in both samples. E.coli results showed detectable concentrations from both sample sites. Due to the high concentrations of Total Coliform in the initial samples, ARA was instructed to run the follow-up sample analyses using dilutions in order to produce an actual value for reporting. Follow-up sampling results showed Total Coliform and E. coli results far exceeding the initial results. Fecal Coliform results were also elevated, with the highest found at the Prescott Park Outfall which had a concentration 3x higher than that of the Marcy St. storm drainage manhole.

Samples collected from the manhole on 2/21/17 appeared clear and free from suspended solids. Samples taken on 2/23/17 were very turbid and cloudy. On both days, storm water runoff was observed flowing into the storm drain system from roadway snow banks, which contained debris and sand. However, on 2/23/17, the weather was abnormally warm and there was a significant increase in melting of the roadside snow banks due to very warm temperatures. The increased turbidity could be due to the increased runoff from the snow banks containing debris and sand.

Table 1. Prescott Park Storm Water Sampling Results Summary

Sample Date	Feb. 21, 2017		Feb. 23, 2017		
Sample Location	Total Coliform (MPN/mL)	E. coli (MPN/mL)	Total Coliform (MPN/mL)	E. coli (MPN/mL)	Fecal Coliform (CFU/mL)
Marcy St. Storm Drain	>2,419.6	36.4	52,310	13,775	5,400
Prescott Park Outfall	>2,419.6	23.7	20,530	4,165	15,273
Shaw Warehouse Bay	-	-	450	52	500

On Thursday, March 2nd, 2017, City personnel collected storm water samples from various locations around Strawberry Bank including Prescott Park outfall, Marcy Street manholes and Washington Street manhole. Samples collected from the manholes and outlet appeared clear and free from suspended solids. City employees noticed no smell in either the storm drain manholes or the outfall during sampling event. Also, the surrounding vicinity to the outfall was clear of all litter and/or feces.

Drainage Structure / Outfall Reconnaissance Inventory & Sample Collection Field Sheet

Site Location / Personnel

Date: 4/17/17 Structure ID: 12564 Sampler: JP
Associated Sample ID(s): _____
Street Name: Prescott Park Outfall Nearest Address #: _____
Personnel: _____

Background Data

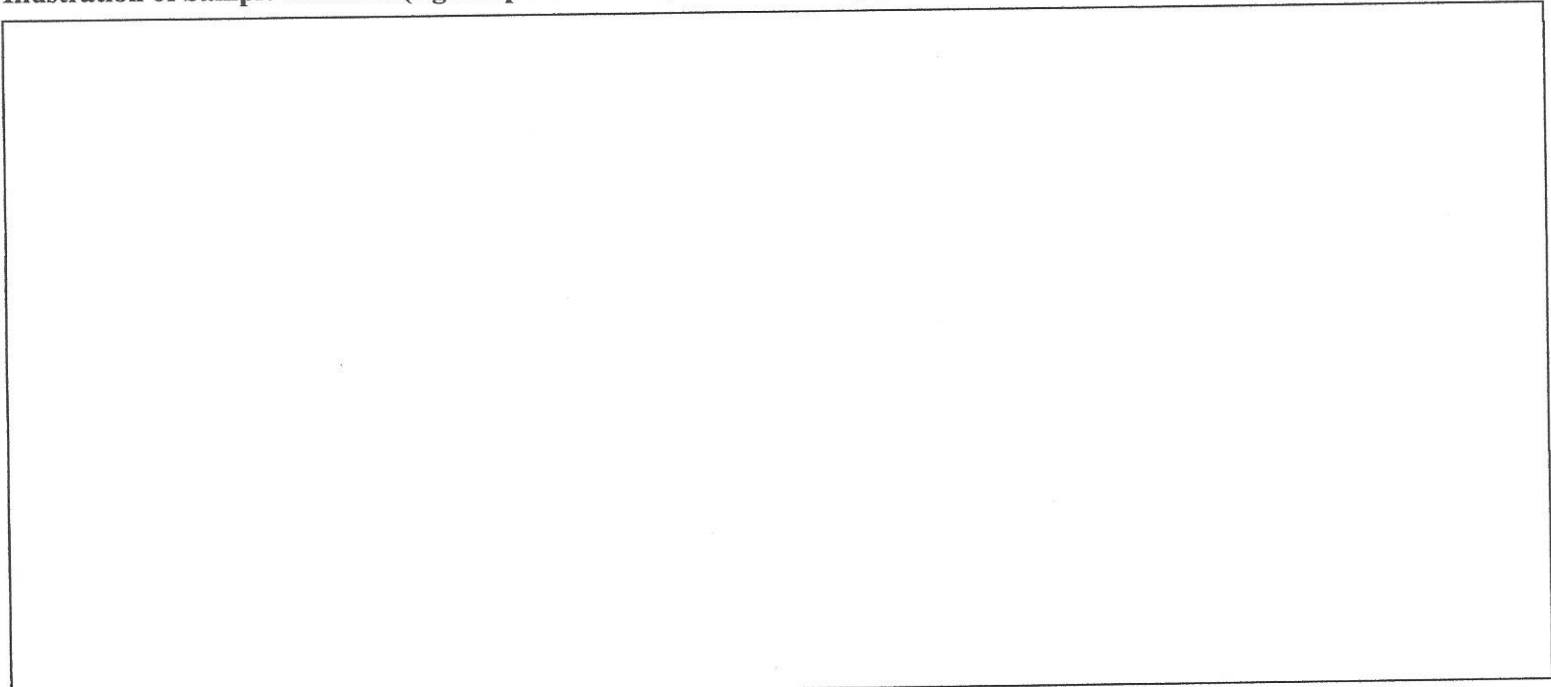
Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0
Current Temperature (°F): 65 Current Weather Conditions: Sunny, Breezy

Land Use in Drainage Area (Check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> Industrial | <input checked="" type="checkbox"/> Open Space <u>Park</u> |
| <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): _____

Illustration of Sample Location (e.g sample structure, inlet & outlet pipes, outfall)



Section 1: Structure Description

Structure I.D.	Structure Alias	Structure Type	General Structure Condition	Comments
	PP Outfall	<input checked="" type="checkbox"/> Outfall <input type="checkbox"/> Manhole <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other:	<input type="checkbox"/> Excellent <input type="checkbox"/> Fair <input type="checkbox"/> Other: <input checked="" type="checkbox"/> Good <input type="checkbox"/> Poor	

Section 2: Sample Location Description

Pipe I.D.	Sample Location	Pipe Material	Diameter (in.)	Submerged	Flow	Comments e.g. site description, sample method
	<input type="checkbox"/> Inlet <input checked="" type="checkbox"/> Outlet <input type="checkbox"/> Sump <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Other: <u>outfall</u>	<input type="checkbox"/> PVC <input checked="" type="checkbox"/> Clay <input type="checkbox"/> Steel <input type="checkbox"/> Other:	~24	In water (circle one): <u>clear</u> / turbid <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially (circle one): <u>1/3</u> , 1/2, 3/4 <input type="checkbox"/> Fully With sediment (material): <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially (circle one): <u>1/4</u> , 1/2, 3/4 <input type="checkbox"/> Fully	Present?: <input checked="" type="checkbox"/> Yes Rate: <input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> Other: <input type="checkbox"/> High Description (Check all that apply): <input type="checkbox"/> Exits pipe before sump/waterbody <input checked="" type="checkbox"/> Exits pipe directly into sump/waterbody <input type="checkbox"/> Runs along structure wall / floor before entering sump / waterbody <input type="checkbox"/> Other:	Buy water in g. lewelling outfall. Not so low tide.

Section 3: Quantitative Characterization

Time Sampled	Parameter	Results	Units	Analysis Location (In-Situ, Accr. Lab, MadLab)	Equipment	Comments
	Conductivity	31.2	µS/cm	In-situ	Ultra meter II	
	Chlorine (free)	0.04	mg/L	In-situ	poCKET Chlorimeter	
10:55	Ortho-Phosphorous	—	mg/L	ARA		
	Fluoride	—	mg/L			
	pH	—				
	Temperature	6.6	°F	In-situ	30 ysi	
10:53	Ammonia		mg/L	ARA		
10:52	Potassium			ARA		
10:50	Salinity	19.5	ppt	In-situ/ARA	30 ysi	
10:52	Surfactants			ARA		
10:50	E. coli	86.0	MPN	ARA		
10:48	Enterococci	<10.0	MPN	ARA		
10:50	TC Bacti.	2013.0	MPN			

Section 4: Physical Indicators for Flowing Drainage Structures & Outfalls

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)		
			<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/> Suds <input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Physical Indicators for Both Flowing & Non-Flowing Drainage Structures & 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
Structural Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, cracking or chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling paint	
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/Sump 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 Characterization of Drainage Structures / Outfall

Unlikely Potential (presence of two or more indicators) Suspect (One or more indicators w/ a severity of 3) Obvious :

Section 7: Non-Ilicit Discharge Concerns (e.g. trash, needed infrastructure repairs?)

Drainage Structure / Outfall Reconnaissance Inventory & Sample Collection Field Sheet

Site Location / Personnel

Date: 4/17/17 Structure ID: 5340 Sampler: John Adams
Associated Sample ID(s): 9062 (inlet)
Street Name: Marcy Nearest Address #: Mechanic St.
Personnel: _____

Background Data

Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0
Current Temperature (°F): 70 Current Weather Conditions: Sunny, breeze

Land Use in Drainage Area (Check all that apply):

- Industrial
- Open Space - Dog parks
- Ultra - Urban Residential
- Institutional
- Suburban Residential
- Other: _____
- Commercial
- Known Industries: _____

Notes (e.g. origin of outfall, if known): Flow from inlet 9062 flowed along structure floor towards outlet. Sample collected by placing lip of bottles onto floor.
Reason to believe inlet which connects structure to sewer line, even though the line is plugged, has influence on drainage water. Can see seepage coming from it.

Illustration of Sample Location (e.g sample structure, inlet & outlet pipes, outfall)

- 10 inlets (or 9 inlets, 1 outlet) coming into structure. Some plugged

Structure I.D.	Structure Alias	Structure Type	General Structure Condition	Comments
5340		<input type="checkbox"/> Outfall <input checked="" type="checkbox"/> Manhole <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other:	<input type="checkbox"/> Excellent <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> Other:	Brick

Section 2: Sample Location Description

Pipe I.D.	Sample Location	Pipe Material	Diameter (in.)	Submerged	Flow	Comments e.g. site description, sample method
9062	<input checked="" type="checkbox"/> Inlet <input type="checkbox"/> Outlet <input type="checkbox"/> Sump <input type="checkbox"/> Pool <input type="checkbox"/> Other:	<input type="checkbox"/> PVC <input type="checkbox"/> Clay <input type="checkbox"/> Steel <input type="checkbox"/> Other:	<input type="checkbox"/> No <input type="checkbox"/> Partially (circle one): 1/4, 1/2, 3/4 <input type="checkbox"/> Fully With sediment (material):	In water (circle one): clear / turbid <input type="checkbox"/> No <input type="checkbox"/> Partially (circle one): 1/4, 1/2, 3/4 <input type="checkbox"/> Fully	Present?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rate: <input checked="" type="checkbox"/> Trickle <input type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> Other: <input type="checkbox"/> High Description (Check all that apply): <input checked="" type="checkbox"/> Exits pipe before sump/waterbody <input type="checkbox"/> Exits pipe directly into sump/waterbody <input checked="" type="checkbox"/> Runs along structure wall/floor before entering sump/waterbody <input type="checkbox"/> Other:	- Samples collected w/ clean bottle used to fill each individual bottle. - Bacteria sampled separately. Neck of bottles touched ground of structure to sample.

Section 3: Quantitative Characterization

Time Sampled	Parameter	Results	Units	Analysis Location (In-Situ, Accr. Lab, MadLab)	Equipment	Comments
	Conductivity	---	µS/cm			
	Chlorine (free)	---	mg/L			
	Ortho-Phosphorous	---	mg/L			
12:20	Fluoride		mg/L	ARA		
	pH					
	Temperature	16.7	°C	In-situ	FB meter	
12:19	Ammonia		mg/L	ARA		
12:16	Potassium			ARA		
12:20	Salinity	1	ppt ^{thor}	In-situ/ARA	30 YSI	
	Surfactants	12:19		ARA		
12:18	E. coli	1413.6	MPN	ARA		
12:18	Enterococci	18.1	MPN	ARA		
12:18	total Coliform Bacteria	72419.6	MPN	ARA		

Section 4: Physical Indicators for Flowing Drainage Structures & Outfalls

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)		
			<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/> Suds <input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Physical Indicators for Both Flowing & Non-Flowing Drainage Structures & 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
Structural Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, cracking or chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling paint	
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/Sump 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 Characterization of Drainage Structures / Outfall

Unlikely Potential (presence of two or more indicators) Suspect (One or more indicators w/ a severity of 3) Obvious :

Section 7: Non-Ilicit Discharge Concerns (e.g. trash, needed infrastructure repairs?)

Drainage Structure / Outfall Reconnaissance Inventory & Sample Collection Field Sheet

Site Location / Personnel

Date: 4/17/17 Structure ID: 5430 Sampler: JP
 Associated Sample ID(s): Marcy MH 5430 (inlet 9254), 9210 (9209)
 Street Name: Marcy St. Nearest Address #: Mombo
 Personnel: _____

Background Data

Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0
 Current Temperature (°F): 69 Current Weather Conditions: Sunny, breeze

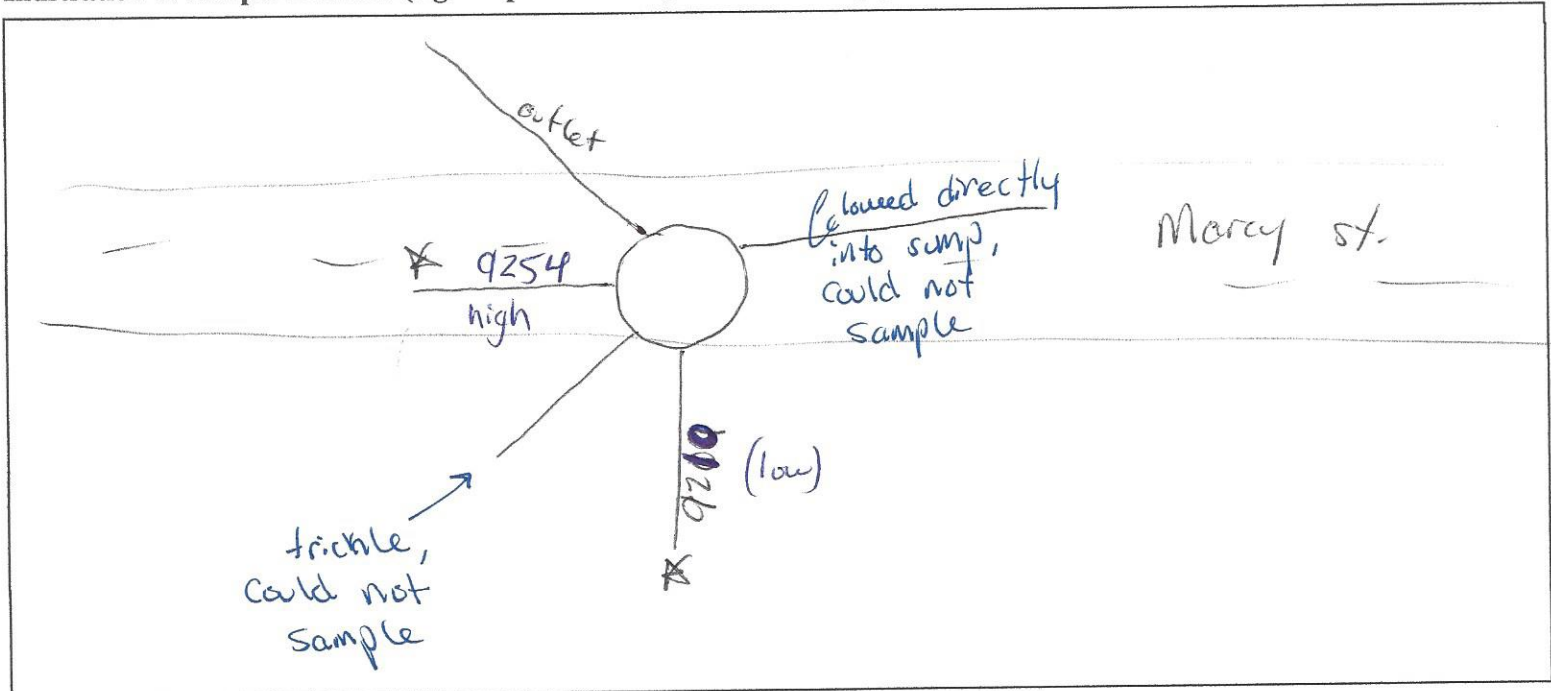
Land Use in Drainage Area (Check all that apply):

- Industrial Open Space Dog park
 Ultra - Urban Residential Institutional
 Suburban Residential Other: _____
 Commercial Known Industries: _____

Notes (e.g. origin of outfall, if known): 1st sampled from 9254 which flowed along structure wall. Had to sample by placing bottles on wall, allowing the water to flow in.

2nd sampled pipe inlet 9210, incorrectly labeled "9209" on bottles. Water exited the pipe ~ 1/2 - 1 foot above sump. Flow was moderate - strong. Collected samples straight from flow.

Illustration of Sample Location (e.g. sample structure, inlet & outlet pipes, outfall)



Section 1: Structure Description

Structure I.D.	Structure Alias	Structure Type	General Structure Condition	Comments
5430	Marcy St. MH, Mumbo MH	<input checked="" type="checkbox"/> Outfall <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	

Section 2: Sample Location Description

Pipe I.D.	Sample Location	Pipe Material	Diameter (in.)	Submerged	Flow	Comments e.g. site description, sample method
9254	<input checked="" type="checkbox"/> Inlet	<input type="checkbox"/> PVC <input type="checkbox"/> Clay <input type="checkbox"/> Steel <input type="checkbox"/> Other:		In water (circle one): clear / turbid <input type="checkbox"/> No <input type="checkbox"/> Partially (circle one): 1/4, 1/2, 3/4 <input type="checkbox"/> Fully With sediment (material):	Present?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rate: <input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Other: <input type="checkbox"/> High	Top 20 bottles had to touch structure wall to get sample.
"Marcy St. MH			<input type="checkbox"/> No <input type="checkbox"/> Partially (circle one): 1/4, 1/2, 3/4 <input type="checkbox"/> Fully	Description (Check all that apply): <input checked="" type="checkbox"/> Exits pipe before sump/waterbody <input type="checkbox"/> Exits pipe directly into sump/waterbody <input checked="" type="checkbox"/> Runs along structure wall/floor before entering sump/waterbody <input type="checkbox"/> Other:		
5430"	<input type="checkbox"/> Sump <input type="checkbox"/> Pool <input type="checkbox"/> Other:					

Section 3: Quantitative Characterization

Time Sampled	Parameter	Results	Units	Analysis Location (In-Situ, Accr. Lab, MadLab)	Equipment	Comments
11:24	Conductivity		µS/cm			
	Chlorine (free)		mg/L			
	Ortho-Phosphorous		mg/L			
	Fluoride		mg/L	ARA		
	pH					
	Temperature	13.0	°C	In-Situ	YSI 30	FB meter
11:24	Ammonia		mg/L	ARA		
11:24	Potassium			ARA		
11:24	Salinity	3.1	PPT	In-Situ/ARA	YSI 30	FB meter
11:24	Surfactants			ARA		
11:35	E. coli	27.5	MPN	ARA		
11:35	Enterococci	1.0	MPN	ARA		
11:35	TC Bacti.	1986.3	MPN	ARA		

Section 4: Physical Indicators for Flowing Drainage Structures & Outfalls

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)		
			<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/> Suds <input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Physical Indicators for Both Flowing & Non-Flowing Drainage Structures & 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
Structural Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, cracking or chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling paint	
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/Sump 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 Characterization of Drainage Structures / Outfall

Unlikely Potential (presence of two or more indicators) Suspect (One or more indicators w/ a severity of 3) Obvious :

Section 7: Non-Ilicit Discharge Concerns (e.g. trash, needed infrastructure repairs?)

Section 1: Structure Description

Structure I.D.	Structure Alias	Structure Type	General Structure Condition	Comments
5430	Marcy St. MH, Mombó	<input checked="" type="checkbox"/> Outfall <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Excellent <input type="checkbox"/> Fair <input type="checkbox"/> Other:	Inlet between 2 sampled inlets was flowing, but could not get a sample.

Section 2: Sample Location Description

Pipe I.D.	Sample Location	Pipe Material	Diameter (in.)	Submerged	Flow	Comments e.g. site description, sample method
9209	<input checked="" type="checkbox"/> Inlet <input type="checkbox"/> Outlet <input type="checkbox"/> Sump <input type="checkbox"/> Pool <input type="checkbox"/> Other:	<input type="checkbox"/> PVC <input type="checkbox"/> Clay <input type="checkbox"/> Steel <input type="checkbox"/> Other:	In water (circle one): clear / turbid <input type="checkbox"/> No <input type="checkbox"/> Partially (circle one): 1/4, 1/2, 3/4 <input type="checkbox"/> Fully With sediment (material): <input type="checkbox"/> No <input type="checkbox"/> Partially (circle one): 1/4, 1/2, 3/4 <input type="checkbox"/> Fully	Present?: <input checked="" type="checkbox"/> Yes Rate: <input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> Other: <input type="checkbox"/> High Description (Check all that apply): <input checked="" type="checkbox"/> Exits pipe before sump/waterbody <input checked="" type="checkbox"/> Exits pipe directly into sump/waterbody <input checked="" type="checkbox"/> Runs along structure wall / floor before entering sump / waterbody <input type="checkbox"/> Other:	Present?: <input checked="" type="checkbox"/> Yes Rate: <input type="checkbox"/> Trickle <input checked="" type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> Other: <input type="checkbox"/> High	Did not touch wall or ground prior to sample. Sampled straight out of pipe.
9210						

Section 3: Quantitative Characterization

Time Sampled	Parameter	Results	Units	Analysis Location (In-Situ, Accr. Lab, MadLab)	Equipment	Comments
	Conductivity	—	µS/cm			
	Chlorine (free)	—	mg/L			
	Ortho-Phosphorous	—	mg/L			
11:40	Fluoride		mg/L	ARA		
	pH					
	Temperature	9.3	°C	In-situ	YSI 30	FB meter
11:40	Ammonia			ARA		
11:40	Potassium			ARA		
11:40	Salinity	2.5	ppm ^{thru}	YSI 30 (ARA)	In-situ	FB meter
11:40	Surfactants			ARA		
11:38	E. coli	1.0	MPN	ARA		
11:38	Enterococci	<1.0	MPN	ARA		
	Tc Bacti.	322.3	MPN	ARA		

Section 4: Physical Indicators for Flowing Drainage Structures & Outfalls

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)		
			<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/> Suds <input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Physical Indicators for Both Flowing & Non-Flowing Drainage Structures & 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
Structural Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, cracking or chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling paint	
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/Sump 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 Characterization of Drainage Structures / Outfall

Unlikely Potential (presence of two or more indicators) Suspect (One or more indicators w/ a severity of 3) Obvious :

Section 7: Non-Illicit Discharge Concerns (e.g. trash, needed infrastructure repairs?)

Drainage Structure / Outfall Reconnaissance Inventory & Sample Collection Field Sheet

Site Location / Personnel

Date: 4/17/17 Structure ID: 95426 Sampler: N/A
Associated Sample ID(s): _____
Street Name: Washington St. Nearest Address #: _____
Personnel: _____

Background Data

Rainfall (in.): Last 24 hours: 0 Last 48 hours: 0
Current Temperature (°F): 71 Current Weather Conditions: Sunny, Breeze

Land Use in Drainage Area (Check all that apply):

<input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Open Space <u>Dog park</u>
<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): Inlet from Cart not following

Illustration of Sample Location (e.g sample structure, inlet & outlet pipes, outfall)

Eel in sump.
Salinity = 1.9 mS

Section 4: Physical Indicators for Flowing Drainage Structures & Outfalls

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)		
			<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/> Suds <input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Physical Indicators for Both Flowing & Non-Flowing Drainage Structures & 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
Structural Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, cracking or chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling paint	
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/Sump 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 Characterization of Drainage Structures / Outfall

Unlikely Potential (presence of two or more indicators) Suspect (One or more indicators w/ a severity of 3) Obvious :

Section 7: Non-Ilicit Discharge Concerns (e.g. trash, needed infrastructure repairs?)