

# ROUGE RIVER COLLABORATIVE ILLICIT DISCHARGE ELIMINATION PLAN 2020-2021 PROGRESS REPORT



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***March 19, 2022***

## A. Purpose

This report summarizes the activities undertaken to implement the Rouge River Collaborative Illicit Discharge Elimination Program (IDEP) plan (Plan) which was approved by the Michigan Department of Environment, Great Lakes and Energy (EGLE) in September 2017 and revised in January 2020. The Plan is part of the municipal separate storm sewer system (MS4) permits for several communities in the Rouge River watershed. The report includes activities implemented by or on behalf of members of the Alliance of Rouge Communities (ARC) from January 1, 2020 through December 31, 2021. The permittees participating in the Plan during the reporting period are listed below.

### Participating Permittees

Beverly Hills, Village of	Northville, City of
Bingham Farms, Village of	Northville Township
Birmingham, City of	Novi, City of
Bloomfield Hills, City of	Oak Park, City of
Bloomfield Township	Plymouth, City of
Canton Township	Plymouth Township
Dearborn Heights, City of	Redford Township
Farmington, City of	Southfield, City of
Farmington Hills, City of	Troy, City of
Franklin, Village of	Walled Lake, City of
Garden City, City of	Wayne, City of
Inkster, City of	Westland, City of
Lathrup Village, City of	West Bloomfield Township
Livonia, City of	
Melvindale, City of	Henry Ford College
Oakland County*	Wayne County Airport Authority
	Wayne County*

*\*Participating in the Plan but will provide a separate report of county activities per their approved progress report schedule.*

## B. Action Strategy Status

The status of each action strategy includes a description of each activity, progress made during the reporting period and status of each metric.

### IDEP #1: Mapping of Storm Sewer Systems

Description: The permittees have their storm sewer maps available which include the location of outfalls, enclosed and open storm drains, roads and waters of the state. In addition, the ARC has developed a GIS database of the storm sewer system maps. For Wayne and Oakland counties, this requirement will be dealt with under their individual stormwater management plans.

Goal:

- 100% of outfalls mapped in GIS
- 100% of storm sewers mapped in GIS

Status:

Metric	Status
Portion of watershed (area) where known outfalls are mapped in GIS	100% (based on permittee land area)
Portion of watershed with storm sewers in GIS	98% (based on permittee land area)

Description of Progress:

Most permittees provided the ARC with their outfall and storm sewer GIS data. Only Melvindale still needs to provide their storm sewer system in GIS format.

**IDEP #2: Outfall Prioritization and Dry Weather Screening**

Description: The ARC screened all priority outfalls in 2018 in each city or village. The ARC has determined outfalls with suspicious discharges and conducted follow-up investigations for those outfalls. Cities/Townships/Villages will perform dry weather screening of new outfalls within 6 months of construction, taking ownership or discovery. For Wayne and Oakland counties, this requirement will be dealt with under their individual stormwater management plans.

Goal: Screen 100% of priority outfalls

Status:

<b>Metric</b>	<b>Status</b>
Number priority outfalls identified	471
Percent of priority outfalls screened	100%
Number of new outfalls identified	12
Percent of new outfalls screened	0%
Number of suspicious discharges identified (based on screening results)	29 (Category A and B outfalls)

Bloomfield townships identified 11 additional outfalls and Plymouth identified 1 additional outfall that fall under the MS4 permit. They were identified in the fall of 2021 and screening is planned for the spring of 2022.

**IDEP #3: Advanced Investigations**

Description: The goal of this activity is to 1) locate source(s) of suspected illicit discharge(s) in the initial priority areas and upstream of the priority outfalls, and 2) oversee the correction of any identified illicit discharges.

## Goals:

- Follow the advanced investigation protocol for initial priority areas and priority outfalls.
- 100% of illicit connections/discharges resolved or a plan in place for elimination.

## Status:

Metric	Status
Total number of illicit discharge investigations (outfalls)	31
From previous priority areas	5
From priority outfall screening	21
From other efforts	5
Number of investigations closed	20 (65%)
Number of investigations remaining (in progress)	11 (35%)
Number of illicit discharges identified	10
Number corrected	7
Number unresolved	3

## Description of Progress:

Below is a list of the 31 outfalls that required investigations during the reporting cycle. A summary by community is provided in Table 1.

- Beverly Hills: BV66, BV51
- Bloomfield Twp: CH Stevens No. 4 Drain
- Farmington Hills: FH01
- Inkster: Perrin Drain, OF47A
- Livonia: U2008221, 6038, 13002, U2008231, M2008117, U2008238, 2680, L1619, L3582, Levan Rd South 42",
- Northville: NV03, NV22, NV23, NV57
- Novi: NO23
- Plymouth: PY8, PY27, PY5, Holbrook St, Harvey St, Park St.
- Southfield: Fracassi Drain, 8 Mile Drain
- Wayne: WN21A
- Westland: SWOF-00278

**Table 1 - Outfalls that Required Investigations**

Permittee	Investigations Originating from				Total No. of Outfalls	Lead Agency
	Previous Priority Areas	Outfall Screening		Other Efforts		
		Cat A	Cat B			
Beverly Hills		2			2	ARC
Bloomfield Twp.	1				1	OCWRC
Farmington Hills		1			1	ARC
Inkster				2	2	WCESD
Livonia		2	6	2	10	WCESD
Northville		2	2		4	ARC
Novi		1			1	ARC
Plymouth	2	1	2	1	6	WCESD
Southfield	2				2	OCWRC
Wayne		1			1	WCESD
Westland		1			1	WCESD
<b>Total</b>	<b>5</b>	<b>11</b>	<b>10</b>	<b>5</b>	<b>31</b>	

In partnership with the local communities, the ARC, Wayne County Environmental Services Department (WCESD) and Oakland County Water Resource Commissioner's Office (OCWRC) investigated drains that displayed suspicious discharges. Investigations were conducted on 30 of the 31 outfalls, and investigations were closed out on 20 of the outfalls. The status of these investigations is provided in Table 2 and detailed investigation reports can be found in Appendix B.

**Table 2 - Status of Investigations by Outfall**

Permittee	Outfall ID	Status	Result
Beverly Hills	BV66	Completed	Illicit sewage connection identified and corrected
	BV51	Ongoing	Sewage source suspected
Bloomfield Twp.	CH Stevens No. 4 Drain	Completed	1 failed septic system on Dover St. (corrected)
Farmington Hills	FH01	Completed	No sources found
Inkster	Perrin Drain	Ongoing	Sewage sources suspected
	OF47A	Ongoing	Sewage sources suspected
Livonia	U2008221	Ongoing	Sewage sources suspected
	6038	Ongoing	Sewage sources suspected
	13002	Completed	No sources found
	U2008231	Completed	No sources found
	M2008117	Completed	No sources found
	U2008238	Completed	No sources found
	2680	Completed	No sources found
	L1619	Ongoing	Sewage sources suspected
	L3582	Ongoing	Sewage sources suspected
	Levan Rd South 42"	Completed	No sources found

Permittee	Outfall ID	Status	Result
Northville	NV03	Completed	Illicit sewage connection identified and corrected
	NV22	Completed	No sources found
	NV23	Completed	No sources found
	NV57	Completed	No sources found
Novi	NO23	Completed	Animal source identified (addressed)
Plymouth	PY8	Ongoing	Sewage sources suspected
	PY27	Completed	No sources found
	PY5	Ongoing	Sources suspected
	Holbrook Street	Ongoing	Sources suspected
	Harvey St (with Beech/Palmer St.)	Completed	3 illicit sewage connections (corrected)
	Mill/Park St.	Pending correction	3 illicit sewage connections
	Jener St.	Pending correction	1 illicit sewage connection
	Amelia St.	Pending correction	1 illicit sewage connection
Southfield	Fracassi Drain	Completed	No sources found
	8 Mile Drain	Ongoing	Sources suspected
Wayne	WN21A	Completed	No sources found
Westland	SWOF-00278	Completed	No sources found

A total of 11 illicit discharges containing sewage from residential homes were identified. All but 5 of the illicit connections in Plymouth have been corrected as shown in Table 3. These corrections result in the elimination of 372,300 gallons of untreated wastewater and 4,120 lbs of pollutants on an annual basis (Tables 4 and 5).

**Table 3 – Number and Type of Illicit Discharges (IDs) Discovered and Resolved**

	A	B	C	A+B-C
County	No. of Known IDs at beginning of Reporting Period	No. IDs <u>Discovered</u> During Reporting Period	No. of IDs <u>Resolved</u> During Reporting Period	No. of <u>Unresolved</u> IDs at the end of Reporting Period
<b>Sanitary Sewage from Illicit Connections from Residences</b>				
Beverly Hills	0	1	1	0
Northville	0	1	1	0
Plymouth	0	8	3	5
<b>Sanitary Sewage from Failed Residential Septic Systems</b>				
Bloomfield Twp	1	0	1	0
<b>Total</b>	<b>1</b>	<b>10</b>	<b>6</b>	<b>5</b>

**Table 4 - Volume of Sewage Eliminated from Surface Waters**

Community Name	Household Size	Number of households with failed septic or illicit connections	Annual Wastewater Volume (gallons/year)
Data sources	[a]	[b]	
Beverly Hills	2.48	1	<b>67,890</b>
Plymouth	2.07	3	<b>169,999</b>
Bloomfield Twp	2.55	1	<b>69,806</b>
Northville	2.36	1	<b>64,605</b>
<b>Total</b>			<b>372,300</b>

**Table 5 - Amount of Pollutants Eliminated from Surface Waters**

Parameter	Average Concentration (mg/L) <sup>i</sup>	<sup>i</sup> Data Source	Pollutant Load (lbs/year)				Totals
			Beverly Hills	Plymouth	Bloomfield Twp	Northville	
Total Solids	690	[d]	391	979	402	372	<b>2144</b>
Total Suspended Solids	243	[d]	138	345	142	131	<b>756</b>
BOD	221	[d]	125	314	129	119	<b>687</b>
Ammonia	8.5	[d]	4.8	12.1	4.9	4.6	<b>26.4</b>
Total Phosphorus	9	[d]	5.0	12.75	5.2	4.8	<b>27.75</b>
Surfactant	13.5	[d]	7.6	19.1	7.8	7.2	<b>41.7</b>
Potassium	6	[e]	3.4	8.5	3.5	3.2	<b>18.6</b>
Total Organic Carbon	47	[f]	27	67	27	25	<b>146</b>
Fats, Oil & Grease	88	[d]	50	125	51	47	<b>273</b>
<b>Total Pollutant Load (lb/year)</b>			<b>752</b>	<b>1,882</b>	<b>772</b>	<b>714</b>	<b>4,120</b>

Data Sources:

[a] SEMCOG (Household size estimates for Southeast Michigan).



- [b] County Database (from WCDPH-EHD for Wayne County).
- [c] *Environmental Health Ready Reference*. Michigan Environmental Health Association. March 2004.
- [d] *Onsite Wastewater Treatment Systems Manual*. U.S. EPA EPA/625/R-00/008. February 2002. Table 3-7 .
- [e] Pitt, Robert, et al. *Investigations of Inappropriate Pollutant Entries into Storm Sewer Systems, A Users Guide*. U.S EPA. EPA/600/R-92/238. January 1993.
- [f] *Onsite Wastewater Treatment Systems Manual*. U.S. EPA EPA/625/R-00/008. February 2002. Table 3-18 .

In addition to the efforts described above, Bloomfield Township, the City of Farmington, Farmington Hills, Livonia, and Novi conducted investigations in their jurisdictions to identified illicit discharges. These efforts are detailed in Appendix B.

**IDEP #4: Staff Training**

Description: The permittees will have at least one person who is competent at the IDEP Investigator Level. Permittees will have 50% of their field staff trained at the Alert Observer Level by March 31, 2022. In addition, permittees will remind staff of *E. coli* problems in Priority Areas and encourage reporting, annually.

## Goals:

- 1 person per permittee trained at Investigator Level
- 50% of field staff trained at the Alert Observer Level.

## Status:

Metric	Status
Portion of permittees with 1 or more staff trained at the Investigator level (of the 29 participating permittees)	79%
Number of field staff employed by the permittees (FTEs)	458
Portion of field staff trained at the Alert Observer level (or higher)	56%

## Description of Progress:

The ARC offered or partnered in one IDEP Investigator and two Alert Observer training sessions during the permit period. They were held on November 12, 2020 and October 27, 2021. Due to the pandemic, IDEP Investigator training was not offered in 2020, but was available as a virtual course in 2021. See Appendix C for recent staff training records.

There are 458 field staff employed by the permittees as shown in Appendix C. Of these, 258 staff (56%) are trained at the awareness level or greater: 125 at the investigator level and 258 at the alert observer level. Most permittees have more than 1 person trained at the investigator level and more than 50% trained at the alert observer level, while others fall short of these targets. The permittees that need more staff training (Table 6) will be targeted by the ARC in 2022.

Note: Oakland County and Wayne County personnel are not included in these totals, as they will be reporting on their staff training separately.

**Table 6 - Permittees needing IDEP Training**

Community	Number of Staff Needing Investigator Level Training	Number of Staff Needing Alert Observer Level Training*
Beverly Hills		3
Bingham Farms	1	
Bloomfield Hills	1	
Dearborn Heights		10
Garden City	1	
Melvindale	1	4
Livonia		6
Oak Park	1	
Southfield		5
Westland	1	12

\*To achieve the 50% training goal.

**IDEP #5: Pollution Complaint Response**

Description: Permittees will have a method for recording and tracking pollution complaints from staff and the public. Permittees will follow-up on the complaints. The ARC will maintain a list of community contacts who are responsible for complaint response.

Goal: 100% of complaints addressed

Status:

Metric	Status
Number of complaints received and referred or investigated	100
Number of issues resolved	95
Portion of issues resolved	95%

Description of Progress:

The permittees received 100 pollution complaints. Of those 100 complaints, 95 issues were investigated and resolved. Corrections are pending or repairs are ongoing for 5 of the complaints. One of the unresolved issues is the illicit connection at Lathrup Village DPS which is discussed in on the next page. The other 4 unresolved issues are as follows:

- Bloomfield Twp: Illicit connection for wastewater at 1904 Pine Ridge Court
- Farmington: Illicit connection for wash water at 31930 Grand River
- OCWRC in West Bloomfield: Failed septic system at 2038 S. Hammond Lake
- OCWRC in Farmington Hills: Illegal dumping of concrete washout suspected. Source is suspected, but not verified by the City. The investigation remains open.

Documentation of the complaints is provided in Appendix D.

**IDEP #6: Inspection of ARC Member-Owned Facilities**

Description: Dye-test permittee owned or operated facilities (within the watershed) to ensure they are properly draining to the sanitary sewer.

**Goals:**

- 100% of ARC Member existing facilities dye tested.
- 100% of issues addressed.

**Status:**

<b>Metric</b>	<b>Status</b>
Number of facilities owned by permittees	222
Number of facilities owned by permittees with major renovations during reporting period	6
Portion of facilities dye tested, including renovations	99%
Number of issues found	2
Portion of issues addressed	0%

**Description of Progress:**

There are 222 municipal owned facilities in the watershed. Of these, 219 were dye tested to ensure that they were properly connected to the sanitary sewer (Appendix E). The remaining facilities are in Novi and are scheduled to have dye testing done in the spring of 2022. Six of the 222 municipal owned facilities had major renovations completed during the reporting period. Three of those renovated facilities have had dye testing done since the renovations were complete. The dye testing revealed illicit connections at 2 facilities (Appendix E2 and E3).

- An illicit connection was identified in part of the DPS building in Lathrup Village in December of 2020. The part of the building that has an illicit connections was part of an addition several years ago. Signs have been posted to prevent water use in that area of the building. DPS staff plan to trace the sanitary line to properly reroute the connections. The issue will be corrected no later than June 17, 2022.
- An illicit connection was identified in Bloomfield Hills at the City Hall/Police/Fire building in September of 2021. The part of the building that has cross-connections was part of an addition several years ago. The City will be investigating further to televisive the sanitary line to trace were the connection can be routed. The issue is scheduled to be corrected in 2022.

**IDEP #7: IDEP Work Group**

Description: Permittees will meet twice a year to discuss IDEP-related topics including the annual advanced investigations work plan, progress of advanced investigations, lessons learned, any road blocks encountered with implementing the plan, and recommendations for improving the plan.

## Goals:

- Hold at least 2 work group meetings per year.
- 80% member participation.
- 2 meeting summaries per year.

## Status:

Metric	Status
Number of meetings per year	1 in 2020 and 2 in 2021
Number of meeting summaries per year	1 in 2020 and 2 in 2021
Portion of members in attendance at meetings	90% over both years

## Description of Progress:

Three Technical Committee meetings were held during the reporting period. In 2020, 26 of 30 permittees were represented, while in 2021, 28 of 30 permittees were represented at the first meeting and 90 participants were signed on for the second meeting (Appendix F). The meeting in 2020 took place in person in early March, prior to the pandemic. Subsequent meetings have been conducted virtually.

**C. Other Efforts**

Each permittee included in this report has its own IDEP ordinance or policy and procedures in place. Copies of these ordinances and policies have been submitted to EGLE.

## **Appendix A**

### **Dry Weather Outfall Screening Supporting Documentation**



OUTFALL INVESTIGATION REPORT

Location: Canton Administration Building

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No X Sunny X Cloudy \_\_\_\_\_

- OUTFALL #: 3-7
1. Creek Name: Mott Drain Storm Sewer
  2. Size: 26"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 2" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None X Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_

Color: None X Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_

Turbidity: None X Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None X Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_

Deposits/stains: None X Sediment \_\_\_\_\_ Oily \_\_\_\_\_

Vegetation conditions: Normal X Inhibited growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None X Concrete cracking \_\_\_\_\_ Concrete Spalls \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO X

2021 INSPECTIONS  
were done EARLY  
2022



OUTFALL INVESTIGATION REPORT

Location: Links at Pheasant Run Condos

Section #: 28 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: \_\_\_\_\_

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: 3-6

1. Creek Name: Mott Drain
2. Size: 16"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: 3" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO





# OUTFALL INVESTIGATION REPORT

Location: Floodin Park

Section #: 14 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-5A
1. Creek Name: Fellows Creek
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent: \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Flodin Park

Section #: 14 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-5B
1. Creek Name: Fellows Creek
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: — (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Sheldon Road Wetland

Section #: 3 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 30 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 1-1
1. Creek Name: Willow Creek
  2. Size: 24"
  3. Material: Metal
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Canton Public Library

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 3-5A
1. Creek Name: Mott Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 3" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton Public Library

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CJ

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-5 B

1. Creek Name: Mott Drain
2. Size: 12"
3. Material: concrete
4. Flow/Depth on Flow in Pipe: 2" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton Public Library

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CK

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-5C

1. Creek Name: Mott Drain
2. Size: 12"
3. Material: CONCRETE
4. Flow/Depth on Flow in Pipe: 2" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Heritage Park

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 3-4A
1. Creek Name: Mott Drain
  2. Size: 10"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Heritage Park

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 3-4B
1. Creek Name: Matt Drain
  2. Size: 16"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_





OUTFALL INVESTIGATION REPORT

Location: Heritage Park

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32 Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-4C

1. Creek Name: Mott Drain
2. Size: 10"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Grounds Maintenance Building

Section #: 2.1 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: \_\_\_\_\_

1. Creek Name: Mott Drain
2. Size: 36"
3. Material: Metal
4. Flow/Depth on Flow in Pipe: 4" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Griffin Park

Section #: 15 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-6A
1. Creek Name: Green Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe:      -      (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Griffin Park

Section #: 15 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-6B
1. Creek Name: Green Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 6" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Griffin Park

Section #: 15 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-6C
1. Creek Name: Green Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Independence Park

Section #: 19 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 10 Rain: Yes \_\_\_\_\_ No: X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 3-2
1. Creek Name: Lower Rouge River
  2. Size: 24"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None X Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None X Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None X Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None X Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None X Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal X Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None X Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO X



# OUTFALL INVESTIGATION REPORT

Location: Canton Softball Center

Section #: 33 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CA

Weather: Air temp.: 30° Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-8A

1. Creek Name: Rich Drain
2. Size: 12"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: — (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES  NO



# OUTFALL INVESTIGATION REPORT

Location: Canton Softball Center

Section #: 33 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 30° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-8B

1. Creek Name: Rich Drain
2. Size: 12"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: - (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO





# OUTFALL INVESTIGATION REPORT

Location: Old Human Resources Building

Section #: 34 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 4-4

1. Creek Name: Rich Drain
2. Size: \_\_\_\_\_
3. Material: ~~Concrete~~ under Road Storm Sewer
4. Flow/Depth on Flow in-Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Old Township Hall

Section #: 34 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 28° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-3
1. Creek Name: Rich Drain
  2. Size: 36"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton HR Resources Building

Section #: 18 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 25° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 2-1
1. Creek Name: Lower Rouge River
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



1 **OUTFALL INVESTIGATION REPORT**

Location: Canton DPW

Section #: 34 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 28° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-5
1. Creek Name: Fisher + Leng Drain / McKinstry Drain
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 29 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-10
1. Creek Name: Lower Rouge River
  2. Size: 6
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: - (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 29 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CA

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-11
1. Creek Name: Lower Rouge River
  2. Size: 24"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 2" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CK

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: 3-13

1. Creek Name: Lower Rouge
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: \_\_\_\_\_

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-14
1. Creek Name: Lower Rouge River
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_





# OUTFALL INVESTIGATION REPORT

Location: Pleasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CA

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No X Sunny X Cloudy \_\_\_\_\_

OUTFALL #: 3-15

1. Creek Name: \_\_\_\_\_
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Pleasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: ~~Lower Rouge~~ 3-16
1. Creek Name: Lower Rouge River
  2. Size: 36"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 4" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pleasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-17
1. Creek Name: Lower Ridge River
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 4" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-18
1. Creek Name: Lowst Rouge
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont. Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20-29 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-19
1. Creek Name: Lower Rouge
  2. Size: 32"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 3" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20-29 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: \_\_\_\_\_

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No X Sunny X Cloudy \_\_\_\_\_

OUTFALL #: 3-20

1. Creek Name: Lower Range River
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find.*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20-29 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: \_\_\_\_\_

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: 3-21

1. Creek Name: Lowat Rouge River
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Barchester Park

Section #: ~~11~~ 11 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-2
1. Creek Name: Willow Creek
  2. Size: 48"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO





OUTFALL INVESTIGATION REPORT

Location: Fire Station #2

Section #: 11 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-3
1. Creek Name: Tonguish Creek
  2. Size: 3"-4"
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Koppernick Pond

Section #: 12 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: CK

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 1-4

1. Creek Name: Tonguish Creek
2. Size: 24"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: 3" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Freedom Park

Section #: 22 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 4-2

1. Creek Name: Mt Drury
2. Size: Storm Sewer M.H.
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy:

- OUTFALL #: 4-6
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-7
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-8
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cart Found*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-9
1. Creek Name: Fellows Creek
  2. Size: 9"
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-10
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_





# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-11
1. Creek Name: Fellow Creek
  2. Size: 24
  3. Material: concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

OUTFALL #: ~~4-12~~ 4-12

1. Creek Name: Fellow Creek
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-13
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-14
1. Creek Name: Fellows Creek
  2. Size: 4
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CF

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-15
1. Creek Name: Fellow's Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-16
1. Creek Name: Fellow Creek
  2. Size: 4"
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None X Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None X Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None X Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None X Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None X Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal X Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None X Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO X



OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: ~~25~~ 4-17

1. Creek Name: Fellows Creek
2. Size: 6"
3. Material: Plastic
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No: X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-18
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_





OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CK

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-19
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	01-02		
Date of Observation:	9 / 21 / 2020	Time:	12:50 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention Basin at south end of Shaker Heights Dr.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	<u>Circular Pipe</u> Dimensions: Dia: <u>24</u> in. <u>Elliptical Pipe</u> Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input checked="" 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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>		
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____	

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>	
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: Holding water from downstream.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	03-01		
Date of Observation:	9 / 21 / 2020	Time:	1:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	In front of 43034 Woodward (Moose Preserve)		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>24</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input checked="" 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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)		<input checked="" type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
Description Details:		_____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<input 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 type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input checked="" type="checkbox"/> Other: <u>leaves</u>	<input checked="" type="checkbox"/> 1- Few or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	4 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		7.93	71.8	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	04-01		
Date of Observation:	9 / 17 / 2020	Time:	2:00 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input checked="" type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Open Space <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential Other: <u>Fire Station No. 4</u> <input type="checkbox"/> Commercial Known Industries: _____		
Notes (e.g. origin of outfall, if known):	North side of fire station at 2389 Franklin Rd.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>6</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details:	_____		

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>	
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	



Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

Section 6: Overall Discharge Characterization

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Only fire station downspouts and surface drainage discharge to it.

Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)

Comments: \_\_\_\_\_

Section 8: General Comments

Comments: \_\_\_\_\_

Section 9: Reporting Information

Comments: \_\_\_\_\_ Date Observed:   /  /  

\_\_\_\_\_ Time Observed: \_\_\_\_\_

Investigated By: \_\_\_\_\_ Date Reported:   /  /  





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	04-02		
Date of Observation:	9 / 21 / 2020	Time:	1:35 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Open Space <input type="checkbox"/> Suburban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	North of entrance to 43902 Woodward		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>30</u> in.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in.	
	<input type="checkbox"/> Steel		Height: _____ in.	
	<input type="checkbox"/> Other: _____		Depth: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Stagnant water in invert. No flow.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: <u>  </u> / <u>  </u> / <u>  </u>
	Time Observed: _____
Investigated By: _____	Date Reported: <u>  </u> / <u>  </u> / <u>  </u>





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	06-01		
Date of Observation:	9 / 17 / 2020	Time:	2:25 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention Basin outlet on Kemp Road		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	<u>Circular Pipe</u> Dimensions: Dia: <u>8</u> in. <u>Elliptical Pipe</u> Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input checked="" 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"/> 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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.		
<input type="checkbox"/> Open Drainage (Channel)					
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>		
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____	

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX			
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible			

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

Section 6: Overall Discharge Characterization

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Outfall holding water due to level of lake. Upstream structures into basin have no flow.

Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)

Comments: \_\_\_\_\_

Section 8: General Comments

Comments: \_\_\_\_\_

Section 9: Reporting Information

Comments: \_\_\_\_\_

Date Observed: \_\_/\_\_/\_\_

Time Observed: \_\_\_\_\_

Investigated By: \_\_\_\_\_

Date Reported: \_\_/\_\_/\_\_



Manhole upstream of detention basin



Outlet of storm sewer downstream of basin



Outfall submerged





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	06-02		
Date of Observation:	9 / 17 / 2020	Time:	2:45 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: <u>Retention Pond</u> Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Retention pond for Meadowlands of Bloomfield		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular	<input checked="" type="checkbox"/> Single	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input checked="" type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Double	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box	<input type="checkbox"/> Triple	
	<input type="checkbox"/> HDPE	Other: _____ Other: _____		
	<input type="checkbox"/> Steel	Elliptical Pipe		
	<input type="checkbox"/>	Dimensions:		
	Other: _____	Width: _____ in.		
		Height: _____ in.		
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Depth: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Top Width: _____ ft.	
	<input type="checkbox"/> Rip-Rap	<input type="checkbox"/>	Bottom _____	
	<input type="checkbox"/> Other: _____	Other: _____	Width: _____ ft.	
Is Flow Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>	
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX				
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint			
		<input type="checkbox"/> Sulfide	<input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected			
		<input type="checkbox"/> Other: _____		<input type="checkbox"/> 3 - Noticeable from a Distance			
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear	<input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors			
		<input type="checkbox"/> Gray	<input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible			
		<input type="checkbox"/> Green	<input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible			
		<input type="checkbox"/> Red					
		<input type="checkbox"/> Other: _____					

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge 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
Comments: _____	

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: Outfall submerged. Upstream structures holding water.

**Section 8: General Comments**

Comments: Retention Basin may need to be dredged.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___



Submerged Outfall



Retention Pond



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	08-01		
Date of Observation:	9 / 21 / 2020	Time:	3:07 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	South of house at 1471 Franklin Road		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>24</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input checked="" type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open Drainage (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.		
Is Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>		
Flow Description (If present)	<input type="checkbox"/> Trickle	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____	

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	58 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		8.08	69.3	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Surface runoff sewer from Forest Lake Golf Club and Club Road.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: Water sample taken for E. Coli, and temperature and pH taken.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	11-01		
Date of Observation:	9 / 22 / 2020	Time:	1:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention Basin access off Bridlepath Court		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: _____ in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input checked="" 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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)		<input type="checkbox"/> Trickle	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
		Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	162 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		7.79	66.5	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	



Section 6: Overall Discharge Characterization

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: No smell, color, or floatables.

Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)

Comments: \_\_\_\_\_

Section 8: General Comments

Comments: \_\_\_\_\_

Section 9: Reporting Information

Comments: \_\_\_\_\_

Date Observed: \_\_/\_\_/\_\_

Time Observed: \_\_\_\_\_

Investigated By: \_\_\_\_\_

Date Reported: \_\_/\_\_/\_\_



Basin inlet on North side



Basin inlet on west side



Basin outlet on south side



Basin Overflow Structure on south side





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	11-02		
Date of Observation:	9 / 21 / 2020	Time:	4:30 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Crofton Court detention basin		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>15</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>					
Flow Description (If present) <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial Description Details: _____					

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Located 15" inlet pipe into basin, but not 6" outlet pipe.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	12-01		
Date of Observation:	9 / 22 / 2020	Time:	2:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Open Space <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention basin for Hidden Pines sub		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>42</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom _____	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Detention pond holding water. Not up to outlet.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	12-02		
Date of Observation:	9 / 22 / 2020	Time:	2:25 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Retention area off Westview Rd and west of Westman Ct		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	<u>Circular Pipe</u> Dimensions: Dia: <u>18</u> in. <u>Elliptical Pipe</u> Dimensions: Width: _____ in. Height: _____ in.	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"/> 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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.		
<input type="checkbox"/> Open Drainage (Channel)					
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>		
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____	

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX			
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible			



Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: No flow from outlet. No water in retention pond.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	13-02		
Date of Observation:	9 / 22 / 2020	Time:	2:45 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):			

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Circular Pipe Dimensions: Dia: _____ in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input 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 checked="" type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: <u>2</u> ft. Top Width: <u>4</u> ft. Bottom _____ Width: <u>1</u> ft.	
Is Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details:	<u>Flowing stream</u>		

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	83 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		8.05	68.1	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Flowing stream. Nothing Unusual.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	16-04		
Date of Observation:	9 / 23 / 2020	Time:	3:05 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input checked="" type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Open Space <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential Other: _____ <input type="checkbox"/> Commercial Known Industries: _____		
Notes (e.g. origin of outfall, if known):	CB in Township campus entrance south of Police.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Other: <u>Clay</u>	<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 Other: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>8</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___







# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	18-01		
Date of Observation:	9 / 21 / 2020	Time:	2:40 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Storm sewer under tennis court.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>12</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>					
Flow Description (If present) <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial Description Details: _____					

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Only surface drainage. No buildings to tie in.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: Trickle from private storm sewer. Not from Twp. Sewer.

**Section 9: Reporting Information**

Comments: \_\_\_\_\_

Date Observed:   /  /  

Time Observed:       

Investigated By: \_\_\_\_\_

Date Reported:   /  /  





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	18-02		
Date of Observation:	9 / 21 / 2020	Time:	2:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Storm sewer along north side of condos		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>12</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)		<input checked="" type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
		Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input checked="" type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input checked="" type="checkbox"/> Other: <u>soap</u>	<input checked="" 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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	>2420 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		8.18	70.7	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

Section 6: Overall Discharge Characterization

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Smelled soap in manhole.

Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)

Comments: East inlet in manhole has trickle. West inlet does not.

Section 8: General Comments

Comments: \_\_\_\_\_

Section 9: Reporting Information

Comments: E.coli sample came back with high results. Further investigation will be done to determine source.

Date Observed: 9/23/2020

Time Observed: \_\_\_\_\_

Investigated By: \_\_\_\_\_

Date Reported: \_\_/\_\_/\_\_





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	19-01		
Date of Observation:	9 / 17 / 2020	Time:	4:05 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Enclosed ditch on east side of 1671 Keller Lane		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: 30 in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)		<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
		Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	



**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: No flow and upstream ditch is dry.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___



Upstream end of enclosed ditch/sewer



Downstream end of enclosed ditch/sewer



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	20-01		
Date of Observation:	9 / 17 / 2020	Time:	4:25 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Outfall on east side of safety path on Franklin Road		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular	<input checked="" type="checkbox"/> Single	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"/> PVC <input type="checkbox"/> CMP <input type="checkbox"/> HDPE <input type="checkbox"/> Steel Other: _____	<input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Triple Other: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>18</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	
<input type="checkbox"/> Open Drainage (Channel)	<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 Other: _____	Depth: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX			
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible			

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow?  Yes  No **(If No, Skip to Section 5)**

INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

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

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Outlet for dry detention area.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: Broken off animal grate

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: <u>  </u> / <u>  </u> / <u>  </u>
	Time Observed: _____
Investigated By: _____	Date Reported: <u>  </u> / <u>  </u> / <u>  </u>





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	20-02		
Date of Observation:	9 / 17 / 2020	Time:	4:35 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):			

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>12</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)		<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
		Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: 165' of pipe enclosing ditch

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	21-01		
Date of Observation:	9 / 17 / 2020	Time:	9:30 am
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Outfall for Overlea Court storm sewer		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <input checked="" type="checkbox"/> HDPE <input type="checkbox"/> Steel Other: _____	<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple Other: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>15</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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 Other: _____	Depth: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX			
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible			



Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____		
Vegetative Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/> Excessive <input checked="" type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

Section 6: Overall Discharge Characterization

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Storm sewer on Overlea Court.

Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)

Comments: \_\_\_\_\_

Section 8: General Comments

Comments: \_\_\_\_\_

Section 9: Reporting Information

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	25-01		
Date of Observation:	9 / 22 / 2020	Time:	3:30 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Inspected manhole in parking lot.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>12</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
Is Flow Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>					
Flow Description (If present) <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial Description Details: _____					

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Parking lot storm sewer manhole. Could not locate catch basin in green space.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	25-02		
Date of Observation:	9 / 22 / 2020	Time:	3:18pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Inspected catch basin SE of dumpsters.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>15</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom _____	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 checked="" type="checkbox"/> 1- Few or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Parking lot storm sewer.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___







# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	29-01		
Date of Observation:	9 / 23 / 2020	Time:	3:18 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Outfall on north side of driveway for 5575 Forman		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED	
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input checked="" type="checkbox"/> CMP <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: _____	Circular Pipe Dimensions: Dia: <u>24</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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 (Channel)	<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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.		
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>		
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial		
	Description Details:	_____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <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"/> Gray <input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Brown <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Other: _____	<input type="checkbox"/> 1 - Faint Colors <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow?  Yes  No **(If No, Skip to Section 5)**

INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

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

INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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"/> Joint <input type="checkbox"/> Other: _____	
Vegetative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Drains Forman Road and overflow for wetland area.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___



## **Appendix B**

### **Advanced Investigations Documentation**

Appendix B1. 2020 Wayne County IDEP Investigation Report

Appendix B2. 2021 Wayne County IDEP Investigation Report

Appendix B3. 2020 Oakland County IDEP Investigation Report

Appendix B4. 2021 Oakland County IDEP Investigation Report

Appendix B5. Bloomfield Township Investigation Records

Appendix B6. Canton Township Investigation Records

**Appendix B1**

**2020 Wayne County IDEP Investigation Report**

**Wayne County Illicit Discharge Elimination Program  
ARC IDEP Services 2020 Report**

**Executive Summary**

Wayne County Department of Public Services Environmental Services Division (ESD) performed source identification advanced investigations in the Cities of Plymouth, Wayne, Westland, and Livonia (Table 1). The ARC 2020 workplan was amended in September of 2020 to include advanced investigations along the Lower Rouge in the City of Inkster. The addition of the Lower Rouge investigations was in response to elevated *E. coli* concentrations identified during routine monitoring performed by ESD and the City of Dearborn. Other tasks completed in 2020 included IDEP Training and activity reporting.

Table 1: Findings and recommended actions for illicit discharge investigations

<b>Community</b>	<b>Outfall/ target area</b>	<b>Findings</b>	<b>Recommendations</b>
Plymouth	PY8	Elevated <i>E. coli</i> and <i>Bacteriodes</i>	Continued investigations including dye testing and televising in 2021
Plymouth	PY5	Elevated <i>E. coli</i>	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteriodes</i> , as well as televising in 2021
Plymouth	PY27	Low <i>E. coli</i> , no evidence of illicit discharge	No further follow-up
Plymouth	Harvey Street	Two illicit connections identified via televising and during construction in 2020 have been corrected	Follow-up <i>E. coli</i> monitoring to confirm no additional illicit connections
Plymouth	Mill/Park Street	Four illicit connections identified (3 discharge to Wayne County Mill Street MS4, and one discharges to the City of Plymouth MS4 tributary). Compliance actions ongoing	Follow-up <i>E. coli</i> monitoring to confirm no additional illicit connections once corrections are made.
Livonia	Bakewell Drain/Levan Road	Investigations were limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>Bacteriodes</i> in 2021
Livonia	Outfall L-1619	Elevated <i>E. coli</i> was detected in one storm sewer near a food service facility.	Continued investigations including sampling for <i>Bacteriodes</i> and televising in 2021
Livonia	6038	Investigations limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteriodes</i> in 2021
Livonia	13002	Investigations limited in 2020 by the COVID-19 pandemic and	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteriodes</i>

		changes in investigative priorities that occurred in the workplan.	in 2021
Livonia	U2008231	Investigations limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteroides</i> in 2021
Livonia	M2008117	Investigations limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteroides</i> in 2021
Livonia	U2008238	Investigations limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteroides</i> in 2021
Livonia	2680	Investigations limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteroides</i> in 2021
Livonia	L3582	Investigations limited in 2020 by the COVID-19 pandemic and changes in investigative priorities that occurred in the workplan.	Continued investigations including sampling for <i>E. coli</i> and <i>Bacteroides</i> in 2021
Wayne	WN-21	<i>E. coli</i> concentrations during two sampling events were very low.	Completed. No further follow-up
Westland	SWOF-00278	Low <i>E. coli</i> concentrations. Elevated pH and chalky-white discharge observed.	Referred to the City of Westland for further follow-up
Dearborn and Inkster	Lower Rouge	Elevated <i>E. coli</i>	Additional investigations on the Lower Rouge upstream of John Daly Road will involve screening outfalls. Sampling for <i>E. coli</i> , <i>Bacteroides</i> , and surfactants, as well as televising planned for the Perrin Drain

### **Task 1: Field Investigations**

ESD conducted IDEP investigations at various outfalls and upstream manholes. Water samples were tested for *E. coli* and observations were recorded regarding water clarity, color, odor, and debris. In addition to ESD's typical IDEP investigation methods, select samples were analyzed for the Human *Bacteroides* marker. The presence of the marker above 1,000 gene copies/100 mL is used as a threshold to indicate potential human source of bacteria present when correlated with elevated *E. coli*.

## City of Plymouth

ESD coordinated with ARC staff and the City of Plymouth to continue investigations of outfalls PY8, PY5, PY27, and the Harvey Street and the Park Street municipal separate storm sewer systems (MS4). The PY8, PY5, and PY27 outfalls discharge to the North branch Tonquish Creek. The Harvey Street MS4 is a tributary to Byron Creek and the South Branch of Tonquish Creek. The Park Street MS4 captures the Mill Street drainage and discharges to the Rouge River Middle Branch.

### *Outfall PY8*

ESD performed follow up monitoring of outfall PY8, investigating manholes and storm sewer laterals upstream of the outfall on July 14, September 15, and 23, 2020. Nine manholes and the outfall were sampled during dry weather. The City of Plymouth televised this storm sewer in December 2019 with no definitive findings. The investigation area and dry weather screening data is shown in *Figure 1* and the investigation data is located in Appendix A, Table A1.

Elevated *E. coli* was detected at the outfall and several manholes in the upstream storm sewer system on Penniman and Blunk Streets. The *Bacteriodes* marker was found in all the Bacteria Source Tracking (BST) samples collected in the storm sewer line during September 2020. Further investigations are needed to identify the *E. coli* source (s) in the outfall PY8 investigation area. Review of storm sewer televising footage, additional manhole sampling (*E. coli* and *Bacteriodes*), televising the sanitary sewer to locate residential leads, and dye testing of selected residences in the investigation area are planned for 2021.

### *Outfall PY5*

ESD performed follow up monitoring of outfall PY5, investigating manholes and storm sewer laterals upstream of the outfall on September 21, 2020. Twelve manholes and the outfall were investigated during dry weather. The investigation area and dry weather screening data is shown in *Figure 2* and the investigation data is located in Appendix A, Table A2.

Elevated *E. coli* was detected at the outfall and several manholes in the upstream storm sewer system on Arthur, William, and Pacific Streets. Further investigations are needed to identify the *E. coli* source (s) in the Outfall PY5 investigation area. The storm sewer sampling locations are going to be verified, the drainage area confirmed, and additional manhole sampling (*E. coli* and *Bacteriodes*) to determine if there are illicit discharges present.

### *Outfall PY27*

The City of Plymouth Outfall PY27 was investigated during August and September 2020. The outfall was investigated three times and during one of those events, no dry weather flow was present. During the two times the outfall was sampled, the *E. coli* concentrations were less than 100 CFU/100mL. When storm sewer manholes upstream of the outfall were investigated, the dry weather flow was limited, or the *E. coli* concentrations were less than 20 CFU/100mL. Based on the *E. coli* data and observations, it is recommended that no further investigative effort is needed at this time. The investigation area and dry weather screening data is shown in *Figure 3* and the investigation data is located in Appendix A, Table A3.



**Figure 1: Outfall PY8 Investigation Area Map**



**Figure 2: Outfall PY5 Investigation Area Map**



### *Harvey Street Investigation Area*

During 2019, ESD resampled the Harvey Street outfall and reinvestigated the laterals on the Harvey street storm sewer. The Harvey Street outfall was resampled three times in 2019. Although the *E. coli* concentrations were reduced from 2018, they were still elevated. In addition, low levels of *Bacteroides* were found in the outlet.

A storm sewer lateral of the Harvey Street line located on Jener Street, was found to have elevated *E. coli* concentrations. Physical signs (tissues and baby wipes) of illicit discharge were observed in December 2019. The *Bacteroides level* in the Jener/Linden Street storm sewer was fairly high indicating a human source of *E. coli*. The *Bacteroides* level was much higher than the *E. coli* concentration, which may be an indication of past contamination.

During 2020, the City of Plymouth televised the Jener Street storm sewer, which is upstream of a manhole where elevated *E. coli* concentrations and the physical evidence of illicit discharge were detected. An illicit connection at a single family residence (663 Jener Street) was discovered during the televising effort.

The City of Plymouth also discovered an illicit connection at a residential property on Harvey Street during construction (566 N. Harvey Street). Both illicit connections have been corrected. Follow up *E. coli* monitoring at the Harvey Street outfall and storm sewer laterals will be performed to confirm that no further illicit connections are present in the storm sewer.

### *Park Street/Mill Street Investigation Area*

There are a total of four residences with unresolved illicit connections identified in the Mill/Park Street investigation area, including a duplex located at 150/152 S. Mill Street identified during residential dye testing performed in 2018. Three residences with illicit connections were identified during utility televising performed in the area by Consumer's Energy during 2019. Two of these connections were identified along Mill Street and discharge into the Wayne County Mill Street MS4 (195 S. Mill and 485 S. Mill). The third originated from a residence on Amelia Street (175 Amelia Street), and this one discharges into the City of Plymouth MS4 tributary to the Mill Street storm sewer. The property owners of the three Mill Street residences were mailed compliance letters in January 2021 providing notice of the illicit connections, indicating that their elimination from the Mill Street MS4 is required by April 1, 2021.

Once the active illicit connections are eliminated from the Mill Street and Ameila Street storm sewers, the Mill Street storm sewer laterals and the Park Street storm sewer outfall will be resampled.

The field data from each of the City of Plymouth's investigation areas discussed above is included in Appendix A.

**Figure 3: Outfall PY27 Investigation Area Map**



## **City of Livonia**

### *Outfall L-1619*

ESD performed dry weather screening of the City of Livonia Outfall L-1619 on December 9 and 16, 2020. Outfall L-1619 and ten upstream manholes were surveyed. Animal tracks and droppings in and on the stream banks near the L-1619 outlet were observed, and the *E. coli* concentration at the outfall was 620 CFU/100mL. Additional sampling for *E. coli* and *Bacteriodes* is planned for the outfall/storm sewer lines upstream of Outfall L-1619 in 2021.

*Figure 4* illustrates the data collected during the investigations of Outfall L-1619.

*Outfall U2008221 (Bakewell Drain) and the 42-inch Outfall Levan Road South (Bakewell Drain)*  
ESD met with the City of Livonia to review the findings of the investigations performed on the Outfall U2008221 and the 42 inch Levan Road outfall in 2019 and developed a follow-up plan to delineate the storm sewers draining to these outfalls, where elevated *E. coli* and BST markers were detected. The City of Livonia televised a storm sewer line located on the west side of Levan Road and discovered it did not have an outlet to the Bakewell Drain. ESD and the City of Livonia were not able to perform further investigation on the Bakewell Drain outfalls due to the staffing shortages caused by the COVID-19 pandemic and the changes in investigative priorities that occurred in the workplan. Further televising, and additional sampling is planned for the outfalls/storm sewer lines upstream of Outfall U2008221 and the 42-inch Outfall Levan Road South in 2021.

### *Outfalls 6038, 13002, U2008231, M2008117, U2008238, 2680, and L3582*

ESD and the City of Livonia were not able to perform further investigation on these outfalls due to the staffing shortages caused by the COVID-19 pandemic and the changes in investigative priorities that occurred in the workplan. It is recommended that the further investigations of these outfalls continue in 2021.

The field data from each of the City of Livonia's investigation areas discussed above is included in Appendix B.

**Figure 4: City of Livonia L-1619 Investigation Map**



### ***City of Wayne***

One outfall in the City of Wayne, WA-21, was investigated in 2020. ESD investigated the outfall's drainage area on two separate occasions, July 28 and August 6, 2020. One sample was collected at the outfall and eleven samples were collected in manholes where dry weather flow was present. The *E. coli* concentrations during both sampling events were very low. No further investigation of the outfall is recommended at this time based on the data obtained during the 2020 investigation.

*Figure 5* illustrates the data collected during the investigations of the outfall.

The field data from the City of Wayne's investigation areas discussed above is included in Appendix C.

### ***City of Westland***

ESD conducted a follow up investigation of the SWOF-00278 outfall, located in the City of Westland, had a suspicious discharge discovered during the ARC's outfall survey. The outfall had a clear dry weather flow and a chalky-white discharge was evident on the streambank. ESD investigated this outfall in 2019 and 2020. *E. coli* concentrations in the sample collected in 2019 were below 150 CFU/100mL; and the water discharging from the outfall had elevated pH in addition to the chalky-white discharge. In December 2020, the outfall also had elevated pH (10), the discharge was clear and a chalky-white substance was present on the vegetation and outfall outlet leading to the Wilson Drain. Since this outfall is privately owned, it was referred to the City of Westland for further follow up and assistance with determining if the discharge source is groundwater or other origin.

The investigation area is shown in *Figure 6* SWOF-00278. A photograph of the outfall is shown in *Figure 7*. The field data for the investigation is included in Appendix D.

### ***Lower Rouge Investigations***

The ARC approved continued monitoring of sampling sites on the Lower Rouge water trail. The six sites are the routine monitoring sites sampled by Wayne County on a weekly basis from April-September. The continuing of the Lower Rouge and outfall investigations was in response to elevated *E. coli* concentrations identified during monitoring performed by ESD and the City of Dearborn. The six routine monitoring sites and four additional instream sites were sampled on four occasions in October and November 2020. In addition to the instream monitoring, ESD sampled outfalls adjacent to road crossings if dry weather discharge was present, with a total of three outfalls sampled. ARC staff performed an investigation on the Perrin Drain and identified a section of the drain in the City of Inkster with elevated *E. coli*.

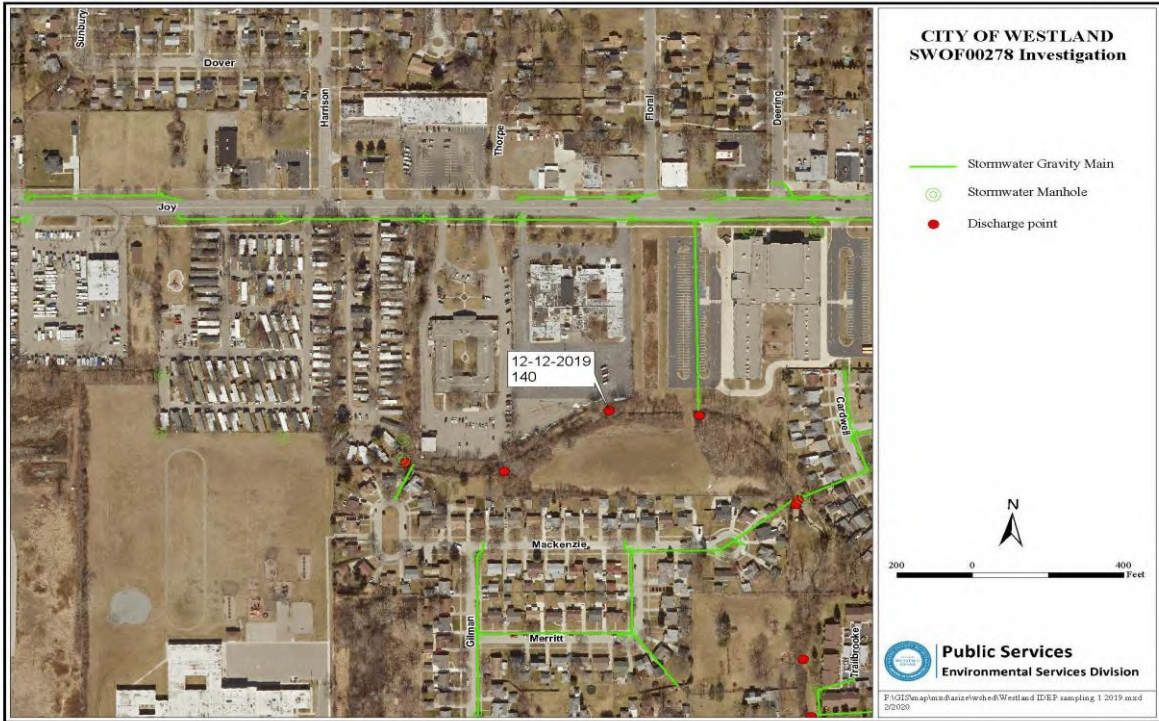
ARC and ESD staff met to review monitoring results, gather historical data and information, met with community representatives, and developed an investigative approach to focus on the river segments located in between sampling locations with elevated *E. coli*. Performing a stream walk and outfall survey of the section of the Lower Rouge upstream of John Daly Road is one of the activities, in addition to continued investigations on the Perrin Drain that are recommended for 2021.

The investigation area is shown in *Figure 8* Lower Rouge Investigation Area. The field data for the investigation is included in Appendix E.





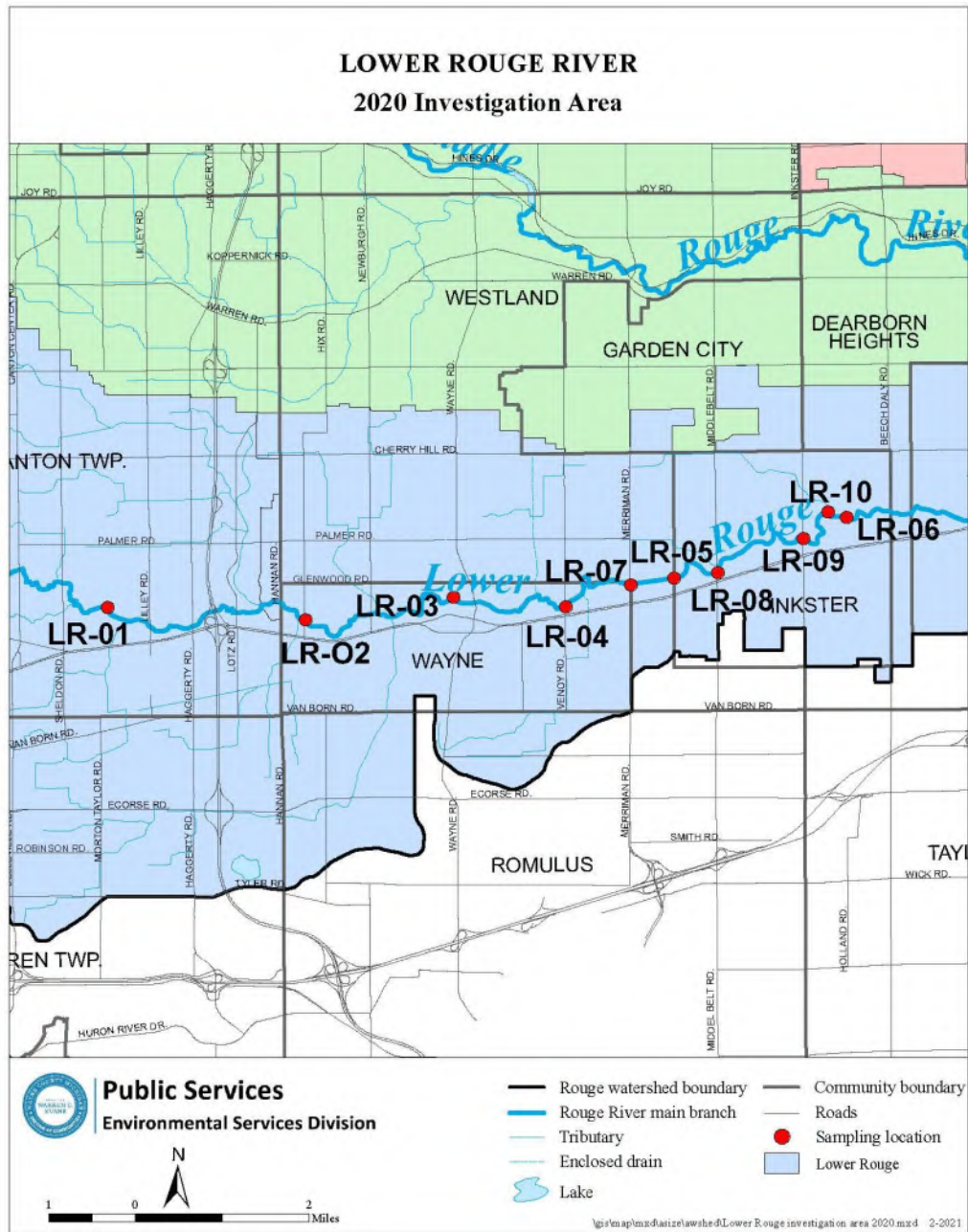
**Figure 6 SWOF-00278 Investigation Map**



**Figure 7 SWOF-00278 Outfall Photograph**



**Figure 8 Lower Rouge Investigation Area Map**



## **Task 2 IDEP Training**

One IDEP Alert Observer training workshop was presented in 2020 in partnership with the Southeast Michigan Council of Governments (SEMCOG) Partners for Clean Water. Due to the COVID-19 pandemic, the in-person Advanced Investigator training workshop was not offered, and a virtual Alert Observer training was developed and offered instead.

The Alert Observer training workshop is a one-hour session that included a question and answer session and panel discussion. The Alliance of Rouge Communities (ARC) partnered with the Southeast Michigan Partners for Clean Water to present the IDEP Alert Observer training, which introduces illicit discharges, why it is important to identify and report them, and also where to report them to. The online training workshop was held on November 10, 2020 with a total of 180 persons from 48 public entities attending the session. One-hundred-twelve of the 180 attendees (62 percent) were representatives of (or consultants representing) ARC member communities.

Appendix F contains the attendance lists for the Alert Observer workshop. Attendees representing ARC communities are highlighted.

## **Task 3 Reporting**

Written progress summaries of IDEP activities were provided. The 2019 IDEP Activities Summary was completed and the 2020 activities summary drafted.

**Appendix A**  
**2020 ARC IDEP Field Investigations**  
**City of Plymouth**

Table A1: Outfall PY8 Investigation Area

Table A2: Outfall PY5 Investigation Area

Table A3: Outfall PY27 Investigation Area

APPENDIX A  
CITY OF PLYMOUTH  
OUTFALL PY8 INVESTIGATION  
2020 ARC IDEP

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Bacteriodes human specific markerArithmetic Average Gene Copies/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees celcius)	Observations	Sanitary Flow Evidence	Odor
1	7/14/2020	12:10	PY8 Outfall	PY8 Outfall	35000	NA	1.5	0.25	1.255	16.9	Outfall w/ dry weather flow; some white material like sewage fungus on bottom of outfall pipe, flow is clear; lot of dark organic debris on bank below outfall outlet	Yes	None
2	9/15/2020	10:10	PY8 Outfall	PY8 Outfall	>48392	NA	NA	NA	NA	NA	Outfall with dry weather flow, water slightly turbid	No	None
3	9/23/2020	10:10	PY8 Outfall	PY8 Outfall	>241960	1.54x10 <sup>7</sup>	NA	NA	NA	NA	Slightly turbid water at outfall; steady flow present	No	None
4	7/14/2020	13:00	PY8 Outfall	990 Penniman	3900	NA	0.75	>3.0	1.201	17.1	Flow from north inlet. Clear flow, laundry like odor, suspicious inlet on southwest side of manhole. Dried debris present on that inlet	No	None
5	9/15/2020	10:55	PY8 Outfall	990 Penniman	1300	NA	NA	NA	NA	NA	Flow in manhole from north. No flow from inlets, but suspicious debris on inlet from the west. Strong odor in manhole like decaying material	No	Yes
6	9/23/2020	9:15	PY8 Outfall	990 Penniman	1300	6.61x10 <sup>5</sup>	NA	NA	NA	NA	Water clear in storm from upstea. No flow from inlets or sign of recent activity. No odor	No	
7	7/14/2020	13:30	PY8 Outfall	Blunk/Church	>48392	NA	0.5	<0.25	1.17	17.5	Clear flow from upstream, with some intermittent sud-like foam	No	None
8	9/15/2020	10:40	PY8 Outfall	Blunk/Church	2500	NA	NA	NA	NA	NA	Clear flow in storm. No flow from inlets	No	None
9	9/23/2020	10:50	PY8 Outfall	Blunk/Church	3800	4.48x10 <sup>5</sup>	NA	NA	NA	NA	Clear water in storm. No flow from inlets	No	
10	7/14/2020	13:50	PY8 Outfall	Blunk/William	>48392	NA	NA	NA	1.153	21.4	Water clear, flow from upstream and none from inlets	No	None
11	9/15/2020	11:45	PY8 Outfall	Blunk/William	8700	NA	NA	NA	NA	NA	No flow from inlets. Slow clear flow from upstream.	No	None
12	9/23/2020	11:15	PY8 Outfall	Blunk/William	2300	1.31x10 <sup>6</sup>	NA	NA	NA	NA	Clear flow in storm. No flow from inlets	No	
13	7/14/2020	14:05	PY8 Outfall	334 Blunk	220	NA	NA	NA	1.147	20.3	Trickle flow in manhole, calcium deposits on east inlet. No flow from inlet	No	None
14	9/15/2020	12:05	PY8 Outfall	334 Blunk	1100	NA	NA	NA	NA	NA	Trickle flow from east inlet and from north. Both clear. Sampled downstream of inlet. Calcium deposit on east inlet	No	None
15	9/23/2020	11:35	PY8 Outfall	334 Blunk	4000	6.61x10 <sup>5</sup>	NA	NA	NA	NA	Water clear in sump, steady trickle from upstream. No flow from east inlet. Some sediment on bottom of pipe	No	None
16	9/23/2020	12:10	PY8 Outfall	242 Blunk	8700	NA	NA	NA	NA	NA	Water clear. Slow flow from east inlet. West inlet bulkheaded	No	None

APPENDIX A  
CITY OF PLYMOUTH  
OUTFALL PY8 INVESTIGATION  
2020 ARC IDEP

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Bacteriodes human specific markerArithmetic Average Gene Copies/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees celcius)	Observations	Sanitary Flow Evidence	Odor
17	7/14//2020	14:10	PY8 Outfall	Blunk/Blanche	430	NA	NA	NA	NA	NA	Slow steady flow in manhole, Inlets dry. Water not deep enough for conductivity/temperature reading	No	None
18	9/15/2020	12:45	PY8 Outfall	Blunk/Blanche	3300	6.25x10 <sup>4</sup>	NA	NA	NA	NA	Clear flow in storm. Some trickle flow from inlet- white PVC. East inlet damp from previous flow.	No	None
19	9/23/2020	12:25	PY8 Outfall	Blunk/Blanche	1400	NA	NA	NA	NA	NA	Slow flow in storm. Very little water. No flow from inlets. Some leaves in flow	No	None
20	7/14/2020	14:30	PY8 Outfall	Blunk/Farmer	NA	NA	NA	NA	NA	NA	Manhole dry. Clear water dripping from two catch basin inlets. Not enough flow to sample inlets	No	None
21	9/15/2020	12:55	PY8 Outfall	Blunk/Farmer	NA	NA	NA	NA	NA	NA	Manhole is buried under gravel due to road construction. Catch basins on each curb are being set. There is standing water in catch basins on the northeast, northwest, and southwest	No	None
22	7/14/2020	14:35	PY8 Outfall	Junction/Blunk	NA	NA	NA	NA	NA	NA	Manhole and inlets dry	No	None
23	9/15/2020	13:05	PY8 Outfall	Junction/Blunk	NA	NA	NA	NA	NA	NA	Manhole and inlets dry. Manhole is cracked. Condition reported to the City staff	No	None
24	9/23/2020	12:15	PY8 Outfall	Junction/Blunk	NA	NA	NA	NA	NA	NA	No dry weather flow in manhole	No	None

APPENDIX A  
OUTFALL PYS INVESTIGATION  
CITY OF PLYMOUTH  
2020 ARC IDEP

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	9/21/2020	10:35	PYS Outfall	PYS Outfall	1100	NA	NA	NA	NA	Slow flow, pipe has low gradient. Water clear	None	None
2	9/21/2020	10:55	PYS Outfall	1214 Penniman	N/A	NA	NA	NA	NA	No dry weather flow in manhole. Manhole shallow	None	None
3	9/21/2020	11:15	PYS Outfall	Arthur/Penniman	18000	NA	NA	NA	NA	Dry weather flow. Manhole is deep. No inlets. Is not appear to be at the same elevation as Penniman manhole	None	None
4	9/21/2020	11:30	PYS Outfall	Arthur 197	<20	NA	NA	NA	NA	Water clear, slow flow in storm. Shallow manhole	None	None
5	9/21/2020	11:50	PYS Outfall	Arthur/William East	40	NA	NA	NA	NA	Clear water in storm. Some leaf litter and grass clippings present. No flow from inlets	None	None
6	9/21/2020	12:10	PYS Outfall	Arthur/William West	1700	NA	NA	NA	NA	Clear flow in storm. Some bulk headed pipes. Sample in sump	None	None
7	9/21/2020	12:20	PYS Outfall	1251 William	2700	NA	NA	NA	NA	Clear flow in storm sump	None	None
8	9/21/2020	12:45	PYS Outfall	William/Pacific	14000	NA	NA	NA	NA	Slow flow in storm. Water clear, some leaves and grass clippings. Inlets dry	None	None
9	9/21/2020	12:55	PYS Outfall	295 Pacific	1800	NA	NA	NA	NA	Water clear in sump and from upstream inlet. Some leaves in storm. Catch basin Inlet dry	None	None
10	9/21/2020	13:05	PYS Outfall	333 Pacific	170	NA	NA	NA	NA	Flow from upstream, trickle flow from storm inlets. Water clear. Leaves and lawn clippings	None	None
11	9/21/2020	13:15	PYS Outfall	Blanche/Pacific	<20	NA	NA	NA	NA	Clear water in sump, and from upstream. No flow from catch basin inlets.	None	None
12	9/21/2020	13:30	PYS Outfall	650 Pacific	NA	NA	NA	NA	NA	Manhole dry	None	None
13	9/21/2020	13:35	PYS Outfall	775 Pacific	NA	NA	NA	NA	NA	Manhole dry. Leaf and lawn clippings present	None	None



APPENDIX A  
 OUTFALL PY27 INVESTIGATION  
 CITY OF PLYMOUTH  
 ARC IDEP 2020

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees celcius)	Observations	Sanitary Flow Evidence	Odor
1	8/13/2020	13:20	PY27 Outfall	PY27 Outfall	NA	NA	NA	NA	NA	No dry weather flow in outfall, upstream catch basin. Some standing water in outfall pipe	None	None
2	8/20/2020	14:07	PY27 Outfall	PY27 Outfall	20	NA	NA	NA	NA	Trickle flow from outfall. Roots growing out of pipe	None	None
3	9/21/2020	14:00	PY27 Outfall	PY27 Outfall	<100	NA	NA	NA	NA	Clear flow from outfall	None	None
4	8/20/2020	14:05	PY27 Outfall	Willowbrook storm #1	NA	NA	NA	NA	NA	Trickle flow in storm. No enough flow to sample	None	None
5	9/21/2020	14:10	PY27 Outfall	Willowbrook storm #1	<20	NA	NA	NA	NA	Clear flow, no inlets	None	None
6	8/20/2020	14:25	PY27 Outfall	Willowbrook storm #2	NA	NA	NA	NA	NA	Some trickle flow from PVC pipe draining into manhole. Clear water. Not enough flow to sample. Car parked on manhole	None	None
7	9/21/2020	14:20	PY27 Outfall	Willowbrook storm #2	<20	NA	NA	NA	NA	Clear flow from large east pipe. Dripping from PVC pipe from the parking area catch basin	None	None
8	9/21/2020	14:35	PY27 Outfall	Plymouth Service Center	<20	NA	NA	NA	NA	Clear dry weather flow from south and east inlets	None	None

**Appendix B**  
**2020 ARC IDEP Field Investigations**  
**City of Livonia**

Table B: Outfall L-1619

APPENDIX B  
 OUTFALL L-1619 INVESTIGATION  
 CITY OF LIVONIA  
 ARC IDEP 2020

DECEMBER 2020

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	12/9/2020	14:20	Outfall 1619	Outfall 1619	620	NA	NA	NA	NA	Cloudy water at drain enclosure outlet. Lots of animal tracks, droppings in the drain and on banks (deer raccoon and other large mammal tracks present)	No	No
2	12/9/2020	14:55	29050 Dardanella	Outfall 1619	<100	NA	NA	NA	NA	Iron bacteria in storm. Solid lid, water clear. Catch basins at the dead end of Dardanella have standing water. Sampled from sump	No	No
3	12/9/2020	15:15	Dardanella/Grimm	Outfall 1619	<100	NA	NA	NA	NA	No flow from south inlet. Clear slow flow from west. Water clear	No	No
4	12/9/2020	15:30	29130 Dardanella	Outfall 1619	<100	NA	NA	NA	NA	Water clear, trickle flow from inlets west and north	No	No
5	12/9/2020	15:40	29200 Dardanella	Outfall 1619	<100	NA	NA	NA	NA	Water clear in storm; flow from west	No	No
5	12/9/2020	15:45	29200 1-8 Dardanella	Outfall 1619	NA	NA	NA	NA	NA	Some clear flow. Iron bacteria present. Flow from west inlet (Dunkin' Donuts). Terminal manhole- no sample collected. Not enough flow. Sediment present, brick and debris	No	No
6	12/16/2020	13:00	29155 Seven Mile	Outfall 1619	8.6	NA	NA	NA	NA	Clear water in storm. Trickle flow from south inlet	No	No
7	12/16/2020	14:35	Chicken Shack	Outfall 1619	2000	NA	NA	NA	NA	Water clear in storm. Flow from west toward enclosed drain	No	No
8	12/16/2020	14:45	Toys R Us Lot	Outfall 1619	NA	NA	NA	NA	NA	Trickle flow; not enough to sample. On large line	No	No
9	12/16/2020	15:10	Seven Mile WC MS4 East	Outfall 1619	61	NA	NA	NA	NA	Water clear, flow from east inlet; beehive structure	No	No
10	12/16/2020	15:20	19127 Parkville	Outfall 1619	NA	NA	NA	NA	NA	Manhole dry	No	No

**Appendix C**  
**2020 ARC IDEP Field Investigations**  
**City of Wayne**

Table C: Outfall WA-21

APPENDIX C  
CITY OF WAYNE  
OUTFALL WA-21  
2020 ARC IDEP

JULY/AUGUST 2020

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/6/2020	9:15	WA-21A Outfall	WA21A	420	NA	NA	NA	NA	Outfall pipe cracked and broken with the headwall and part of the pipe in the river. Clear dry weather flow present. There is some river infiltration through pipe joints.	No	No
2	7/28/2020	13:52	36765 Thinbark	WA21A	NA	NA	NA	NA	NA	Manhole located in driveway on south side of Thinbark St. No inlets in storm except for northeast from manhole #1	No	No
3	8/6/2020	9:30	36765 Thinbark	WA21A	220	NA	NA	NA	NA	First accessible manhole upstream of outfall. Clear water in sump and clear water in inlet which is from the manhole at Thinbark/Thinbark Ct. Sampled below inlet	No	No
4	7/28/2020	13:40	Thinbark/Thinbark Court	WA21A	6.2	NA	NA	NA	NA	Dry weather flow in manhole from the north. Water clear.	No	No
5	8/6/2020	9:40	Thinbark/Thinbark Court	WA21A	60	NA	NA	NA	NA	Clear flow from north inlet. No flow from catch basins. Clear water in sump.	No	No
6	7/28/2020	14:10	Thinbark/Center Court	WA21A	8.6	NA	NA	NA	NA	Trickle flow from north inlet at bottom of manhole and some trickle flow from west. Not enough flow from the west to sample. Sample collected from manhole sump. Water clear	No	No
7	8/6/2020	10:20	Thinbark/Center Court	WA21A	220	NA	NA	NA	NA	Clear water in sump. Trickle flow from north inlet and also 24 inch west inlet. Not enough flow to sample the 24 inch inlet. Sample collected in center of sump.	No	No

APPENDIX C  
CITY OF WAYNE  
OUTFALL WA-21  
2020 ARC IDEP

JULY/AUGUST 2020

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
8	7/28/2020	14:13	Greenbush/Center	WA21A	NA	NA	NA	NA	NA	All inlets dry. Water stagnant in sump, not flowing out through outlet. Manhole is full of grass clippings. Water clear.	No	No
9	8/6/2020	10:30	Greenbush/Center	WA21A	20	NA	NA	NA	NA	Grass clippings in sump. Clear water in sump up to outlet; trickle flow out. No flow from catch basin inlets. Sample collected at outlet	No	No
10	7/28/2020	14:25	Thinbark/Upland Ct	WA21A	6.3	NA	NA	NA	NA	Manhole is located just south of Upland Court. All catch basin inlets dry. Clear dry weather flow from north inlet.	No	No
11	8/6/2020	10:45	Thinbark/Upland Ct	WA21A	220	NA	NA	NA	NA	No flow from catch basin inlets. Trickle flow from north inlet	No	No
12	7/28/2020	14:35	Thinbark/Glenwood	WA21A	13	NA	NA	NA	NA	Clear water in manhole. Trickle flow from east inlet from Glenwood. Water in sump sampled. No flow from a PVC or two catch basin inlets.	No	No
13	8/6/2020	10:55	Thinbark/Glenwood	WA21A	150	NA	NA	NA	NA	Clear water in sump. Clear flow from east inlet. Sample collected in sump near east inlet discharge.	No	No

APPENDIX C  
 CITY OF WAYNE  
 OUTFALL WA-21  
 2020 ARC IDEP

JULY/AUGUST 2020

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
14	8/6/2020	11:05	36429 Glenwood	WA21A	<1	NA	NA	NA	NA	Turbid appearing water in sump. Trickle flow from east inlet. Trickle through outlet to west. No flow from catch basins. Sample collected at outlet. Water appears clear in sample bottle.	No	No
15	8/6/2020	11:15	36417 Glenwood	WA21A	NA	NA	NA	NA	NA	Slightly turbid water in sump. No flow from inlet to the north. No flow out of manhole. Some grass clippings present. Terminal manhole for the line. Manhole is brick. Did not sample due to absence of dry weather flow.	No	No

**Appendix D**  
**2020 ARC IDEP Field Investigations**  
**City of Westland**

Table D: Outfall SWOF-00278



APPENDIX D  
 SWOF-00278  
 CITY OF WESTLAND  
 ARC IDEP 2020

DECEMBER 2020

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	<i>Bacteriodes</i> human specific marker Arithmetic Average gene copies/100mL	<i>Bacteriodes</i> bovine specific marker Arithmetic Average gene copies/100mL	Conductivity (mS/cm)	Observations	Sanitary Flow Evidence	Odor
1	1/16/2020	14:30	SWOF-00278 Outfall	SWOF-00278 Outfall	NA	NA	NA	NA	outfall discharging clear water. Some heavy calcium deposits at outfall outlet and on bank of stream.	None	None
2	12/7/2020	10:00	SWOF-00278 Outfall	SWOF-00278 Outfall	NA	NA	NA	NA	outfall discharging clear water. Some heavy calcium deposits at outfall outlet and on bank of stream. pH of outfall discharge is 10	None	None

**Appendix E**  
**2020 ARC IDEP Field Investigations**  
**Lower Rouge**

Table E: Lower Rouge water quality and outfall data

APPENDIX E  
LOWER ROUGE  
WATER QUALITY MONITORING  
ARC IDEP 2020

Site ID	Site Location	Date	Time	<i>E.coli</i> (CFU/100 mL)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	Rain on Sampling Day	Rain day before sampling	Rain two days before sampling
LR-01	Lower Rouge/Morton Taylor Rd	9/28/2020	12:30	480	Lower	Canton Township	Clear	Medium brown	Musty/faint	Natural	Cloudy 61 degrees	trickle flow from outfall left bank	No	No	No
LR-01	Lower Rouge/Morton Taylor Rd	10/21/2020	13:10	627	Lower	Canton Township	Clear	Light brown	None/natural	Natural	Cloudy 55 degrees	Outfall discharge left bank clear	No	Yes- 0.05"	Yes-0.24"
LR-01	Lower Rouge/Morton Taylor Rd	10/29/2020	9:45	200	Lower	Canton Township	Clear	Light brown	None/natural	Natural	Cloudy 42 degrees	trickle flow from outfall left bank. Cladophora and leaf litter present	No	No	No
LR-01	Lower Rouge/Morton Taylor Rd	11/5/2020	12:45	36.4	Lower	Canton Township	Clear	Light brown	None/Natural	Natural	Cloudy 63 degrees	Trickle flow from outfall on left bank	No	No	No
LR-01	Lower Rouge/Morton Taylor Rd	11/11/2020	14:05	630	Lower	Canton Township	Clear	Clear	None/Natural	Natural	Clear 50 degrees		No	Yes-0.21"	No
LR-02	Lower Rouge/Hix Rd	9/28/2020	12:05	710	Lower	Wayne	Slightly Turbid	Medium brown	Musty/faint	Natural	Cloudy 61 degrees	20 turkeys crossing the road near site	No	No	No
LR-02	Lower Rouge/Hix Rd	10/21/2020	12:55	836	Lower	Wayne	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 55 degrees		No	Yes- 0.05"	Yes-0.24"
LR-02	Lower Rouge/Hix Rd	10/29/2020	10:10	100	Lower	Wayne	Clear	Light brown	None/natural	Natural	Cloudy 42 degrees	Leaf litter present at site	No	No	No
LR-02	Lower Rouge/Hix Rd	11/5/2020	13:15	15.8	Lower	Wayne	Clear	Light brown	None/Natural	Natural	Cloudy 63 degrees		No	No	No
LR-02	Lower Rouge/Hix Rd	11/11/2020	13:55	520	Lower	Wayne	Slightly Turbid	Light brown	None/Natural	Natural	Clear 50 degrees		No	Yes-0.21"	No
LR-03	Lower Rouge/Elizabeth St	9/28/2020	11:45	760	Lower	Wayne	Slightly Turbid	Light brown	None/Natural	Natural	Cloudy 61 degrees		No	No	No
LR-03	Lower Rouge/Elizabeth St	10/21/2020	12:40	712	Lower	Wayne	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 55 degrees		No	Yes- 0.05"	Yes-0.24"
LR-03	Lower Rouge/Elizabeth St	10/29/2020	10:20	310	Lower	Wayne	Slightly Turbid	Medium brown	Musty/faint	Natural	Cloudy 42 degrees	Leaf litter present at site	No	No	No
LR-03	Lower Rouge/Elizabeth St	11/5/2020	12:20	13.2	Lower	Wayne	Clear	Medium brown	None/Natural	Natural	Cloudy 63 degrees	Lots of floating leaves at site	No	No	No
LR-03	Lower Rouge/Elizabeth St	11/11/2020	13:45	2490	Lower	Wayne	Slightly Turbid	Medium brown	None/Natural	Natural	Clear 50 degrees		No	Yes-0.21"	No

APPENDIX E  
LOWER ROUGE  
WATER QUALITY MONITORING  
ARC IDEP 2020

NOVEMBER 2020

Site ID	Site Location	Date	Time	<i>E.coli</i> (CFU/100 mL)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	Rain on Sampling Day	Rain day before sampling	Rain two days before sampling
LR-04	Lower Rouge/Venoy Rd	9/28/2020	11:25	950	Lower	Wayne	Slightly Turbid	Medium brown	None/Natural	Natural	Cloudy 61 degrees	Left bank outfall discharging clear water	No	No	No
LR-04	Lower Rouge/Venoy Rd	10/21/2020	12:25	1012	Lower	Wayne	Moderately Turbid	Medium brown	None/natural	Natural	Cloudy 55 degrees		No	Yes- 0.05"	Yes-0.24"
LR-04	Lower Rouge/Venoy Rd	10/29/2020	10:35	200	Lower	Wayne	Slightly Turbid	Medium brown	Musty/faint	Natural	Cloudy 42 degrees	Leaf litter present at site	No	No	No
LR-04	Lower Rouge/Venoy Rd	11/5/2020	11:55	18.5	Lower	Wayne	Clear	Medium brown	None/Natural	Natural	Cloudy 63 degrees	No flow from outfalls at crossing	No	No	No
LR-04	Lower Rouge/Venoy Rd	11/11/2020	13:30	860	Lower	Wayne	Slightly Turbid	Medium brown	None/Natural	Musty/faint	Clear 50 degrees		No	Yes-0.21"	No
LR-04 NW outfall	Lower Rouge/Venoy Rd outfall northwest bank	10/29/2020	10:45	<100	Lower	Wayne	Clear			Natural	Cloudy 42 degrees	Flow from outfall clear	No	No	No
LR-04 SE outfall	Lower Rouge/Venoy Rd outfall southeast bank	10/29/2020	10:55	100	Lower	Wayne	Clear			Natural	Cloudy 42 degrees	Flow from outfall clear	No	No	No
LR-07	Lower Rouge/Merriman Rd	9/28/2020	11:00	880	Lower	Wayne	Slightly Turbid	Light brown	None/Natural	Natural	Cloudy 61 degrees	Carts, flow from an outfall on SE bank (sampled). Other outfalls dry. Some work on both sides of the crossing	No	No	No
LR-07	Lower Rouge/Merriman Rd	10/21/2020	NA	NA	Lower	Wayne	NA	NA	NA	NA	Cloudy 55 degrees	Site not accessible due to ongoing construction	No	Yes- 0.05"	Yes-0.24"
LR-07	Lower Rouge/Merriman Rd	10/29/2020	11:15	100	Lower	Wayne	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 42 degrees		No	No	No
LR-07	Lower Rouge/Merriman Rd	11/5/2020	11:45	25.6	Lower	Wayne	Clear	Medium brown	None/Natural	Natural	Cloudy 63 degrees	No dry weather flow from outfalls at crossing	No	No	No
LR-07	Lower Rouge/Merriman Rd	11/11/2020	13:15	1730	Lower	Wayne	Moderately Turbid	Medium brown	None/Natural	Natural	Clear 50 degrees	Some dewatering on south side of bridge due to construction work near Michigan Avenue intersection	No	Yes-0.21"	No
Merriman SE Outfall	Lower Rouge/Merriman Road Outfall SE side	9/28/2020	11:10	750	Lower	Westland	Clear				Cloudy 61 degrees	Outfall discharge clear; some sudsing present	No	No	No

APPENDIX E  
LOWER ROUGE  
WATER QUALITY MONITORING  
ARC IDEP 2020

NOVEMBER 2020

Site ID	Site Location	Date	Time	<i>E.coli</i> (CFU/100 mL)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	Rain on Sampling Day	Rain day before sampling	Rain two days before sampling
LR-05	Lower Rouge/Henry Ruff Rd	9/28/2020	10:45	650	Lower	Westland	Slightly Turbid	Light brown	Musty/faint	Natural/fixed trash	Cloudy 61 degrees	Large logjam at bridge with duckweed and fixed trash present; no DO taken at center and left bank stream due to jam. Two outfalls upstream and one downstream	No	No	No
LR-05	Lower Rouge/Henry Ruff Rd	10/21/2020	12:10	1374	Lower	Westland	Moderately Turbid	Medium brown	None/natural	Natural	Cloudy 55 degrees		No	Yes- 0.05"	Yes-0.24"
LR-05	Lower Rouge/Henry Ruff Rd	10/29/2020	11:30	100	Lower	Westland	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 42 degrees	No flow from outfalls at crossing	No	No	No
LR-05	Lower Rouge/Henry Ruff Rd	11/5/2020	11:35	11	Lower	Westland	Clear	Dark brown	None/Natural	Natural	Cloudy 63 degrees	no flow from outfalls at crossing. Large logjam and duckweed present	No	No	No
LR-05	Lower Rouge/Henry Ruff Rd	11/11/2020	13:05	2590	Lower	Westland	Slightly Turbid	Medium brown	None/Natural	Musty/faint	Clear 50 degrees		No	Yes-0.21"	No
LR-08	Lower Rouge/Middlebelt Rd	9/28/2020	10:35	770	Lower	Inkster	Slightly Turbid	Light brown	None/Natural	Natural	Cloudy 61 degrees	Large logjam upstream of bridge; outfall SE bank dry	No	No	No
LR-08	Lower Rouge/Middlebelt Rd	10/21/2020	12:05	660	Lower	Inkster	Moderately Turbid	Dark brown	None/natural	Natural	Cloudy 55 degrees	Logjam, leaves	No	Yes- 0.05"	Yes-0.24"
LR-08	Lower Rouge/Middlebelt Rd	10/29/2020	13:40	>100	Lower	Inkster	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 42 degrees	Large logjam upstream of bridge	No	No	No
LR-08	Lower Rouge/Middlebelt Rd	11/5/2020	11:25	13.1	Lower	Inkster	Clear	Dark brown	None/Natural	Natural	Cloudy 63 degrees	Large logjam at site; no flow from outfalls at crossing	No	No	No
LR-08	Lower Rouge/Middlebelt Rd	11/11/2020	12:30	2920	Lower	Inkster	Moderately Turbid	Dark brown	None/Natural	Natural	Clear 50 degrees	Large logjam with foaming at bridge	No	Yes-0.21"	No
LR-09	Lower Rouge/Inkster Rd	9/28/2020	10:15	400	Lower	Inkster	Slightly Turbid	Light brown	None/Natural	Natural	Cloudy 61 degrees	Logjam at bridge upstream side; dry outfall NW side of crossing	No	No	No
LR-09	Lower Rouge/Inkster Rd	10/21/2020	11:50	708	Lower	Inkster	Moderately Turbid	Dark brown	None/natural	Natural	Cloud 55 degrees	Logjam at bridge	No	Yes- 0.05"	Yes-0.24"
LR-09	Lower Rouge/Inkster Rd	10/29/2020	12:05	100	Lower	Inkster	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 42 degrees	Logjam at bridge	No	No	No
LR-09	Lower Rouge/Inkster Rd	11/5/2020	11:10	18.9	Lower	Inkster	Clear	Dark brown	None/Natural	Natural	Cloudy 63 degrees	Large logjam at site; floating leaves; no flow at outfalls at crossing	No	No	No

APPENDIX E  
LOWER ROUGE  
WATER QUALITY MONITORING  
ARC IDEP 2020

NOVEMBER 2020

Site ID	Site Location	Date	Time	<i>E.coli</i> (CFU/100 mL)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	Rain on Sampling Day	Rain day before sampling	Rain two days before sampling
LR-09	Lower Rouge/Inkster Rd	11/11/2020	12:10	1080	Lower	Inkster	Moderately Turbid	Dark brown	None/Natural	Natural	Clear 50 degrees	Some trickle flow from outfalls at crossing; lots of leaves and foaming at large logjam	No	Yes-0.21"	No
LR-10	Perrin Drain outlet	10/21/2020	11:40	3076	Lower	Inkster	Clear	Dark brown	None/natural	Natural	Cloudy 55 degrees	some trash and leaves present	No	Yes- 0.05"	Yes-0.24"
LR-10	Perrin Drain outlet	11/5/2020	11:00	27.9	Lower	Inkster	Clear	Light brown	None/Natural	Some fixed trash	Cloudy 63 degrees	Slow flow from outlet; some leaves	No	No	No
LR-10	Perrin Drain outlet	11/11/2020	12:00	11120	Lower	Inkster	Slightly Turbid	Dark brown	None/Natural	Floating trash. leaves	Clear 50 degrees	Some foam, leaves, flow from outfall; floating trash			
LR-06	Lower Rouge/John Daly Rd	9/28/2020	9:50	560	Lower	Inkster	Slightly Turbid	Dark brown	None/Natural	Natural/Fixed Trash	Cloudy 61 degrees	Bike on left bank, leaf debris flowing, no flow at outfalls at crossing	No	No	No
LR-06	Lower Rouge/John Daly Rd	10/21/2020	11:30	1017	Lower	Inkster	Moderately Turbid	Medium brown	None/natural	Natural	Cloudy 55 degrees	Leaves in water	No	Yes- 0.05"	Yes-0.24"
LR-06	Lower Rouge/John Daly Rd	10/29/2020	12:30	630	Lower	Inkster	Slightly Turbid	Medium brown	None/natural	Natural	Cloudy 42 degrees		No	No	No
LR-06	Lower Rouge/John Daly Rd	11/5/2020	10:50	11	Lower	Inkster	Clear	Dark brown	None/Natural	Natural	Cloudy 63 degrees	Lots of floating leaves at site	No	No	No
LR-06	Lower Rouge/John Daly Rd	11/11/2020	11:50	1340	Lower	Inkster	Highly Turbid	Dark brown	None/Natural	Natural	Clear 50 degrees		No	Yes-0.21"	No
	<i>E. coli</i> values above 1000 CFU/100mL														

**Appendix F**  
**2020 Partners for Clean Water Regional IDEP Training Workshop**  
**Alert Observer Training**  
**Attendees List**  
**November 10, 2020**

APPENDIX F  
SEMCOG UNIVERSITY ALERT OBSERVER TRAINING ATTENDANCE LIST  
NOVEMBER 10, 2020

NOVEMBER 10, 2020

ARC Member Community			
Number	First Name	Last Name	Community/Organization
1	Cory	Borton	Bloomfield Township
2	Don	Coddington	Chesterfield Township
3	Mike	Oloughlin	City of Allen Park
4	Roger	Bouck	City of Ann Arbor
5	Jason	Derwoed	City of Ann Arbor
6	John	Kimberly	City of Ann Arbor
7	Kevin	Schneider	City of Ann Arbor
8	Mark	Sirls	City of Ann Arbor
9	Ben	Stapish	City of Ann Arbor
10	Peter	Stephens	City of Ann Arbor
11	Ken	Marten	City of Bingham Farms
12	Bryan	Grill	City of Birmingham
13	Michael	Jurek	City of Birmingham
14	Brendan	McGaughey	City of Birmingham
15	John	Selmi	City of Dearborn Heights
16	Kenneth	Kucel	City of Detroit
17	Jacob	Donner	City of Dexter
18	Joshua	Leach	City of Farmington
19	Mirandi	Alexander	City of Farmington Hills
20	Joe	Bledsoe	City of Farmington Hills
21	Jim	Cubera	City of Farmington Hills
22	ShonQuase	Dawkins	City of Farmington Hills
23	Mike	Hoffmeyer	City of Farmington Hills
24	Natasha	Sonck	City of Farmington Hills
25	Dan	Striks	City of Farmington Hills
26	Alex	Teraglia	City of Farmington Hills
27	Joe	Thornburg	City of Farmington Hills
28	Gregory	Young	City of Farmington Hills
29	Neil	Johnston	City of Grosse Pointe
30	Steve	Vitale	City of Grosse Pointe
31	Nicholas	Rudd	City of Grosse Pointe Shores



APPENDIX F  
SEMCOG UNIVERSITY ALERT OBSERVER TRAINING ATTENDANCE LIST  
NOVEMBER 10, 2020

NOVEMBER 10, 2020

ARC Member Community			
Number	First Name	Last Name	Community/Organization
32	Michael	Way	City of Grosse Pointe Shores
33	Steve	Dubay	City of Hazel Park
34	George	Hutton	City of Livonia
35	Doug	Moore	City of Livonia
36	John	Klimaszewski	City of New Baltimore
37	Giordano	Bartoletri	City of Novi
38	Victor	Boron	City of Novi
39	Thomas	Constantine	City of Novi
40	Casey	Fox	City of Novi
41	Charles	Fritz	City of Novi
42	Jacy	Headley	City of Novi
43	James	Matties	City of Novi
44	James	Paulk	City of Novi
45	Frederick	Petty	City of Novi
46	Dean	Reid	City of Novi
47	Kate	Richardson	City of Novi
48	Keith	Salowich	City of Novi
49	Drew	Snyder	City of Novi
50	Christopher	Stanley	City of Novi
51	Aaron	Staup	City of Novi
52	John	Talbot	City of Novi
53	Mike	Tate	City of Novi
54	Gerald	Tremblay	City of Novi
55	Jeffrey	Vancurler	City of Novi
56	Matt	Wiktorowski	City of Novi
57	Roger	Gardner	City of Orchard Lake
58	mike	lee	City of Orchard Lake
59	Greta	Bolhius	City of Plymouth
60	Mike	Brindley	City of Plymouth
61	Dave	Cirilli	City of Plymouth
62	Jennifer	Coykendall	City of Plymouth
63	Steve	Faiman	City of Plymouth
64	Nancy	Griwicki	City of Plymouth

APPENDIX F  
SEMCOG UNIVERSITY ALERT OBSERVER TRAINING ATTENDANCE LIST  
NOVEMBER 10, 2020

NOVEMBER 10, 2020

ARC Member Community			
Number	First Name	Last Name	Community/Organization
65	Brandon	Haarala	City of Plymouth
66	Lisa	Hominga	City of Plymouth
67	Nick	Johns	City of Plymouth
68	Trent	Kalis	City of Plymouth
69	Ray	Kraft	City of Plymouth
70	Aaron	Micek	City of Plymouth
71	Colin	Murphy	City of Plymouth
72	Chris	Porman	City of Plymouth
73	Brian	Ronayne	City of Plymouth
74	John	Segura	City of Plymouth
75	Jacob	Chafins	City of Port Huron
76	Sherman	Potter	City of Portage
77	Tim	Pollizzi	City of Rochester Hills
78	Austin	Laskaska	City of Romulus
79	John	McKinney	City of Romulus
80	Nicholas	Pace	City of Romulus
81	Richard	Taylor	City of Romulus
82	Brandy	Siedlaczek	City of Southfield
83	Larry	Sirls	City of Southfield
84	Mike	Allen	City of St. Clair Shores
85	David	Conklin	City of St. Clair Shores
86	Ron	Demski	City of St. Clair Shores
87	Zach	Erne	City of St. Clair Shores
88	Erik	Skurda	City of Sterling Heights
89	Matthew	Bonza	City of Taylor
90	Jason	Mach	City of Taylor
91	Randy	Smith	City of Taylor
92	Scott	Carruthers	City of Troy
93	George	Hawes	City of Troy
94	Chad	Fisher	City of Wayne
95	Mary	Bednar	Clinton Township
96	Gordon	Bush	Clinton Township
97	Jason	Mills	Clinton Township

APPENDIX F  
SEMCOG UNIVERSITY ALERT OBSERVER TRAINING ATTENDANCE LIST  
NOVEMBER 10, 2020

NOVEMBER 10, 2020

<b>ARC Member Community</b>			
<b>Number</b>	<b>First Name</b>	<b>Last Name</b>	<b>Community/Organization</b>
98	Robert	Turner	Clinton Township
99	Nick	Kammer	East China Township
100	Donald	Liniarski	East China Township
101	Kenneth	Schindler	East China Township
102	Blayn	Szyska	East China Township
103	Janelle	Hohm	EGLE
104	Jen	Klang	EGLE
105	Felicia	Venable	Farmington Public Schools
106	Jay	Stogiera	Henry Ford Community College
107	Rebekkah	Ausbury	Kalamazoo County Road Commission
108	Rod	Soos	Livingston County
109	Bryan	Varacalle	Livingston County
110	John	Griffor	Macomb County
111	Carol	Koehn	Macomb County
112	Jeff	Bednar	Macomb County
113	Jenay	Chartier	Macomb County
114	Karen	Czernel	Macomb County
115	Sam	DiCaro	Macomb County
116	Jessica	Hicks	Macomb County
117	Carol	Koehn	Macomb County
118	Anthony	Lemire	Macomb County
119	Greg	Martinez	Macomb County
120	Lara	Sucharski	Macomb County
121	Terry	Baumgarten	No affiliation provided
122	Jennifer	Carpenter	No affiliation provided
123	Matt	Collins	No affiliation provided
124	Troy	Farnum	No affiliation provided
125	Edward	LaGarde	No affiliation provided
126	Mark	Baldwin	Oakland County
127	Ron	Fadoir	Oakland County
128	Michael	Mausolf	Oakland County
129	Megan	Schildberg	Oakland County
130	Stephen	Whaley	Oakland County

APPENDIX F  
SEMCOG UNIVERSITY ALERT OBSERVER TRAINING ATTENDANCE LIST  
NOVEMBER 10, 2020

NOVEMBER 10, 2020

ARC Member Community			
Number	First Name	Last Name	Community/Organization
131	Michael	Chiasson	Oakland County
132	Jacy	Garrison	Oakland County
133	Joel	Kohn	Oakland County
134	Jeff	Monette	Oakland County
135	Jim	Schafer	Oakland County
136	Sean	Zera	Oakland County
137	Levi	Brindley	Oakland County Parks and Recreation
138	Laura	Hassold Prevot	Oakland County Road Commission
139	Cora	Hanson	Oakland University
140	Cora	Hanson	Oakland University-Environmental Health & Safety
141	Conner	Reiter	Orion Township
142	Joe	Pace	Riverview Schools
143	Trevor	Layton	SEMCOG-Partner
144	Glenda	Marks	SEMCOG-Partner
145	Stephanie	Taylor	SEMCOG-Partner
146	John	Taylor	Village of Beverly Hills
147	Franklin	Wenzel	Village of South Rockwood
148	Kelly	McRobb-Ackland	Wade Trim-No community affiliation provided
149	April	Avigne	Washtenaw County
150	Kevin	Butler	Washtenaw County
151	Michael	Fry	Washtenaw County
152	William	Fults	Washtenaw County
153	Dakota	Spain	Washtenaw County
154	Bryan	Bloomensaar	Washtenaw County
155	Robert	Dancer	Washtenaw County
156	Marc	Decker	Washtenaw County
157	Bob	Griffin	Washtenaw County
158	Heather	Rice	Washtenaw County
159	Julie	Sigda	Washtenaw County
160	Kathy	Squiers	Washtenaw County
161	David	Streeter	Washtenaw County
162	Edward	Wojtan	Washtenaw County
163	Scott	Burby	Washtenaw County Road Commission

APPENDIX F  
SEMCOG UNIVERSITY ALERT OBSERVER TRAINING ATTENDANCE LIST  
NOVEMBER 10, 2020

NOVEMBER 10, 2020

<b>ARC Member Community</b>			
<b>Number</b>	<b>First Name</b>	<b>Last Name</b>	<b>Community/Organization</b>
164	Mark	Fenelon	Washtenaw County Road Commission
165	Jaclyn	Henderson	Washtenaw County Road Commission
166	Becky	Houle	Washtenaw County Road Commission
167	Larry	Plesiewicz	Washtenaw County Road Commission
168	Jared	Powers	Washtenaw County Road Commission
169	Lauren	Purdy	Washtenaw County Road Commission
170	Kristin	Goetze	Waterford Township
171	Robert	Merinsky	Waterford Township
172	David	Cartwright	Wayne County
173	Frederick	Greene	Wayne County
174	John	Gundry	Wayne County
175	Richard	Hodges	Wayne County
176	Elizabeth	Iszler	Wayne County
177	Sami	Khaldi	Wayne County
178	LeDonn	Majors	Wayne County
179	Noel	Mullett	Wayne County
180	Joseph	Tomocik	Wayne County

**Appendix B2**

**2021 Wayne County IDEP Investigation Report**

**Wayne County Illicit Discharge Elimination Program  
ARC IDEP Services 2021 Report**

**Executive Summary**

Wayne County Department of Public Services Environmental Services Division (ESD) performed source identification advanced investigations in the Cities of Plymouth, Inkster, and Livonia (Table 1). The ARC 2021 workplan was amended in September of 2020 to include advanced investigations along the Lower Rouge in the City of Inkster. The addition of the Lower Rouge investigations was in response to elevated *E. coli* concentrations identified during routine water quality monitoring performed by ESD and the City of Dearborn. Other tasks completed in 2021 included IDEP Training and activity reporting.

Table 1: Findings and recommended actions for illicit discharge investigations

Community	Outfall/ target area	Findings	Recommendations
Plymouth	PY8	Elevated <i>E. coli</i> , <i>Bacteriodes</i> and <i>HF183</i> marker	Continued investigations in 2022 including dye testing and televising storm sewer segments isolated by sampling
Plymouth	PY5	Elevated <i>E. coli</i> and HF183 marker	Continued investigations in 2022 including sampling for <i>E. coli</i> and HF183 marker, dye testing and televising storm sewer segments isolated by sampling
Plymouth	Holbrook Street	Low <i>E. coli</i> ; no evidence of illicit discharge other than sewage odor	Investigation plans for 2022 TBD pending recommendations from the City of Plymouth
Plymouth	PY27	Low <i>E. coli</i> ; no evidence of illicit discharge	No further follow-up necessary. No further investigation is needed in 2022
Plymouth	Harvey Street	Two illicit connections identified via televising and during construction in 2020 were corrected	Follow-up <i>E. coli</i> monitoring performed in 2021 confirmed no additional illicit connections suspected. No further investigation is needed in 2022
Plymouth	Mill/Park Street	Four illicit connections identified (3 discharge to Wayne County Mill Street MS4, and one discharges to the City of Plymouth MS4 tributary). Compliance actions ongoing	Follow-up <i>E. coli</i> monitoring to confirm no additional illicit connections once corrections are made.
Livonia	Bakewell Drain/Levan Road 42" storm sewer	Low <i>E. coli</i> and HF183 marker; no evidence of illicit discharge	Continued investigations including sampling for <i>E. coli</i> and HF183 marker is needed in 2022

Livonia	Outfall L-1619	Elevated <i>E. coli</i> and HF183 marker was detected in a storm sewer near a food service facility. Sewage source (s) suspected	Continued investigations including additional sampling for <i>E. coli</i> , HF183 marker, dye testing and televising in 2022
Livonia	6038	2021 investigation inconclusive	Continued investigations including sampling for <i>E. coli</i> and HF183 marker in 2022
Livonia	13002	Low <i>E. coli</i> ; no evidence of illicit discharge	No further investigation is needed in 2022
Livonia	U2008231	Low <i>E. coli</i> , outfall dry; no evidence of illicit discharge	No further investigation is needed in 2022
Livonia	M2008117	Low <i>E. coli</i> ; no evidence of illicit discharge	No further investigation is needed in 2022
Livonia	U2008238	Low <i>E. coli</i> ; no evidence of illicit discharge	No further investigation is needed in 2022
Livonia	2680	Low <i>E. coli</i> /HF183; no evidence of illicit discharge	No further investigation is needed in 2022
Livonia	L3582	2021 investigation inconclusive	Continued investigations including sampling for <i>E. coli</i> and HF183 marker in 2022
Livonia	U2008221	Sewage sources suspected. No investigation on this line in 2021	ARC staff taking over investigation of this outfall in 2022
Dearborn and Inkster	Lower Rouge	Elevated <i>E. coli</i>	Additional investigations on the Lower Rouge upstream of John Daly Road will involve screening outfalls, sampling for <i>E. coli</i> , HF183 marker and surfactants, as well as televising planned for the Perrin Drain, and sanitary sewer crossings

### **Task 1: Field Investigations**

ESD conducted IDEP investigations at various outfalls and upstream storm sewer manholes. Water samples were tested for *E. coli* and observations were recorded regarding water clarity, color, odor, and debris. In addition to ESD's typical IDEP investigation methods, select samples were analyzed for the Human Source (HF183) marker. The presence of the marker above 1,000 gene copies/100 mL is used as a threshold to indicate potential human source of bacteria present when correlated with elevated *E. coli* levels.



## City of Plymouth

ESD coordinated with ARC staff and the City of Plymouth to continue investigations of outfalls PY8, PY5, Holbrook Street, and the Harvey Street and the Park Street municipal separate storm sewer systems (MS4). The PY8 and PY5 outfalls discharge to the North Branch Tonquish Creek. The Harvey Street MS4 is a tributary to Byron Creek and the South Branch of Tonquish Creek. The Park Street MS4 captures the Mill Street drainage and discharges to the Rouge River Middle Branch, as does the outfall discharging the drainage from the Holbrook Street investigation area.

### *Outfall PY8*

ESD performed follow up monitoring of outfall PY8, investigating manholes and storm sewer laterals upstream of the outfall on August 23, September 21, and November 10, 2021. Three manholes were investigated during dry weather. The investigation area and dry weather screening data is shown in *Figure 1* and the investigation data is in Appendix A, Table A1.

Elevated *E. coli* was detected at two manholes in the upstream storm sewer system on Blunk Street. Elevated levels of HF183 marker were detected in a sample taken on November 10, 2021. Further investigations are needed to identify the source (s) in the outfall PY8 investigation area. Review of storm sewer televising footage, additional manhole sampling (*E. coli* and *HF183*), televising the sanitary sewer to locate residential leads, and dye testing of selected residences in the investigation area are planned for 2022.

### *Outfall PY5*

ESD performed follow up sampling in manholes and storm sewer laterals upstream of the outfall on August 23, and November 10, 2021. Two manholes and the outfall were investigated during dry weather. The investigation area and dry weather screening data is shown in *Figure 2* and the investigation data is in Appendix A, Table A2.

The outfall was not sampled due to stagnant water/no dry weather flow present in the pipe. Elevated *E. coli* was detected in one manhole in the upstream storm sewer system at the intersection of Arthur and William Streets. *E. coli* and HF 183 marker concentrations were low in a sample taken on Pacific Street November 10, 2021. Further investigations are needed to isolate the *E. coli*/*HF183* source (s) in the Outfall PY5 investigation area. Televising of the storm sewer, verification of sampling locations, additional manhole sampling (*E. coli* and *HF183*), and dye testing of selected residences are planned for 2022.

### *Holbrook Street*

The City of Plymouth Holbrook Street storm sewer segment between Plymouth Road and its terminal manhole south of the railroad tracks (north of Liberty Street) was investigated on August 23 and September 2, 2021. The manholes along this segment were investigated twice and during one of those events, no dry weather flow was present, except for in the manhole at furthest downstream point in investigation area. During the two times this manhole was sampled, the *E. coli* concentrations were less than 100 CFU/100mL. A sewage odor was detected in the storm sewer at Holbrook and Spring Street intersection, and complaints received about this odor is what initiated the investigation in this specific section of the drainage area. The odor does not appear to be originating from an active illicit discharge source. Based on the *E. coli* data and observations, no further investigation is recommended at this time, unless the reviewing the CCTV footage of the sewers in the drainage area indicates otherwise. The investigation area is shown in *Figure 3* and dry weather screening data is shown in *Figure 3* and the investigation data is in Appendix A, Table A3.

### *Harvey Street Investigation Area*

Two residences with illicit connections were discovered during 2020. One was found when the City of Plymouth televised the Jener Street storm sewer, which is upstream of a manhole where elevated *E. coli* concentrations and physical evidence of illicit discharge were detected during storm sewer manhole sampling investigations. The illicit connection discovered during the televising effort was at a single-family residence (663 Jener Street). The City of Plymouth also discovered an illicit connection at a residential property (566 N. Harvey Street) on Harvey Street during road construction. Both illicit connections were corrected.

Follow up *E. coli* monitoring at the Harvey Street outfall and its storm sewer laterals was performed during 2021 to confirm that no further illicit connections are present in the storm sewer system that discharges to Byron Creek (Tonquish Creek South Branch). A total of six residences with illicit connections were identified in the Harvey Street storm sewer drainage area investigation. This investigation is completed. The investigation area is shown in Figure 4 and the dry weather screening data is in Appendix A, Table A4.

### *Park Street/Mill Street Investigation Area*

There are a total of four residences with unresolved illicit connections identified in the Mill/Park Street investigation area, including a duplex located at 150/152 S. Mill Street identified during residential dye testing performed in 2018. Three residences with illicit connections were identified during utility televising performed in the area by Consumer's Energy during 2019. Two of these connections were identified along Mill Street and discharge into the Wayne County Mill Street MS4 (195 S. Mill and 485 S. Mill). The third originated from a residence on Amelia Street (175 Amelia Street), and this one discharges into the City of Plymouth MS4 tributary to the Mill Street storm sewer. The property owners of the three Mill Street residences were mailed Notice of Ordinance Violation letters ordering disconnection of the plumbing fixtures from the Mill Street MS4 and that the fixtures be properly connected to the City of Plymouth sanitary sewer. The correction of the illicit connections is required by May 1, 2022.

Once the active illicit connections are eliminated from the Mill Street and Amelia Street storm sewers, the Mill Street storm sewer laterals and the Park Street storm sewer outfall will be resampled.

### **City of Livonia**

ESD continued investigations of outfall L-1619, the 42-inch Levan Road outfall, and initiated investigations on outfalls 6038, 13002, U2008231, M2008117, U2008238, 2680, and L3582. No additional investigation was performed on outfall U2008221 during 2021. Outfall M2008117 discharges to the Middle Rouge River, and the others discharge to the Upper Rouge or one of its tributaries.

### *42-inch Outfall Levan Road South (Bakewell Drain)*

This outfall and several laterals were investigated in 2019 and elevated *E. coli* and BST markers were detected. Due to staffing shortages caused by the COVID-19 pandemic and investigative priority changes in the ARC IDEP workplan, no investigations occurred on this outfall in 2020. ESD performed a follow up investigation on this storm sewer line on November 10, 2021. The outfall, and storm sewer manholes on upstream laterals where elevated *E. coli* and/or BST markers were previously detected, were investigated and resampled. The *E. coli* samples were 10 CFU/100mL in the laterals and less than 1000 CFU/100mL at the outfall. Due to the low *E. coli* concentrations, it is one more sampling at the outfall and laterals occur in 2022 prior to closing out the investigations. The investigation area is shown in Figure 5 and the dry weather screening data is in Appendix B, Table B1.

#### *Outfall L-1619*

ESD began its investigation L-1619 in December 2020 and continued that investigation in 2021. The outfall, and storm sewer manholes on upstream laterals where elevated *E. coli* were previously detected were investigated and resampled on November 10, 2021. The HF183 marker was very high in a sample collected from a storm sewer on Seven Mile Road near a food service establishment. Further investigations are needed to isolate the *E. coli*/HF183 source (s) in the investigation area. Additional manhole sampling (*E. coli* and HF183), delineating of the drainage area, televising of the storm sewer, and dye testing of selected facilities are planned for 2022. The investigation area is shown in Figure 6 and the dry weather screening data is in Appendix B, Table B2.

#### Outfall 6038

ESD investigated Outfall 6038 on July 28, 2021. One of the samples collected in the storm sewer upstream of the outfall was 1600 CFU/100mL and there was low flow, or stagnant water present in other manholes in the system, so the investigation was inconclusive. Additional investigation of this area is recommended for 2022. The investigation area is shown in Figure 7 and the dry weather screening data is in Appendix B, Table B3.

#### Outfall 13002

ESD investigated Outfall 13002 on August 3 and September 30, 2021. *E. coli* concentrations in the manhole samples was less than 200 CFU/100mL. No further investigation is recommended for this area. The investigation area is shown in Figure 8 and the dry weather screening data is in Appendix B, Table B4.

#### Outfall U2008231

ESD investigated Outfall U2008231 on August 2 and September 30, 2021. No dry weather discharge was present at the outfall, and *E. coli* concentrations in storm sewer manhole samples were less than 900 CFU/100mL. Recommend no further investigation for this area. The investigation area is shown in Figure 9 and the dry weather screening data is in Appendix B, Table B5.

#### Outfall M2008117

ESD investigated Outfall M2008117 on July 28 and September 30, 2021. Dry weather discharge was present at the outfall, and *E. coli* concentrations in the manhole samples were less than 1600 CFU/100mL. Recommend no further investigation for this area. The investigation area is shown in Figure 10 and the dry weather screening data is in Appendix B, Table B6.

#### Outfall U2008238

ESD investigated Outfall U2008238 on August 2 and September 30, 2021. *E. coli* concentrations in the manhole samples were less than 100 CFU/100mL. Recommend no further investigation for this area. The investigation area is shown in Figure 11 and the dry weather screening data is in Appendix B, Table B7.

#### Outfall 2680

ESD investigated Outfall 2680 on August 4, 5 and November 10, 2021. *E. coli* concentrations in the manhole samples were less than 100 CFU/100mL. HF183 marker levels were very low in two laterals the *E. coli* concentrations were below 5000 CFU/100mL during both investigations. Recommend no further investigation. The investigation area is shown in Figure 12 and the dry weather screening data is in Appendix B, Table B8.

#### Outfall L3582

ESD investigated Outfall 2680 on August 5, 2021. *E. coli* concentrations in the manhole samples were less than 500 CFU/100mL. Recommend one additional round of sampling to ensure no illicit discharges are present. The investigation area is shown in Figure 13 and the dry weather screening data is in Appendix B, Table B9.

#### Outfall U2008221 (Bakewell Drain)

ESD met with the City of Livonia to review the findings of the investigations performed on the Outfall U2008221 in 2019 and developed a follow-up plan to delineate the storm sewers draining to these outfalls, where elevated *E. coli* and BST markers were detected. The City of Livonia televised a storm sewer line located on the west side of Levan Road and discovered it did not have an outlet to the Bakewell Drain. ESD and the City of Livonia were not able to perform further investigation on the Bakewell Drain outfalls due to the staffing shortages caused by the COVID-19 pandemic and the changes in investigative priorities. Further investigation on this outfall is planned for 2022 and is detailed in the workplan for ARC staff.

#### *Lower Rouge Investigation-Inkster*

ESD supported ARC staff by providing staff to assist with performing an outfall survey on the Lower Rouge between Inkster and Beech Daly Roads on April 8, 2021. ESD also supported ARC staff in dry weather advanced investigations on the Perrin Drain collecting samples from storm sewer manholes in the investigation area on March 10 and May 12, 2021. ARC staff prepared reports detailing the investigations, results and follow up recommendations.

#### **Task 2 IDEP Training**

Two IDEP training workshops were presented in 2021 in partnership with the Southeast Michigan Council of Governments (SEMCOG) Partners for Clean Water and the ARC. ESD provides support to ARC and SEMCOG in these training efforts. Due to the ongoing COVID-19 pandemic, the workshops were held virtually. The Alert Observer training, that was redesigned for the virtual platform in 2020, was offered on October . The Advanced Investigator training workshop was modified to the virtual platform and that workshop also held on October.

The IDEP Alert Observer training workshop is a one-hour session that included a question and answer session at its conclusion. This training introduces illicit discharges, why it is important to identify and report, and reporting procedures. The virtual training workshop was held on October 27, 2021 with a total of 239 persons from 48 public entities attending the session. One-hundred thirty-seven of the 239 attendees (57percent) were representatives of (or consultants representing) ARC member communities.

The IDEP Advanced Investigator training workshop is a two-hour session that included a question and answer session at its conclusion. This training details the various techniques used to investigate, identify and eliminate illicit discharge sources. The Advanced Investigator training virtual training workshop was held on October 27, 2021 with a total of 173 persons from 48 public entities attending the session. One-hundred-fifteen of the 173 attendees (66 percent) were representatives of (or consultants representing) ARC member communities.

Appendix C contains the attendance lists for the Alert Observer and Advanced Investigator workshops. Attendees representing ARC communities are highlighted.

### **Task 3 Reporting**

Written progress summaries of IDEP activities were provided. The 2020 IDEP Activities Summary was completed and the 2021 activities summary drafted.

Figures

2021 ARC IDEP Field Investigation Maps

Figure 1: Outfall PY8 Investigation Area

Figure 2: Outfall PY5 Investigation Area

Figure 3: Holbrook Street Investigation Area

Figure 4: Harvey Street Investigation Area

Figure 5: Outfall Levan Road South (Bakewell Drain) Investigation Area

Figure 6: City of Livonia L-1619 Investigation Area

Figure 7: Outfall 6038 Investigation Area

Figure 8: Outfall 13002 Investigation Area

Figure 9: Outfall U2008231 Investigation Area

Figure 10: Outfall M2008117 Investigation Area

Figure 11: Outfall U2008238 Investigation Area

Figure 12: Outfall 2680 Investigation Area

Figure 13: Outfall L3582 Investigation Area



**CITY OF PLYMOUTH**  
**2021 IDEP Investigation**  
**Outfall PY8**



- Stormwater Gravity Mains
  - Sanitary Gravity Main & Lateral Lines
  - R Stormwater Manholes
  - R Sanitary Manhole
- Sampling units - *E. coli* - CFU / 100 ml  
 HF 183 - GC / 100 ml



**CITY OF PLYMOUTH**  
**2021 IDEP Investigation**  
**Outfall PY5**



- Stormwater Gravity Mains
  - Sanitary Gravity Main & Lateral Lines
  - R Stormwater Manholes
  - R Sanitary Manhole
- Sampling units - CFU / 100 ml





**CITY OF PLYMOUTH**  
**2021 IDEP Investigation**  
**Holbrook Street**



1:3,000  
 1 inch = 250 feet



- Stormwater Gravity Main
- Sanitary Gravity Main & Lateral Lines
- R Stormwater Manhole
- R Sanitary Manhole

Sampling units - CFU / 100 ml



**CITY OF PLYMOUTH**  
**2021 IDEP Investigation**  
**Harvey Street**



- Stormwater Gravity Mains
  - Sanitary Gravity Main & Lateral Lines
  - R Stormwater Manholes
  - R Sanitary Manhole
- Sampling units - CFU / 100 ml



**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Levan Road 42" Outfall**



- ( Category B outfall
- Stormwater Gravity Main
- R Stormwater Manhole
- Livonia boundary
- Sanitary Gravity Main
- R Sanitary Manhole

Sampling units - CFU / 100 ml









**CITY OF LIVONIA**  
**2021 Outfall 1619 Investigation**

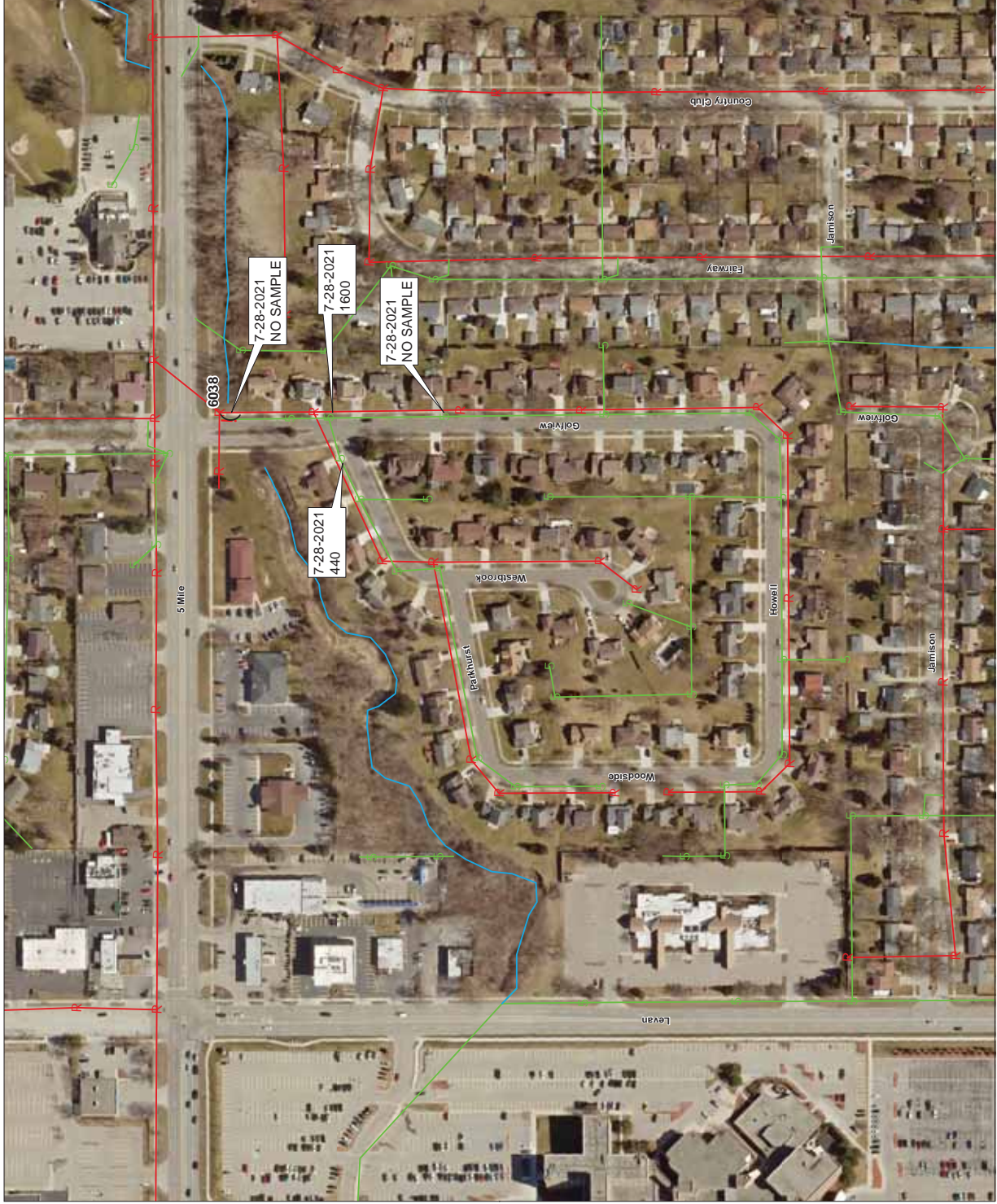


- Category B outfall
  - Stormwater Gravity Main
  - Stormwater Manhole
  - Livonia boundary
  - Sanitary Gravity Main
  - Sanitary Manhole
- Sampling units - *E. coli* - CFU / 100 ml  
 HF 183 - GC / 100 ml

# CITY OF LIVONIA 2021 IDEP Investigation Outfall 6038

-  Category B outfall
-  Stormwater Gravity Main
-  Stormwater Manhole
-  Sanitary Gravity Main
-  Sanitary Manhole
-  Livonia boundary

Sampling units - CFU / 100 ml





**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Outfall 13002**





**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Outfall U2008231**



- ( Category B outfall
  - Stormwater Gravity Main
  - o Stormwater Manhole
  - S Stormwater Catch Basin
  - Livonia boundary
  - Sanitary Gravity Main
  - R Sanitary Manhole
- Sampling units - CFU / 100 ml



**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Outfall M2008117**



- Category B outfall
- Stormwater Gravity Main
- Stormwater Manhole
- Livonia boundary
- Sanitary Gravity Main
- Sanitary Manhole

Sampling units - CFU / 100 ml



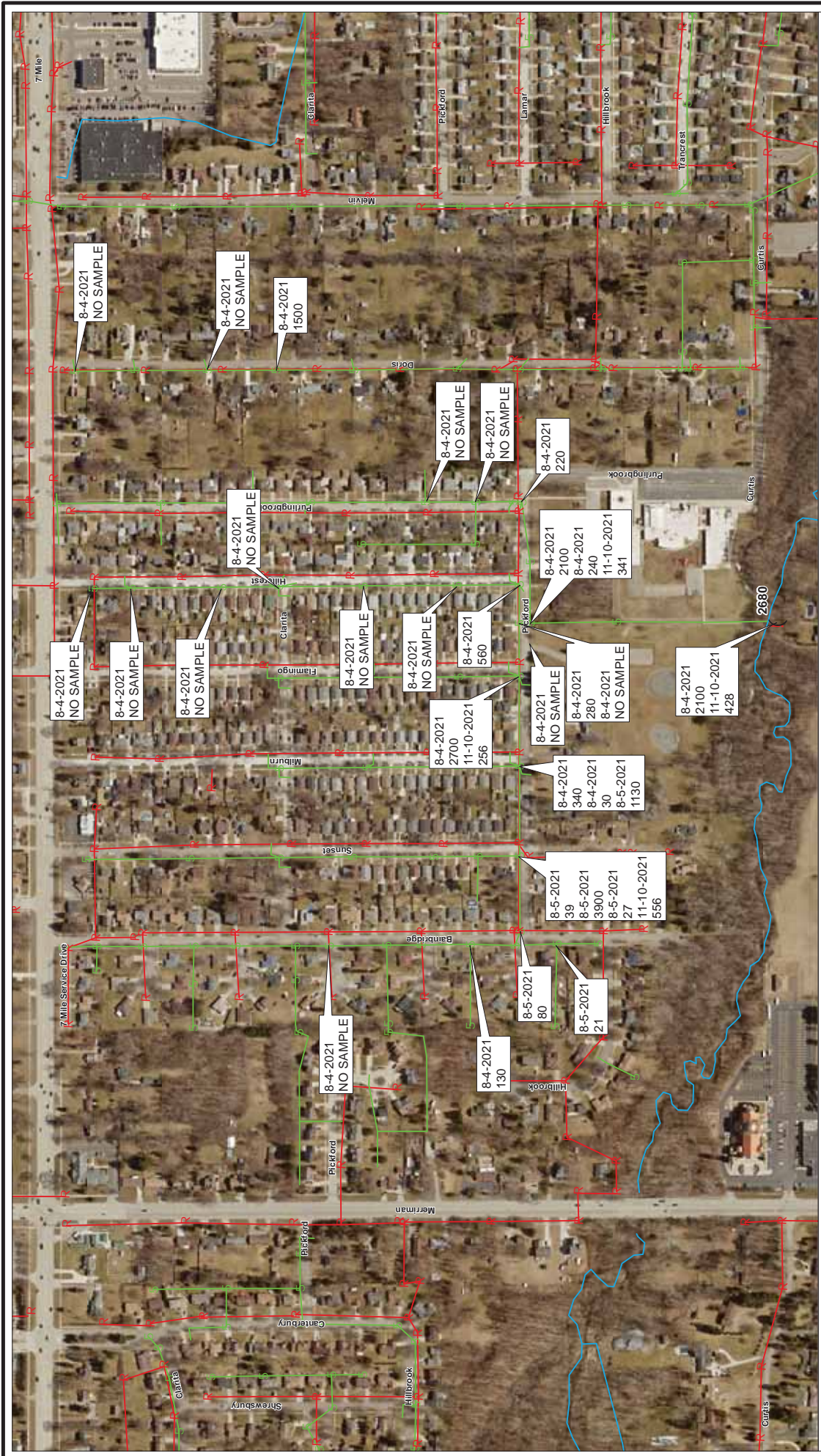


**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Outfall U2008238**



- ( Category B outfall
- Stormwater Gravity Main
- R Stormwater Manhole
- Sanitary Gravity Main
- R Sanitary Manhole
- Livonia boundary

Sampling units - CFU / 100 ml



- Livonia boundary
  - Category B outfall
  - Sanitary Gravity Main
  - Stormwater Gravity Main
  - Stormwater Manhole
  - Sanitary Manhole
- Sampling units - CFU / 100 ml



**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Outfall 2680**





**CITY OF LIVONIA**  
**2021 IDEP Investigation**  
**Outfall L3582**



- Category B outfall
- Stormwater Gravity Main
- Stormwater Manhole
- Livonia boundary
- Sanitary Gravity Main
- Sanitary Manhole

Sampling units - CFU / 100 ml

**Appendix A**  
**2021 ARC IDEP Field Investigation Data**  
**City of Plymouth**

Table A1: Outfall PY8 Investigation Area  
Table A2: Outfall PY5 Investigation Area  
Table A3: Holbrook Street Investigation Area  
Table A4: Harvey Street Investigation Area

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL )	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/23/2021	14:25	Outfall PY8	Blunk St/Church St	<2419.6	NA	NA	NA	NA	NA	Water flow in storm from north inlet. Some sediment in sample	No	No
2	9/21/2021	13:20	Outfall PY8	Blunk St/Farmer St	1300	NA	NA	NA	NA	NA	Sampled north inlet. Clear trickle flow from west inlet-not enough to sample.	No	No
3	11/10/2021	9:40	Outfall PY8	Blunk St/Farmer St	464	45031.6	NA	NA	NA	NA	Clear flow in storm from north inlet. Trickle flow from west inlet, not enough to collect a sample	No	No
4	9/21/2021	12:45	Outfall PY8	Blunk St/Junction St	NA	NA	NA	NA	NA	NA	Manhole dry. Lid cracked. No storm sewer catch basins in between Junction and Farmer on Blunk St	No	No

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL )	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/23/2021	13:45	Outfall PYS	Outfall PYS	NA	NA	NA	NA	NA	NA	Standing water in outfall pipe. No dry weather flow. Tonquish Creek water levels very low	No	No
2	8/23/2021	13:50	Outfall PYS	William St/Arthur St	5700	NA	NA	NA	NA	NA	Slow flow in storm; water clear, steady flow from William Street inlet	No	No
3	11/10/2021	10:05	Outfall PYS	295 Pacific St	275	94.7	NA	NA	NA	NA	Musty odor, flow from north inlet	No	Yes

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (ppm)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/23/2021	11:55	Holbrook St Storm Sewer	Holbrook St/Plymouth Rd	39	NA	NA	NA	NA	Trickle flow from north inlet; water clear. Iron deposits present on inlet pipe. Sample collected at 13:30. Only manhole in storm sewer line with consistent dry weather flow	No	No
2	9/2/2021	11:00	Holbrook St Storm Sewer	Holbrook St/Plymouth Rd	11	NA	NA	NA	NA	Clear flow from north inlet on Holbrook St. Iron deposits present on inlet pipe	No	No
3	8/23/2021	12:00	Holbrook St Storm Sewer	472 Holbrook St	NA	NA	NA	NA	NA	Manhole dry, musty odor, inlets dry. Some standing water in catch basins (Holbrook east side). West side inlet dry	No	No
4	9/2/2021	11:25	Holbrook St Storm Sewer	472 Holbrook St	NA	NA	NA	NA	NA	Manhole and storm inlets dry	No	No
5	8/23/2021	12:10	Holbrook St Storm Sewer	Holbrook St/Caster St	NA	NA	NA	NA	NA	Strong decaying debris odor in manhole. Some water in sump-not enough to sample. Drip from catch basin inlet- not enough to sample. No flow from north inlet	No	Yes
6	9/2/2021	11:35	Holbrook St Storm Sewer	Holbrook St/Caster St	NA	NA	NA	NA	NA	Some standing water in manhole; not enough to sample. Inlets dry	No	No
7	8/23/2021	12:20	Holbrook St Storm Sewer	Holbrook St/Spring St	NA	NA	NA	NA	NA	Storm with "Dump No Waste" grate cover. Sewage odor present in sump. Manhole dry. Some leaf litter at bottom of sump. Slight sewage odor in west catch basin	No	Yes
8	9/2/2021	11:50	Holbrook St Storm Sewer	Holbrook St/Spring St	NA	NA	NA	NA	NA	Manhole dry. Sewage odor present. East and west catch basins on Holbrook St dry	No	Yes
9	8/23/2021	12:50	Holbrook St Storm Sewer	Holbrook St/Liberty St	NA	NA	NA	NA	NA	Manhole and storm inlets dry	No	No
10	9/2/2021	12:10	Holbrook St Storm Sewer	Holbrook St/Liberty St	NA	NA	NA	NA	NA	Manhole damp on the bottom. Drip on Liberty Street inlet. Not enough flow to sample. Slight musty odor present	No	Yes
11	9/2/2021	12:15	Holbrook St Storm Sewer	818 Holbrook St	NA	NA	NA	NA	NA	Manhole and storm inlets dry. Some standing water in catch basins	No	No

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100ml )	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
12	8/23/2021	13:15	Holbrook St Storm Sewer	882 Holbrook St terminal manhole	NA	NA	NA	NA	NA	Terminal manhole south of railroad tracks. Sump and inlets dry	No	No
13	9/2/2021	12:20	Holbrook St Storm Sewer	882 Holbrook St terminal manhole	NA	NA	NA	NA	NA	Terminal manhole south of railroad tracks. Sump and inlets dry	No	No



Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100ml )	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	9/2/2021	13:10	Harvey St Outfall	Harvey St Outfall	20	NA	NA	NA	NA	Clear discharge from outfall	No	No
2	9/21/2021	12:20	Harvey St Outfall	Harvey St Outfall	350	NA	NA	NA	NA	Clear discharge from outfall	No	No
3	9/2/2021	12:55	Harvey St Outfall	Beech St/Harvey St	100	NA	NA	NA	NA	Water clear in storm. Trickle flow from west inlet. Sample collected at west inlet	No	No
4	9/21/2021	12:00	Harvey St Outfall	Beech St/Harvey St	<1	NA	NA	NA	NA	Trickle flow in sump; water clear	No	No
5	9/2/2021	12:40	Harvey St Outfall	Linden St/Jener St	62	NA	NA	NA	NA	Clear flow from north inlet (from Jener). Other inlets dry. Sample collected from sump	No	No
6	9/21/2021	11:50	Harvey St Outfall	Linden St/Jener St	40	NA	NA	NA	NA	Clear flow from Wickinley Street inlet; sample collected by north inlet. Some intermittent discharge from sump drain	No	No
7	9/2/2021	13:00	Harvey St Outfall	Palmer St/Harvey St	NA	NA	NA	NA	NA	Did not sample- dry weather flow in storm from active lawn sprinklers on Palmer St	No	No
8	9/21/2021	12:10	Harvey St Outfall	Palmer St/Harvey St	190	NA	NA	NA	NA	Clear slow flow from west and north inlets. Steady flow from east inlet	No	No

**Appendix B**  
**2021 ARC IDEP Field Investigation Data**  
**City of Livonia**

Table B1: Outfall Levan Road South (Bakewell Drain)

Table B2: Outfall L-1619

Table B3: Outfall 6038

Table B4: Outfall 13002

Table B5: Outfall U2008231

Table B6: Outfall M2008117

Table B7: Outfall U2008238

Table B8: Outfall 2680

Table B8: Outfall L3582

APPENDIX B  
 2021 ARC IDEP INVESTIGATION  
 OUTFALL LEVAN ROAD SOUTHEAST STORM  
 CITY OF LIVONIA

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	11/10/2021	10:30	Levan Road Southeast storm outfall	Levan Road Southeast storm	609	NA	NA	NA	NA	NA	Dry weather flow at outfall, clear	None	None
2	11/10/2021	11:00	Allen Ct/Levan	Levan Road Southeast storm	<10	NA	NA	NA	NA	NA	Clear flow from south and west inlets. Sample collected in sump	None	None
3	11/10/2021	10:35	36263 Barkley manhole	Levan Road Southeast storm	10	NA	NA	NA	NA	NA	Clear slow flow in storm from north and west inlets. Sample collected in sump	None	None

APPENDIX B  
2021 ARC IDEP INVESTIGATION  
OUTFALL 1619  
CITY OF LIVONIA

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units) (CFU)/100mL	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	11/10/2021	13:35	Outfall 1619	Outfall 1619	3076	94.7	NA	NA	NA	NA	Water clear; could not sample directly from outfall due to fencing	None	None
2	11/10/2021	13:15	Outfall 1619	Chicken Shack	1616	1541052.6	NA	NA	NA	NA	Water clear in storm, flow from west	None	None

APPENDIX B  
OUTFALL 6038 INVESTIGATION  
CITY OF LIVONIA  
ARC IDEP 2021

Number	Date	Time (military)	Investigation Location	Site Location	E. coli (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	7/28/2021	15:30	Outfall 6038	Outfall 6038	NA	NA	NA	NA	NA	Outfall not sampled/accessed due to deep water and recessed under road. Flow from outlet on north side of Six Mile.	No	No
2	7/28/2021	15:00	Outfall 6038	15130 Golfview	NA	NA	NA	NA	NA	Standing water in storm; grass clippings. Did not sample due to stagnant water in sump	No	No
3	7/28/2021	15:10	Outfall 6038	15194 Golfview	1600	NA	NA	NA	NA	Clear water in sump, very slow flow toward outlet. Inlets dry. First manhole upstream of outfall/receiving water. Sampled from sump near outlet.	No	No
4	7/28/2021	15:20	Outfall 6038	Golfview/Parkhurst	440	NA	NA	NA	NA	Sample collected in sump. Steady flow from two inlets to west. Water is clear in sump and from inlets.	No	No

APPENDIX B  
OUTFALL 13002 INVESTIGATION  
CITY OF LIVONIA  
ARC IDEP 2021

Number	Date	Time (military)	Investigation Location	Site Location	E. coli (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/3/2021	12:25	Outfall 13002	Newburgh/Jamison	120	NA	NA	NA	NA	Turbid, slow flow in storm. No inlets observed. Sample collected in sump	No	No
2	9/30/2021	12:25	Outfall 13002	Newburgh/Jamison	84	NA	NA	NA	NA	Water clear in sump. Some grass clippings present	No	No
3	8/3/2021	12:40	Outfall 13002	Lyndon/Newburgh Inlet #1 (South)	19	NA	NA	NA	NA	Water clear in sump. Clear water flowing from two inlets. Inlet #1 is from the southeast.	No	No
4	8/3/2021	12:50	Outfall 13002	Lyndon/Newburgh Inlet #2 (West)	65	NA	NA	NA	NA	Water clear in sump. Clear water flowing from two inlets. Inlet #2 is from the west.	No	No
5	9/30/2021	12:15	Outfall 13002	Lyndon/Newburgh	20	NA	NA	NA	NA	Clear flow from west and southwest inlets. Sample collected at outlet in sump	No	No
6	8/3/2021	13:10	Outfall 13002	Stonehouse/Lyndon Inlet #1 (Northwest)	130	NA	NA	NA	NA	Water flowing from two inlets. Cloudy water from inlet #1. Inlet #1 is from the northwest. Construction activity upstream	No	No
7	8/3/2021	13:15	Outfall 13002	Stonehouse/Lyndon Inlet #2 (Southwest)	32	NA	NA	NA	NA	Water flowing from two inlets. Cloudy water in sump from inlet #1. Inlet #2 is from the southwest and flow is clear.	No	No
8	8/3/2021	13:25	Outfall 13002	Blue Skies (South)/Lyndon	140	NA	NA	NA	NA	Cloudy water in storm; some clear trickle flow from catch basin inlets due to lawn sprinkler runoff	No	No
9	8/3/2021	13:40	Outfall 13002	Lyndon/Susanna Inlet #1	220	NA	NA	NA	NA	Flow from storm from large south inlet from new development. Flow is clear. Storm line not on Livonia storm paper map	No	No
10	8/3/2021	13:50	Outfall 13002	Lyndon/Susanna Inlet #2	160	NA	NA	NA	NA	Cloudy flow from catch basin inlet. Active construction dewatering occurring in front of 37598 Lyndon	No	No
11	8/3/2021	14:10	Outfall 13002	Lyndon/Ngia	NA	NA	NA	NA	NA	Some standing water in sump. No flow. No sample collected	No	No
12	8/3/2021	14:15	Outfall 13002	Lyndon/Hix	NA	NA	NA	NA	NA	Some standing water in sump. No dry weather flow at outlet, some trickle flow at west inlet. Not enough water to collect sample. Terminal manhole	No	No

APPENDIX B  
OUTFALL 13002 INVESTIGATION  
CITY OF LIVONIA  
ARC IDEP 2021

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (ppm)	Surfactant (ppm)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
13	8/3/2021	14:25	Outfall 13002	Lyndon/Houghton	5.1	NA	NA	NA	NA	Clear trickle flow from west inlet. Sample collected in sump.	No	No
14	8/3/2021	14:45	Outfall 13002	14580 Richfield	11	NA	NA	NA	NA	Trickle flow in storm from west and southwest inlets. Clear flow from lawn sprinklers on Huff Street. Sample collected in sump	No	No
15	8/3/2021	15:00	Outfall 13002	14570 Newburgh	NA	NA	NA	NA	NA	Steady flow in storm. Inlet offset and not visible. No sample collected	No	No

Number	Date	Time (military)	Investigation Location	Site Location	E. coli (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/2/2021	13:40	U2008231 Outfall	U2008231 Outfall	NA	NA	NA	NA	NA	Corrugated 12" pipe set in culvert to the east of the Blue Skies road crossing. Outfall is dry. Some sand/sediment on bottom of pipe.	No	No
2	9/30/2021	13:40	U2008231 Outfall	U2008231 Outfall	NA	NA	NA	NA	NA	Corrugated 12" pipe set in culvert to the east of the Blue Skies road crossing. Outfall is dry. Some sand/sediment on bottom of pipe.	No	No
3	8/2/2021	14:10	U2008231 Outfall	Stonehouse/Blue Skies Storm Manhole	NA	NA	NA	NA	NA	Storm manhole and inlets are dry	No	No
4	8/2/2021	14:05	U2008231 Outfall	15523 Stonehouse Catch Basin	NA	NA	NA	NA	NA	Not enough water in catch basin to sample	No	No
5	8/2/2021	14:00	U2008231 Outfall	15516 Stonehouse Catch Basin	870	0	0.25	NA	NA	Clear water in catch basin; trickle flow from 8 inch inlet.	No	Yes
6	8/2/2021	14:14	U2008231 Outfall	Blue Skies #3	84	NA	NA	NA	NA	Stagnant odor in catch basin, water clear. Greenish color on inlet pipe. Trickle flow from inlet	No	No
7	9/30/2021	12:55	U2008231 Outfall	Huff St	NA	NA	NA	NA	NA	Trickle flow in storm. Not enough water to sample	No	No



APPENDIX B  
OUTFALL M2008117 (LD-33)  
INVESTIGATION  
CITY OF LIVONIA  
ARC IDEP 2021

Number	Date	Time (military)	Investigation Location	Site Location	E. coli (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	7/28/2021	14:35	M2008117/LD-33 Outfall	M2008117/LD-33 Outfall	130	NA	NA	NA	NA	Outfall is partially submerged. Slow flow. Water slightly turbid.	No	No
2	9/30/2021	13:15	M2008117/LD-33 Outfall	M2008117/LD-33 Outfall	41	NA	NA	NA	NA	Slow flow out of outfall. Water clear. Middle Rouge slightly turbid	No	No
3	7/28/2021	11:25	M2008117/LD-33 Outfall	11019 Levan	340	NA	NA	NA	NA	Clear flow in storm from north. Two inches of water in storm. Clear flow from catch basin	No	No
4	9/30/2021	13:30	M2008117/LD-33 Outfall	11019 Levan	310	NA	NA	NA	NA	Clear trickle flow from north inlet	No	No
5	7/28/2021	11:50	M2008117/LD-33 Outfall	Elmira/Levan	110	NA	NA	NA	NA	Old manhole on east side of the street. Sample collected from east inlet. Water clear. A sample could not be collected in the sump due to interference from east inlet flow.	No	No
6	9/30/2021	15:30	M2008117/LD-33 Outfall	Elmira/Levan	1530	NA	NA	NA	NA	Old manhole on east side of the street. Sample collected from east inlet. Water clear. A sample could not be collected in the sump due to interference from east inlet flow.	No	No
7	7/28/2021	12:30	M2008117/LD-33 Outfall	Exxon Gas Station/Levan (Northwest corner Plymouth/Levan)	NA	NA	NA	NA	NA	Manhole is near Exxon near decorative berm. Muddy sludge in manhole does not appear to be directly part of the M2008117 (LD-33) line. No sample collected	No	No
8	7/28/2021	12:40	M2008117/LD-33 Outfall	11731 Levan	84	NA	NA	NA	NA	Clear, sluggish flow in storm. Dry catch basin inlet	No	No
9	7/28/2021	14:00	M2008117/LD-33 Outfall	12017 Levan	83	NA	NA	NA	NA	Very slow flow, clear flow in storm. Inlet from CB dry	No	No
10	7/28/2021	14:15	M2008117/LD-33 Outfall	Commerce/Levan	52	NA	NA	NA	NA	Clear flow in storm from north. Trickle flow from white PVC (dripping). 18" inlet dry	No	No

APPENDIX B  
 OUTFALL M2008117 (LD-33)  
 INVESTIGATION  
 CITY OF LIVONIA  
 ARC IDEP 2021

Number	Date	Time (military)	Investigation Location	Site Location	E. coli (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
11	7/28/2021	14:25	M2008117/LD-33 Outfall	Amrhein/Levan	NA	NA	NA	NA	NA	Terminal manhole. Manhole and inlets are dry	No	No

APPENDIX B  
 U2008238  
 INVESTIGATION  
 CITY OF LIVONIA  
 ARC IDEP 2021

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/2/2021	11:05	U2008238	Quakertown/Upper	53	NA	NA	NA	NA	Inlets partially submerged. Trickle flow at outlet, clear, some grass clippings in sump	No	No
2	9/30/2021	11:25	U2008238	Quakertown/Upper	97	NA	NA	NA	NA	Clear water in sump. Some leaves/grass present. Sample collected at outlet	No	No
3	8/2/2021	11:25	U2008238	Quakertown/Stacey	8.5	NA	NA	NA	NA	Grass clippings in sump and sample collected from sump	No	No
4	9/30/2021	11:40	U2008238	Quakertown/Stacey	75	NA	NA	NA	NA	Steady clear flow from north inlet. No flow from east. Clear water, grass clippings in sump. Sampled at outlet	No	No
5	8/2/2021	11:30	U2008238	Quakertown/Aldrich	14	NA	NA	NA	NA	Slow flow in storm and clear flow from inlets	No	No
6	9/30/2021	11:50	U2008238	Quakertown/Aldrich	10	NA	NA	NA	NA	Slow flow in storm and clear flow from northwest inlet. Sample collected at outlet	No	No
7	8/2/2021	11:45	U2008238	15969 Swarthmore	8.6	NA	NA	NA	NA	Water clear in sump, trickle flow at outlet	No	No
8	8/2/2021	12:05	U2008238	15625 Swarthmore	15	NA	NA	NA	NA	Water clear, trickle flow from inlets. Grass clippings in storm. Sample collected in sump	No	No
9	8/2/2021	12:20	U2008238	15731 Penn	81	NA	NA	NA	NA	Clear flow of water in storm. Trickle flow from both inlets	No	No
10	8/2/2021	12:30	U2008238	15569 Penn	42	NA	NA	NA	NA	Iron buildup in storm. Steady clear flow from west inlet. Catch basin inlet dry. Manhole sampled at inlet	No	No

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/4/2021	12:05	Outfall 2680	Outfall 2680	2100	NA	NA	NA	NA	NA	Sample collected at outfall. Steady clear dry weather flow	No	No
2	11/10/2021	12:15	Outfall 2680	Outfall 2680	428	NA	NA	NA	NA	NA	Sample collected at outfall. Steady clear dry weather flow	No	No
3	8/4/2021	12:30	Outfall 2680	Pickford/Beverly Park Inlet #1 (North)	2100	NA	NA	NA	NA	NA	Water slightly cloudy in storm. Some sand in sump. Slightly cloudy flow from north inlet	No	No
4	8/4/2021	12:40	Outfall 2680	Pickford/Beverly Park Inlet #2 (East)	240	NA	NA	NA	NA	NA	Water slightly cloudy in storm. Some sand in sump. Clear flow from east inlet	No	No
5	8/4/2021	12:50	Outfall 2680	Pickford/Beverly Park West	NA	NA	NA	NA	NA	NA	Storm manhole? Sump full of clear water. May be collecting catch basins from street? No flow from sump. Did not sample. Standing water in street catch basins	No	No
6	8/4/2021	12:55	Outfall 2680	Beverly Park/Pickford North Inlet #1 (West)	280	NA	NA	NA	NA	NA	Clear steady flow from west inlet. Clear water in sump	No	No
7	8/4/2021	13:00	Outfall 2680	Beverly Park/Pickford North Inlet #2 (East)	NA	NA	NA	NA	NA	NA	Trickle flow from east inlet. Clear water in sump. Not enough flow to sample	No	No
8	11/10/2021	12:30	Outfall 2680	Beverly Park/Pickford	341	94.7	NA	NA	NA	NA	Sample collected in sump downstream of east inlet. Water clear	No	No
9	8/4/2021	13:10	Outfall 2680	Pickford/Purlingbrook	220	NA	NA	NA	NA	NA	Manhole near school sidewalk entryway. Water is stagnant in sump, with a slow flow to west. Grass clippings present. Sample collected in sump at west outlet	No	No
10	8/4/2021	13:20	Outfall 2680	11618 Purlingbrook	NA	NA	NA	NA	NA	NA	Some water in sump; not enough to sample. No flow from inlets	No	No
11	8/4/2021	13:30	Outfall 2680	18684 Purlingbrook	NA	NA	NA	NA	NA	NA	Some evidence of concrete wash/debris in storm. Buildup of tree debris at bottom of east inlet. No flow in storm; some water on manhole bottom; not enough to sample	No	No
12	8/4/2021	13:40	Outfall 2680	18816 Purlingbrook	1500	NA	NA	NA	NA	NA	Grass clipping/standing water in sump. Trickle flow from north inlet. West inlet from catch basin. Standing water in catch basin.	No	No

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU/100mL))	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
13	8/4/2021	14:00	Outfall 2680	18882 Purlingbrook	NA	NA	NA	NA	NA	NA	Some debris (tree debris, grass clippings) on shelf in sump. Trickle flow from north. Not enough to sample. Sand on bottom of manhole, rebar. East inlet dry. Some animal droppings (unknown type-raccoon?) on sump shelf	Yes	No
14	8/4/2021	14:05	Outfall 2680	Seven Mile/Purlingbrook	NA	NA	NA	NA	NA	NA	Manhole dry. Some brick debris in sump. Inlet from Seven Mile dry	No	No
15	8/4/2021	14:10	Outfall 2680	Hillcrest/Pickford	560	NA	NA	NA	NA	NA	Clear water in sump, grass clippings. Slow flow from north inlet	No	No
16	8/4/2021	14:20	Outfall 2680	Clarita/Hillcrest	NA	NA	NA	NA	NA	NA	Trickle flow from north. Standing water in sump. Not enough flow to sample. Inlets dry.	No	No
17	8/4/2021	14:30	Outfall 2680	Hillcrest/Seven Mile	NA	NA	NA	NA	NA	NA	Terminal manhole on the line. Manhole dry	No	No
18	8/4/2021	14:35	Outfall 2680	19030 Hillcrest	NA	NA	NA	NA	NA	NA	Inlet and manhole dry	No	No
19	8/4/2021	14:40	Outfall 2680	18901 Hillcrest	NA	NA	NA	NA	NA	NA	No inlets, some clear water on bottom of pipe. No dry weather flow. Not enough water to collect sample	No	No
20	8/4/2021	14:45	Outfall 2680	18689 Hillcrest	NA	NA	NA	NA	NA	NA	Slow flow from north inlet. Not enough water present to sample. Some rocks/sand on manhole bottom	No	No
21	8/4/2021	14:50	Outfall 2680	18571 Hillcrest	NA	NA	NA	NA	NA	NA	Some standing water in manhole bottom, not enough to sample. No flow.	No	No
22	8/4/2021	14:55	Outfall 2680	Flamingo/Pickford	2700	NA	NA	NA	NA	NA	Trickle flow from north inlet. Steady flow from west inlet. Some sediment on bottom of north inlet	No	No
23	11/10/2021	12:37	Outfall 2680	Flamingo/Pickford	256	NA	NA	NA	NA	NA	Clear flow in storm from west and north inlets. Sample collected in sump	No	No
24	8/4/2021	15:10	Outfall 2680	Milburn/Pickford Inlet #1 (West)	340	NA	NA	NA	NA	NA	Clear flow from west inlet. Active lawn irrigation on northeast corner of Milburn/Pickford	No	No
25	8/4/2021	15:15	Outfall 2680	Milburn/Pickford Inlet #2 (North)	30	NA	NA	NA	NA	NA	Clear flow from north inlet. Active lawn irrigation on northeast corner of Milburn/Pickford	No	No

Number	Date	Time (military)	Investigation Location	Site Location	<i>E. coli</i> (colony-forming units (CFU)/100mL)	HF183 Gene copies (GC)/100mL	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
26	8/5/2021	11:30	Outfall 2680	Milburn/Pickford Inlet #3 (Southwest)	1130	NA	NA	NA	NA	NA	Clear flow from north inlet and west inlets, and southwest. Clear flow from catch basin inlet from catch basin south side of Pickford	No	No
27	8/5/2021	11:45	Outfall 2680	Sunset/Pickford Inlet #1 (West)	39	NA	NA	NA	NA	NA	Trickle clear flow from three inlets. Two catch basin inlets (northwest and northeast) dry	No	No
28	8/5/2021	11:55	Outfall 2680	Sunset/Pickford Inlet #2 (North)	3900	NA	NA	NA	NA	NA	Trickle clear flow from three inlets. Two catch basin inlets (northwest and northeast) dry	No	No
29	8/5/2021	12:00	Outfall 2680	Sunset/Pickford Inlet #2 (South)	27	NA	NA	NA	NA	NA	Trickle clear flow from three inlets. Two catch basin inlets (northwest and northeast) dry	No	No
30	11/10/2021	13:00	Outfall 2680	Pickford/Sunset	556	NA	NA	NA	NA	NA	Clear flow from west and north inlets. Sample collected from sump	No	No
31	8/5/2021	12:05	Outfall 2680	Bainbridge/Pickford	80	NA	NA	NA	NA	NA	Clear trickle flow in storm from west and south inlets. Trickle flow from catch basin inlet on south side of Pickford. Sample collected in sump upstream of flow from south	No	No
32	8/5/2021	12:15	Outfall 2680	Bainbridge/Pickford Court	NA	NA	NA	NA	NA	NA	Clear trickle flow from all inlets. Not enough flow in manhole to sample	No	No
33	8/5/2021	12:20	Outfall 2680	18536 Bainbridge	130	NA	NA	NA	NA	NA	Clear flow from north inlet	No	No
34	8/5/2021	12:30	Outfall 2680	18360 Bainbridge	21	NA	NA	NA	NA	NA	Water clear in sump. Trickle flow from west inlet. Not enough to sample. Trickle flow from south inlet clear. Sample collected from sump.	No	No

Number	Date	Time (military)	Investigation Location	Site Location	E. coli (colony-forming units (CFU)/100mL)	Ammonia (PPM)	Surfactant (PPM)	Conductivity (mS/cm)	Temperature (degrees Celsius)	Observations	Sanitary Flow Evidence	Odor
1	8/5/2021	13:00	Outfall L3582	17251 Lathers	NA	NA	NA	NA	NA	Clear flow in storm from north. No flow from east inlet. No sample collected	No	No
2	8/5/2021	13:20	Outfall L3582	Lathers/Floral	NA	NA	NA	NA	NA	Road ditches in area are all dry. Manholes have manhole covers with Wayne County sewerage logo. No sample collected	No	No
3	8/5/2021	13:25	Outfall L3582	7424 Floral	39	NA	NA	NA	NA	Clear water in storm sewer, some debris. Sample collected in sump. Beehive north of manhole has clear standing water, and outlet from beehive is dry. Trickle flow from 12 inch inlet from west.	No	No
4	8/5/2021	13:30	Outfall L3582	Curtis/ South Floral Inlet #1 (West)	450	NA	NA	NA	NA	All road ditches on Floral between Curtis and Lathers are dry. Clear dry weather flow from west inlet, and east inlet. Both sampled. Two 12 inch concrete inlets, and a 4 inch white PVC inlet are dry	No	No
5	8/5/2021	13:35	Outfall L3582	Curtis/ South Floral Inlet #1 (East)	92	NA	NA	NA	NA	All road ditches on Floral between Curtis and Lathers are dry. Clear dry weather flow from west inlet, and east inlet. Both sampled. Two 12 inch concrete inlets, and a 4 inch white PVC inlet are dry	No	No
6	8/5/2021	15:10	Outfall L3582	Curtis/North Floral	75	NA	NA	NA	NA	Road ditches on Curtis and North Floral are dry. Clear flow from north inlet and east inlet(trickle). Concrete washout present at east inlet. Sample collected in manhole sump.	No	No
7	8/5/2021	15:30	Outfall L3582	Curtis/Lathers	250	NA	NA	NA	NA	Clear water in storm sewer. Mosquitoes present. Sample collected in manhole sump. Very slow flow from manhole. North inlet partially submerged. 4 inch PVC and catch basin inlet dry.	No	No

Appendix C  
2021 Partners for Clean Water Regional IDEP Training Workshop  
Alert Observer Training  
Advanced Investigator Training  
Attendees List  
October 27, 2021



SEMCOG UNIVERSITY  
ALERT OBSERVER TRAINING  
ATTENDANCE LIST  
OCTOBER 27, 2021

<b>Number</b>	<b>Name</b>	<b>Community</b>
	Alliance of Rouge Community member	
1	Emily Levine	Alliance of Rouge Communities
2	Ken Marten	Bingham Farms
3	Yevgeniy Malkin	Bingham Farms
4	Colleen Wayland	Bingham Farms
5	Scott Zielinski	Birmingham
6	Brad McNab	Birmingham
7	Anthony Evangelista	Canton Township
8	Brad Bird	Canton Township
9	Brent Sprague	Canton Township
10	Chris Hanner	Canton Township
11	Christian Manley	Canton Township
12	Clint Hallman	Canton Township
13	Curt Foster	Canton Township
14	Daniel Bayush	Canton Township
15	David Lanch Arnold	Canton Township
16	Greg Pyle	Canton Township
17	Jacob Saunders	Canton Township
18	James West	Canton Township
19	Jason Conner	Canton Township
20	Jay Heroon	Canton Township
21	Jeffery Albert Michael	Canton Township
22	John Selmi	Canton Township
23	Josh Smith	Canton Township
24	Josh Worth	Canton Township
25	Kevin Clark	Canton Township
26	Mike Britton	Canton Township
27	Rob Moyers	Canton Township
28	Roy Hamilton	Canton Township
29	Scott Kahanec	Canton Township
30	Jason Mills	Clinton Township
31	Mary Bednar	Clinton Township
32	Tom Klapp	Clinton Township
33	Eric Streu	Clinton Township
34	Jason D Mills	Clinton Township
35	Tim Braekevelt	Clinton Township
36	Mark Gaworecki	Dearborn
37	Robert Conrad	Dearborn Heights
38	Aaron Brunson	Detroit
39	Alizah Mooman	Detroit
40	Anna Timmis	Detroit
41	Barry Brown	Detroit
42	Bryant Barber	Detroit
43	Devyn McNaughton	Detroit
44	Hannah Slabaugh	Detroit

SEMCOG UNIVERSITY  
ALERT OBSERVER TRAINING  
ATTENDANCE LIST  
OCTOBER 27, 2021

Number	Name	Community
45	Howard Sokoni	Detroit
46	Ian Tamm	Detroit
47	Lisa Wallick	Detroit
48	Mackenzey Shega-Fox	Detroit
49	Mohamed Boudali	Detroit
50	Mohammed Siddique	Detroit
51	Sarah Stoolmiller	Detroit
52	Syed Ali	Detroit
53	E. Anderson	Ecorse
54	Joshua Leach	Farmington
55	Tara Pieron	Farmington
56	Chris Guibord	Farmington
57	Chris Jacob	Farmington
58	Dave Popp	Farmington
59	Greg Young	Farmington
60	James Cubera	Farmington Hills
61	Kristina Crimmins	Farmington Hills
62	Mirandi Alexander	Farmington Hills
63	Natasha Sonck	Farmington Hills
64	Scott Campbell	Farmington Hills
65	Sean Devers	Farmington Hills
66	ShonQuase Dawkins	Farmington Hills
67	Tyler Sonoga	Farmington Hills
68	Unnamed attendee	Farmington Hills
69	Gerald Harrison	Gibraltar
70	Robert Tomasik	Gibraltar
71	William Cain	Gibraltar
72	Michael Landis	Gibraltar
73	Mike Grima	Grosse Ile Schools
74	Derek Thiel	Grosse Ile Township
75	Nicholas Rudd	Grosse Pointe Shores
76	Michael Way	Grosse Pointe Shores
77	Jerome Bivins	Inkster
78	Chad Burke	Kalamazoo City
79	Jessica Slagter-Enahwo	Kalamazoo City
80	Anyah Preston	Kalamazoo County
81	Selena Rider	Kalamazoo County Road Commission
82	David Chung	Lathrup Village
83	Rami Sweidan	Lathrup Village
84	Mark Benson	Livingston County
85	Kim Hiller	Livingston County Road Commission
86	Trish Gabriel	Livonia
87	Danielle Devlin	Macomb County
88	Patrick Lewis	Monroe
89	Laura Hassold Prevot	New Baltimore

SEMCOG UNIVERSITY  
ALERT OBSERVER TRAINING  
ATTENDANCE LIST  
OCTOBER 27, 2021

<b>Number</b>	<b>Name</b>	<b>Community</b>
90	John Klimaszewski	New Baltimore
91	Joshua Hedge	New Baltimore
92	William Gouine	New Baltimore
93	Brad Lear	Northville Township
94	Brenden Villalobos	Northville Township
95	Brian Thomson	Northville Township
96	Corey Nicoloff	Northville Township
97	Mitchell Berendt	Northville Township
98	Tim Swailes	Northville Township
99	Kate Purpura	Novi
100	David Vicini	Oakland County
101	Jacy Garrison	Oakland County
102	Jim Schafer	Oakland County
103	Robert Malek	Oakland County
104	Stephanie Petriello	Oakland County
105	Laura Hassold Prevot	Oakland County Road Commission
106	Mike Lee	Orchard Lake
107	Cameron Bump	Plymouth Township
108	Daniel Hamann	Plymouth Township
109	David Nelson	Plymouth Township
110	Jim Thomas	Plymouth Township
111	Jimmy Scholten	Plymouth Township
112	Joe Overaitis	Plymouth Township
113	Randy Krueger	Plymouth Township
114	Spencer Kitchen	Plymouth Township
115	Steve Melow	Plymouth Township
116	Zachary Pumphrey	Plymouth Township
117	Jamie Harmon	Portage
118	Sherman Potter	Portage
119	Adam Bauman	Rochester Hills
120	Adam Kemmer	Rochester Hills
121	Andrew Burdett	Rochester Hills
122	Anthony Rocco	Rochester Hills
123	Brandon Grund	Rochester Hills
124	Brian Vermander	Rochester Hills
125	Carl Hager	Rochester Hills
126	Chris Shepard	Rochester Hills
127	Cody Devoe	Rochester Hills
128	George Rice	Rochester Hills
129	Henry Cenicerros	Rochester Hills
130	Ian Casey	Rochester Hills
131	Jared Bauman	Rochester Hills
132	Jason Berlingier	Rochester Hills
133	Jason Dickinson	Rochester Hills
134	Jason Rozell	Rochester Hills

SEMCOG UNIVERSITY  
ALERT OBSERVER TRAINING  
ATTENDANCE LIST  
OCTOBER 27, 2021

<b>Number</b>	<b>Name</b>	<b>Community</b>
135	Jeff Fox	Rochester Hills
136	Jenny McGuckin	Rochester Hills
137	Jim Owens	Rochester Hills
138	Ken Deleeuw	Rochester Hills
139	Kyle Mayhew	Rochester Hills
140	Leon Luedeman	Rochester Hills
141	Mike Greenwood	Rochester Hills
142	Mike Phillips	Rochester Hills
143	Nick Costanzo	Rochester Hills
144	Niko Tzantzarov	Rochester Hills
145	Russ George	Rochester Hills
146	Rusty Kostsuca	Rochester Hills
147	Sean Hadley	Rochester Hills
148	Seth Bucholz	Rochester Hills
149	Shane Rudolphs	Rochester Hills
150	Shawn Vanbuskirk	Rochester Hills
151	Stacey Maresh	Rochester Hills
152	Steve Bott	Rochester Hills
153	Timothy Pollizzi	Rochester Hills
154	Todd Gehrke	Rochester Hills
155	Tony Edwards	Rochester Hills
156	Tracey Kelm	Rochester Hills
157	Tyler Goschnick	Rochester Hills
158	Vince Jesue	Rochester Hills
159	Wayne Rybak	Rochester Hills
160	Zach Weninger	Rochester Hills
161	Alec Staten	Romulus
162	Elizabeth Jenkins	Romulus
163	Kassim Mc Neil	Romulus
164	Paul Banks	Romulus
165	John Wright	Schoolcraft College
166	Brandy Siedlaczek	Southfield
167	Bryan Babcock	St. Clair Shores
168	Dave Conklin	St. Clair Shores
169	Jon Frazho	St. Clair Shores
170	Mike Allen	St. Clair Shores
171	Paul Kosiara	St. Clair Shores
172	Ron Demksi	St. Clair Shores
173	Sheldon Wood	St. Clair Shores
174	Trevor Smalley	St. Clair Shores
175	Zach Erne	St. Clair Shores
176	Jessica DiMilia	State of Michigan
177	Doug Varney	South Lyon
178	Brett Goecke	University of Michigan
179	Brian Welch	University of Michigan

SEMCOG UNIVERSITY  
ALERT OBSERVER TRAINING  
ATTENDANCE LIST  
OCTOBER 27, 2021

<b>Number</b>	<b>Name</b>	<b>Community</b>
180	Brian Zybura	University of Michigan
181	Chris Onsted	University of Michigan
182	Dana Wilkinson	University of Michigan
183	Daniel Knight	University of Michigan
184	Dharmesh Joshi	University of Michigan
185	Hannah Smith	University of Michigan
186	Jared Evers	University of Michigan
187	Jason	University of Michigan
188	Jay Brummel	University of Michigan
189	Jeffrey Pipkin	University of Michigan
190	Jenny Scherer	University of Michigan
191	Jeremy Gonzales	University of Michigan
192	Joe Stark	University of Michigan
193	John Kosco	University of Michigan
194	Jonathan Hanak	University of Michigan
195	Josh Fryd	University of Michigan
196	Konnor Seyfried	University of Michigan
197	Kris Barnes	University of Michigan
198	Kyle DeKeyser	University of Michigan
199	Matt Kettmann	University of Michigan
200	Matthew Repka	University of Michigan
201	Michael Lollo	University of Michigan
202	Pamela Rutter	University of Michigan
203	Paul Clark	University of Michigan
204	Paul Doepfer	University of Michigan
205	Paul Dunlop	University of Michigan
206	Robert Woodruff	University of Michigan
207	Ryan Silva	University of Michigan
208	Stephen O'Rielly	University of Michigan
209	Steve Fisher	University of Michigan
210	Steven Stawkey	University of Michigan
211	Ty Patton	University of Michigan
212	Adam Kulinski	Unlisted Affiliation
213	Carrie Loya-Smalley	Unlisted Affiliation
214	Evan Falkner	Unlisted Affiliation
215	Karl Woodard	Unlisted Affiliation
216	Sermed Saif	Unlisted Affiliation
217	Zachary Harrison	Unlisted Affiliation
218	DPW	Utica
219	Eric Menzies	Walled Lake
220	Chelsea Pesta	Walled Lake
221	Autumn House	Washtenaw County
222	Scott Miller	Washtenaw County
223	Kristin Weisgerber	Washtenaw County
224	Gary Streight	Washtenaw County Road Commission

SEMCOG UNIVERSITY  
ALERT OBSERVER TRAINING  
ATTENDANCE LIST  
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<b>Number</b>	<b>Name</b>	<b>Community</b>
225	John Miller	Washtenaw County Road Commission
226	Mark McCulloch	Washtenaw County Road Commission
227	Michael Buiten	Wayne City
228	Jennifer DePaulis	Wayne County
229	Matthew Fiems	Wayne County
230	Sami Khaldi	Wayne County
231	Susan Thompson	Wayne County
232	Bryant Houfek	West Bloomfield Township
233	Gary Hernandez	West Bloomfield Township
234	Philip LaLone	West Bloomfield Township
235	Jon Allen	Wyandotte
236	Brian Martin	Wyandotte
237	Dave Rothermal	Wyandotte
238	Gregory Mayhew	Wyandotte
239	Joseph Mayhew	Wyandotte

SEMCOG UNIVERSITY  
 IDEP INVESTIGATOR  
 WORKSHOP  
 ATTENDANCE LIST  
 OCTOBER 27, 2021

ARC Member Community		
Number	Name	Community/Organization
1	Emily Levine	Alliance of Rouge Communities
2	Scott Zielinski	Birmingham
3	Cory Borton	Bloomfield Township
4	Mark Hendricks	Bloomfield Township
5	Anthony Evangelista	Canton Township
6	Brad Bird	Canton Township
7	Brent Sprague	Canton Township
8	Chris Hanner	Canton Township
9	Christian Manley	Canton Township
10	Clint Hallman	Canton Township
11	Curt Foster	Canton Township
12	Daniel Bayush	Canton Township
13	David Lanch Arnold	Canton Township
14	Greg Pyle	Canton Township
15	Jacob Saunders	Canton Township
16	James West	Canton Township
17	Jason Conner	Canton Township
18	Jay Heroon	Canton Township
19	Jeffery Albert Michael	Canton Township
20	John Selmi	Canton Township
21	Josh Smith	Canton Township
22	Josh Worth	Canton Township
23	Kevin Clark	Canton Township
24	Mike Britton	Canton Township
25	Rob Moyers	Canton Township
26	Roy Hamilton	Canton Township
27	Scott Kahanec	Canton Township
28	Jason Mills	Clinton Township
29	Mary Bednar	Clinton Township
30	Mitchell Verellen	Clinton Township
31	Jason D Mills	Clinton Township
32	Steve Elliot	Clinton Township
33	Michael Scott	Clintondale School District
34	Al Loebach	Dearborn
35	Mark Gaworecki	Dearborn
36	Ryan Ferrell	Dearborn
37	Robert Conrad	Dearborn Heights
38	Aaron Brunson	Detroit
39	Alizah Mooman	Detroit
40	Anna Timmis	Detroit
41	Barry Brown	Detroit

SEMCOG UNIVERSITY  
 IDEP INVESTIGATOR  
 WORKSHOP  
 ATTENDANCE LIST  
 OCTOBER 27, 2021

ARC Member Community		
Number	Name	Community/Organization
42	Bryant Barber	Detroit
43	Hannah Slabaugh	Detroit
44	Ian Tamm	Detroit
45	Mackenzey Shega-Fox	Detroit
46	Mohammad Siddique	Detroit
47	Sokoni Howard	Detroit
48	Syed Ali	Detroit
49	E. Anderson	Ecorse
50	Chris Guibord	Farmington
51	Chris Jacob	Farmington
52	Dave Popp	Farmington
53	Greg Young	Farmington
54	Josh Leach	Farmington
55	James Cubera	Farmington Hills
56	Kristina Crimmins	Farmington Hills
57	Mirandi Alexander	Farmington Hills
58	Natasha Sonck	Farmington Hills
59	Scott Campbell	Farmington Hills
60	Sean Devers	Farmington Hills
61	ShonQuase Dawkins	Farmington Hills
62	Tyler Sonoga	Farmington Hills
63	Gerald Harrison	Gibraltar
64	Landis Michael	Gibraltar
65	Michael Landis	Gibraltar
66	Robert Tomasik	Gibraltar
67	William Cain	Gibraltar
68	Mike Grima	Grosse Ile Schools
69	Derek Thiel	Grosse Ile Township
70	Michael Way	Grosse Pointe Shores
71	Nicholas Rudd	Grosse Pointe Shores
72	Daryl Davis Jr.	Inkster
73	Fidell Morris	Inkster
74	Jerome Bivens	Inkster
75	LaToria Joyce	Inkster
76	Chad Burke	Kalamazoo City
77	Jessica Slagter-Enaohwo	Kalamazoo City
78	Scott Managhan	Kalamazoo City
79	Tara Hendricks	Kalamazoo County Road Commission
80	David Chung	Lathrup Village
81	Rami Sweidan	Lathrup Village
82	Mark Benson	Livonia



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 WORKSHOP  
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 OCTOBER 27, 2021

ARC Member Community		
Number	Name	Community/Organization
83	Trish Gabriel	Livonia
84	Danielle Devlin	Macomb County
85	Kraig Hohf	Marysville
86	Patrick Lewis	Monroe
87	John Klimaszewski	New Baltimore
88	Joshua Hedge	New Baltimore
89	William Gouine	New Baltimore
90	Anthony Manzo	Northville
91	Brad Lear	Northville Township
92	Brenden Villalobos	Northville Township
93	Brian Tack	Northville Township
94	Brian Thomson	Northville Township
95	Chris Putman	Northville Township
96	Corey Nicoloff	Northville Township
97	Mitchell Berendt	Northville Township
98	Steve Smeal	Northville Township
99	Tim Swailes	Northville Township
100	Brad Lear	Northville Township
101	Kate Purpura	Novi
102	Jennifer Wilson	Oak Park
103	Darlene Rowley	Oakland County
104	DJ Coffey	Oakland County
105	Jeremy Brown	Oakland County
106	Jim Schafer	Oakland County
107	Joshua Leach	Oakland County
108	Mark Adams	Oakland County
109	Matt Pardy	Oakland County
110	Mike Boyd	Oakland County
111	Randy Krueger	Oakland County
112	Rebecca Eggert	Oakland County
113	Sean Zera	Oakland County
114	Shayne Skolnik	Oakland County
115	Stephanie Petriello	Oakland County
116	Thomas Rymza	Oakland County
117	Zachary Crane	Oakland County
118	Jacy Garrison	Oakland County
119	Joel Kohn	Oakland County
120	Ron Fadoir	Oakland County
121	Laura Hassold Prevot	Oakland County Road Commission
122	Mike Lee	Orchard Lake
123	Cameron Bump	Plymouth Township

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 IDEP INVESTIGATOR  
 WORKSHOP  
 ATTENDANCE LIST  
 OCTOBER 27, 2021

ARC Member Community		
Number	Name	Community/Organization
124	Daniel Hamann	Plymouth Township
125	David Nelson	Plymouth Township
126	James Scholten	Plymouth Township
127	Jim Thomas	Plymouth Township
128	Joseph Overaitis	Plymouth Township
129	Randy Krueger	Plymouth Township
130	Spencer Kitchen	Plymouth Township
131	Steve Melow	Plymouth Township
132	Zachary Pumphrey	Plymouth Township
133	Jamie Harmon	Portage
134	Sherman Potter	Portage
135	Jason Dickinson	Rochester
136	Jeff Fox	Rochester Hills
137	Chris Shepard	Rochester Hills
138	Seth Bucholz	Rochester Hills
139	Shane Rudolph	Rochester Hills
140	Timothy Pollizzi	Rochester Hills
141	Alec Staten	Romulus
142	Elizabeth Jenkins	Romulus
143	Kassim Mc Neil	Romulus
144	Paul Banks	Romulus
145	Ryan Stamper	Romulus
146	Kelly Karl	SEMCOG
147	Doug Varney	South Lyon
148	Anthony Shourds	University of Michigan
149	Dana Wilkinson	University of Michigan
150	Jody Lynn Mathias	University of Michigan
151	John Kosco	University of Michigan
152	Kathleen McDonald	University of Michigan
153	Stephen O'Rielly	University of Michigan
154	Carrie Loya-Smalley	Unlisted Affiliation
155	Evan Falkner	Unlisted Affiliation
156	Zachary Harrison	Unlisted Affiliation
157	Adam Kulinski	Village of Milford
158	Chelsea Pesta	Walled Lake
159	Eric Menzies	Walled Lake
160	Gary Streight	Washtenaw County Road Commission
161	John Miller	Washtenaw County Road Commission
162	Mark McCulloch	Washtenaw County Road Commission
163	Michael Buiten	Wayne City
164	Derick Coley	Wayne County

SEMCOG UNIVERSITY  
IDEP INVESTIGATOR  
WORKSHOP  
ATTENDANCE LIST  
OCTOBER 27, 2021

ARC Member Community		
Number	Name	Community/Organization
165	Jennifer DePaulis	Wayne County
166	Bryant Houfek	West Bloomfield Township
167	Gary Hernandez	West Bloomfield Township
168	Jennifer DePailis	West Bloomfield Township
169	Philip LaLone	West Bloomfield Township
170	Michael Belcher	Woodhaven-Brownstown School District
171	Jon Allen	Wyandotte
172	Gregory Mayhew	Wyandotte
173	Jesus Plasencia	Wyandotte

**Appendix B3**

**2020 Oakland County IDEP Investigation Report**



Annette DeMaria, P.E., PMP  
Executive Director

- Auburn Hills
- Beverly Hills
- Bingham Farms
- Birmingham
- Bloomfield Hills
- Bloomfield Twp.
- Canton Twp.
- Commerce Twp.
- Dearborn Heights
- Farmington
- Farmington Hills
- Franklin
- Garden City
- Henry Ford College
- Inkster
- Lathrup Village
- Livonia
- Melvindale
- Northville
- Northville Twp.
- Novi
- Oak Park
- Oakland County
- Orchard Lake
- Plymouth
- Plymouth Twp.
- Redford Twp.
- Rochester Hills
- Romulus
- Schoolcraft College
- Southfield
- Troy
- University of Michigan-Dearborn
- Van Buren Twp.
- Walled Lake
- Washtenaw County
- Wayne
- Wayne County
- Wayne County Airport Authority
- West Bloomfield Twp.
- Westland
- Wixom

**TO:** Karen Mondora, ARC Technical Committee Chair

**FROM:** Annette DeMaria, Executive Director

**DATE:** January 29, 2021

**SUBJECT:** 2020 IDEP Investigation Summary

In 2020, ARC staff investigated eight suspicious outfall discharges primarily in the Oakland County portion of the Rouge River Watershed. These outfalls were designated in the Category A and B priority levels for illicit discharge investigations. Of the eight outfalls, two illicit connections were discovered and corrected, three outfalls were determined to be likely impacted by animal feces, and three outfalls will require additional source investigations in 2021.

In 2020, ARC staff worked in five communities to conduct illicit discharge investigations in accordance with the Rouge River Collaborative Illicit Discharge Elimination Plan. These investigations were prompted by the outfall screening efforts conducted in 2018 and 2019, and were conducted in Beverly Hills, Farmington Hills, Northville, and Novi.

The results of the investigations are summarized in Table 1. More detail can be found in the investigation reports which were sent to the communities (Attachment A).

**Table 1. Status and Results of Illicit Discharge Investigations**

Permittee	Outfall ID	Status	Result
Beverly Hills	BV66	Completed	Residential illicit connection identified and corrected
Beverly Hills	BV51	Ongoing	Further investigation required
Farmington Hills	FH01	Completed	Animal sources suspected
Northville	NV03	Completed	Residential illicit connection identified and corrected
Northville	NV23	Completed	Animal source suspected
Northville	NV22	Ongoing	Further investigation required
Northville	NV57	Ongoing	Further investigation required
Novi	NO23	Completed	Animal sources identified

- Cooperating Partners:
- Cranbrook Institute of Science
  - Friends of the Rouge
  - Great Lakes Water Authority
  - Rouge River Advisory Council
  - SEMCOG
  - Southeastern Oakland County Water Authority

Both Beverly Hills and Northville have indicated that the illicit connections identified within their jurisdictions (BV66 and NV03) have been corrected. These corrections were both completed by the end of November, 2020.

In addition, ARC staff partnered with Wayne County to conduct investigations in Inkster because of elevated instream E. coli levels results found in the Lower Rouge in 2020. This involved gathering and graphing existing water quality data to determine the areas of impact, meetings with the City and County and initial IDEP investigations on the Perrin

Drain. These investigations revealed high E. coli that may be the result of an illicit connection.

In 2021, the ARC will continue source investigations on the outstanding issues in accordance with the Plan and as directed by the Technical Committee. This includes resampling outfalls BV66 and NV03 to confirm no other illicit discharges are present in the tributary drains.

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**Attachment A**  
**Community-specific Investigation Reports**



Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Tom Meszler, Village of Beverly Hills Director of Public Services  
**FROM:** Annette DeMaria, Executive Director  
**DATE:** December 22, 2020  
**SUBJECT:** IDEP Investigation Results: Outfall BV51 (Sleepy Hollow Lane)

---

ARC staff continued illicit discharge investigation on storm sewer outfall BV51 in response to findings from the 2018 outfall screening and 2019 investigations. The September 2020 results indicate that sewage is likely impacting the drain. However, we were unable to narrow down where sewage is entering the drain. Therefore, further investigations are recommended in 2021.

#### Background

Outfall BV51 was investigated due to the high *E. coli* concentrations found during the outfall survey conducted in 2018. At that time, the *E. coli* concentration was 3,076 MPN/100 ml which can be indicative of an illicit discharge containing sanitary sewage. ARC staff reinspected the outfall in 2019 and found *E. coli* concentrations at 201 and >24,196 MPN/100 ml respectively.

The outfall drains a portion of Sleepy Hollow Lane, Fiddlers Cove Road, and Metamora Lane. The receiving water is an unnamed tributary of the Rouge River (Figure 1). The drain crosses the sanitary sewer at 31403 Sleepy Hollow Lane (Figure 2).

#### Results

ARC staff reinspected the outfall on August 19, September 15, and November 17, 2020. As was the case in 2019, the results varied greatly in 2020, with *E. coli* concentrations of 573, >24,196, and 1,081 MPN/100 ml respectively (See Table 1). The results from the September and November sampling events showed Human Bacteroides concentrations of 72,000 and <354 gene copies/100 ml respectively. There were no physical signs (ex: odor, staining, debris, organic growth) of a sewage discharge to the storm drain in the outfall or any of the manholes. Likewise, there were no obvious signs of animal fecal impacts to the drain.

Samples were analyzed by Paragon Laboratories for *E. coli* concentration. Additionally, samples were analyzed by Michigan State University's Department of Fisheries & Wildlife for a microbial source tracking (MST) marker to determine whether contamination was human in origin. The marker being used is *Bacteroides thetaiotaomicron* (*B. theta*) which identifies if the bacteria are from the human intestinal track.

#### Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority



**Table 1. Sampling Results (*E. coli* in MPN/100 mL and Human *Bacteroides* in gene copies/100 ml)**

	<i>E. coli</i>	<i>E. coli</i>	<i>E. coli</i>	<i>E. coli</i>	<i>E. coli</i>	Human <i>Bacteroides</i>	<i>E. coli</i>	Human <i>Bacteroides</i>
	7/9/18	8/15/19	9/19/19	8/19/20	9/15/20	9/15/20	11/17/20	11/17/20
BV51-0	3,076	201	>24,196	573	>24,196	72,000	1,081	<354

**Conclusions and Recommendations**

The high *E. coli* and *Bacteroides* results from September 2020 indicate that sewage is likely impacting the drain. However, the sewage source appears to be inconsistent, so we were not able to narrow it down within the drain. The recommended next steps are for the drain to be televised to determine the potential source of sewage. ARC staff will follow up with the Village to request this work be completed by the Village in 2021.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the Village’s MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 248-765-4085 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

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Figure 1. Storm Drain Location



Figure 2. Sanitary Sewer Location





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

**TO:** Tom Meszler, Village of Beverly Hills Director of Public Services  
**FROM:** Annette DeMaria, Executive Director  
**DATE:** August 20, 2020  
**SUBJECT:** IDEP Investigation Results: Outfall BV66 (Village Pines Drive)

---

ARC staff continued illicit discharge investigation on storm sewer outfall BV66 in response to findings from the 2018 outfall screening and 2019 investigations. We have determined that there is an illicit connection from the residence at 22045 Village Pines Drive that needs to be corrected.

**Background**

Outfall BV66 was investigated due to the high *E. coli* concentrations found during the outfall survey conducted in 2018. At that time, the *E. coli* concentration was 12,033 MPN/100 ml which can be indicative of an illicit discharge containing sanitary sewage.

ARC staff inspected the outfall and the tributary storm sewer several times in 2019 and 2020. *E. coli*, surfactants and Human *Bacteroides* were sampled along the storm line. The *E. coli* samples were analyzed by Paragon Laboratories, the *Bacteroides* sample was analyzed by Michigan State University's Department of Fisheries & Wildlife, and surfactants were analyzed using a Chemetrics field kit (K-9400).

The outfall and tributary storm sewer primarily receive runoff from Village Pines Drive, west of Lahser Road and south of 14 Mile Road. It also picks up drainage from E. Valley Woods Drive. The receiving water is an unnamed tributary of the Main Branch of the Rouge River. The storm sewer generally runs along the south side of Village Pines Drive, while the sanitary sewer generally runs along the north side (See Figures 1 and 2). The sanitary sewer crosses above the storm sewer at more than one location.

**Results**

As in 2019, there were no physical signs (ex: odor, staining, debris, organic growth) of a sewage discharge to the storm drain in any of the manholes/catch basins. However, high levels of *E. coli* continued and very high levels of Human *Bacteroides* were found in the outlet (See Table 1). This prompted a CCTV inspection of the sanitary sewer and storm drains to locate the source of the illicit discharge.

The CCTV inspection was conducted by Oakland County Water Resources Commissioners Office in August 2020. The extent of the inspection was as follows (See Figures 1 and 2):

- On the sanitary sewer from MH 23471 downstream to MH 23467
- On the storm drain from BV66-0 upstream to 106' east of BV66-5
- On the storm drain from BV66-4 upstream to BV66-4A

A suspicious connection to the storm was located at 73.5' west of BV66-5 from the south (See Figures 3A and 3B). The residence of 22045 Village Pines Dr. was subsequently dye tested and the CCTV camera recorded the results (See Figure 3C). While the CCTV operator monitored the storm drain, ARC staff monitored the sanitary sewer. The testing revealed that all bathrooms were draining to the storm drain. Dye testing was completed at the sinks of each bathroom (basement, master, hallway, and garage entrance). No dye showed up in the sanitary sewer.

In addition, we suspect that the footing drain for 22045 Village Pines Dr. is connected to the sanitary sewer and not the storm drain. This is based on the following:

- There was no calcium build-up in the (illicit) connection to the storm drain, while the footing drains for the other homes in the neighborhood showed substantial calcium build-up.
- There is a connection to the sanitary at 63.6' west of MH 23464, which is where the sanitary map shows the sanitary tap from 22045. The flow out of this tap was continuous and clear and there was minor calcium build-up present (Figures 4A – 4C).

After a desktop review of the CCTV footage, no other illicit connections are suspected to be tributary to outfall BV66-0, at this time. In addition, there were no obvious signs of exfiltration from the sanitary sewer which could have impacted the water quality in the storm drain, since the sanitary is at a higher elevation than the storm drain.

### **Conclusions and Recommendations**

We have determined that there is an illicit connection to the storm drain from the residence at 22045 Village Pines Dr. The connection is a violation of Chapter 30 (Surface Water Drainage), Section 30.06 of the City's Code of Ordinances, and needs to be eliminated. In accordance with the City's Municipal Separate Storm Sewer System (MS4) permit, the City is required to request the property owner to eliminate the discharge, so it no longer impacts waters of the State. The property owner has 120 days to eliminate the discharge as outlined in Section 30.12 of Chapter 30.

Once the correction is made, we suggest that the Village jet and vacuum the storm sewer to remove residual sanitary waste. Then notify the ARC and we will resample the outfall to confirm no other issues are present.

Although not the subject of this investigation, we also suspect that the footing drain from the same home is improperly connected to the sanitary sewer, but this should be confirmed with a dye test. If confirmed, this connection may be a violation of the State's Plumbing Code and should be addressed accordingly.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the Village's MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 248-765-4085 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

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**Table 1. Sampling Results (*E. coli* in MPN/100 ml; Surfactants in mg/l; Bacteroides in gene copies/100 ml)**

Structure	Location	<i>E. coli</i>		<i>E. coli</i>	Surfactants	<i>E. coli</i>	Human Bacteroides	<i>E. coli</i>	Human Bacteroides	<i>E. coli</i>	<i>E. coli</i>
		6/26/2018	8/6/2019	12/12/2019		12/19/2019		7/2/2020	8/5/2020	8/6/2020	
BV66-0	Outlet to unnamed tributary	12,033	>24,196	292	0.75	9,804	527,000	2,755	1,120,000		
BV66-1	Manhole in the lawn south of the house							17,239			
BV66-2	Manhole on south side of street		>24,196					15,531			
BV66-3	Buried manhole in the lawn on south side of street			4,106	0.75	8,164	<354				
BV66-4	Manhole on south side of street		>24,196					4,611			
BV66-4A	Beehive catch basin on north side of street under pine trees			10	0.25	<10	<354	10	<10		
BV66-4-18"	18" inlet to BV66-4 (coming from BV66-4A)									1,830*	
BV66-4-24"	24" inlet to BV66-5 (coming from BV66-5)									36,540	
BV66-5	Manhole in the island		10	20				185			
BV66-5 SE	SE inlet to BV66-5								<10		
BV66-5 CB-EE	Road inlet on east side of cul-de-sac										20
BV66-5 CB-N	Road inlet on north side of Village Pines Dr.										359
BV66-5 E	East inlet to BV66-5										63

\*rust colored sample contaminated by material stirred up by the CCTV camera

Figure 1. Storm Sewer Location

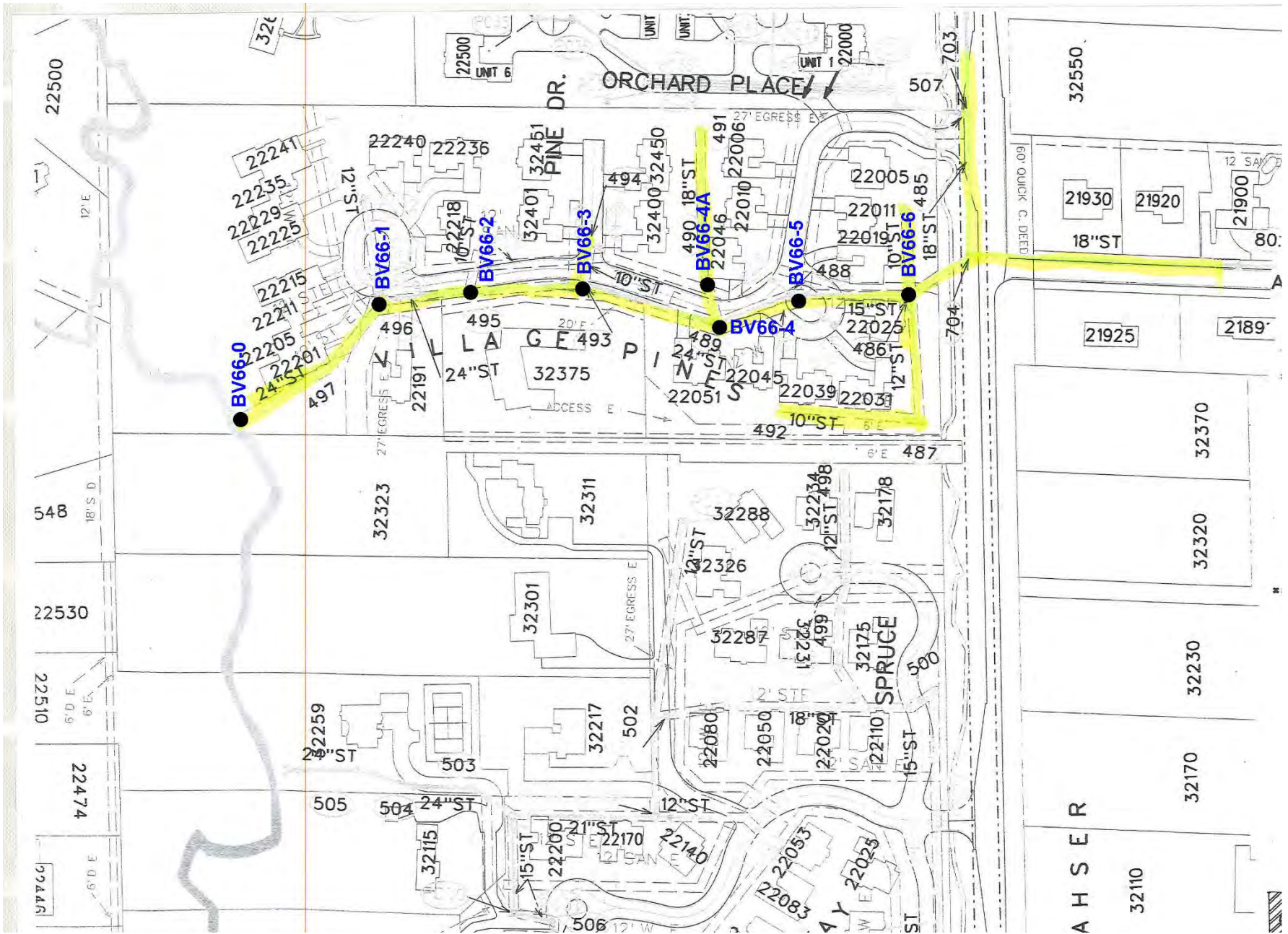




Figure 3A. Illicit connection to storm drain at 11:00 at 73.5' west of BV66-5 (or 33.5' east of BV66-4) – note sanitary debris in the drain

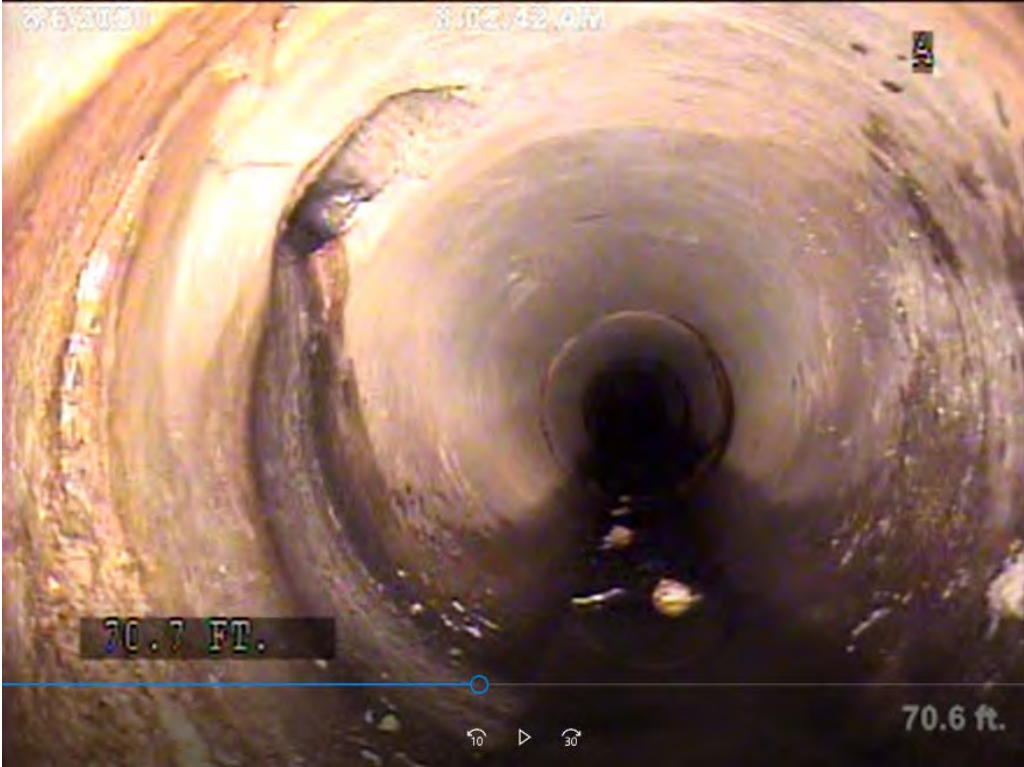


Figure 3B. Close up of illicit connection – note gray staining at the outlet





Figure 3C: Dye testing results from basement bathroom



Figure 4A: Possible footing drain tap at 9:00 at 63.6' west of MH 23464 (or 6.5' east of MH 23463) – note minor calcium build-up under the tap



Figure 4B: Close up of possible footing drain connection



Figure 4C: Close up of possible footing drain connection – note calcium build-up in tap





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Karen Mondora, City of Farmington Hills Director of Public Services  
**FROM:** Annette DeMaria, Executive Director  
**DATE:** November 30, 2020  
**SUBJECT:** IDEP Investigation Results: Outfall FH01 (Tulane Avenue)

---

ARC staff have conducted an illicit discharge investigation on storm sewer outfall FH01<sup>1</sup> in response to findings from the ARC's 2018 outfall screening and follow-up sampling conducted in 2019. We suspect that animal feces are likely responsible for the high *E. coli* readings. No further action is necessary at this time.

#### Background

Outfall FH01 was originally investigated due to very high *E. coli* concentration (>24,196 MPN/100 mL) found during an outfall screening conducted April 27, 2018. There was no observed color, odor, turbidity, or other unusual characteristics noted during the initial screening.

ARC staff reinspected the outfall on December 13 and 19, 2019 and found similar conditions as seen in the original inspection. Water samples were taken from the outfall, along with water samples from four upstream manholes in an effort to narrow down possible sources of *E. coli* contamination.

The outfall drains a portion of Tulane Avenue north of Nine Mile Road and receives runoff from the residential properties along portions of Astor Street, Colgate Street, and Albion Avenue. The receiving water is an unnamed tributary of the Main Branch of the Rouge River (See Figure 1).

#### Results

ARC staff reinspected the outfall on July 2, and August 18, 2020 and found similar *E. coli* conditions as seen in the original inspection. Water samples were taken from the outfall and from one upstream manhole in an effort to narrow down possible sources of *E. coli* contamination. Additional samples were not collected from more locations due to a lack of flow in upstream manholes.

Samples were analyzed by Paragon Laboratories for *E. coli* concentration. Additionally, samples were analyzed by Michigan State University's Department of Fisheries & Wildlife for a microbial source tracking (MST) marker to determine whether contamination was human in origin. Human Bacteroides is a microbial source tracking method used for identifying if bacteria are from the human intestinal track.

#### Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

<sup>1</sup> Also identified as fhc.01.

The outfall and upstream manhole had high *E. coli* levels, but the Human Bacteroides analysis did not show a sewage signature for three of the four water samples and the sewage signature on the fourth sample was only moderately high (See Table 1). There were no physical signs (ex: odor, staining, debris, organic growth) of a sewage discharge to the storm drain in the outfall or any of the manholes. Likewise, there were no obvious signs of animal fecal impacts to the drain.

**Table 1. Sampling Results**

Structure	Location	<i>E. coli</i> result	<i>E. coli</i> result	<i>E. coli</i> result	Human Bacteroides (gene copies/ 100 ml)	<i>E. coli</i> result	Human Bacteroides (gene copies/ 100 ml)	<i>E. coli</i> result	Human Bacteroides (gene copies/ 100 ml)
		(MPN/100 ml)	(MPN/100 ml)	(MPN/100 ml)		(MPN/100 ml)		(MPN/100 ml)	
		4/27/2018	12/13/2019	12/19/2019	12/19/2019	7/2/2020	7/2/2020	8/18/2020	8/18/2020
FH01-0	Outfall to unnamed tributary	> 24,192	1,246	9,208	< 354	>24,196	3,630	8,664	<354
FH01-1W	West inlet to first upstream manhole at Tulane & Astor		1,314			>24,196	< 354		
FH01-2N	Trough of manhole north of FH01-1W at Tulane & Astor		<10						
FH01-2W	North inlet to second upstream manhole at Albion & Astor		<10						
FH01-3W	Trough of third upstream manhole at Colgate & Astor		197						

**Conclusions and Recommendations**

Based on the data collected to date, we suspect that the source of the high *E. coli* is from animal feces, rather than from sewage. This determination is made because the high *E. coli* levels coincide with low Human Bacteroides levels which indicates that the *E. coli* is not from a human source. Given that there were no obvious signs of animal sources to the drain, no further action is recommended at this time.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City's MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

cc: John Beisel, City of Farmington Hills

Attachment: Figure 1. Storm Sewer and Sampling Location

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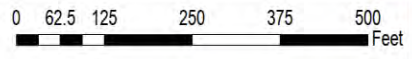
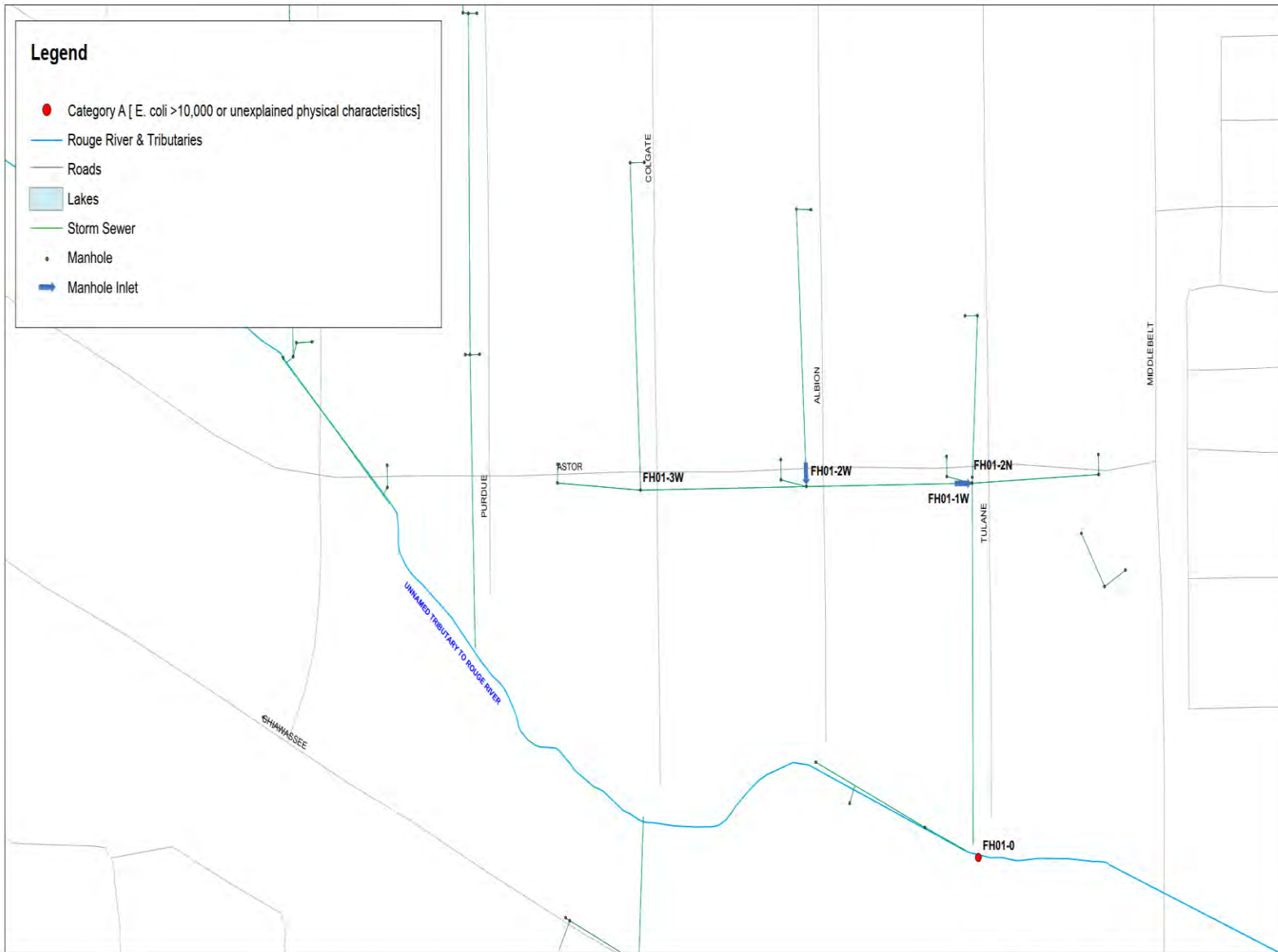


Figure 1. Storm Sewer Location



Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Loyd Cureton, Director, Northville Department of Public Works  
**FROM:** Annette DeMaria, Executive Director  
**DATE:** September 1, 2020  
**SUBJECT:** IDEP Investigation Results: Outfall NV03 (Glenhill Drive)

---

In 2020, ARC staff continued illicit discharge investigation on storm sewer outfall NV03 in response to findings from the 2018 outfall screening and 2019 investigations. We have determined that there is an illicit connection from the residence at 1009 Glenhill Drive that needs to be corrected.

### Background

Storm sewers connected to outfall NV03 were investigated due to the high *E. coli* concentrations found during the outfall survey conducted in 2018. Because the outfall was partially submerged, water samples from two upstream manholes were taken for *E. coli* analysis. One of these manholes (NV03-2S) had an *E. coli* concentration of >24,196 MPN/100 mL.

Manhole NV03-2S is located in Shannon Court and receives runoff from residential properties along portions of Glenhill Drive, Whitegate Drive, Andover Drive, Portsmere Court, and Abbey Court (See Figure 1). The receiving water is an unnamed tributary of the Middle Branch of the Rouge River.

ARC staff revisited the area several times in 2019 and 2020 to take water samples from various manholes across the drainage area in order to narrow down possible sources of *E. coli* contamination. *E. coli* and Human *Bacteroides* were sampled along the storm line. The *E. coli* samples were analyzed by Paragon Laboratories, and the *Bacteroides* sample was analyzed by Michigan State University's Department of Fisheries & Wildlife.

### Results

High levels of *E. coli* and very high levels of Human *Bacteroides* were found in manhole NV03-6W, however other manholes did not have high levels of *E. coli* (See Table 1). In addition, a sewage odor and sanitary debris were observed in the catch basins along Glenhill Drive that are connected to NV03-6W.

This prompted a CCTV inspection of the storm drain connected to NV03-6W to locate the source of the illicit discharge. The CCTV inspection was conducted by the City of Northville in August 2020. The extent of the inspection included the storm drain on the west side of Glenhill Drive, extending west approximately 180' from NV03-6W-1, and south 300' to the next manhole. The south pipe was not shown on the City's maps but extends past 1003 Glenhill west of the sanitary sewer (See Figure 1).

### Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

The residences of 1003, 1009, 1015, and 1021 Glenhill Drive were subsequently dye tested. City staff monitored the storm drain and the sanitary sewer while ARC staff dye tested all bathrooms in each house. The testing revealed that all bathrooms at 1009 Glenhill Drive were draining to the storm drain. Dye testing was completed at the sinks of each bathroom (first floor, upstairs, and master). No dye showed up in the sanitary sewer. The connection to the storm was located 150' south of NV03-6W-1 (See Figures 2A and 2B).

The dye testing of the other houses indicated that they were properly connected to the sanitary sewer.

### **Conclusions and Recommendations**

We have determined that there is an illicit connection to the storm drain from the residence at 1009 Glenhill Dr. The connection is a violation of Chapter 86 (Utilities), Division 2 (Illicit Discharge Elimination Program) of the City's Code of Ordinances, and needs to be eliminated. In accordance with the City's Municipal Separate Storm Sewer System (MS4) permit, the City is required to request the property owner to eliminate the discharge, so it no longer impacts Waters of the State. The property owner is required to achieve compliance within the time period set forth within the notice given by the City, as outlined in Section 86-119.

Once the correction is made, we suggest that the City jet and vacuum the storm sewer to remove residual sanitary waste. Then notify the ARC and we will resample the storm drain to confirm no other issues are present.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City's MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 248-765-4085 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

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**Table 1. Sampling Results (*E. coli* in MPN/100 ml; Surfactants in mg/l; Bacteroides in gene copies/100 ml)**

Structure	Location	<i>E. coli</i>	<i>E. coli</i> (MPN/100 ml)	Human <i>Bacteroides</i> marker (gene copies/100 ml)	<i>E. coli</i> result	Human <i>Bacteroides</i> marker (gene copies/100 ml)	<i>E. coli</i> (MPN/100ml)	Human <i>Bacteroides</i> marker (gene copies/100 ml)
		6/8/2018	12/13/2019		12/19/2019		7/2/2020	7/2/2020
NV03-2S	Manhole in Shannon Ct.	>24,192						
NV03-2S-W	South inlet to manhole on Shannon Ct		<10	<354	<10		31	ND
NV03-2S-S	West inlet to manhole on Shannon Ct		573	928	2,489	1,510		
NV03-6W	West inlet to manhole on Glenhill Dr		1,658		3,076	543	17,329	347,000
NV03-6S	South inlet to manhole on Glenhill Dr		<10				20	
NV03-11	Trough of the manhole at Glenhill Dr and Whitegate		30				63	

Figure 1. Storm Sewer Location Map

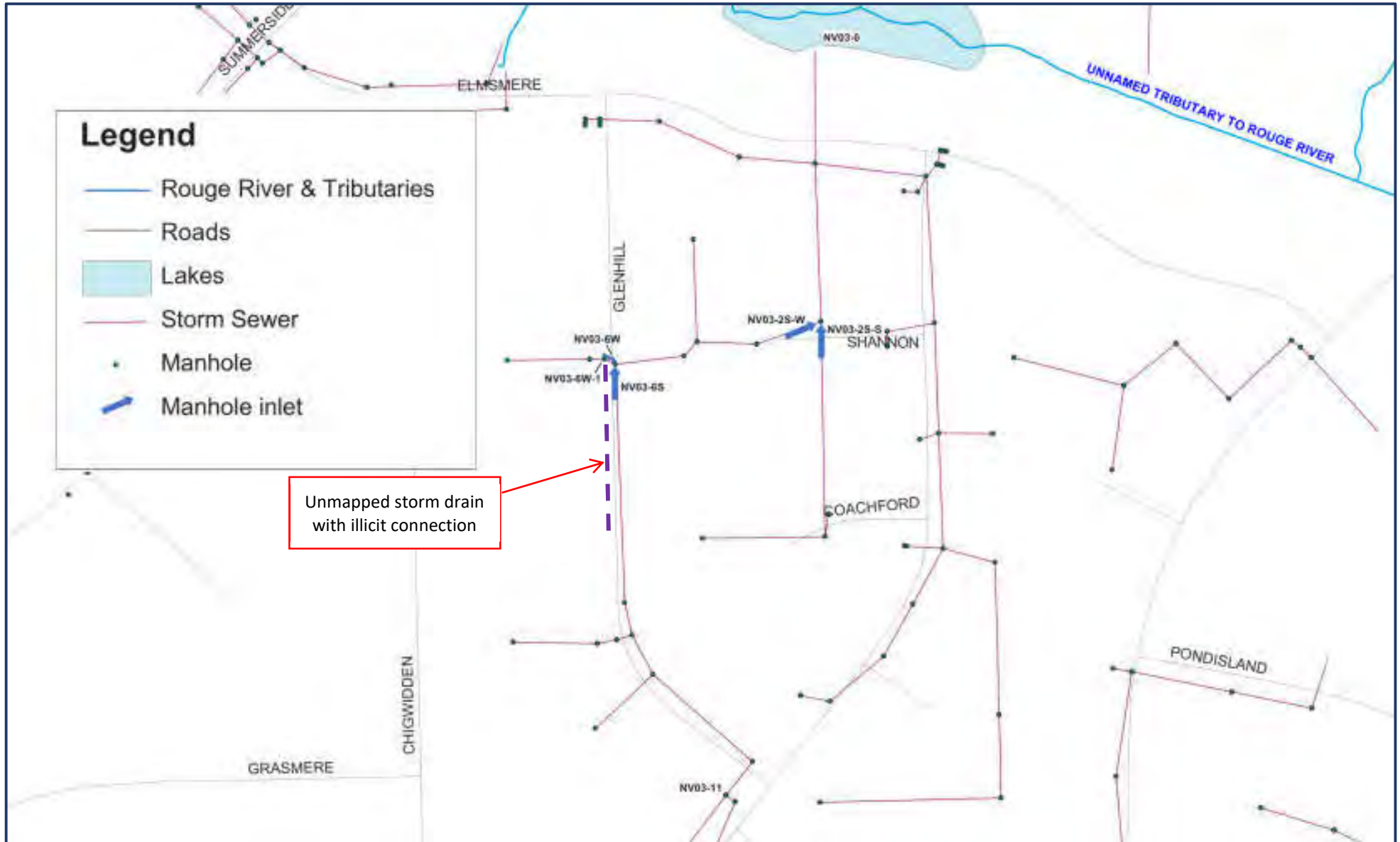


Figure 2A. Illicit connection to storm drain at 150' south of manhole NV03-6W-1 located on the west side of Glenhill Drive. Green dye exiting the sewer lead to the storm drain from testing of the first floor bathroom of 1009 Glenhill Dr.



Figure 2B. Red dye exiting the sewer lead to the storm drain from testing of the upstairs bathroom of 1009 Glenhill Dr.





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Loyd Cureton, City of Northville  
**FROM:** Annette DeMaria, Executive Director  
**DATE:** January 4, 2021  
**SUBJECT:** IDEP Investigation Results: Outfall NV22

---

ARC staff have conducted an illicit discharge investigation on storm sewer outfall NV22 in response to findings from the ARC's 2018 outfall screening and follow-up sampling conducted in 2019. We have determined that additional investigations are needed in order to determine if an illicit discharge is impacting the storm drain.

#### Background

Outfall NV22 was investigated due to high *E. coli* concentration (2,755 MPN/100 mL) found during an outfall screening conducted June 7, 2018. There was no observed color, odor, turbidity, or other unusual characteristics noted during the initial screening.

ARC staff reinspected the outfall on August 15, 2019 and found higher *E. coli* concentrations (>24,196 MPN/100 mL) and similar conditions as seen in the original inspection, with low flow noted.

The outfall drains a portion of Allen Drive, Novi Street, and other adjoining streets north of Eight Mile Road. Based on the available GIS information, it is unclear which storm drains at the intersection of Hill and Novi Streets discharge to NV22. The receiving water is the Walled Lake Branch of the Middle Rouge River (See Figure 1).

#### Results

ARC staff reinspected the outfall on July 1, and August 18, 2020 and found lower *E. coli* levels compared to the original inspection. Water samples were taken from the outfall and from two pipes in an upstream manhole in an effort to narrow down possible sources of *E. coli* contamination. These samples were also tested for Human Bacteroides, which were found at low levels as well.

Samples were analyzed by Paragon Laboratories for *E. coli* concentration. Additionally, samples were analyzed by Michigan State University's Department of Fisheries & Wildlife for a microbial source tracking (MST) marker to determine whether contamination was human in origin. Human Bacteroides is a microbial source tracking method that uses the B. theta biomarker to determine if bacteria are from the human intestinal track.

#### Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

**Table 1. Sampling Results**

Structure	<i>E. coli</i> (MPN/ 100mL)	<i>E. coli</i> (MPN/ 100mL)	<i>E. coli</i> (MPN/ 100mL)	Human <i>Bacteroides</i> (gene copies/100 ml)	<i>E. coli</i> (MPN/ 100mL)	Human <i>Bacteroides</i> (gene copies/100 ml)
	6/7/2018	8/15/2019	7/1/2020	7/1/2020	8/18/2020	8/18/2020
NV22-0	2,755	>24,196	108	582	<10	<354
NV22-2W-N			404	747		
NV22-2W-W			201			

**Conclusions and Recommendations**

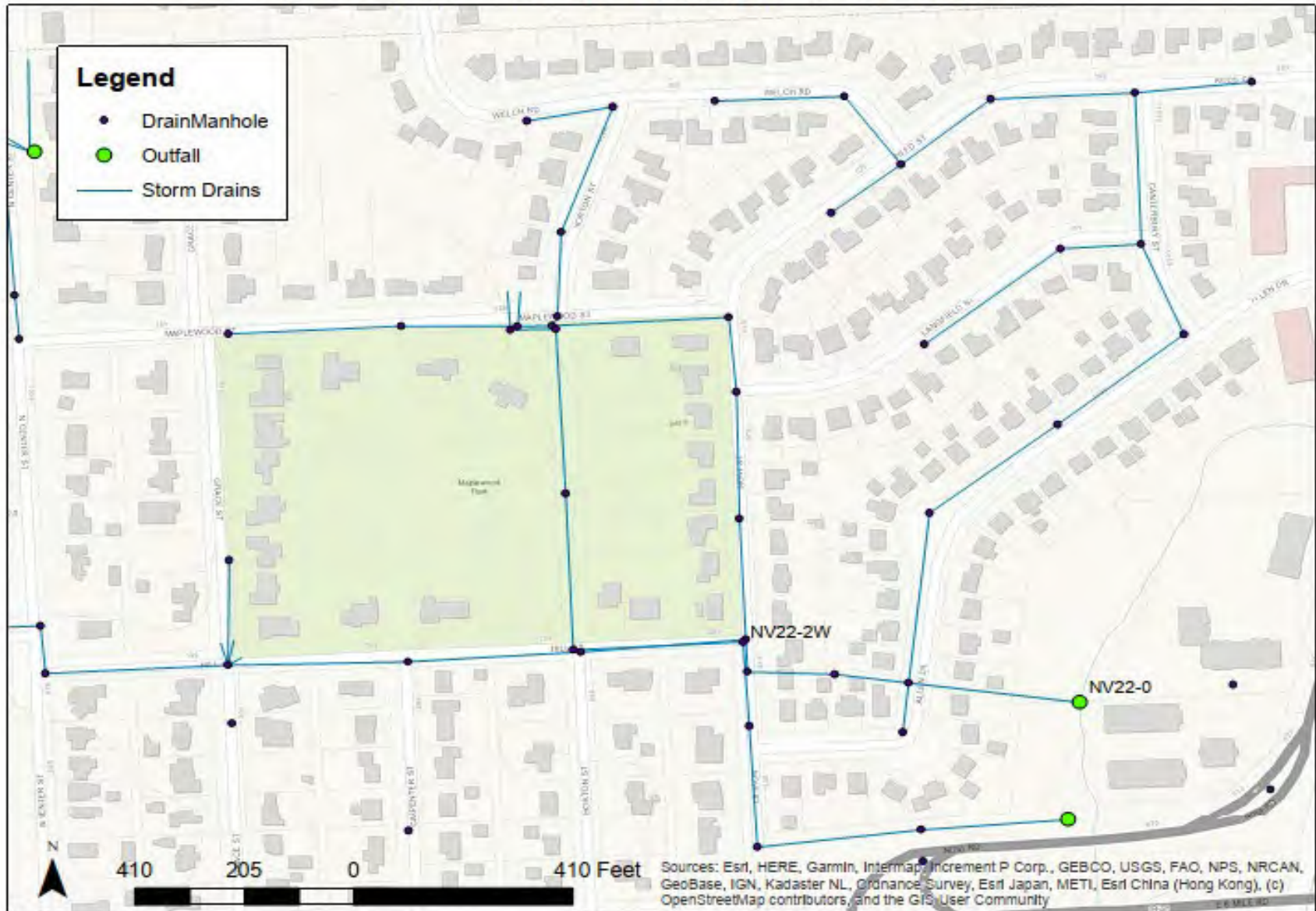
Given that both the *E. coli* and *Bacteroides* were low in the samples, the results of the testing are inconclusive in identifying the source of the *E. coli*. Therefore, additional investigations are needed. ARC staff will continue these investigations in 2021 following a meeting with DPW staff to better understand the extent of the drainage network.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City’s MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

Attachment: Figure 1. Storm Sewer and Sampling Location

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Figure 1: Storm Sewer and Sampling Locations for NV22





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

Cooperating Partners:  
Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

**TO: Loyd Cureton, City of Northville**

**FROM: Annette DeMaria, Executive Director**

**DATE: December 16, 2020**

**SUBJECT: IDEP Investigation Results: Outfall NV57 (First Street)**

---

ARC staff have conducted an illicit discharge investigation on storm sewer outfall NV57 in response to findings from the ARC's 2018 outfall screening and follow-up sampling conducted in 2019. The August 2020 results indicate that sewage may be impacting the drain. However, we were unable to narrow down where sewage is entering the drain. Therefore, further investigations are recommended in 2021.

### Background

Manhole NV57-1 was investigated due to high *E. coli* concentration (3,876 MPN/100 ml ) found during an outfall screening conducted June 8, 2018. There was no observed color, odor, turbidity, or other unusual characteristics noted during the initial screening. ARC staff reinspected manhole NV57-1 on August 15, 2019 and found an *E. coli* concentration of 6,131 MPN/100 ml.

The outfall drains First Street and a portion of West Cady Street, north of Seven Mile Road. The receiving water is Johnson Drain, which feeds into the Walled Lake Branch of the Middle Rouge River (See Figure 1).

### Results

ARC staff reinspected manholes and collected samples from three upstream manholes to narrow down possible sources of *E. coli* contamination. Although these efforts yielded inconsistent results, the August data did show a strong sewage signal at manhole NV57-1 as demonstrated by the very high Bacteroides results. Another high Bacteroides concentration was found at manhole NV-573E. All other Bacteroides results were below detection limits (See Table 1).

In terms of *E. coli*, manhole NV57-1 had moderately high levels in July, August, September, and November but it was not detectable at other manholes. There were no physical signs (ex: odor, staining, debris, organic growth) of a sewage discharge to the storm drain in any of the manholes. Likewise, there were no obvious signs of animal fecal impacts to the drain.

Samples were analyzed by Paragon Laboratories for *E. coli* concentration. Additionally, samples were analyzed by Michigan State University's Department of Fisheries & Wildlife for a microbial source tracking (MST) marker to determine whether contamination was human in origin. The marker being used is *Bacteroides thetaiotaomicron* (*B. theta*) which identifies if the bacteria are from the human intestinal track.



**Table 1. Sampling Results (*E. coli* in MPN/100 mL and Human *Bacteroides* in gene copies/100 ml)**

Structure		NV57-1	NV57-2	NV57-3E	NV57-3N
Location		Manhole at corner where Fairbrook St meets 7 Mile Rd	Manhole located in front of 320 and 310 1 <sup>st</sup> St	Manhole at intersection of W Cady St and 1 <sup>st</sup> St	Manhole at intersection of W Cady St and 1 <sup>st</sup> St
<i>E. coli</i>	6/8/18	3,876			
<i>E. coli</i>	8/15/19	6,131			
<i>E. coli</i>	7/2/20	1,012			<10
Human <i>Bacteroides</i>	7/2/20	<354			<354
<i>E. coli</i>	8/18/20	1,137			
Human <i>Bacteroides</i>		433,000			
<i>E. coli</i>	9/15/20	6,867	<10	<10	<10
Human <i>Bacteroides</i>		<354	<354	47,200	<354
<i>E. coli</i>	11/19/20	1,789	41	41	41
Human <i>Bacteroides</i>		<354	<354	<354	<354

**Conclusions and Recommendations**

The high *Bacteroides* results from August and September 2020 indicate that sewage may be impacting the drain. However, the sewage source appears to be inconsistent, and we were not able to narrow it down within the drain. The recommended next steps are for the drain to be televised to determine the potential source of sewage. ARC staff will follow up with the City to request this work be completed in 2021.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City’s MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

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Figure 1: Storm Sewer and Sampling Locations for NV57





Annette DeMaria, P.E., PMP  
Executive Director

- Auburn Hills
- Beverly Hills
- Bingham Farms
- Birmingham
- Bloomfield Hills
- Bloomfield Twp.
- Canton Twp.
- Commerce Twp.
- Dearborn Heights
- Farmington
- Farmington Hills
- Franklin
- Garden City
- Henry Ford College
- Inkster
- Lathrup Village
- Livonia
- Melvindale
- Northville
- Northville Twp.
- Novi
- Oak Park
- Oakland County
- Orchard Lake
- Plymouth
- Plymouth Twp.
- Redford Twp.
- Rochester Hills
- Romulus
- Schoolcraft College
- Southfield
- Troy
- University of Michigan-Dearborn
- Van Buren Twp.
- Walled Lake
- Washtenaw County
- Wayne
- Wayne County
- Wayne County Airport Authority
- West Bloomfield Twp.
- Westland
- Wixom

- Cooperating Partners:
- Cranbrook Institute of Science
  - Friends of the Rouge
  - Great Lakes Water Authority
  - Rouge River Advisory Council
  - SEMCOG
  - Southeastern Oakland County Water Authority

**TO:** Kate Richardson, City of Novi Plan Review Engineer

**FROM:** Annette DeMaria, Executive Director

**DATE:** September 4, 2020

**SUBJECT:** IDEP Investigation Results: Outfall NO23 (Park Ridge Court)

---

Following cleaning of the storm drain on Park Ridge Court, the *E. coli* counts in the storm drain were no longer elevated. This indicates that the source of the high *E. coli* was the wildlife feces that had accumulated in manhole NO23-2.

**Background**

Outfall NO23 was investigated in 2019 by Alliance of Rouge Communities (ARC) staff due to the high *E. coli* concentrations found during the outfall survey conducted in 2018. The 2019 investigations revealed wildlife feces accumulated in manhole NO23-2 and low concentrations of human *Bacteroides* (table 1).

The outfall drains a portion of Park Ridge Court which is a residential area north of 10 Mile Road and west of Meadowbrook Road (Figure 1). The receiving water is Walled Lake Branch which drains to the Middle Branch of the Rouge River.



*Wildlife scat in Manhole NO23-2 in 2019*

**2020 Effort**

On March 4, 2020, the City cleaned the storm drain along Park Ridge Court. ARC staff re-inspected the system the following day. Feces were no longer present in manhole NV23-2 and the *E. coli* concentration at the downstream manhole was much lower (Table 1).

**Conclusions and Recommendations**

Based on the information collected to date, the wildlife feces appear to be responsible for the elevated *E. coli* found in 2018 and 2019. We recommend that the City re-inspect and clean this manhole periodically if feces accumulate again. A suggested inspection frequency is monthly, but this should be modified based on the inspection findings. This will reduce water quality impacts to the river.

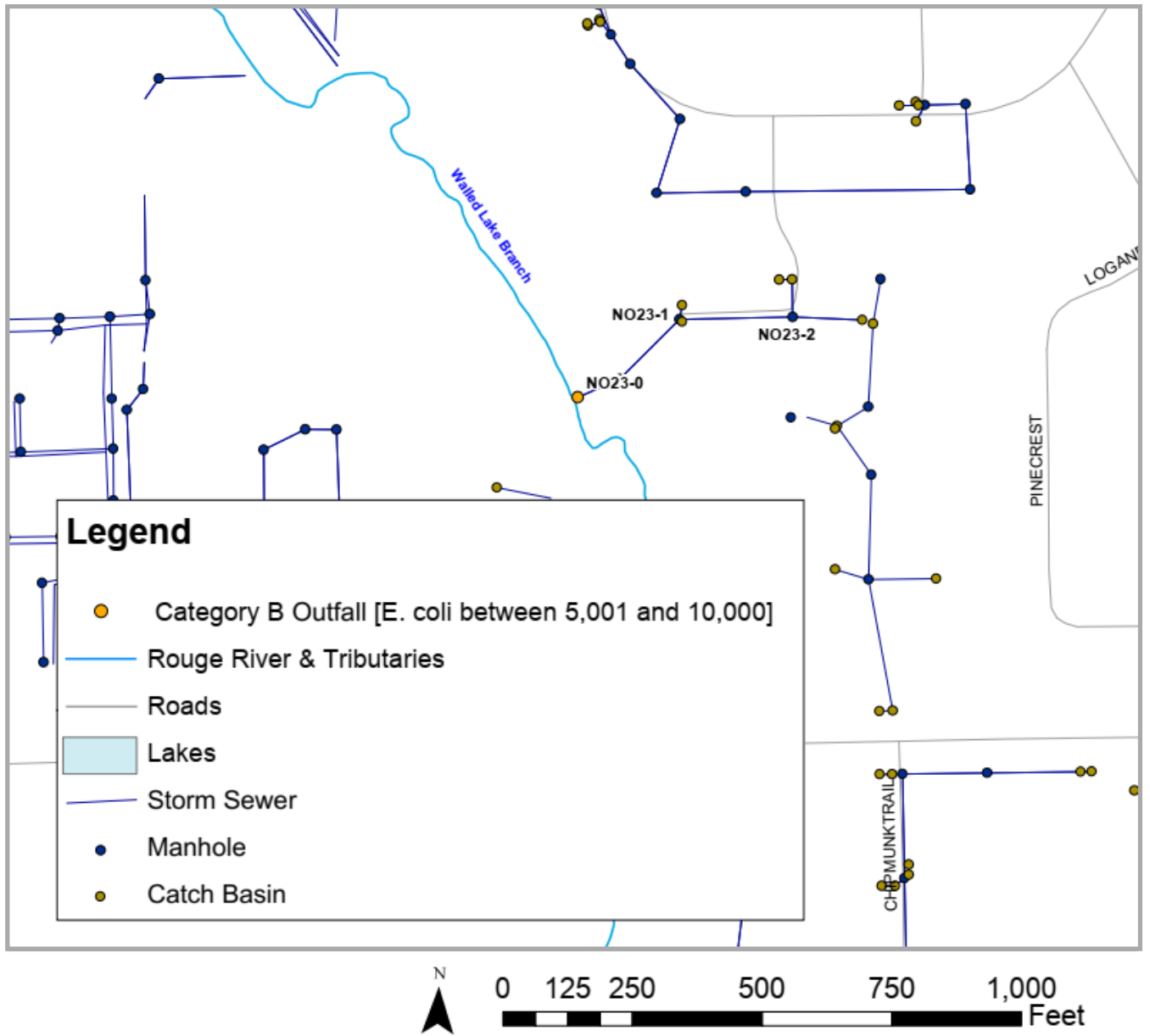
**Table 1. Sampling Results for Park Ridge Court Storm Sewer**

Structure	Location	<i>E. coli</i> (MPN/100 ml)		Surfactants (mg/l)	Human <i>Bacteroides</i> (gene copies/100 ml)	<i>E. coli</i> (MPN/100 ml)
		2018	12/13/19		3/5/20	
NO23-0	Outlet to Walled Lake Branch	Submerged, not sampled				
NO23-1	Manhole 1 at west end of island	7,701	10,462	1.0	1,890	1,616
NO23-2	Manhole 2 east of manhole 1		Too little flow to sample			

This work was completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City’s MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or [ademaria@ectinc.com](mailto:ademaria@ectinc.com).

Attachment: Figure 1. Storm Sewer and Sampling Locations

Figure 1. Storm Sewer Location



## **Appendix B4**

### **2021 Oakland County IDEP Investigation Cat A and B Results Summary**



Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Karen Mondora, ARC Technical Committee Chair  
**FROM:** Emily Levine, Technical Committee Coordinator  
**DATE:** February 15, 2022  
**SUBJECT:** 2021 IDEP Investigation Summary

In 2021, ARC staff investigated three suspicious outfall discharges in the Oakland County portion of the Rouge River Watershed. These outfalls were designated in the Category A and B priority levels for illicit discharge investigations. Of the three outfalls, two outfalls were determined to be likely impacted by animal feces, and one outfall will require additional source investigations in 2022. In addition, ARC staff completed follow-up sampling at two outfall locations to confirm that corrections made to illicit connections in 2020 had resolved the issues.

In 2021, ARC staff worked in two communities to conduct illicit discharge investigations in accordance with the Rouge River Collaborative Illicit Discharge Elimination Plan. These investigations were prompted by the outfall screening efforts conducted in 2018 and 2019 and were conducted in Beverly Hills and Northville.

The results of the investigations are summarized in Table 1. More detail can be found in the investigation reports which were sent to the communities (Attachment A).

**Table 1. Status and Results of Illicit Discharge Investigations**

Permittee	Outfall ID	Status	Result
Beverly Hills	BV66	Completed	Resampling confirmed effective correction to illicit connection
Beverly Hills	BV51	Ongoing	Further investigation required
Northville	NV03	Completed	Resampling confirmed effective correction to illicit connection
Northville	NV22	Completed	Animal source suspected
Northville	NV57	Completed	Animal source suspected

In addition, ARC staff partnered with Wayne County to conduct investigations in Inkster because of elevated instream *E. coli* results found in the Lower Rouge in 2020. This involved sampling in the Perrin Drain and walking the Lower Rouge between Inkster Road and Beech Daly to investigate outfalls. These investigations revealed high *E. coli* that may be the result of an illicit connection.

In 2022, ARC staff will continue source investigations on the outstanding issues in accordance with the Plan and as directed by the Technical Committee. This will also include assisting Wayne County with investigations in Livonia.

Cooperating Partners:  
Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

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**Attachment A**  
**Community-specific Investigation Reports**





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Mike Domine, City of Northville  
**FROM:** Emily Levine, ARC Staff  
**DATE:** August 5, 2021  
**SUBJECT:** IDEP Investigation Results: Outfall NV57

---

ARC staff conducted an illicit discharge investigation on storm drain outfall NV57 in response to findings from the ARC's 2018 outfall screening and follow-up sampling conducted in 2019, and 2020. We suspect that *E. coli* from non-sewage sources were likely contained in the sediment built up in the storm drain near West Cady Street and First Street because removal of that sediment appears to have corrected the issue. If construction continues in the area, ARC Staff recommends monitoring the storm drain for additional sediment build up and cleaning it out when observed.

#### Background

Manhole NV57-1 was investigated due to high *E. coli* concentration (3,876 MPN/100 ml) found during an outfall screening conducted June 8, 2018. ARC staff reinspected manhole NV57-1 on August 15, 2019 and found an *E. coli* concentration of 6,131 MPN/100 ml. ARC staff reinspected manholes and collected samples from three upstream manholes to narrow down possible sources of *E. coli* contamination in 2020 (Table 1). Although these efforts yielded inconsistent results, the August data did show a strong sewage signal at manhole NV57-1 as demonstrated by the very high Bacteroides results. There were no physical signs (ex: odor, staining, debris, organic growth) of a sewage discharge to the storm drain during any of these sampling events. Likewise, there were no obvious signs of animal fecal impacts to the drain.

The outfall drains First Street and a portion of West Cady Street, north of Seven Mile Road. The receiving water is Johnson Drain, which feeds into the Walled Lake Branch of the Middle Rouge River (See Figure 1).

#### Results

ARC staff coordinated with the City of Northville to televise the storm drain line along First Street on April 21, 2021. Except for a section near West Cady Street and a section in the middle of the block which were blocked by sediment, the storm drain line along First Street from 7 Mile Road to West Cady Street was televised. A tap that appeared to be from a downspout on a house and a connection that appeared to be from a sump pump were identified. No other connections were identified.

#### Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

The storm drain along West Cady Street to the east of First Street had too much sediment for televising. Manhole NV57-1 was sampled that day and high *E. coli* concentrations were found. Additional samples collected on April 29, 2021 found high *E. coli* concentrations and low Bacteroides results, except for NV57-2, which had high Bacteroides results. The City of Northville cleaned out the storm drain near West Cady Street in June of 2021. ARC staff resampled NV57-1 and sampled NV57-4 after the drain was cleaned out and found low *E. coli* levels.

Until April of 2021, samples were analyzed by Michigan State University’s Department of Fisheries & Wildlife for the *B. theta* marker to determine whether contamination was human in origin. Starting in April of 2021, samples were analyzed by Oakland University’s laboratory for the HF183 biomarker to determine whether contamination was human in origin. Both *B. theta* and HF183 are microbial source tracking methods used for identifying if bacteria are from the human intestinal track.

**Table 1. Sampling Results**

Structure		NV57-1	NV57-2	NV57-3E	NV57-3N	NV57-3	NV57-1A	NV57-4
Location		Manhole at corner where Fairbrook St meets 7 Mile Rd	Manhole located in front of 320 and 310 1 <sup>st</sup> St	East inlet to NV57-3	North inlet to NV57-3	Manhole at W Cady St and 1 <sup>st</sup> St	Manhole at the south end of 1 <sup>st</sup> St	Manhole in driveway of 487 W Cady St
<i>E. coli</i>	6/8/18	3,876						
<i>E. coli</i>	8/15/19	6,131						
<i>E. coli</i>	7/1/20	1,012			<10			
Human Biomarker		<354			<354			
<i>E. coli</i>	8/18/20	1,137						
Human Biomarker		433,000						
<i>E. coli</i>	9/15/20	6,867	<10	<10	<10			
Human Biomarker		<354	<354	47,200	<354			
<i>E. coli</i>	11/17/20	1,789	41	41	41			
Human Biomarker		<354	<354	<354	<354			
<i>E. coli</i>	4/21/21	14,210						
<i>E. coli</i>	4/29/21	6,131	>24,196			143	10,112	
Human Biomarker		113	36,695				<95	
<i>E. coli</i>	7/28/21	410						<1

**Conclusions and Recommendations**

Since *E. coli* can thrive in dark and wet conditions, the excessive amount of sediment in the storm drain along West Cady Street was likely harboring *E. coli* and contributing to the high *E. coli* in the stormwater. Given the inconsistent sample results, buildup of sediment in the storm drain, lack of suspicious connections to the storm drain and lack of sanitary debris, we suspect that the most likely source of the *E. coli* in the sediment was animals and not sewage. Given that there were no obvious signs of animal sources to the drain, ARC Staff recommends monitoring the storm drain for

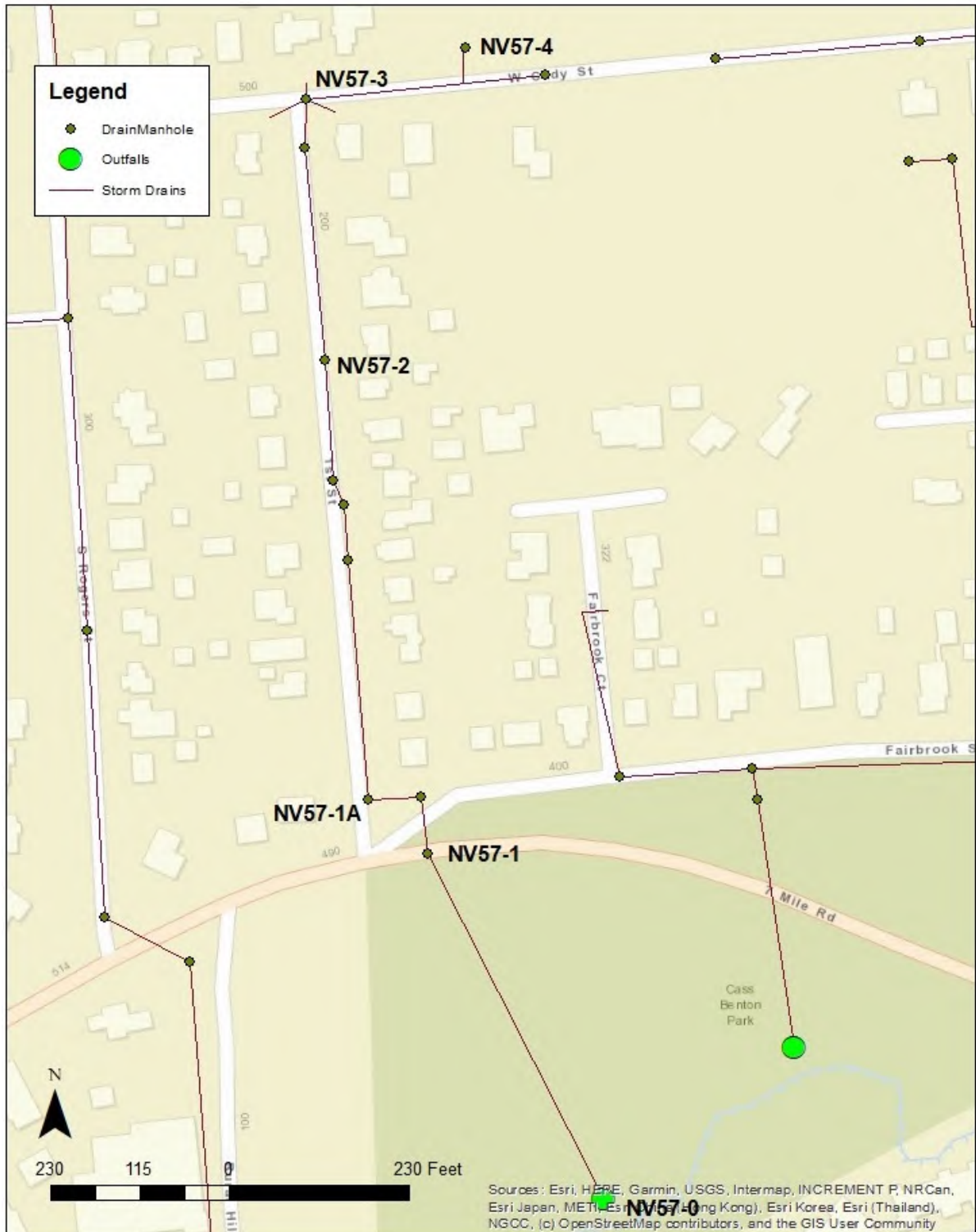
excessive sediment build up and cleaning it out when build up appears to prevent water quality issues in the stormwater.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City's MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or [elevine@ectinc.com](mailto:elevine@ectinc.com).

Attachment:      Figure 1. Storm Drain and Sampling Location

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Figure 1. Storm Drain and Sampling Locations





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

**TO:** Mike Domine, City of Northville  
**FROM:** Emily Levine, ARC Staff  
**DATE:** August 5, 2021  
**SUBJECT:** IDEP Investigation Results: Outfall NV22

---

ARC staff conducted an illicit discharge investigation on storm drain outfall NV22 in response to findings from the ARC's 2018 outfall screening and follow-up sampling conducted in 2019 and 2020. Although our investigations did not reveal the source of *E. coli* entering the drain, we do not believe that the source is sewage. Therefore, no further actions are recommended at this time.

#### Background

Outfall NV22 was investigated due to high *E. coli* concentration (2,755 MPN/100 mL) found during an outfall screening conducted June 7, 2018. There was no observed color, odor, turbidity, or other unusual characteristics noted during the initial screening.

ARC staff reinspected the outfall on August 15, 2019 and found higher *E. coli* concentrations (>24,196 MPN/100 mL) and similar conditions as seen in the original inspection, with low flow noted (Table 1). The outfall was reinspected on July 1 and August 18, 2020 and lower *E. coli* levels were found compared to the original inspection. Water samples were taken from the outfall and from two pipes in an upstream manhole in an effort to narrow down possible sources of *E. coli* contamination. These samples were also tested for Human *Bacteroides*, which were only found at low levels.

The outfall drains a portion of Allen Drive, Novi Street, and other adjoining streets north of Eight Mile Road. The receiving water is the Walled Lake Branch of the Middle Rouge River (See Figure 1).

#### Results

ARC staff inspected upstream manholes on April 29, 2021 and found elevated concentrations of *E. coli* and the HF183 human biomarker at manhole NV22-1. Low *E. coli* concentrations were found at manhole NV22-2N, and elevated *E. coli* with low HF183 concentrations (typically indicative of animal sources) were found at manhole NV-22-2.

On May 11, 2021, ARC staff coordinated with the City of Northville to televise all inlet connections to manhole NV22-1. This included televising north from NV22-1 to NV22-1N, east to outfall NV22-0, south to where Allen Drive bends and the storm drain stops, and west to NV22-2. No suspicious connections were identified. Follow-up sampling on June 1, 2021 found low *E. coli* levels. No odors or visual indicators of sewage have been observed during these investigations.

#### Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

Until April of 2021, human biomarker samples were analyzed by Michigan State University's Department of Fisheries & Wildlife for the *B. theta* marker to determine whether contamination was human in origin. Starting in April of 2021, samples were analyzed by Oakland University's laboratory for the HF183 biomarker to determine whether contamination was human in origin. Both *B. theta* and HF183 are microbial source tracking methods used for identifying if bacteria are from the human intestinal track.

**Table 1. Sampling Results**

Structure		NV22-0	NV22-1	NV22-2	NV22-2N	NV22-2W-N	NV22-2W-W
Location		Outfall	Manhole in the grass in front of 883 Allen Dr	Manhole in Novi St, south of Hill St	Manhole in the street near 985 Allen Dr	North inlet to NV22-2W	West inlet to NV22-2W
<i>E. coli</i>	6/7/18	2,755					
<i>E. coli</i>	8/15/19	>24,196					
<i>E. coli</i>	7/1/20	108				404	201
Human Biomarker		582				747	
<i>E. coli</i>	8/18/20	<10					
Human Biomarker		<354					
<i>E. coli</i>	4/29/21		>24,196	10,112	256		
Human Biomarker			24,800	109			
<i>E. coli</i>	6/1/21		52			41	

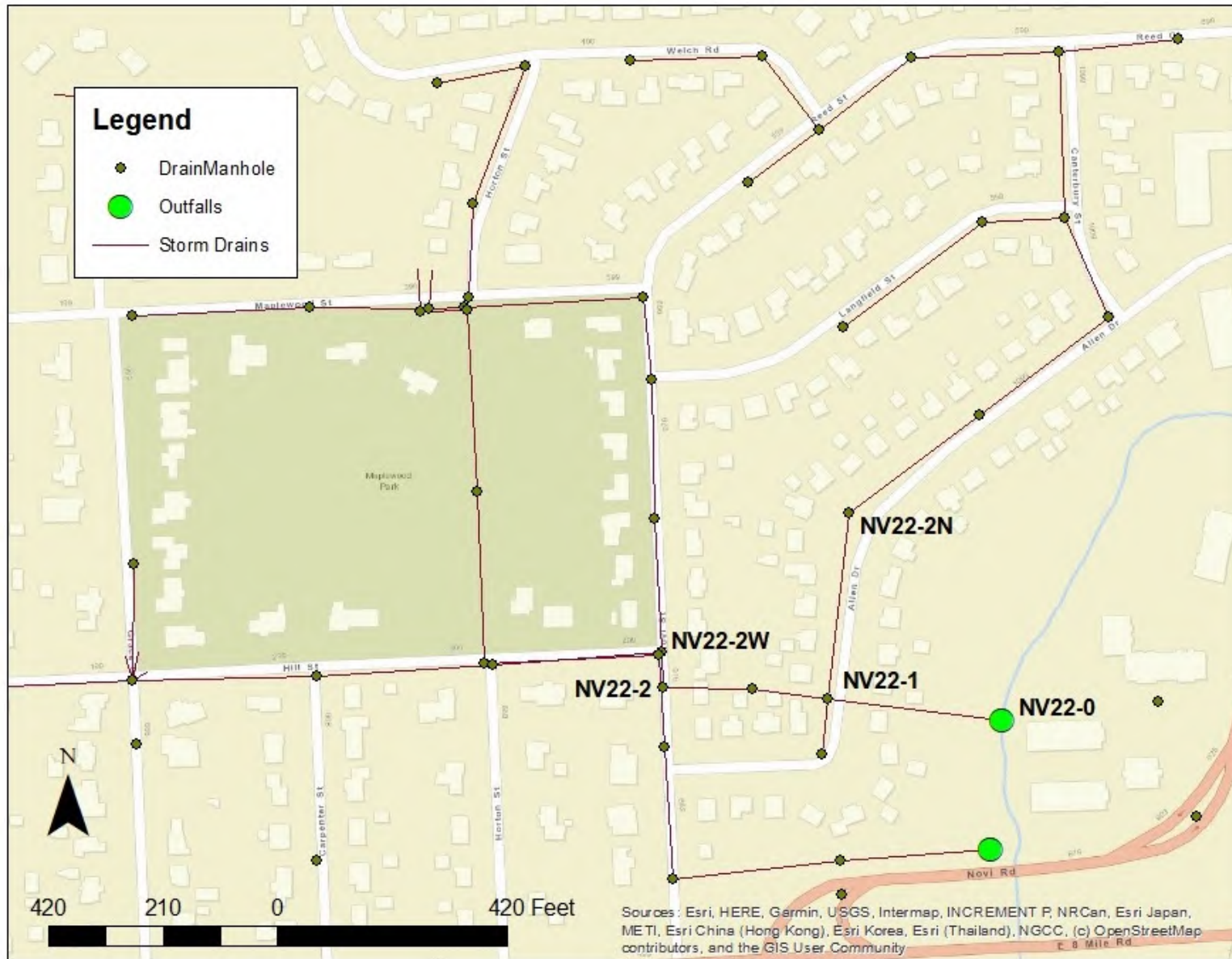
**Conclusions and Recommendations**

Based on the data collected and investigations conducted to date, we suspect that the source of the high *E. coli* was from animal feces, rather than from sewage. This determination is made because the high *E. coli* levels generally coincided with low Human Bacteroides levels which indicates that the *E. coli* is not from a human source. In addition, no identifiable illicit connections have been found after a thorough investigation of this storm drain system and no signs of sanitary debris were found in the storm drain. Given that there were no obvious signs of animal sources to the drain or identifiable illicit connections, no further action is recommended at this time.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the City's MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or elevine@ect.com.

Attachment: Figure 1. Storm Drain and Sampling Locations

Figure 1. Storm Drain and Sampling Locations





Annette DeMaria, P.E., PMP  
Executive Director

Auburn Hills  
Beverly Hills  
Bingham Farms  
Birmingham  
Bloomfield Hills  
Bloomfield Twp.  
Canton Twp.  
Commerce Twp.  
Dearborn Heights  
Farmington  
Farmington Hills  
Franklin  
Garden City  
Henry Ford College  
Inkster  
Lathrup Village  
Livonia  
Melvindale  
Northville  
Northville Twp.  
Novi  
Oak Park  
Oakland County  
Orchard Lake  
Plymouth  
Plymouth Twp.  
Redford Twp.  
Rochester Hills  
Romulus  
Schoolcraft College  
Southfield  
Troy  
University of  
Michigan-Dearborn  
Van Buren Twp.  
Walled Lake  
Washtenaw County  
Wayne  
Wayne County  
Wayne County Airport  
Authority  
West Bloomfield Twp.  
Westland  
Wixom

Cooperating Partners:

Cranbrook Institute of Science  
Friends of the Rouge  
Great Lakes Water Authority  
Rouge River Advisory Council  
SEMCOG  
Southeastern Oakland  
County Water Authority

**TO:** Kevin Lawrence, Village of Beverly Hills Director of Public Services  
**FROM:** Emily Levine, ARC Staff  
**DATE:** August 5, 2021  
**SUBJECT:** IDEP Investigation Results: Outfall BV51 (Sleepy Hollow Lane)

---

ARC staff continued illicit discharge investigation on storm drain outfall BV51 in response to findings from the 2018 outfall screening and 2019 and 2020 investigations. Our investigations did not reveal the source of *E. coli* entering the drain; therefore, we will continue investigations in 2022.

**Background**

Outfall BV51 was investigated due to the high *E. coli* concentrations found during the outfall survey conducted in 2018. At that time, the *E. coli* concentration was 3,076 MPN/100 ml which can be indicative of an illicit discharge containing sanitary sewage. ARC staff reinspected the outfall in 2019 and found *E. coli* concentrations at 201 and >24,196 MPN/100 ml respectively.

ARC staff reinspected the outfall on August 19, September 15, and November 17, 2020. As was the case in 2019, the results varied greatly in 2020, with *E. coli* concentrations of 573, >24,196, and 1,081 MPN/100 ml respectively (See Table 1). The results from the September and November sampling events showed Human *Bacteroides* concentrations of 72,000 and <354 gene copies/100 ml respectively. There were no physical signs (ex: odor, staining, debris, organic growth) of a sewage discharge to the storm drain in the outfall or any of the manholes. Likewise, there were no obvious signs of animal fecal impacts to the drain.

The outfall drains a portion of Sleepy Hollow Lane, Fiddlers Cove Road, and Metamora Lane. The receiving water is an unnamed tributary of the Rouge River (Figure 1).

**Results**

Based on sampling results from previous inspections, ARC staff coordinated with the Oakland County Water Resource Commissioner (OCWRC) to televise the drain west of Outfall BV51 on May 19, 2021. Only the west line was televised because flow had not been observed coming from the north and south during dry weather. A tap was identified in the storm drain that was believed to be a possible illicit connection, although no staining or evidence of sewage was observed (Figure 2). Based on the pipe's location and direction, it appeared to be coming from the house at 31349 Sleepy Hollow Lane. On July 23, 2021, ARC staff coordinated with the Village of Beverly Hills to dye test 31349 Sleepy Hollow Lane. The dye testing revealed that all three bathrooms in the house were correctly connected to the sanitary drain and no dye was observed entering the storm drain.



**Table 1. Sampling Results (*E. coli* in MPN/100 mL and Human *Bacteroides* in gene copies/100 ml)**

	<i>E. coli</i>	<i>E. coli</i>	<i>E. coli</i>	<i>E. coli</i>	<i>E. coli</i>	Human <i>Bacteroides</i>	<i>E. coli</i>	Human <i>Bacteroides</i>
	7/9/18	8/15/19	9/19/19	8/19/20	9/15/20	9/15/20	11/17/20	11/17/20
BV51-0	3,076	201	>24,196	573	>24,196	72,000	1,081	<354

**Conclusions and Recommendations**

Work to date indicates that there is not an illicit connection downstream of BV51-1. However, the data suggests that upstream illicit connections may exist. Therefore, ARC staff recommends resampling the outlet up to two more times in 2022 for both *E. coli* and *Bacteroides* (only if the *E. coli* is elevated). If another set of high *E. coli* and *Bacteroides* results are found, we suggest televising the drain upstream of BV51-1 to determine if any suspicious connections are found. If so, dye testing should be performed to determine the nature of the connection. If another set of high *E. coli* and *Bacteroides* results are not found, we recommend closing out the investigation.

This work is being completed as outlined in the Rouge River Collaborative IDEP Plan in compliance with the Village’s MS4 permit and as a result of your ARC membership. If you have any questions, I can be reached at 313-963-6600 or [elevine@ectinc.com](mailto:elevine@ectinc.com).

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Figure 1. Storm Drain and Sampling Locations

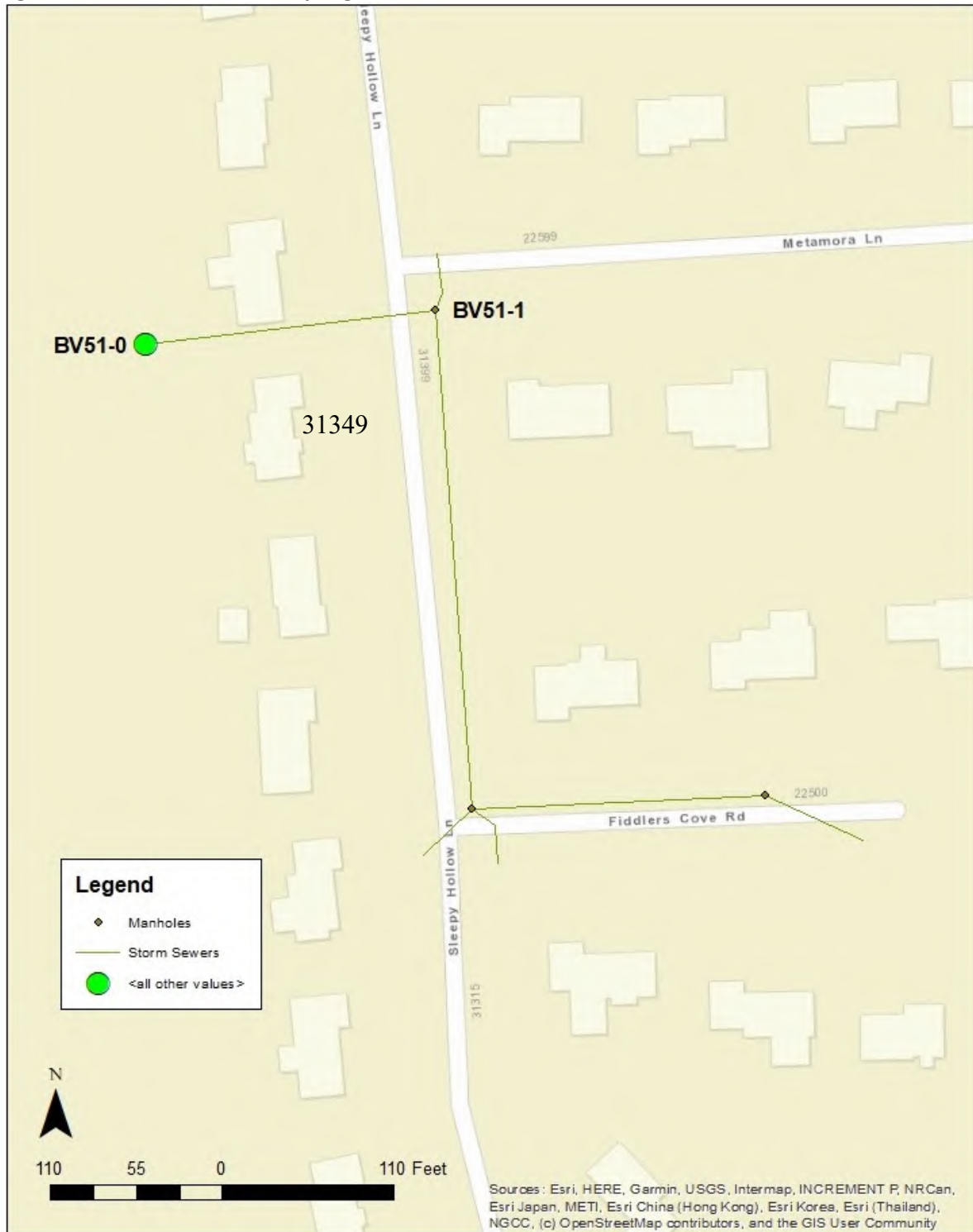


Figure 2. Tap to Storm Drain at 14.2 ft east of BV51-0



**Appendix B5**

**Bloomfield Township Investigation Records**



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	01-02		
Date of Observation:	9 / 21 / 2020	Time:	12:50 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention Basin at south end of Shaker Heights Dr.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>24</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input checked="" 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"/> 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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

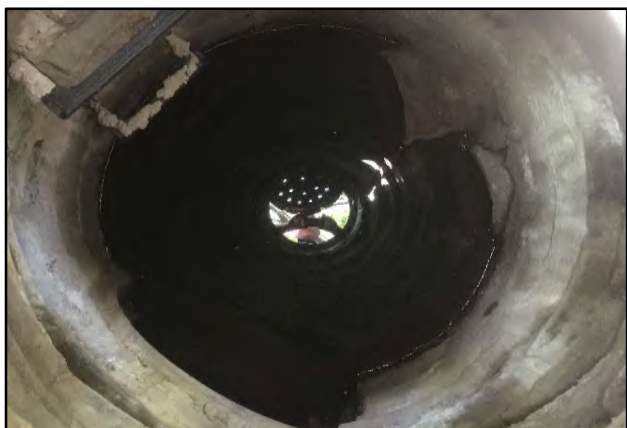
Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: Holding water from downstream.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	03-01		
Date of Observation:	9 / 21 / 2020	Time:	1:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	In front of 43034 Woodward (Moose Preserve)		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>24</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom _____	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input checked="" type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	



Water Clarity	<input type="checkbox"/>		<input 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 type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input checked="" type="checkbox"/> Other: <u>leaves</u>	<input checked="" type="checkbox"/> 1- Few or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	4 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		7.93	71.8	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	04-01		
Date of Observation:	9 / 17 / 2020	Time:	2:00 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input checked="" type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Open Space <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential Other: <u>Fire Station No. 4</u> <input type="checkbox"/> Commercial Known Industries: _____		
Notes (e.g. origin of outfall, if known):	North side of fire station at 2389 Franklin Rd.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>6</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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"/> 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: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX	
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Only fire station downspouts and surface drainage discharge to it.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	04-02		
Date of Observation:	9 / 21 / 2020	Time:	1:35 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	North of entrance to 43902 Woodward		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>30</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom _____	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Stagnant water in invert. No flow.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___







# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	06-01		
Date of Observation:	9 / 17 / 2020	Time:	2:25 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention Basin outlet on Kemp Road		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>8</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Outfall holding water due to level of lake. Upstream structures into basin have no flow.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___



Manhole upstream of detention basin



Outlet of storm sewer downstream of basin



Outfall submerged



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	06-02		
Date of Observation:	9 / 17 / 2020	Time:	2:45 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: <u>Retention Pond</u> Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Retention pond for Meadowlands of Bloomfield		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input checked="" type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>36</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
	<input type="checkbox"/> Other: _____		Top Width: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Bottom _____	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Width: _____ ft.	
	<input type="checkbox"/> Rip-Rap			
	<input type="checkbox"/> Other: _____	Other: _____		
Is Flow Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: Outfall submerged. Upstream structures holding water.

**Section 8: General Comments**

Comments: Retention Basin may need to be dredged.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___



Submerged Outfall



Retention Pond



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	08-01		
Date of Observation:	9 / 21 / 2020	Time:	3:07 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	South of house at 1471 Franklin Road		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>24</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input checked="" type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	58 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		8.08	69.3	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	



**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Surface runoff sewer from Forest Lake Golf Club and Club Road.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: Water sample taken for E. Coli, and temperature and pH taken.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	11-01		
Date of Observation:	9 / 22 / 2020	Time:	1:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention Basin access off Bridlepath Court		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: _____ in.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in.	
	<input type="checkbox"/> Steel		Height: _____ in.	
	<input type="checkbox"/> Other: _____		Depth: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
Is 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 checked="" type="checkbox"/> Moderate <input type="checkbox"/> Substantial		Description Details: _____		

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input type="checkbox"/> No (If No, Skip to Section 4)			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	162 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		7.79	66.5	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: No smell, color, or floatables.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: \_\_\_\_\_

Date Observed: \_\_\_/\_\_\_/\_\_\_

Time Observed: \_\_\_\_\_

Investigated By: \_\_\_\_\_

Date Reported: \_\_\_/\_\_\_/\_\_\_



Basin inlet on North side



Basin inlet on west side



Basin outlet on south side



Basin Overflow Structure on south side





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	11-02		
Date of Observation:	9 / 21 / 2020	Time:	4:30 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Crofton Court detention basin		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>15</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Located 15" inlet pipe into basin, but not 6" outlet pipe.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	12-01		
Date of Observation:	9 / 22 / 2020	Time:	2:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Detention basin for Hidden Pines sub		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>42</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	



Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge 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
Comments:	<u>Detention pond holding water. Not up to outlet.</u>

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	12-02		
Date of Observation:	9 / 22 / 2020	Time:	2:25 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Retention area off Westview Rd and west of Westman Ct		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>18</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: No flow from outlet. No water in retention pond.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	13-02		
Date of Observation:	9 / 22 / 2020	Time:	2:45 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):			

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input 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: _____ Other: _____	Circular Pipe Dimensions: Dia: _____ in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	In Water: <input 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 checked="" type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: <u>2</u> ft. Top Width: <u>4</u> ft. Bottom _____ Width: <u>1</u> ft.
Is Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details:	<u>Flowing stream</u>		

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	83 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		8.05	68.1	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Flowing stream. Nothing Unusual.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___







# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	16-04		
Date of Observation:	9 / 23 / 2020	Time:	3:05 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input checked="" type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Open Space <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential Other: _____ <input type="checkbox"/> Commercial Known Industries: _____		
Notes (e.g. origin of outfall, if known):	CB in Township campus entrance south of Police.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>8</u> in.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in.	
	<input type="checkbox"/> Steel		Height: _____ in.	
	<input checked="" type="checkbox"/> Other: <u>Clay</u>		Depth: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.	
Is Flow Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)		<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial	Description Details: _____	

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 4)</b>
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: \_\_\_\_\_

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	18-01		
Date of Observation:	9 / 21 / 2020	Time:	2:40 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Storm sewer under tennis court.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>12</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Only surface drainage. No buildings to tie in.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: Trickle from private storm sewer. Not from Twp. Sewer.

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	18-02		
Date of Observation:	9 / 21 / 2020	Time:	2:15 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Storm sewer along north side of condos		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>12</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom _____	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input checked="" type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input checked="" type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input checked="" type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input checked="" type="checkbox"/> Other: <u>soap</u>	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input checked="" type="checkbox"/>	>2420 MPN/100ml		
pH / Temperature	<input checked="" type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic <input type="checkbox"/> 7 to 14 Increasingly Alkaline
		8.18	70.7	

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	



**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Smelled soap in manhole.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: East inlet in manhole has trickle. West inlet does not.

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: <u>E.coli sample came back with high results. Further investigation will be done to determine source.</u>	Date Observed: <u>9/23/2020</u>
	Time Observed: _____
Investigated By: _____	Date Reported: <u>__/__/__</u>





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	19-01		
Date of Observation:	9 / 17 / 2020	Time:	4:05 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Enclosed ditch on east side of 1671 Keller Lane		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: 30 in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: No flow and upstream ditch is dry.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: <u>  </u> / <u>  </u> / <u>  </u>
	Time Observed: _____
Investigated By: _____	Date Reported: <u>  </u> / <u>  </u> / <u>  </u>



Upstream end of enclosed ditch/ sewer



Downstream end of enclosed ditch/ sewer



# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	20-01		
Date of Observation:	9 / 17 / 2020	Time:	4:25 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Outfall on east side of safety path on Franklin Road		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>18</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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"/> 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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Outlet for dry detention area.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: Broken off animal grate

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: <u>  </u> / <u>  </u> / <u>  </u>
	Time Observed: _____
Investigated By: _____	Date Reported: <u>  </u> / <u>  </u> / <u>  </u>





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	20-02		
Date of Observation:	9 / 17 / 2020	Time:	4:35 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):			

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <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: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>12</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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"/> 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: _____ ft. Top Width: _____ ft. Bottom Width: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible



Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: 165' of pipe enclosing ditch

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	21-01		
Date of Observation:	9 / 17 / 2020	Time:	9:30 am
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Outfall for Overlea Court storm sewer		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <input checked="" type="checkbox"/> HDPE <input type="checkbox"/> Steel 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 Other: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>15</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic Other: _____	Depth: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input type="checkbox"/> No <b>(If No, Skip to Section 6)</b>				
INDICATOR	CHECK IF PRESENT	DESCRIPTION		COMMENTS
Discharge Structure 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: _____		
Vegitative Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/> Excessive <input checked="" type="checkbox"/> Inhibited		
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____		

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Storm sewer on Overlea Court.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	25-01		
Date of Observation:	9 / 22 / 2020	Time:	3:30 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Inspected manhole in parking lot.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>12</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Parking lot storm sewer manhole. Could not locate catch basin in green space.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___







# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	25-02		
Date of Observation:	9 / 22 / 2020	Time:	3:18pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Woods <input type="checkbox"/> Suburban Residential <input checked="" type="checkbox"/> Commercial Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Inspected catch basin SE of dumpsters.		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input checked="" type="checkbox"/> RCP	<input checked="" type="checkbox"/> Circular <input checked="" type="checkbox"/> Single	Circular Pipe	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> PVC	<input type="checkbox"/> Elliptical <input type="checkbox"/> Double	Dimensions: Dia: <u>15</u> in.	
	<input type="checkbox"/> CMP	<input type="checkbox"/> Box <input type="checkbox"/> Triple	Elliptical Pipe	With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
	<input type="checkbox"/> HDPE	Other: _____ Other: _____	Dimensions: Width: _____ in. Height: _____ in.	
	<input type="checkbox"/> Steel		Depth: _____ ft.	
<input type="checkbox"/> Open Drainage (Channel)	<input type="checkbox"/> Concrete	<input type="checkbox"/> Trapezoid	Top Width: _____ ft.	
	<input type="checkbox"/> Earthen	<input type="checkbox"/> Parabolic	Bottom	
	<input type="checkbox"/> Rip-Rap	Other: _____	Width: _____ ft.	
	<input type="checkbox"/> Other: _____			
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	Description Details: _____

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour	<input type="checkbox"/> 1 - Faint
		<input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas	<input type="checkbox"/> 2 - Easily Detected
		<input type="checkbox"/> Other: _____	<input type="checkbox"/> 3 - Noticeable from a Distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown	<input type="checkbox"/> 1 - Faint Colors
		<input type="checkbox"/> Gray <input type="checkbox"/> Yellow	<input type="checkbox"/> 2 - Somewhat Visible
		<input type="checkbox"/> Green <input type="checkbox"/> Orange	<input type="checkbox"/> 3 - Clearly Visible
		<input type="checkbox"/> Red	
		<input type="checkbox"/> Other: _____	

Water Clarity	<input type="checkbox"/>		<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 checked="" type="checkbox"/> 1- Few or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Parking lot storm sewer.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___





# Dry - Weather Screening Field Observation Form

## Section 1: Background Data

Outfall ID / Location:	29-01		
Date of Observation:	9 / 23 / 2020	Time:	3:18 pm
Name(s) of Investigator(s):	Cory Borton		
Has it rained over 0.10 in. in last 72 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Land Use in Drainage Area (Check all that apply):	<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input checked="" type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> Woods Other: _____ Known Industries: _____		
Notes (e.g. origin of outfall, if known):	Outfall on north side of driveway for 5575 Forman		

## Section 2: Discharge Structure Description

LOCATION	MATERIAL	SHAPE	DIMENSION	SUBMERGED
<input checked="" type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> PVC <input checked="" type="checkbox"/> CMP <input type="checkbox"/> HDPE <input type="checkbox"/> Steel 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 Other: _____ Other: _____	Circular Pipe Dimensions: Dia: <u>24</u> in. Elliptical Pipe Dimensions: Width: _____ in. Height: _____ in.	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"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic Other: _____	Depth: _____ ft. Top Width: _____ ft. Bottom _____ Width: _____ ft.
<input type="checkbox"/> Open Drainage (Channel)				
Is Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>(If No, Skip to Section 5)</b>	
Flow Description (If present)	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	
	Description Details: _____			

## Section 3: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 4)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	RELATIVE SEVERITY INDEX
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/Gas <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 <input type="checkbox"/> 2 - Somewhat Visible <input type="checkbox"/> 3 - Clearly Visible

Water Clarity	<input type="checkbox"/>		<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 or slight; origin not obvious <input type="checkbox"/> 2 - Some; indication of origin (possible suds or oil sheen) <input type="checkbox"/> 3 - some; origin clear (obvious oil sheen, suds, or floating sanitary material)

#### Section 4: Non-Physical Indicators for Flowing Outfalls Only

Are any non - physical indicators present in the flow? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 5)</b>				
INDICATOR	CHECK IF PRESENT	METER READING		RELATIVE SEVERITY INDEX
Ammonia	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Conductivity	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Fluoride	<input type="checkbox"/>			<input type="checkbox"/> 1 - Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Salinity	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
Surfactants	<input type="checkbox"/>			<input type="checkbox"/> 1- Low <input type="checkbox"/> 2 - Medium <input type="checkbox"/> 3 - High
E. Coli	<input type="checkbox"/>			
pH / Temperature	<input type="checkbox"/>	pH Level	Temperature (F)	<input type="checkbox"/> 7 to 0 Increasingly Acidic
				<input type="checkbox"/> 7 to 14 Increasingly Alkaline

#### Section 5: Physical Indicators for Both Flowing and Non-Flowing Discharge Structures

Are any physical indicators that are not related to flow present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>(If No, Skip to Section 6)</b>			
INDICATOR	CHECK IF PRESENT	DESCRIPTION	COMMENTS
Discharge Structure 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: _____	
Vegitative Condition	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Biology	<input type="checkbox"/>	<input type="checkbox"/> Bacterial Sheen <input type="checkbox"/> Algae <input type="checkbox"/> Limes <input type="checkbox"/> Other: _____	

**Section 6: Overall Discharge Characterization**

- Unlikely
- Potential (Presence of two or more indicators)
- Suspect (One or more indicators with a severity of 3)
- Obvious

Comments: Drains Forman Road and overflow for wetland area.

**Section 7: Non-Illicit Discharge Concern (e.g. illegal dumping, spills, trash or needed repairs)**

Comments: \_\_\_\_\_

**Section 8: General Comments**

Comments: \_\_\_\_\_

**Section 9: Reporting Information**

Comments: _____	Date Observed: ___/___/___
_____	Time Observed: _____
Investigated By: _____	Date Reported: ___/___/___



**Appendix B6**

**Canton Township Investigation Records**



OUTFALL INVESTIGATION REPORT

Location: Canton Administration Building

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-7
1. Creek Name: Mott Drain Storm Sewer
  2. Size: 26"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 2" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_

Extent: \_\_\_\_\_

*2021 INSPECTIONS  
were done EARLY  
2022*

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalls \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO





# OUTFALL INVESTIGATION REPORT

Location: Links at Pheasant Run Condos

Section #: 28 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: \_\_\_\_\_

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: 3-6

1. Creek Name: Mott Drain
2. Size: 16"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: 3" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Floodin Park

Section #: 14 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No:  Sunny:  Cloudy: \_\_\_\_\_

- OUTFALL #: 1-5A
1. Creek Name: Fellows Creek
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent: \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Flodin Park

Section #: 14 Photograph #: \_\_\_\_\_ Date: 1-10-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-5B
1. Creek Name: Fellows Creek
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: — (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Sheldon Road Wetland

Section #: 3 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 30 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 1-1
1. Creek Name: Willow Creek
  2. Size: 24"
  3. Material: Metal
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Canton Public Library

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 3-5A
1. Creek Name: Mott Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 3" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton Public Library

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-5 B

1. Creek Name: Mott Drain
2. Size: 12"
3. Material: concrete
4. Flow/Depth on Flow in Pipe: 2" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton Public Library

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CK

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-5C

1. Creek Name: Mott Drain
2. Size: 12"
3. Material: CONCRETE
4. Flow/Depth on Flow in Pipe: 2" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Heritage Park

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

OUTFALL #: 3-4A

1. Creek Name: Mott Drain
2. Size: 10"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None X Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None X Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None X Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None X Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None X Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal X Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None X Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO X





# OUTFALL INVESTIGATION REPORT

Location: Heritage Park

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 3-4B
1. Creek Name: Mott Drain
  2. Size: 16"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Heritage Park

Section #: 21 Photograph #: \_\_\_\_\_ Date: 1-13-22 Crew Initials: CH

Weather: Air temp.: 32° Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-4C

1. Creek Name: Mott Drain
2. Size: 10"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Grounds Maintenance Building

Section #: 2.1 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: \_\_\_\_\_

1. Creek Name: Mott Drain
2. Size: 36"
3. Material: Metal
4. Flow/Depth on Flow in Pipe: 4" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Griffin Park

Section #: 15 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-6A
1. Creek Name: Green Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe:      -      (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Griffin Park

Section #: 15 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No: X Sunny X Cloudy \_\_\_\_\_

- OUTFALL #: 1-6B
1. Creek Name: Green Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 6" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None X Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO X



# OUTFALL INVESTIGATION REPORT

Location: Griffin Park

Section #: 15 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 8° Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-6C
1. Creek Name: Green Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Independence Park

Section #: 19 Photograph #: \_\_\_\_\_ Date: 1-11-22 Crew Initials: CH

Weather: Air temp.: 10 Rain: Yes \_\_\_\_\_ No: X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 3-2
1. Creek Name: Lower Rouge River
  2. Size: 24"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None X Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None X Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None X Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None X Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None X Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal X Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None X Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO X



1 **OUTFALL INVESTIGATION REPORT**

Location: Canton Softball Center

Section #: 33 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CA

Weather: Air temp.: 30° Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 3-8A

1. Creek Name: Rich Drain
2. Size: 12"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

**PHYSICAL DISCHARGE OBSERVATIONS**

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

**ANALYSES**

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES  NO





# OUTFALL INVESTIGATION REPORT

Location: Canton Softball Center

Section #: 33 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 30° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 3-8B
1. Creek Name: Rich Drain
  2. Size: 12"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: - (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Old Human Resources Building

Section #: 34 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 4-4

1. Creek Name: Rich Drain
2. Size: \_\_\_\_\_
3. Material: ~~Concrete~~ under Road Storm Sewer
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Old Township Hall

Section #: 34 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 28° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 4-3

1. Creek Name: Rich Drain
2. Size: 36"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton HR Resources Building

Section #: 18 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 25° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 2-1
1. Creek Name: Lower Rouge River
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Canton DPW

Section #: 3.4 Photograph #: \_\_\_\_\_ Date: 1-14-22 Crew Initials: CH

Weather: Air temp.: 28° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-5
1. Creek Name: Fisher + Leng Drain / McKinstry Drain
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Pleasant Run Golf Course

Section #: 29 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-10
1. Creek Name: Lower Rouge River
  2. Size: 6
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: - (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 29 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-11
1. Creek Name: Lower Rouge River
  2. Size: 24"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 2" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CK

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: 3-13

1. Creek Name: Lower Rouge
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_





OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: \_\_\_\_\_

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No X Sunny X Cloudy \_\_\_\_\_

- OUTFALL #: 3-14
1. Creek Name: Lower Rouge River
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Pleasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CA

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No X Sunny X Cloudy \_\_\_\_\_

OUTFALL #: 3-15

1. Creek Name: \_\_\_\_\_
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: ~~Lower Rouge~~ 3-16
1. Creek Name: Lower Rouge River
  2. Size: 36"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 4" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-17
1. Creek Name: Lower Ridge River
  2. Size: 24
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 4" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-18
1. Creek Name: Lowst Rouge
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont. Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20-29 Photograph #: \_\_\_\_\_ Date: 1-5-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 3-19
1. Creek Name: Lower Rouge
  2. Size: 32"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: 3" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20-29 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: \_\_\_\_\_

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No X Sunny X Cloudy \_\_\_\_\_

OUTFALL #: 3-20

1. Creek Name: Lower Range River
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Pheasant Run Golf Course

Section #: 20-29 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: \_\_\_\_\_

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny  Cloudy \_\_\_\_\_

OUTFALL #: 3-21

1. Creek Name: Lowat Rouge River
2. Size: \_\_\_\_\_
3. Material: \_\_\_\_\_
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_





# OUTFALL INVESTIGATION REPORT

Location: Barchester Park

Section #: ~~11~~ 11 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: CH

Weather: Air temp.: 20° Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-2
1. Creek Name: Willow Creek
  2. Size: 48"
  3. Material: Concrete
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Fire Station #2

Section #: 11 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: CH

Weather: Air temp.: 18 Rain: Yes \_\_\_\_\_ No:  Sunny  Cloudy \_\_\_\_\_

- OUTFALL #: 1-3
1. Creek Name: Tonguish Creek
  2. Size: 3"-4"
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Koppernick Pond

Section #: 12 Photograph #: \_\_\_\_\_ Date: 1-6-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 1-4

1. Creek Name: Tonguish Creek
2. Size: 24"
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: 3" (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



OUTFALL INVESTIGATION REPORT

Location: Freedom Park

Section #: 22 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28° Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: 4-2

1. Creek Name: Mill Drain
2. Size: Storm Sewer M.H.
3. Material: Concrete
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No:  Sunny \_\_\_\_\_ Cloudy:

- OUTFALL #: 4-6
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-7
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-8
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-9
1. Creek Name: Fellows Creek
  2. Size: 9"
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO





OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-12-22 Crew Initials: CH

Weather: Air temp.: 20 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-10
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-11
1. Creek Name: Fellow Creek
  2. Size: 24
  3. Material: concrete
  4. Flow/Depth on Flow in Pipe: 1" (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: ~~25~~ 4-12
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Cont Field*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-13
1. Creek Name: Fellows Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CH

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-14
1. Creek Name: Fellows Creek
  2. Size: 4
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: \_\_\_\_\_ Crew Initials: CF

Weather: Air temp.: 25 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-15
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



# OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

- OUTFALL #: 4-16
1. Creek Name: Fellow Creek
  2. Size: 4"
  3. Material: Plastic
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO



# OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No  Sunny \_\_\_\_\_ Cloudy

OUTFALL #: ~~25~~ 4-17

1. Creek Name: Fellow Creek
2. Size: 6"
3. Material: Plastic
4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

## PHYSICAL DISCHARGE OBSERVATIONS

Odor: None  Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None  Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None  Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None  Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None  Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal  Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None  Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

## ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No  Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO





OUTFALL INVESTIGATION REPORT

Location: Fellows Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CH

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No: X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-18
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_



OUTFALL INVESTIGATION REPORT

Location: Fellow Creek Golf Course

Section #: 25 Photograph #: \_\_\_\_\_ Date: 1-18-22 Crew Initials: CK

Weather: Air temp.: 28 Rain: Yes \_\_\_\_\_ No X Sunny \_\_\_\_\_ Cloudy X

- OUTFALL #: 4-19
1. Creek Name: Fellow Creek
  2. Size: \_\_\_\_\_
  3. Material: \_\_\_\_\_
  4. Flow/Depth on Flow in Pipe: \_\_\_\_\_ (inches)

*Can't Find*

PHYSICAL DISCHARGE OBSERVATIONS

Odor: None \_\_\_\_\_ Sewage \_\_\_\_\_ Sulfide \_\_\_\_\_ Oil \_\_\_\_\_ Gas \_\_\_\_\_ Rancid-sour \_\_\_\_\_ Other \_\_\_\_\_

Color: None \_\_\_\_\_ Yellow \_\_\_\_\_ Brown \_\_\_\_\_ Green \_\_\_\_\_ Red \_\_\_\_\_ Gray \_\_\_\_\_ Other \_\_\_\_\_

Turbidity: None \_\_\_\_\_ Cloudy \_\_\_\_\_ Opaque \_\_\_\_\_

Floatables: None \_\_\_\_\_ Petroleum \_\_\_\_\_ Sheen \_\_\_\_\_ Sewage \_\_\_\_\_ Other \_\_\_\_\_ (collect samples)

Deposits/stains: None \_\_\_\_\_ Sediment \_\_\_\_\_ Oily \_\_\_\_\_ Describe: \_\_\_\_\_ (collect samples)

Vegetation conditions: Normal \_\_\_\_\_ Inhibited growth \_\_\_\_\_ Excessive growth \_\_\_\_\_

Extent: \_\_\_\_\_

Damage to outfall structures:

None \_\_\_\_\_ Concrete cracking \_\_\_\_\_ Concrete Spalling \_\_\_\_\_ Peeling paint \_\_\_\_\_ Metal corrosion \_\_\_\_\_

Other damage: \_\_\_\_\_ Extent \_\_\_\_\_

ANALYSES

Known industrial or commercial uses in drainage area? Yes \_\_\_\_\_ No \_\_\_\_\_ Describe: \_\_\_\_\_

Stream conditions: \_\_\_\_\_

Additional Observations: \_\_\_\_\_

Need to follow up: YES \_\_\_\_\_ NO \_\_\_\_\_

**Appendix C**  
**IDEP Training Records**

Appendix C1. Number of Field Staff by Permittee

Appendix C2. Sign-in Sheets for ARC-Sponsor Training

Appendix C3. Individual Community Training Records

## **Appendix C1**

### **Number of Field Staff by Permittee**

<b>Community</b>	<b>Number of field staff</b>	<b>Number of staff trained at the investigator level</b>	<b>Number of staff trained at observer level</b>
Beverly Hills	10	5	2
Bingham Farms	1	0	1
Birmingham	13	1	10
Bloomfield Hills	5	0	5
Bloomfield Township	27	8	25
Canton Township	22	22	22
Dearborn Heights	30	1	5
Farmington	10	4	5
Farmington Hills	21	8	21
Garden City	23	0	23
Inkster	7	7	7
Lathrup Village	1	1	1
Livonia	65	4	26
Melvindale	8	0	1
Northville	6	2	6
Northville Township	11	11	11
Novi	26	1	17
Oak Park	2	0	2
Plymouth	13	11	11
Plymouth Township	11	10	5
Redford Township	16	8	2
Southfield	40	1	15
Troy	18	4	10
Village of Franklin	0	0	0
Walled Lake	3.5	2	2
Wayne	1	1	1
West Bloomfield Township	28	7	14
Westland	40	6	8
<b>Total</b>	<b>458.5</b>	<b>125</b>	<b>258</b>

## **Appendix C2**

### **Sign-in Sheets for ARC-Sponsor Training**

## Attendee

### Report:

## SEMCOG University: Alert Observer Training

Report

Generated:

11/12/2020

04:06 PM EST

<b>Webinar ID</b>	<b>Actual Date/Time</b>	<b>Start Duration</b>	<b># Registered</b>
988-245-499	11/10/2020 09:32 AM EST	1 hour 30 minutes	195

### Attendees

<b>Interest Rating</b>	<b>Last Name</b>	<b>First Name</b>	<b>Email Address</b>
87	Alexander	Mirandi	malexander2@fhgov.com
91	Ausbury	Rebekkah	mazoocountyroads.com
27	Avigne	April	Avignea@washtenaw.org
88	Bartlett	James	jbartlett@plymouthtp.org
88	Bartoletti	Giordano	Jbartoletti@cityofnovi.org
56	Baumgarten	Terry	baumgartenterry@yahoo.com
85	Bednar	Mary	tontownship-mi.gov
88	Bledsoe	Joe	awaker@fhgov.com
34	Boron	Victor	vboron@cityofnovi.org
76	Borton	Cory	cborton@bloomingfieldtp.org
85	Boyd	Mike	boydm@oakgrove.com
80	Brindley	Mike	mbrindley@plymouthmi.gov
98	Brindley	Levi	brindleyl@oakgov.com
60	Burby	Scott	burbys@wcroatsds.org
88	Butler	Kevin	butlerk@washtenaw.org
84	Carpenter	Jennifer	jd.carp@yahoo.com
86	Carruthers	Scott	scott.carruthers@troymt.gov

44	Cartwright	David	aynecounty.com
77	Chafins	Jacob	chafinsj@porthuron.org
87	Chartier	Jenay	@macombgov.org
86	Chiasson	Michael	chiassonm@oakgov.com
87	Cirilli	Dave	dcirilli@plymouthmi.gov
65	Constantine	Thomas	tconstantine@cityofnovi.org
26	Coykendall	Jennifer	jcoykendall@plymouthmi.gov
73	Cubera	Jim	jcubera@fhgov.com
81	Czernel	Karen	@macombgov.org
87	Dancer	Robert	dancerr@washtenaw.org
88	Dawkins	ShonQuase	sdawkins@fhgov.com
86	Decker	Marc	deckerma@washtenaw.org
75	DiCaro	Sam	sam.dicaro@macombgov.org
89	Donner	Jacob	jdonner@dextermi.gov
79	Dubay	Steve	Sdubay@Hazelpark.org
87	Fadoir	Ron	fadoirr@oakgov.com
67	Fenelon	Mark	fenelonm@wroads.org
89	Fisher	Chad	dschmidt@cityofwayne.com
88	Fox	Casey	cfox@cityofnovi.org
31	Fritz	Charles	cfritz@cityofnovi.org
86	Fry	Michael	frym@washtenaw.org
84	Fults	William	fultsw@washtenaw.org
86	Garrison	Jacy	garrisonj@oakgov.com
43	Goetze	Kristin	kgoetze@waterfordmi.gov



80	Greene	Frederick	fgreene@wayn ecounty.com
56	Griffin	Bob	griffinr@washt enaw.org
86	Griffor	John	john.griffor@m acombgov.org
86	Grill	Bryan	bgrill@bhamgo v.org
87	Gundry	John	ygundry@wayn ecounty.com
87	Haarala	Brandon	bhaarala@ply mouthmi.gov
96	Hanson	Cora	cora_ann@yah oo.com
89	Headley	Jacy	jheadley@cityo fnovi.org
61	Henderson	Jaclyn	hendersonj@w croads.org
85	Hicks	Jessica	macombgov.or g
61	Hodges	Richard	Rhodges@way necounty.com
69	Hohm	Janelle	HOHMJ@MIC HIGAN.GOV
27	Hominga	Lisa	lhominga@ply mouthmi.gov
44	Houle	Becky	houleb@wcroa ds.org
88	Iszler	Elizabeth	eiszler@wayne county.com
81	Johns	Nick	njohns@plymo uthmi.gov
61	Johnston	Neil	ssepointecity.o rg
96	Jones	Constance	jones236@oak land.edu
54	Jurek	Michael	mjurek@bham gov.org
73	KLIMASZEWSKI	JOHN	OFNEWBALTI MORE.ORG
75	Khaldi	Sami	skhaldi@wayn ecounty.com
63	Klang	Jen	klangj@michig an.gov
87	Koehn	Carol	macombgov.or g
44	Kohn	Joel	kohnj@oakgov .com

96	Kosiara	Paul	Kosiarap@scs mi.net
82	Kraft	Ray	rkraft@plymou thmi.gov
84	Kucel	Kenneth	kucelk@detroit mi.gov
88	Laskaska	Austin	alaskaska@ro mulusgov.com
65	Lawson	Jennifer	jlawson@a2go v.org
72	Layton	Trevor	layton@semco g.org
86	Leach	Joshua	jleach@farmgo v.com
75	MITCHELL	SHERYL	smitchell@lath rupvillage.org
76	Mackey	Stephanie	mackeys@oak gov.com
84	Majors	LeDonn	lmajors@wayn ecounty.com
82	Marten	Ken	kmarten@bing hamfarms.org
53	Martinez	Greg	@macombgov. org
88	Matties	James	jmatties@cityof novi.org
83	Mausolf	Michael	mausolfm@oa kgov.com
87	McGaughey	Brendan	bmcgaughey@ bhamgov.org
89	McKinney	John	JMcKinney@ro mulusgov.com
27	McRobb-Ackland	Kelly	kackland@wad etrim.com
34	Merinsky	Robert	rmerinsky@wa terfordmi.gov
87	Micek	Aaron	amichek@plym outhmi.gov
96	Miller	Barry	b.miller@clinto ntownship.com
68	Mills	Jason	ownship- mi.gov
71	Monette	Jeff	monettej@oak gov.com
58	Moore	Doug	dmoore@ci.liv onia.mi.us
80	Murphy	Colin	cmurphy@ply mouthmi.gov

87	Oloughlin	Mike	bminer@cityof allenpark.org
83	Overaitis	Joseph	joveraitis@ply mouthtp.org
80	Pace	Nicholas	npace@romulu sgov.com
87	Pace	Joe	jpace@rivervie wschools.com
89	Paulk	James	jpaulk@cityofn ovi.org
80	Petty	Frederick	fpetty@cityof novi.org
87	Plesiewicz	Larry	plesiewicz1@w croads.org
84	Pollizzi	Tim	pollizzit@roche sterhills.org
88	Powers	Jared	powersj@wcro ads.org
86	Purdy	Lauren	purdyl@wcroa ds.org
65	Reid	Dean	dreid@cityofno vi.org
83	Rice	Heather	riceh@washte naw.org
86	Richardson	Kate	krichardson@c ityofnovi.org
89	Rudd	Nicholas	nrudd@gpshor esmi.gov
68	Salowich	Keith	ksalowich@cit yofnovi.org
50	Schafer	Jim	schaferj@oakg ov.com
86	Schildberg	Megan	schildbergm@ oakgov.com
88	Schneider	Kevin	kschneider@a 2gov.org
39	Selmi	John	born- heights.mi.us
83	Siedlaczek	Brandy	ityofsouthfield. com
88	Sigda	Julie	sigdaj@washte naw.org
89	Skurda	Erik	eskurda@sterli ng-heights.net
88	Snyder	Drew	Dsnyder@cityo fnovi.org
87	Sonck	Natasha	nsonck@fhgov .com

99	Spain	Dakota	spaind@washt enaw.org
86	Squiers	Kathy	squiersk@was htenaw.org
88	Stanley	Christopher	cstanley@cityo fnovi.org
87	Staup	Aaron	astaup@cityof novi.org
76	Stephens	Peter	PStephens@a 2gov.org
96	Stephison	Justin	coolblue221@ gmail.com
46	Stogiera	Jay	jdstogiera@hfc c.edu
83	Streeter	David	streeterd@ewa shenaw.org
78	Sucharski	Lara	@macombgov. org
83	Szyska	Blayn	Dpw@eastchin atownship.org
88	Talbot	John	jtalbot@cityofn ovi.org
87	Tate	Mike	mtate@cityofn ovi.org
89	Taylor	Richard	rtaylor@romul usgov.com
90	Taylor	John	lagebeverlyhills .com
83	Teraglia	Alex	atartaglia@fhg ov.com
86	Thornburg	Joe	jthornburg@fh gov.com
74	Tomocik	Joseph	jtomocik@way necounty.com
87	Tremblay	Gerald	gtremblay@cit yofnovi.org
83	Turner	Robert	ntownship- mi.gov
77	Vancurler	Jeffrey	jvancurler@cit yofnovi.org
86	Varacalle	Bryan	bvaracalle@liv gov.com
57	Venable	Felicia	felicia.venable @fpsk12.net
86	Vitale	Steve	ssepointecity.o rg
51	WOLSCHLEGE R	DAWN	@cityofnewbalt imore.org

89	Way	Michael	mway@gpshor esmi.gov
87	Wenzel	Franklin	eofsouthrockw oodmi.com
88	Whaley	Stephen	whaleys@oakg ov.com
88	Wicker	Micheal	mikewick01@y ahoo.com
83	Wiktorowski	Matt	@cityofnovi.or g
80	hutton III	george	georgehutton3 @gmail.com
	City of Birmingham	Hendricks	Tara
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	City of Birmingham	Jones	Ray
	City of Birmingham	Jones	Stan
	City of Birmingham	Bartley	David
	City of Birmingham	Kowaleski	Pat
	City of Birmingham	DeRoeck	Devin
	City of Birmingham	Leme Sr.	Dominic
	City of Birmingham	DeMaggio	Larry
	City of Birmingham	Aldrich	Derek
	City of Birmingham	Brionchette	Dave
	City of Birmingham	Foloy	Greg
	City of Birmingham	McNab	Brad
	City of Birmingham	Dix	Ron
		Cirilli	Dave
			<a href="mailto:dcirilli@plymouth">dcirilli@plymouth</a>
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			<a href="mailto:rkraft@plymouth">rkraft@plymouth</a>
		Porman	Christopher
			<a href="mailto:cporman@plymo">cporman@plymo</a>
		Brindley	Mike
			<a href="mailto:mbrindley@plym">mbrindley@plym</a>
		Haraala	Brandon
			<a href="mailto:bharaala@plymo">bharaala@plymo</a>

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	Heimstra	Jon	<a href="mailto:jheimstra@plymc">jheimstra@plymc</a>
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City of Livonia	Gabriel	Trisha	tgabriel@ci.livonia
City of Livonia	Moore	Doug	dmoore@ci.livonia
Dearborn Heights	Zain	Wesley	
Dearborn Heights	Push-Haggins	Keir	
Dearborn Heights	Bunker	Floyd	
Dearborn Heights	DeFazio	Joe	
Dearborn Heights	Huynh	Vien	
Dearborn Heights	Leslo	John	
Dearborn Heights	Dombrowski	Jesse	
Dearborn Heights	Winnie	Matt	
Dearborn Heights	Harris	Lerry	
Dearborn Heights	Russ	Mark	
Dearborn Heights	Jackson	David	
Dearborn Heights	Spehar	Paul	
Dearborn Heights	Whitmore	Curtis	
Dearborn Heights	Selmi	John	
Dearborn Heights	Polsinelli	Frank	

Dearborn Heights Dishon	Christopher	
Dearborn Heights Piestrah	Eugene	
Dearborn Heights Watt	Daniel	
Dearborn Heights Kupchick	Ken	
Dearborn Heights Craft	Ben	
Dearborn Heights Bonowski	David	
Dearborn Heights Balckburn	Michael	
Dearborn Heights Sabatini	Joeseph	
Dearborn Heights Roberts	Gerald	
Dearborn Heights Foley	Richard	
McKinney	Jonathan	
Laskaska	Austin	
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Taylor	John	
Kulesza	Timothy	





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# Registration Report

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<b>Webinar Name</b>	<b>Webinar ID</b>
Prevention & Good Housekeeping	784-259-027
<b>Scheduled Start Date</b>	<b>Registered</b>
11/10/2020	134
<b>Scheduled Start Time</b>	<b>Opened Invitation</b>
01:00:00 PM EST	0
<b>Scheduled Duration (minutes)</b>	<b>Clicked Registration Link</b>
75	21

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Mark	Sirls
Justin	Mclaughlin
Lauren	Purdy
Larry	Plesiewicz
Jared	Powers
Jennifer	Carpenter
John	Taylor
Donald	Liniarski
Kenneth	Schindler
Nick	Kammer
Dan	Striks
Mike	Hoffmeyer
Sean	Oswald
Neil	Johnston
Steve	Vitale
John	Segura
Becky	Houle
Mark	Fenelon
Scott	Burby
Noel	Mullett
John	Gundry
Richard	Hodges
Frederick	Greene
Kenneth	Kucel
Jaclyn	Henderson
Elizabeth	Renaud
Jay	Stogiera

Brad  
Duane  
Jacob  
Peter  
Michael  
Trent  
Brandon  
Ray  
Nick  
Dave  
Aaron  
Brian  
Chris  
Mike  
Steve  
Jennifer  
Lisa  
Greta  
Nancy  
Colin  
Joshua  
Blayn  
Jeff  
Chris  
Nick  
Randy  
John  
Sean  
Jeff  
Levi  
Richard  
Nicholas  
Austin  
John  
John  
Casey  
Kathryn  
Giordano  
Thomas  
Robert  
James  
Jeffrey  
Charles  
Dean  
Jacy  
James  
Gerald

Steffens  
Poole  
Donner  
Stephens  
Mausolf  
Kalis  
Haarala  
Kraft  
Johns  
Cirilli  
Micek  
Ronayne  
Porman  
Brindley  
Faiman  
Coykendall  
Hominga  
Bolhius  
Griwicki  
Murphy  
Leach  
Szyska  
Fox  
Shepard  
Watterson  
Raska  
Laughhunn  
Zera  
Monette  
Brindley  
Taylor  
Pace  
Laskaska  
Talbot  
McKinney  
Fox  
Hood  
Bartoletri  
Constantine  
Turner  
Matties  
Vancurler  
Fritz  
Reid  
Headley  
Paulk  
Tremblay

Mike  
Christopher  
Frederick  
Drew  
Doug  
Victor  
Lisa  
Jen  
Cory  
Emily  
Bonnie  
Janelle  
Jeff  
Kelly  
Joe  
Brent  
Aaron  
Mike  
Matt  
Steve  
Kate  
Nicholas  
Cora  
Larry  
Erik  
Michael  
Carl  
Jonathan  
Ashley  
Conner  
Michael  
Laura  
Bryan  
Rod  
Jeff  
Rudy  
Roger  
Lara  
Michael  
Kathy  
Kirk  
Paul  
Bryan  
Tim  
Jacy  
Heather  
Mary

Tate  
Stanley  
Pettey  
Snyder  
Moore  
Boron  
Voelker  
Klang  
Borton  
Campbell  
Krauss  
Hohm  
Peters  
McRobb-Ackland  
Pace  
Florek  
Staup  
Rhatigan  
Wiktorowski  
Dubay  
Richardson  
Rudd  
Hanson  
Sirls  
Skurda  
Way  
Maki  
Smith  
Allen  
Reiter  
Lee  
Hassold Prevot  
Varacalle  
Soos  
Bednar  
Reyes  
Gardner  
Sucharski  
Chiasson  
Squiers  
Miller  
Kosiara  
Babcock  
Pollizzi  
Garrison  
Rice  
Bednar



Edward  
Jacob  
April  
Katherine  
Kristin

JOHN  
Rickelle  
Stephanie

Holley  
Chafins  
Avigne  
Grantham  
Goetze

KLIMASZEWSKI  
Winton  
Taylor

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rkraft@plymouthmi.gov  
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rtaylor@romulusgov.com  
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mrhatigan@cityofnovi.org  
mwiktorowski@cityofnovi.org  
sdubay@hazelpark.org  
krichardson@cityofnovi.org  
nrudd@gpshoresmi.gov  
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taylor@semcog.org

## **Appendix C3**

### **Individual Community Training Records**



## Alert Observer Training

Wednesday, October 27, 2021

PW Training Room

10:30a-11:30a

Name- please print	Signature
Kevin Clark	<i>Kevin Clark</i>
Scott Kahanec	<i>Scott Kahanec</i>
MIKE BRITTON	<i>Mike Britton</i>
Josh Worth	<i>Josh Worth</i>
Jay Herdon	<i>Jay Herdon</i>
John Smith	<i>John Smith</i>
Daniel Bayush	<i>Daniel Bayush</i>
JAMES WEST	<i>James B. West</i>
Isaac Conner	<i>Isaac Conner</i>
Rob Moyers	<i>Rob Moyers</i>
Christian Manley	<i>Christian Manley</i>
Brent Sprague	<i>Brent Sprague</i>
Chris Hanner	<i>Chris Hanner</i>
Anthony Evangelista	<i>Anthony Evangelista</i>
CUET FOSTER	<i>Cuet Foster</i>
Jeffrey Albert Michael (JAM)	<i>Jeffrey Michael</i>
CLINT HALLMAN	<i>Clint Hallman</i>
Jacob Saunders	<i>Jacob Saunders</i>
David Lance Arnold	<i>David Arnold</i>
BRAD BRID	<i>Brad Brid</i>
Ray Hamilton	<i>Ray Hamilton</i>
CAROL KYLE	<i>Carol Kyle</i>



# IDEP Investigator Training

Wednesday, October 27, 2021

PW Training Room

1:00p-3:00p

Name- please print	Signature
BLAND BYND	
Kevin Clark	Kevin Clark
JAMES WEST	James B. West
Jeff McInnes	
Josh Worth	
Jay Herdon	
Dave Arnold	
Josh Smith	
Scott Kahanec	
Christian Manley	Chris Manley
Rob Moyer	Rob Moyer
Brenton Sprague	
Curt Hallman	
Daniel Beyush	
CURT FOSTER	
Jason Connor	
Chris Hanner	
JACOB SAUNDERS	
John Selmi	
Casey Pyle	
Roy Hamilton	





## Pollution Prevention & Good Housekeeping Training

Thursday, October 28, 2021

PW Training Room

10:30a-11:30a

Name- please print	Signature
Kevin Clark	Kevin Clark
Roy Hamilton	Roy Hamilton
CAREE PYLE	CAREE PYLE
DANA	DANA
Brent Sprague	Brent Sprague
Josh Worth	Josh Worth
JACOB SAUNDERS	JACOB SAUNDERS
ROB MOYER	ROB MOYER
HONEY EVANGELISTA	HONEY EVANGELISTA
JAMES WEST	JAMES WEST
CURT FOSTER	CURT FOSTER
Christian Manley	Christian Manley
Chris Hanner	Chris Hanner
Daniel Kayosh	Daniel Kayosh
Josh Smith	Josh Smith
Scott Kihane	Scott Kihane
Jell Michael	Jell Michael
Jason Conner	Jason Conner
Dave Arnold	Dave Arnold
Mike Bittol	Mike Bittol
Clint Hallman	Clint Hallman

## Alex Kozlowski

---

**From:** Alex Kozlowski  
**Sent:** Friday, October 22, 2021 12:25 PM  
**To:** 'Laura Gruzowski'  
**Subject:** RE: SEMCOG IDEP/P2 Virtual Training Opportunities

Hi Laura,

Our Engineering Inspector, Bryant Houfek, is going to attend the Alert Observer and IDEP Investigator training on the 27<sup>th</sup>.

Have a great weekend!

Alex

**From:** Laura Gruzowski <lgruzowski@dlz.com>  
**Sent:** Friday, October 22, 2021 10:04 AM  
**To:** Corey Almas <coreyalmas@madison-heights.org>; Sean Ballantine <seanballantine@madison-heights.org>; Chris Woodward <cwoodward@madison-heights.org>; Justin Kowalski <JustinKowalski@Madison-Heights.org>; Blaine Wing <bwing@rochestermi.org>; Jason Dickinson <JDickinson@rochestermi.org>; Cory Bendick <CBendick@rochestermi.org>; Joe Raona <raonaj@lamphereschools.org>; Patti Wisniewski <wisniewskip@lamphereschools.org>; Ed Haapala <EHaapala@wbtownship.org>; Gary Simpson <GSimpson@wbtownship.org>; Mike Karll <mkarll@villageofmilford.org>; Angie Hiney <ahiney@villageofmilford.org>; cwuerth@villageofmilford.org; David McKee <dmckee@indtwp.com>; David Ziegler <dziegler@indtwp.com>; Jeff Cooper <JCooper@indtwp.com>; Tom Graham <TGraham@indtwp.com>; Kevin Daniels <kdaniels@indetwp.com>; Derek Smith <dosmith@indtwp.com>; Pat Lewis <patrick.lewis@monroemi.gov>; Christopher Schaffer <christopher.schaffer@monroemi.gov>; Bob Dion <rdion@baycitymi.org>; KHausbeck <KHausbeck@baycitymi.org>; rphillips@baycitymi.org; Tim Botzau <tbotzau@baycitymi.org>; rlewandowski <rlewandowski@porthurontownship.org>; Dan Duman <dduman@porthurontownship.org>; Adam Wallace <awallace@porthurontownship.org>  
**Cc:** Alex Kozlowski <AKozlowski@wbtownship.org>  
**Subject:** FW: SEMCOG IDEP/P2 Virtual Training Opportunities  
**Importance:** High

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good morning all –

I just wanted to send a friendly reminder regarding SEMCOG good housekeeping, pollution prevention, and IDEP training opportunities NEXT WEEK. If you and/or your staff are registered, please let me know, so we can track it for progress reporting to EGLE.

Thanks so much and have a great weekend!!

**Laura Gruzowski** | Project Manager

(248) 836-4053 (office) | (248) 207-1797 (cell)  
[lgruzowski@dlz.com](mailto:lgruzowski@dlz.com) | [www.dlz.com](http://www.dlz.com)

---

**From:** Laura Gruzowski  
**Sent:** Thursday, September 30, 2021 1:24 PM

**To:** Corey Almas <[coreyalmas@madison-heights.org](mailto:coreyalmas@madison-heights.org)>; Sean Ballantine <[seanballantine@madison-heights.org](mailto:seanballantine@madison-heights.org)>; Chris Woodward <[cwoodward@madison-heights.org](mailto:cwoodward@madison-heights.org)>; Justin Kowalski <[JustinKowalski@Madison-Heights.org](mailto:JustinKowalski@Madison-Heights.org)>; Blaine Wing <[bwing@rochestertermi.org](mailto:bwing@rochestertermi.org)>; Jason Dickinson <[JDickinson@rochestertermi.org](mailto:JDickinson@rochestertermi.org)>; Cory Bendick <[CBendick@rochestertermi.org](mailto:CBendick@rochestertermi.org)>; Joe Raona <[raonaj@lamphereschools.org](mailto:raonaj@lamphereschools.org)>; Patti Wisniewski <[wisniewskip@lamphereschools.org](mailto:wisniewskip@lamphereschools.org)>; Ed Haapala <[ehaapala@wbtownship.org](mailto:ehaapala@wbtownship.org)>; Gary Simpson <[GSimpson@wbtownship.org](mailto:GSimpson@wbtownship.org)>; Mike Karll <[mkarll@villageofmilford.org](mailto:mkarll@villageofmilford.org)>; Angie Hiney <[ahiney@villageofmilford.org](mailto:ahiney@villageofmilford.org)>; cwuerth@villageofmilford.org; David McKee <[dmckee@indtwp.com](mailto:dmckee@indtwp.com)>; David Ziegler <[dziegler@indtwp.com](mailto:dziegler@indtwp.com)>; Jeff Cooper <[JCooper@indtwp.com](mailto:JCooper@indtwp.com)>; Tom Graham <[TGraham@indtwp.com](mailto:TGraham@indtwp.com)>; Kevin Daniels <[kdaniels@indetwp.com](mailto:kdaniels@indetwp.com)>; Derek Smith <[dosmith@indtwp.com](mailto:dosmith@indtwp.com)>; Pat Lewis <[patrick.lewis@monroemi.gov](mailto:patrick.lewis@monroemi.gov)>; Christopher Schaffer <[christopher.schaffer@monroemi.gov](mailto:christopher.schaffer@monroemi.gov)>; Bob Dion <[rdion@baycitymi.org](mailto:rdion@baycitymi.org)>; KHausbeck <[KHausbeck@baycitymi.org](mailto:KHausbeck@baycitymi.org)>; rphillips@baycitymi.org; Tim Botzau <[tbotzau@baycitymi.org](mailto:tbotzau@baycitymi.org)>; rlewandowski <[rlewandowski@porthurontownship.org](mailto:rlewandowski@porthurontownship.org)>; Dan Duman <[dduman@porthurontownship.org](mailto:dduman@porthurontownship.org)>; Adam Wallace <[awallace@porthurontownship.org](mailto:awallace@porthurontownship.org)>

**Cc:** Alex Kozlowski <[akozlowski@wbtownship.org](mailto:akozlowski@wbtownship.org)>

**Subject:** SEMCOG IDEP/P2 Virtual Training Opportunities

**Importance:** High

Good afternoon all –

I just wanted to pass along some virtual stormwater/pollution prevention/IDEP training opportunities coming up in October. You should be able to click on the blue text below to register for one, two, or three trainings. If you do participate, please let me know, so I can add it to your progress report.

Feel free to reach out if you have any questions.

**Register today for the Virtual Municipal Stormwater  
Trainings**



It is a great time of year to be thinking about how to be an alert observer of illicit discharges. SEMCOG, in partnership with the Partners for Clean Water, will hold a virtual Illicit Discharge Elimination Program and Pollution Prevention training. The virtual trainings will be held October 27 and 28. During these trainings, attendees will learn about signs of illicit discharges, tools for reporting these problems, and how to engage in public outreach on this subject. Attendees will also learn about procedures for municipal facilities, for proper stormwater management and permit compliance. Registration for the three training session can be found below. We hope to see you there!

- Alert Observer Training: October 27, 10:30 – 11:30 AM
- IDEP Investigator Training: October 27, 1:00 – 3:00 PM
- Pollution Prevention & Good Housekeeping Training: October 28, 10:30 – 11:30 AM

## SEMCOG Calendar of Events

### Laura Gruzowski | Project Manager

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*Investigator*  
**IDEP TRAINING WORKSHOP**  
*ARC Members*



NO.	NAME	Affiliation	PHONE	EMAIL	Address
01	Allen, Ashley	Hubbell, Roth & Clark, Inc	248-454 6300	<a href="mailto:ashallen@hrc.com">ashallen@hrc.com</a>	555 Hulet Dr Bloomfield Hills MI 48303
02	Allen, Danielle	Charter Township of Shelby	(586) 731-5990	<a href="mailto:ALLEN.DANIEL@TWP.GOV">ALLEN.DANIEL@TWP.GOV</a>	6333 23 MILE RD Shelby Twp MI 48316
03	Apley, Carol	City of Eastpointe	586 615-3830	<a href="mailto:carol@eastpointe.org">carol@eastpointe.org</a>	17750 Ten Mile Eastpointe MI 48021
04	Bame, Bob	City of Livonia	(734) 466-2705	<a href="mailto:bob@cityoflivonia.org">bob@cityoflivonia.org</a>	12973 Farmington Rd Livonia MI 48150
05	Bartel, Kevin	Redford Township	313-387-2641	<a href="mailto:kbar@redfordmi.gov">kbar@redfordmi.gov</a>	12200 Beech Daly Redford MI 48239
06	Bednar, Jeff	Macomb County Public Works Office	(586) 746 9118	<a href="mailto:jbednar@macomb.gov">jbednar@macomb.gov</a>	21777 Dunham Rd Clinton Twp MI 48036
07	Campbell, Scott	City of Farmington Hills	248-302-4658	<a href="mailto:scottcampbell@fh.org">scottcampbell@fh.org</a>	31555 West Eleven Mile Farmington Hills MI 48336
08	Corney, Gerald	City of Romulus	734-955-8754	<a href="mailto:gerald@romulus.gov">gerald@romulus.gov</a>	12600 Wayne Road Romulus MI 48174
09	Corpenier, Jennifer	KEB Engineering/Commerce	(248) 330 6504	<a href="mailto:jcorpenier@comnet.net">jcorpenier@comnet.net</a>	380 coyote run Holly MI 48442
10	Colins, Rebecca	Hubbell, Roth & Clark, Inc.	248-454-6300	<a href="mailto:rebecca@hrc.com">rebecca@hrc.com</a>	555 Hulet Dr Bloomfield Hills MI 48303
11	Cross, Ron	City of Roseville	586 344 9529	<a href="mailto:rcross@roseville-mi.gov">rcross@roseville-mi.gov</a>	29411 Calahan Roseville MI 48066
12	DeCousin, Joe	Macomb County Health Department	586 469 5236	<a href="mailto:jdecousin@macomb.gov">jdecousin@macomb.gov</a>	4525 Elizabeth Road, Mount Clemens MI 48043
13	Diesing, Eric	Clinton River Watershed Council	248 601 0606	<a href="mailto:eric@crwc.org">eric@crwc.org</a>	1115 W. Avon Rd. Rochester Hills MI 48309
14	Dionne, Gerald	Grosse Ile Township	734 676 4422	<a href="mailto:gdionne@grosseile.com">gdionne@grosseile.com</a>	9601 Groh Grosse Ile MI 48138
15	Enheuser, Mall	Clinton River Watershed Council	248 601 0606	<a href="mailto:mall@crwc.org">mall@crwc.org</a>	1115 W. Avon Rd. Rochester Hills MI 48309
16	Giano, Ryan	Oakland University	(248) 370-4383	<a href="mailto:ryan.giano@oakland.edu">ryan.giano@oakland.edu</a>	411 pioneer dr Rochester MI 48309
17	Ginski, Paul	Huron Charter Township DPW	734 753 9376	<a href="mailto:hginski@huron-twp.org">hginski@huron-twp.org</a>	22950 Huron River Drive Now Boston MI 48164
18	Harden, Yvette	YVA Ann Arbor Healthcare System	(734) 845-3803	<a href="mailto:yvette.harden@va.gov">yvette.harden@va.gov</a>	2215 Fuller Road 001 G Ann Arbor MI 48105
19	Hendricks, Mark	Stromfield Township	248-594-2804	<a href="mailto:mhendricks@stromfield-twp.org">mhendricks@stromfield-twp.org</a>	4200 Telegraph P.O. Box 489 Bloomfield Township MI 48303 0489
20	Hinosola, Jeff	Huron Charter Township DPW	734 753-9673	<a href="mailto:jhinosa@huron-twp.org">jhinosa@huron-twp.org</a>	22950 Huron River Drive Now Boston MI 48164
21	Hoffman, Edwin	City of Livonia	(734) 466-2627	<a href="mailto:edhoffman@livonia.org">edhoffman@livonia.org</a>	12973 Farmington Rd Livonia MI 48150
22	Jobkwy, Drew	City of Eastpointe	586 615-3030	<a href="mailto:drew@eastpointe.org">drew@eastpointe.org</a>	17750 Ten Mile Eastpointe MI 48021
23	Jacobs, Bob	Ira Township	(586) 725-7231	<a href="mailto:bjacobs@ira-twp.org">bjacobs@ira-twp.org</a>	7085 Meldrum Fair Haven MI 48023
24	Jarvi, Eric	Ira Township	(586) 725-7231	<a href="mailto:erj@ira-twp.org">erj@ira-twp.org</a>	7085 Meldrum Fair Haven MI 48023
25	Knifen, Robert	Redford Township	313-387-2641	<a href="mailto:rknifen@redfordmi.gov">rknifen@redfordmi.gov</a>	12200 Beech Daly Redford MI 48239
26	Koester, David	Parl Huron Schools Facilities	810 300-1711	<a href="mailto:dakoester@huron.org">dakoester@huron.org</a>	4035 Dove Rd Parl Huron MI 48040
27	Lane Abby	Clinton River Watershed Council	248-601-0606	<a href="mailto:ablan@crwc.org">ablan@crwc.org</a>	1115 W. Avon Rd. Rochester Hills MI 48309
28	LoPier, Allen	Village of Romeo	586 752 9321	<a href="mailto:allopier@romeo.com">allopier@romeo.com</a>	121 W. St. Clair Romeo MI 48065
29	Loffred, Nick	City of Eastpointe	586 615-3830	<a href="mailto:nloffred@eastpointe.org">nloffred@eastpointe.org</a>	17750 Ten Mile Eastpointe MI 48021
30	Low, John	City of Rochester	586-536-7384	<a href="mailto:jlow@rochester.com">jlow@rochester.com</a>	400 Sixth Street, Rochester MI 48307
31	Maas, Tom	City of Roseville	586 914-4576	<a href="mailto:tmaas@roseville-mi.gov">tmaas@roseville-mi.gov</a>	29411 Calahan Roseville MI 48066
32	Marx, George	Grosse Ile Township	734 676-4422	<a href="mailto:gmarx@grosseile.com">gmarx@grosseile.com</a>	9601 Groh Grosse Ile MI 48138
33	Mathews, Barb	Macomb County Public Works Office	586 466-4016	<a href="mailto:bmathews@macomb.gov">bmathews@macomb.gov</a>	21777 Dunham Rd Clinton Twp MI 48036
34	Mayhew, Greg	City of Taylor	734 374-1473	<a href="mailto:gmayhew@cityoftaylor.org">gmayhew@cityoftaylor.org</a>	25605 Northline Road Taylor MI 48100
35	Miller, Dave	Charter Township of Shelby DPW	(586) 731 5990	<a href="mailto:dml@shelbytwp.org">dml@shelbytwp.org</a>	6333 23 MILE RD Shelby Twp MI 48316
36	Morton, Shaun	Redford Township	313 387-2641	<a href="mailto:smorton@redfordmi.gov">smorton@redfordmi.gov</a>	12200 Beech Daly Redford MI 48239
37	Nostay, Frank	Charter Township of Shelby DPW	(586) 731-5990	<a href="mailto:fnostay@shelbytwp.org">fnostay@shelbytwp.org</a>	6333 23 MILE RD Shelby Twp MI 48316
38	Oswald, Sean	City of Farmington Hills DPW	248 871-2850	<a href="mailto:oswald@fh.org">oswald@fh.org</a>	27245 Hotted Farmington Hills MI 48331
39	Pavucci, Darin	City of Eastpointe	586 615 3830	<a href="mailto:davin@eastpointe.org">davin@eastpointe.org</a>	17750 Ten Mile Eastpointe MI 48021
40	Panish, Pete	City of Farmington Hills DPW	248 871-2850	<a href="mailto:panish@fh.org">panish@fh.org</a>	27245 Hotted Farmington Hills MI 48331
41	Peny, Austin	City of Rochester	586-604-2602	<a href="mailto:apeny@rochester.com">apeny@rochester.com</a>	400 Sixth Street Rochester MI 48307
42	Plank, Craig	City of Romulus	734-955 8754	<a href="mailto:cplank@romulus.com">cplank@romulus.com</a>	12600 Wayne Road Romulus MI 48174
43	Puronen, Dave	Macomb Intermediate School District	586-228 3347	<a href="mailto:dpuronen@msd.net">dpuronen@msd.net</a>	44001 Garfield Clinton Twp MI 48038
44	Richard, Jeremy	Village of Lake Orion	248 520-5597	<a href="mailto:jrichard@lakeorion.org">jrichard@lakeorion.org</a>	21 E. Church St. Lake Orion MI 48362
45	Rochon, Karen	Algonac Community Schools	810-794-9366	<a href="mailto:krochon@csd.us">krochon@csd.us</a>	5200 Tall Rd Algonac MI 48001
46	Sail, Samed	Tri-County Engineering / City of Orchard Lake	810 394 7887	<a href="mailto:sail@tri-county.com">sail@tri-county.com</a>	48701 Hayes Road Shelby Township MI 48315
47	Schulte, Brian	City of Roseville	586 909 0396	<a href="mailto:bschulte@roseville-mi.gov">bschulte@roseville-mi.gov</a>	29411 Calahan Roseville MI 48066
48	Shaddock, Rob	Charter Township of Shelby DPW	(586) 731-5990	<a href="mailto:rshaddock@shelbytwp.org">rshaddock@shelbytwp.org</a>	6333 23 MILE RD Shelby Twp MI 48316
49	Siegel, Kim	Road Commission for Oakland County	248-982-3739	<a href="mailto:ksiegel@ocpc.org">ksiegel@ocpc.org</a>	31001 Lusher Road, Beverly Hills MI 48025
50	Smith, Chris	City of Livonia	(734) 466-2705	<a href="mailto:chris@cityoflivonia.org">chris@cityoflivonia.org</a>	12973 Farmington Rd Livonia MI 48150
51	Smith, Devin	Redford Township	313 387-2641	<a href="mailto:dsmith@redfordmi.gov">dsmith@redfordmi.gov</a>	12200 Beech Daly Redford MI 48239
52	Smith, Shun	Huron Valley Schools	810 964 2597	<a href="mailto:shun@hvmsd.com">shun@hvmsd.com</a>	2390 S. Millard Rd. Highland MI 48357
53	Suchaski, Lara	Macomb County Public Works	586-307-8271	<a href="mailto:lsuchaski@macomb.gov">lsuchaski@macomb.gov</a>	21777 Dunham Rd Clinton Twp MI 48036
54	Theobald, Brian	City of Eastpointe	586 615 3830	<a href="mailto:btheobald@eastpointe.org">btheobald@eastpointe.org</a>	17750 Ten Mile Eastpointe MI 48021
55	Unsworth, Justin	City of Livonia	(734) 466-2705	<a href="mailto:junsworth@cityoflivonia.org">junsworth@cityoflivonia.org</a>	12973 Farmington Rd Livonia MI 48150
56	Verellen, Mitch	Charter Township of Clinton		<a href="mailto:mverellen@clinton-twp.org">mverellen@clinton-twp.org</a>	Clinton Twp
57	Watts, Kyle	Redford Township	313-387-2641	<a href="mailto:kwatts@redfordmi.gov">kwatts@redfordmi.gov</a>	12200 Beech Daly Redford MI 48239
58	Webb, Jerry	Wayne County Land Resource Management	734-326-3936	<a href="mailto:jwebb@waynecountymt.com">jwebb@waynecountymt.com</a>	3600 Commerce Ct., Bldg E, Wayne, MI 48184
59	Wenzel, Arthur	Village of South Rockwood		<a href="mailto:awenzel@villageofsouthrockwood.com">awenzel@villageofsouthrockwood.com</a>	P.O. Box 85 South Rockwood MI 48179
60	Wenzel, Franklin	Village of South Rockwood		<a href="mailto:fwenzel@villageofsouthrockwood.com">fwenzel@villageofsouthrockwood.com</a>	P.O. Box 85 South Rockwood MI 48179
61	Whitten, Tim	City of Walled Lake	248 624 4847	<a href="mailto:twhitten@walledlake.com">twhitten@walledlake.com</a>	1499 E West Maple Rd City of Walled Lake MI 48390
62	Wieler, Jeff	City of Livonia	(734) 466-2705	<a href="mailto:jwieler@cityoflivonia.org">jwieler@cityoflivonia.org</a>	12973 Farmington Rd Livonia MI 48150
63	Winiuk, Claudette	Macomb County Public Works Office	586 307-8269	<a href="mailto:cwiniuk@macomb.gov">cwiniuk@macomb.gov</a>	21777 Dunham Rd Clinton Twp MI 48036
64	Wolgot, Shaun	City of Eastpointe	586 615 3830	<a href="mailto:swolgot@eastpointe.org">swolgot@eastpointe.org</a>	17750 Ten Mile Eastpointe MI 48021
65	Woolston, John	Farmington Public Schools	248-533-7312	<a href="mailto:jwoolston@farmington.k12.mi.us">jwoolston@farmington.k12.mi.us</a>	29350 W 10 Mile Road Farmington Hills MI 48366

**CITY OF FARMINGTON HILLS  
PUBLIC SERVICES  
TRAINING REPORT**

<b>PS.DPW</b>		<u>Code</u>	<u>DESCRIPTION</u>	<u>START DATE</u>	<u>END DATE</u>
COSTEW	JORDAN	idep	Illicit Discharge Elimination Program	09/24/13	09/24/13
DROELLE	DONALD	idep	Illicit Discharge Elimination Program		05/11/10
		idep	Illicit Discharge Elimination Program		03/01/04
EUDY	JOSEPH	idep	Illicit Discharge Elimination Program		04/15/15
		idep	Illicit Discharge Elimination Program		
HARVEY	VINCENT	idep	Illicit Discharge Elimination Program		03/01/04
MCCARTHY	KEVIN	idep	Illicit Discharge Elimination Program		05/11/10
MCDANNEL	CHAD	idep	Illicit Discharge Elimination Program		03/01/07
		idep	Illicit Discharge Elimination Program		04/01/06
PALLOZZI	MICHAEL	idep	Illicit Discharge Elimination Program		03/01/07
PARRISH	PETER	idep	Illicit Discharge Elimination Program		10/18/17
PATTERSON	CHRISTOPHER	idep	Illicit Discharge Elimination Program		04/23/08
		idep	Illicit Discharge Elimination Program		
PICKWORTH	BRYAN	idep	Illicit Discharge Elimination Program		04/23/08
		idep	Illicit Discharge Elimination Program		
RANKIN	JENESSA	idep	Illicit Discharge Elimination Program		03/14/16
RICHEY	DAVID	idep	Illicit Discharge Elimination Program		05/11/10
		idep	Illicit Discharge Elimination Program		03/01/04
SAKSEWSKI	ROBERT	idep	Illicit Discharge Elimination Program		05/11/10
		idep	Illicit Discharge Elimination Program		03/01/04
SWOPE	ANDREW	idep	Illicit Discharge Elimination Program	09/24/13	09/24/13
TAYLOR	JONATHAN	idep	Illicit Discharge Elimination Program		04/23/08
VANVLIET	JOSEPH	idep	Illicit Discharge Elimination Program		04/23/08

**CITY OF FARMINGTON HILLS  
PUBLIC SERVICES  
TRAINING REPORT**

<b>PS.ADM</b>		<u>Code</u>	<u>DESCRIPTION</u>	<u>START DATE</u>	<u>END DATE</u>
GUSHARD	TAMMY	idep	Illicit Discharge Elimination Program		10/13/16
		idep	Illicit Discharge Elimination Program		03/13/06
SONOGA	TYLER	idep	Illicit Discharge Elimination Program	10/27/21	10/27/21
		idep	Illicit Discharge Elimination Program		

**CITY OF FARMINGTON HILLS  
PUBLIC SERVICES  
TRAINING REPORT**

<b>PS.ENG</b>		<u>Code</u>	<u>DESCRIPTION</u>	<u>START DATE</u>	<u>END DATE</u>
ALEXANDER	MIRANDI	idep	Illicit Discharge Elimination Program	10/27/21	10/27/21
AMOLSCH	ETHAN	idep	Illicit Discharge Elimination Program		03/28/06
CAMPBELL	SCOTT	idep	Illicit Discharge Elimination Program		04/12/18
CUBERA	JAMES	idep	Illicit Discharge Elimination Program		03/28/06
DAWKINS	SHONQUASE	idep	Illicit Discharge Elimination Program	10/27/21	10/27/21
DEVERS	SEAN	idep	Illicit Discharge Elimination Program		10/23/19
		idep	Illicit Discharge Elimination Program		10/13/16
GEELHOOD	KRISTINA	idep	Illicit Discharge Elimination Program	10/27/21	10/27/21
SONCK	NATASHA	idep	Illicit Discharge Elimination Program	10/27/21	10/27/21
TARTAGLIA	ALEXANDER	idep	Illicit Discharge Elimination Program	10/27/20	10/27/20
THORNBURG	JOSEPH	idep	Illicit Discharge Elimination Program	10/27/20	10/27/20
WAKER	TIMOTHY	idep	Illicit Discharge Elimination Program		03/13/06



**From:** [Emily Levine](#)  
**To:** [Lisa McGill](#)  
**Subject:** RE: IDEP Training Question  
**Date:** Monday, January 31, 2022 12:18:07 PM  
**Attachments:** [image001.png](#)  
[image003.png](#)  
[image005.png](#)  
[image007.png](#)  
[image009.png](#)  
[image011.png](#)  
[image012.png](#)  
[image013.png](#)  
[image014.png](#)  
[image015.png](#)

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**CAUTION:** This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Lisa,

The attendance records should have been attached to the questionnaire, so I am sorry that that seems to not have worked out. According to the records that I have, in 2020 only one person is on the attendance list with a "farmgov" email address. That was Joshua Leach. Let me know if you have any other questions.

**Emily Levine**

Senior Associate Scientist II | Water Resources  
C: 248.763.1407

<https://www.ectinc.com/>" style='position:absolute;margin-left:3pt;margin-top:0;width:91.4pt;height:36pt;z-index:251659264;visibility:visible;mso-wrap-style:square;mso-width-percent:0;mso-height-percent:0;mso-wrap-distance-left:0;mso-wrap-distance-top:14.4pt;mso-wrap-distance-right:0;mso-wrap-distance-bottom:0;mso-position-horizontal:absolute;mso-position-horizontal-relative:text;mso-position-vertical:absolute;mso-position-vertical-relative:page;mso-width-percent:0;mso-height-percent:0;mso-width-relative:margin;mso-height-relative:page' o:allowoverlap="f" o:button="t">

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**From:** Annette DeMaria <[ademaria@allianceofrougecommunities.com](mailto:ademaria@allianceofrougecommunities.com)>  
**Sent:** Monday, January 31, 2022 8:21 AM  
**To:** Emily Levine <[elevine@ectinc.com](mailto:elevine@ectinc.com)>; Annette DeMaria <[ademaria@ectinc.com](mailto:ademaria@ectinc.com)>  
**Subject:** Fwd: IDEP Training Question

See below.

Chris

----- Forwarded Message -----

**Subject:** IDEP Training Question

**Date:** Fri, 28 Jan 2022 17:24:49 +0000

**From:** Lisa McGill <[lmcgill@farmgov.com](mailto:lmcgill@farmgov.com)>

**To:** [ademaria@allianceofrougecommunities.com](mailto:ademaria@allianceofrougecommunities.com)  
<[ademaria@allianceofrougecommunities.com](mailto:ademaria@allianceofrougecommunities.com)>

Hi Annette!

Hope you are well!

We are working on the IDEP portion of the collaborative plan, and are having a difficult time finding anything showing anyone attended the 2020 IDEP training. There is an e-mail where Chuck said three of the field staff would be able to attend, but nothing proving they actually did. Is there a roster showing who registered as I assume it was virtual?

Any information will be appreciated.

Thank you!

Lisa McGill  
Administrative Assistant  
Department of Public Works  
City of Farmington

## Joshua Leach

---

**From:** Joshua Leach  
**Sent:** Thursday, October 28, 2021 11:30 AM  
**To:** Grantham, Katherine; Osborne, Rebecca  
**Subject:** RE: IDEP Training

Katie,

The following Personnel have viewed the SEMCOG IDEP Training...

### 10/27 Alert Observer Training

Josh Leach  
Tara Pieron  
Chris Jacob  
Greg Young  
Dave Popp  
Chris Guibord

### 10/27 IDEP Investigator Training

Josh Leach  
Chris Jacob  
Greg Young  
Dave Popp  
Chris Guibord

### 10/28

Josh Leach  
Chris Jacob  
Greg Young  
Dave Popp  
Chris Guibord  
Jim Englen  
Marcus Schweisthal  
John Wilson  
Mike Pesavento

Thank you,

Joshua Leach  
Assistant Superintendent of Public Works  
City of Farmington  
33720 West 9 Mile Road  
Farmington, MI 48335  
248-473-7250

Date \_\_\_\_\_ 10-27-21 \_\_\_\_\_

Topic \_Alert Observer Training\_\_\_\_\_

Name	Phone	Email
Ken Marten, Bingham Farms administrator	248-644-0044	<a href="mailto:kmarten@binghamfarms.org">kmarten@binghamfarms.org</a>
Colleen Wayland, Bingham Farms treasurer	248-644-0044	<a href="mailto:cwayland@binghamfarms.org">cwayland@binghamfarms.org</a>
Yevgeniy Malkin, Bingham Farms administrative assistant	248-644-0044	<a href="mailto:admin@binghamfarms.org">admin@binghamfarms.org</a>
Karl Woodard, Bingham Farms code enforcement officer	248-644-0044	<a href="mailto:kwoodard@gmail.com">kwoodard@gmail.com</a>

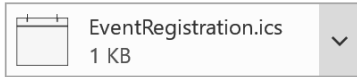


register@semcog.org

Mike Domine

## Registration Confirmation for SEMU Webinar: Pollution Prevention and Good Housekeeping

 Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.



Thanks for registering for SEMU Webinar: Pollution Prevention and Good Housekeeping!

The details of your registration are listed below.

Registrant: Mike Domine ([mdomine@ci.northville.mi.us](mailto:mdomine@ci.northville.mi.us))

Confirmation Number: 41597

Date/Time: 10/28/2021 10:30 AM - 11:30 AM

Location: Zoom

URL: <https://semcog-org.zoom.us/j/86890466628>

### Meeting Registration

1001 Woodward Avenue, Suite 1400

Detroit, MI 48226

Main: 313-961-4266

Visit: [www.semcog.org](http://www.semcog.org)



FIELD STAFF					
FIRST NAME	LAST NAME	DEPT	Status	Last In-House Awareness Training	Investigator Training
Robert	Dragoo	Building Maintenance	Full	6/25/2019	-
Gerald	Keller	Building Maintenance	Full	6/25/2019	-
Patrick	Quinn	Building Maintenance	Full	6/25/2019	
Dean	Begley	Grounds Maintenance	Full	7/24/2018	2014
Hillary	Drotoz	Grounds Maintenance	Full	6/25/2019	2014
Chris	Baroli	Road	Full	6/25/2019	-
Bruce	Carnahan	Road	Full	6/25/2019	-
Sean	Caverly	Road	Full	6/25/2019	-
James	Davis	Road	Full	6/25/2019	2013
Trevor	Fox	Road	Full	7/24/2018	-
Jon	Grigsby	Road	Full	6/25/2019	-
Jeff	Krauskopf	Road	Full	6/25/2019	-
Marco	Nervo	Road	Full	6/25/2019	2014
Duane	Poole	Road	Full	8/1/2018	-
Adam	Roose	Road	Full	6/25/2019	-
Jason	Simpson	Road	Full	6/25/2019	2014
Glenn	Wood II	Road	Full	6/25/2019	2013
Shane	Beslock	Water	Full	6/25/2019	-
Josh	Eubanks	Water	Full	6/25/2019	2014
Rick	Jenkinson	Water	Full	6/25/2019	-
David	Keller	Water	Full	6/25/2019	-
Craig	Lewis	Water	Full	6/25/2019	-
Patrick	McNamara	Water	Full	6/25/2019	2014
Paul	Palace	Water	Full	6/25/2019	-
Steve	Sierota	Water	Full	6/25/2019	-
Conner	McGray	Grounds Maintenance	Part	-	-
Emma	Simpson	Grounds Maintenance	Part		-

TRAINED OFFICE STAFF					
FIRST NAME	LAST NAME	DEPT	Status	Last In-House Awareness Training	Investigator Training
Cory	Borton	EESD	Full	7/24/2018	2020
Mark	Hendricks	EESD	Full	7/24/2018	2017
Angela	Hysinger	EESD	Full	7/24/2018	2018
Charles	Markus	EESD	Full	7/24/2018	2014
Olivia	Olsztyn-Budry	EESD	Full	-	2014
George	Kilpatrick	Building	Full	-	2015
Lance	Scram	Motor Pool	Full	7/24/2018	2015

SEMCOG IDEP ALERT OBSERVOR TRAINING  
10/27/2021

Meeting ID	Topic	Dept.	Start Time	End Time
87200137056	SEMU Webinar: Alert Observer Training		10/27/2021 10:16	10/27/2021 11:22
Name (Original Name)	User Email		Total Duration (Minutes)	Guest
Virtual Meeting	virtualmeeting2@semcog.org			66 No
Annette DeMaria (Annette DeMaria)	ademaria@ectinc.com			62 Yes
Jerome Bivins	jbivins@cityofinkster.com			54 Yes
Steven Melow	smelow@plymouthtpwp.org			54 Yes
	17348916478			53 Yes
Shane R.	rudolphs@rochesterhills.org			54 Yes
Jeremy Gonzales	jagon@umich.edu			53 Yes
michael landis	mlandis@cityofgibraltar.net			54 Yes
Elizabeth Jenkins	ejenkins@romulusgov.com			53 Yes
Tara Pieron	tpieron@farmgov.com			53 Yes
Jonathan Hanak	hanakjon@umich.edu			53 Yes
Jon Allen	jallen@wyandottemi.gov			105 Yes
Matt Kettmann	mkett@umich.edu			53 Yes
robert malek	malekb@oakgov.com	WRC		53 Yes
Ryan Silva	rasilva@umich.edu			53 Yes
Trish Gabriel	tgabriel@livonia.gov			106 Yes
Brian Zybura	bzybura@umich.edu			68 Yes
Mark Benson	mbenson@livgov.com			53 Yes
Timothy Pollizzi	polliziti@rochesterhills.org			53 Yes
Josh Fryd	jfryd@umich.edu			115 Yes
Derek thiel	derekt@grosseile.com			53 Yes
Jay Brummel	jaybrum@umich.edu			50 Yes
Bryan Babcock	babcockb@scsmi.net			53 Yes
ShonQuase Dawkins	sdawkins@fhgov.com			53 Yes
Natasha Sonck	nsonck@fhgov.com			53 Yes
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Gregory Mayhew	gmayhew@wyandottemi.gov			53 Yes
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Michael Lollo	mlollo@umich.edu			53 Yes
Seth Bucholz	bucholz@rochesterhills.org			53 Yes
Jim Schafer	schaferj@oakgov.com	OC Planning		50 Yes
Chad Burke	burkec@kalamazocounty.org			53 Yes
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Kim Hiller	khiller@livingstonroads.org			53 Yes
Robert Conrad	rconrad@ci.dearborn-heights.mi.us			53 Yes
Jeffrey Pipkin	jpipkin@umich.edu			53 Yes
Sherman Potter	potters@portagemi.gov			53 Yes
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Jennifer DePailis	jdepaulis@waynecounty.com			53 Yes
Sean Devers	sdevers@fhgov.com			53 Yes

## SEMCOG IDEP ALERT OBSERVOR TRAINING

10/27/2021

Mark Hendricks	mhendricks@bloomfieldtpw.org		53	Yes
Alizah Mooman	alizabeth.mooman@detroitmi.gov		53	Yes
Nicholas Rudd	nrudd@gpshoresmi.gov		53	Yes
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Philip LaLone	plalone@wbtownship.org		53	Yes
Zachary Harrison	zharrison@kieser-associates.com		53	Yes
Zachary Pumphrey	zpumphrey@plymouthtpw.org		53	Yes
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Paul Clark	pcc@umich.edu		53	Yes
Farmington Hills	conferencecall@fhgov.com		48	Yes
Kristin Weisgerber	weisgerberk@washtenaw.org		53	Yes
Anna Timmis	anna.timmis@detroitmi.gov		53	Yes
Paul Dunlop	pdunlop@umich.edu		52	Yes
Jason Mills	j.mills@clintontownship-mi.gov		53	Yes
Michael Way	mway@gpshoresmi.gov		53	Yes
Karl Woodard	karlwoodard@gmail.com		52	Yes
Dana Wilkinson	danawilk@umich.edu		52	Yes
Dharmesh Joshi	shivdhar@umich.edu		52	Yes
Scott Zielinski	szielinski@bhamgov.org		52	Yes
Brad McNab	bmcnab@bhamgov.org		52	Yes
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Ken Marten	kmarten@binghamfarms.org		52	Yes
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Laura Hassold Prevot	lhassoldprevot@rcoc.org		52	Yes
Alec Staten	astaten@romulusgov.com		52	Yes
Randy Krueger	rkrueger@plymouthtpw.org		52	Yes
Danielle Devlin	danielle.devlin@macombgov.org		52	Yes
Scott Miller	millers@washtenaw.org		52	Yes
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Mirandi Alexander	malexander2@fhgov.com		52	Yes
Evan Falkner	evanfalkner@hotmail.com		52	Yes
lisa wallick	lisa.wallick@detroitmi.gov		46	Yes
john klimaszewski	nbdps@cityofnewbaltimore.org		51	Yes
City of Ecorse	eanderson@ecorsemi.gov		44	Yes
Brett Goecke	bgoecke@umich.edu		39	Yes
HANNAH SMITH	hmsmi@umich.edu		42	Yes
Konnor Seyfried	kseyf@umich.edu		47	Yes
John Wright	jwtwright@schoolcraft.edu		53	Yes
Adam Kulinski	korinnt@hotmail.com		52	Yes
Autumn House	housea@washtenaw.org		52	Yes
Kristina Crimmins	kcrimmins@fhgov.com		52	Yes
mike grima	grimam@gischools.org		52	Yes
Spencer Kitchen	spencerkitchen@gmail.com		52	Yes
Patrick Lewis	patrick.lewis@monroemi.gov		52	Yes
Joe Stark	wjstark@umich.edu		52	Yes
Tom Klapp	t.klapp@clintontownship-mi.gov		52	Yes
Mary Bednar	m.bednar@clintontownship-mi.gov		51	Yes
Eric Menzies	publicservices@walledlake.com		51	Yes
Kyle DeKeyser	kyledek@umich.edu		51	Yes
Dave Rothermal	dlrothermal@wyandottemi.gov		51	Yes
Paul Kosiara	kosiarap@scsmi.net		51	Yes
Stephen O'Rielly	sorielly@umich.edu		51	Yes
Chris Shepard	shepardc@rochesterhills.org		51	Yes
Brian Welch	bpwelch@umich.edu		51	Yes
Sarah Stoolmiller	sarah.stoolmiller@detroitmi.gov		51	Yes
Jamie Harmon	harmony@portagemi.gov		51	Yes



SEMCOG IDEP ALERT OBSERVOR TRAINING  
10/27/2021

Jenny Scherer	jensch@umich.edu		51 Yes
Gary Streight	streightg@wccroads.org		51 Yes
Mark McCulloch	mccullochm@wccroads.org		51 Yes
Russ George	georger@rochesterhills.org		51 Yes
Barry Brown	barry.brown@detroitmi.gov		51 Yes
Pamela Rutter	pkoczman@umich.edu		51 Yes
Syed Ali	syed.ali@detroitmi.gov		51 Yes
Yevgeniy Malkin	admin@binghamfarms.org		51 Yes
sokoni Howard	sokoni.howard@detroitmi.gov		51 Yes
Emily Levine	elevine@ectinc.com		50 Yes
David Chung	dps1@lathrupvillage.org		50 Yes
Ian	ian.tamm@detroitmi.gov		50 Yes
Steve Fisher	spfisher@umich.edu		53 Yes
Matthew Fiems	mfiems@waynecounty.com		50 Yes
Devyn McNaughton	devyn.mcnaughton@detroitmi.gov		50 Yes
Chris Onsted	gconsted@umich.edu		50 Yes
Hannah Slabaugh	hannah.slabaugh@detroitmi.gov		50 Yes
Jacy Garrison	garrisonj@oakgov.com	WRC	50 Yes
Mackenzey Shega-Fox	mackenzey.shega-fox@detroitmi.gov		49 Yes
Anyah Preston	aapres@kalcounty.com		50 Yes
Brian Martin	bmartin@wyandottemi.gov		49 Yes
Matthew Repka	repka@umich.edu		49 Yes
Aaron Brunson	aaron.thomas@detroitmi.gov		49 Yes
Ty Patton	typatton@umich.edu		49 Yes
City of Utica# DPW	dpw@cityofutica.org		13 Yes
Paul Banks	pbanks@romulusgov.com		48 Yes
Daniel Knight	dcknight@umich.edu		47 Yes
Michael Buiten	mbuiten@ci.wayne.mi.us		47 Yes
RAMI SWEIDAN	rsweidan@lathrupvillage.org		44 Yes
Brandy Siedlaczek	bsiedlaczek@cityofsouthfield.com		42 Yes
Jessica DiMilia	dimiliaj@michigan.gov		42 Yes
Kate Purpura	kpurpura@cityofnovi.org		40 Yes
Joseph Mayhew	jmayhew@wyandottemi.gov		40 Yes
Colleen Wayland	cwayland@binghamfarms.org		37 Yes
James Cubera	jcubera@fhgov.com		35 Yes
Scott Campbell	scampbell@fhgov.com		34 Yes
Bryant Barber	barberbryant670@gmail.com		30 Yes
Sarah Stoolmiller	sarah.stoolmiller@detroitmi.gov		
Devyn McNaughton	Devyn.McNaughton@detroitmi.gov		
Mackenzey Shega-Fox	ackenzey.shega-fox@detroitmi.gov		
Hannah Slabaugh	Hannah.slabaugh@detroitmi.gov		
Mohamed Boudali	<a href="mailto:Mohamed.boudali@detroitmi.gov">Mohamed.boudali@detroitmi.gov</a>		
Mohammed Siddique	Mohammed.siddique@detroitmi.gov		
Jason Mills	<a href="mailto:jasondmills@netscape.net">jasondmills@netscape.net</a>		
	<a href="mailto:shepardc@rochesterhills.org">shepardc@rochesterhills.org</a>		

SEMCOG IDEP INVESTIGATOR TRAINING  
10/27/2021

Meeting ID	Topic	Dept.	Start Time	End Time
	84416846507 SEMU Webinar: IDEP Investigator Training		10/27/2021 12:45	10/27/2021 14:48
Name (Original Name)	User Email	Total Duration (Minutes)	Guest	
City of Ecorse	eanderson@ecorsemi.gov	96	Yes	
Virtual Meeting	virtualmeeting2@semcog.org	123	No	
Annette and Sue (Annette DeMaria)	ademaria@ectinc.com	123	Yes	
Joel Kohn - Oakland County Water Resources (Joel Kohn)	kohnj@oakgov.com	122	WRC	Yes
Ron Fadoir	fadoirr@oakgov.com	109	WRC	Yes
Landis Michael	mlandis@cityofgibraltair.net	109	Yes	
Kraig Hohf	khohf@cityofmarysvillemi.com	109	Yes	
Alec Staten	astaten@romulusgov.com	109	Yes	
Shane Rudolph	rudolphs@rochesterhills.org	112	Yes	
Jacy Garrison	garrisonj@oakgov.com	109	WRC	Yes
Rebecca Eggert	ammond@oakgov.com	327	OC Parks	Yes
Elizabeth Jenkins	ejenkins@romulusgov.com	109	Yes	
	12483436224	109	Yes	
Paul Banks	pbanks@romulusgov.com	109	Yes	
Matt Parady	pardym@oakgov.com	104	OC Parks	Yes
Trish Gabriel	tgabriel@livonia.gov	209	Yes	
Dana Wilkinson	danawilk@umich.edu	109	Yes	
Tyler Sonoga	tsonoga@fhgov.com	109	Yes	
Mark Benson	mbenson@livgov.com	109	Yes	
Cory Borton	cborton@bloomfieldtpw.org	109	Yes	
	12486221004	17	Yes	
mike grima	grimam@gischools.org	109	Yes	
Mark Hendricks	mhendricks@bloomfieldtpw.org	109	Yes	
Patrick Lewis	patrick.lewis@monroemi.gov	109	Yes	
Mitchell Verellen	m.verellen@clintontownship-mi.gov	109	Yes	
john m miller	millerj@wcroads.org	109	Yes	
Timothy Pollizzi	polliziti@rochesterhills.org	109	Yes	
Joshua Leach	jleach@farmgov.com	109	Yes	
Jim Schafer	schaferj@oakgov.com	108	OC Planning	Yes
Ryan Ferrell	rferrell@ci.dearborn.mi.us	89	Yes	
Eric Menzies	publicservices@walledlake.com	109	Yes	
Mike Lee	dpw@cityoforchardlake.com	109	Yes	
Dan Samuel	dsamuel@oakparkmi.gov	109	Yes	
Michael Scott	scottm@clintondaleschools.net	109	Yes	
Tara Hendricks	thendricks@kalamazoocountyroads.com	109	Yes	
Daniel Hamann	dhamann@plymouthtpw.org	109	Yes	
Zachary Harrison	zharrison@kieser-associates.com	109	Yes	
Bryant Houfek	bhoufek@wbtownship.org	109	Yes	
Brad Lear	blear@tpw.northville.mi.us	109	Yes	
Scott Managhan	managhans@kalamazoocity.org	109	Yes	
Jason Mills	j.mills@clintontownship-mi.gov	109	Yes	
Jennifer DePailis	jdepaulis@waynecounty.com	109	Yes	
Gary Hernandez	ghernandez@wbtownship.org	109	Yes	
Mike Boyd	boydm@oakgov.com	109	OC Parks	Yes
Nicholas Rudd	nrudd@gpshoresmi.gov	109	Yes	
John Kosco	jkosco@umich.edu	109	Yes	
Sean Zera	zeras@oakgov.com	109	OC Parks	Yes
Derek thiel	derekt@grosseile.com	109	Yes	
James Cubera	jcubera@fhgov.com	109	Yes	
Natasha Sonck	nsonck@fhgov.com	109	Yes	
Adam Kulinski	akulinski@villageofmilford.org	109	Yes	
Evan Falkner	evanfalkner@hotmail.com	109	Yes	
Mary Bednar	m.bednar@clintontownship-mi.gov	109	Yes	
Ryan	rpm242003@yahoo.com	109	Yes	
Zachary Pumphrey	zpumphrey@plymouthtpw.org	109	Yes	
Jamie Harmon	harmonj@portagemi.gov	109	Yes	
Anthony Shourds	tshourds@umich.edu	56	Yes	
ShonQuase Dawkins	sdawkins@fhgov.com	109	Yes	
Kathleen McDonald	kathmcd@umich.edu	109	Yes	
DJ Coffey	coffeyd@oakgov.com	109	OC Parks	Yes
Sherman Potter	potters@portagemi.gov	109	Yes	
Jennifer Wilson	jwilson@oakparkmi.gov	109	Yes	
Zachary Crane	cranez@oakgov.com	109	OC Parks	Yes
Philip LaLone	plalone@wbtownship.org	109	Yes	
Anna Timmis	anna.timmis@detroitmi.gov	109	Yes	

SEMCOG IDEP INVESTIGATOR TRAINING  
10/27/2021

Joseph Overaitis	joveraitis@plymouthtp.org		109	Yes
David Nelson	dnelson@plymouthtp.org		109	Yes
Mirandi Alexander	malexander2@fhgov.com		109	Yes
Danielle Devlin	danielle.devlin@macombgov.org		109	Yes
Loggandinsemcog.com	jthomas@plymouthtp.org		109	Yes
Carrie Loya-Smalley	csmalley@benesch.com		109	Yes
James Scholten	jscholten@plymouthtp.org		109	Yes
DPWCrew	smelow@plymouthtp.org		109	Yes
Doug Varney	dvarney@southlyonmi.org		109	Yes
Randy Krueger	rkrueger@plymouthtp.com		109	Yes
Shayne Skolnik	skolniks@oakgov.com	OC Parks	109	Yes
Seth Bucholz	bucholz@rochesterhills.org		109	Yes
John Selmi	john.selmi@canton-mi.org		491	Yes
Alizah Mooman	alizah.mooman@detroitmi.gov		109	Yes
Syed Ali	syed.ali@detroitmi.gov		109	Yes
Chad Burke	burkec@kalamazocity.org		109	Yes
Jon Allen	jallen@wyandottemi.gov		90	Yes
Mark McCulloch	mccullochm@wroads.org		106	Yes
Thomas Rymza	rymszat@oakgov.com	OC Parks	108	Yes
Mark Gaworecki	mgaworecki@ci.dearborn.mi.us		108	Yes
Stephanie Petriello	petriellos@oakgov.com	WRC	108	Yes
Emily Levine	elevine@ectinc.com		108	Yes
Barry Brown	barry.brown@detroitmi.gov		107	Yes
Michael Belcher	belchem@wbsdweb.com		108	Yes
Chris Shepard	shepardc@rochesterhills.org		108	Yes
Kelly Karll	karll@semcog.org		40	Yes
Mackenzey Shega-Fox	mackenzey.shega-fox@detroitmi.gov		108	Yes
Jeremy Brown	brownjd@oakgov.com	OC Parks	108	Yes
Sean Devers	sdevers@fhgov.com		108	Yes
Michael Way	mway@gpshoresmi.gov		108	Yes
Gary Streight	streightg@wroads.org		108	Yes
Jody Lynn Mathias	jlschaub@umich.edu		107	Yes
Kristina Crimmins	kcrimmins@fhgov.com		110	Yes
Gregory Mayhew	gmayhew@wyandottemi.gov		107	Yes
Jessica Slagter-Enaohwo	enaohwoj@kalamazocity.org		107	Yes
Laura Hassold Prevot	lhassoldprevot@rcoc.org		107	Yes
Robert Conrad	rconrad@ci.dearborn-heights.mi.us		107	Yes
Al Loebach	aloebach@ci.dearborn.mi.us		107	Yes
Spencer Kitchen	spencerkitchen@gmail.com		107	Yes
Aaron Brunson	aaron.thomas@detroitmi.gov		107	Yes
Jerome Bivins	jbivins@cityofinkster.com		96	Yes
Jesus Plasencia	jplasencia@wyandottemi.gov		107	Yes
Michael Buiten	mbuiten@ci.wayne.mi.us		107	Yes
Scott Campbell	scampbell@fhgov.com		107	Yes
Stephen O'Rielly	sorielly@umich.edu		106	Yes
john klimaszewski	nbdds@cityofnewbaltimore.org		106	Yes
Kate Purpura	kpurpura@cityofnovi.org		106	Yes
sokoni Howard	sokoni.howard@detroitmi.gov		106	Yes
Bryant Barber	bryant.barber@detroitmi.gov		102	Yes
Ian	ian.tamm@detroitmi.gov		105	Yes
	18104597736		104	Yes
Scott Zielinski	szielinski@bhamgov.org		103	Yes
Hannah Slabaugh	hannah.slabaugh@detroitmi.gov		100	Yes
David Chung	dps1@lathrupvillage.org		100	Yes
Ryan Stamper	rstamper@romulusgov.com		94	Yes
Darlene Rowley	rowleyd@oakgov.com	OC Parks	93	Yes
Kassim Mc Neil	kmcneil@romulusgov.com		80	Yes
Mark Adams	adamsmaj@oakgov.com	OC Parks	85	Yes
LaToria Joyce	ljoyce@cityofinkster.com		65	Yes
jason dickinson	jdickinson@rochestermi.org		74	Yes
Derick Coley	dcoley@waynecounty.com		63	Yes
RAMI SWEIDAN	rsweidan@lathrupvillage.org		39	Yes
Mohammad Siddique	mohammad.siddique@detroitmi.gov		3	Yes
Sarah Stoolmiller	sarah.stoolmiller@detroitmi.gov			
Devyn McNaughton	Devyn.McNaughton@detroitmi.gov			
Mackenzey Shega-Fox	ackenzey.shega-fox@detroitmi.gov			
Hannah Slabaugh	Hannah.slabaugh@detroitmi.gov			
Mohamed Boudali	Mohamed.boudali@detroitmi.gov			
	shepardc@rochesterhills.org			



**SEMCOG**

Southeast Michigan Council of Governments

**Developing Regional Solutions**

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Giordano Bartoletti**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelly C. Karel*

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licensure, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



**SEMCOG**

Southeast Michigan Council of Governments

**Developing Regional Solutions**

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

# Pollution Prevention and Good Housekeeping Training

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Giordano Bartoletti**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

Kelly C. Kavel

Notes:

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licensure, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.

**Continuing Professional Development Activity Certificate of Completion**

In recognition of successful completion of the following Professional Development Activity:

**IDEP Alert Observer Training**

November 10, 2020

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Tom Constantine**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelley C. Kase*

Notes:

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional license, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



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Southeast Michigan Council of Governments

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**Continuing Professional Development Activity Certificate of Completion**

In recognition of successful completion of the following Professional Development Activity:

**Pollution Prevention and Good Housekeeping Training**

November 10, 2020

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Tom Constantine**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelley C. Kase*

Notes:

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional license, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



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Southeast Michigan Council of Governments

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## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Casey Fox**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed  
the course and is entitled to PDHs as indicated

Kelly C. Karel

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licenture, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.





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## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

# Pollution Prevention and Good Housekeeping Training

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Casey fox**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

Kelly C. Karll

### Notes:

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licenture, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



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Southeast Michigan Council of Governments

**Developing Regional Solutions**

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Charles A. Fritz**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

Kelly C. Karll

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licensure, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



**SEMCOG**

Southeast Michigan Council of Governments

**Developing Regional Solutions**

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

# Pollution Prevention and Good Housekeeping Training

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Charles A. Fritz**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelly C. Karvell*

Notes:

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licensure, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



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Southeast Michigan Council of Governments

*Developing Regional Solutions*

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Jacy Headley**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelly C. Karel*

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licensure, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



**SEMCOG**

Southeast Michigan Council of Governments

**Developing Regional Solutions**

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **Pollution Prevention and Good Housekeeping Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Jacy Headley**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed  
the course and is entitled to PDHs as indicated

*Kelly C. Karll*

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licensure, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



**SEMCOG**

Southeast Michigan Council of Governments

**Developing Regional Solutions**

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: James Matties**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

Kelly C. Karel

Notes:

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licenture, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



**SEMCOG**

Southeast Michigan Council of Governments

*Developing Regional Solutions*

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

# Pollution Prevention and Good Housekeeping Training

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: James Matties**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelly C. Karel*

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
3. It is the responsibility of the attendee to select PDH activities that are relevant to the attendee's professional licenture, in accordance with their licensing agency's rules.
4. It is the responsibility of the attendee to retain this record for their use in proving their attendance at the above noted activity. The provider does not plan to keep records of who attended what activity.



**SEMCOG**

Southeast Michigan Council of Governments

*Developing Regional Solutions*

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Jim Paulk**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed  
the course and is entitled to PDHs as indicated

*Kelly C. Karll*

**Notes:**

1. This certificate must be accompanied by a description or outline of the activity supplied by the Provider.
2. This form is to be used to claim Professional Development Hours (PDHs) for attendance at an educational program, panel, or tutorial session.
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**SEMCOG**

Southeast Michigan Council of Governments

*Developing Regional Solutions*

## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

# Pollution Prevention and Good Housekeeping Training

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Jim Paulk**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed  
the course and is entitled to PDHs as indicated

*Kelly C. Karll*

### Notes:

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## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Fred petty**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed  
the course and is entitled to PDHs as indicated

Kelly C. Karel

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***Developing Regional Solutions***

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**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Fred petty**

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Kelly C. Karel

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In recognition of successful completion of the following Professional Development Activity:

**IDEP Alert Observer Training**

November 10, 2020

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Dean Reid**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelly C. Kane*

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November 10, 2020

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Dean Reid**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelley C. Koval*

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## Continuing Professional Development Activity Certificate of Completion

In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Drew Snyder**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

Kelly C. Karll

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**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Drew Snyder**

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In recognition of successful completion of the following Professional Development Activity:

### **IDEP Alert Observer Training**

**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Chris Stanley**

**Who is awarded credit for completing 1 hours of professional development activity.**

I certify that the above Participant has completed the course and is entitled to PDHs as indicated

*Kelly C. Kavel*

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**Was completed by: Chris Stanley**

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**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Mike Tate**

**Who is awarded credit for completing 1 hours of professional development activity.**

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Kelly C. Kavel

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**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Mike Tate**

**Who is awarded credit for completing 1 hours of professional development activity.**

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**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Gerald Tremblay**

**Who is awarded credit for completing 1 hours of professional development activity.**

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**November 10, 2020**

**Provided by: Southeast Michigan Council of Governments**

**Was completed by: Jeff Van Curler**

**Who is awarded credit for completing 1 hours of professional development activity.**

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Date 10/26/21

Topic Pollution Prevention and Good Housekeeping

Name	Phone	Email
David Chung	248-720-9806	dps1@lathrupvillage.org



Date 10/27/21

Topic SEMU Webinar: Alert Observe Training

Name	Phone	Email
David Chung	248-720-9806	dps1@athrupvillage.org

Date 10/27/21

Topic Illicit Discharge Elimination Program Investigator Training

Name	Phone	Email
David Chung	248-720-9806	dps1@lathrupvillage.org



Department of Public Services

IDEP/ Stormwater Illicit Discharge Alert/Observer

10/27/2021

PRINT NAME	SIGNATURE	DIVISION (CIRCLE )	
MICHAEL HUOT		PARKS	SSW
Adam Bouse		PARKS	SSW
Brenden Meredith		PARKS	SSW
Timothy Davis		PARKS	SSW
Bryan Gulke		PARKS	SSW
Dan Hohn		PARKS	SSW
Colin Quackenbush		PARKS	SSW
Brent Jackson		PARKS	SSW
		PARKS	SSW
		PARKS	SSW
		ARENA	GOLF

Date \_\_\_\_10/27/21\_- 10/28/21\_\_\_\_

Topic \_\_\_\_Alert Observer,\_ IDEP Investigator,\_ Pollution Pervation & Good Housekeeping\_\_\_\_

Name	Phone	Email
Scott Zielinski (all)	248-530-1838	szielinski@bhamgov.org
Chris Morton (alert Obs only)	248-530-1835	cmorton@bhamgov.org

## **Appendix D**

### **Pollution Complaint Documentation**

Appendix D1. Bloomfield Township Pollution Complaint Documentation

Appendix D2. Canton Township Pollution Complaint Documentation

Appendix D3. Farmington Pollution Complaint Documentation

Appendix D4. Novi Pollution Complaint Documentation

Appendix D5. Oakland County Pollution Complaint Documentation

Appendix D6. Plymouth Township Pollution Complaint Documentation

Appendix D7. Wayne County Pollution Complaint Documentation

Appendix D8. City of Wayne Pollution Complaint Documentation

**Appendix D1**

**Bloomfield Township Pollution Complaint Documentation**

**BLOOMFIELD TOWNSHIP - IDEP CONCERN LOG & SUMMARY, January 2020 thru December 2021**

Sidwell Number	Address	Date	Description of Concern	Date referred to OCHD	Sewer Available	EESD Investigation Notes/Comments	Type
19-18-279-002	3821 Lakeland Lane	6/17/2020	Homeowner called in about a blue/green coloring to the lake.	NA	NA	O. Olsztyn-Budry went out and documented conditions. Fire Department responded also. Documentation was completed and included in project file. PEAS hotline notified. Neighb property owner indicated that Inland Waters had treated the lake a day or two before. OCWRC was notified. <b>Status: No further action required.</b>	Lake Treatment
1912477011	3371 Westchester Road	7/12/2020	Old underground fuel tank on property spilled across property and neighboring properties during property redevelopment.		Yes	An unknown fuel oil tank on property overflowed during rain storm (rain water entered tank) and flowed across several properties. Property under redevelopment. Fire Department called to property and EGLE notified. Builder hired PM Environmental to determine extent of spill, remove the contaminated soil, and restore the properties. EGLE verified submittal of final report. <b>Status: No further action required.</b>	Spill
19-24-302-005	5050 Brookdale Road	9/21/2020	Resident observed paint in nearby creek	NA	Yes	EGLE forwarded PEAS complaint of paint in a nearby creek. House under construction and the wash tub was incorrectly outletting to the sump pump and outlets to neighboring creek. Ordinance Department visited property and witnessed disconnection from sump and connection to sanitary. <b>Status: No further action required.</b>	Illicit Connection
19-18-303-071	1904 Pine Ridge Court	12/22/2020	2020 IDEP sampling revealed elevated E. coli in storm sewer	NA	Yes	Dye Tested condo units and discovered that 1904 Pine Ridge Court was incorrectly tied into the storm sewer and not the sanitary sewer. Issued Township letter requiring the correction. <b>Status: Repair ongoing.</b>	Illicit Connection
-	Beverly Hills	12/22/2020	Notification from OCWRC that green dye was seen in a stream southeast of the Township.	NA	NA	Worked with Joel Kohn of OCWRC and Annette DeMaria of ARC to locate source of green dye in stream. Came from dye testing of house on Long Bow Court in Beverly Hills. <b>Status: No further action required</b>	Dye in Stream
-	Upper Long Lake Estates	1/4/2021	OCWRC contacted by resident regarding use of road salt within development.	NA	Yes	Ron Cousineau of the Upper Long Lake-Lake Board called OCWRC regarding the use of road salt within Upper Long Lake Estates. He wanted to be sure too much is not being used. Bloomfield Township uses brine to reduce the amount of salt used, and only uses the amount necessary. <b>Status: No further action required.</b>	Road Salt
19-09-400-041	228 Orange Lake Road	4/27/2021	Property owner at the neighboring property at 3035 Croft way reported sludge oozing out of ground.	4/28/2021	Yes	Contacted OCHD and met them onsite. Talked to renters of property and added dye to kitchen sink. Dye appeared the next day where the sludge was coming from the ground. OCHD issued violation letter and property owner connected to sanitary sewer. <b>Status: No further action required.</b>	Failing septic

Sidwell Number	Address	Date	Description of Concern	Date referred to OCHD	Sewer Available	EESD Investigation Notes/Comments	Type
19-09-301-051	3325 Franklin Road	4/27/2021	Visiter to EL Johnson Nature Center reported oil sheen in stream.	NA	Yes	Resident contacted both Bloomfield Township and OCWRC regarding what appeared to be stagnant water and sheen in stream that flows through the EL Johnson Nature Preserve. Township staff visited site and walked along stream. The water level in the stream was much lower than usual and any shees observed seemed to be from iron bacteria from ground water seeps. <b>Status: No further action required.</b>	Natural sheen on water
19-11-276-013	2901 Woodcreek Way	6/30/2021	Resident contacted OCHD regarding Dan Devine Drain behind house is clogged and neighbor blows leaves into drain and pumps water from it. Also saw foam in stream.	6/30/2021	Yes	Complaint to OCHD was forwarded to the Bloomfield Township Ordinance Department and Ron Fadoir at OCWRC since the Dan Devine Drain is an Oakland County Drain. Ordinance Officer and OCHD visited site did not observe any foam in water or signs of illicit discharges or yard waste dumping. Some tree branches within drain. Ordinance Department sent letter to property owner to clean out debris. <b>Status: No further action required</b>	Yard waste in County Drain.
19-11-226-010	893 Foxhall Road	9/20/2021	Resident contacted OCWRC over the weekend regarding a dead deer within the stream behind their house.	NA	Yes	Ron Fadoir of OCWRC forwarded a a complaint to the Township regarding the dead deer in the yard. Township informed Ron that they can call the Bloomfield Township Animal Welfard Department for removal of the deer. This was forwarded to the resident. <b>Status: No further action required.</b>	Dead Deer

Updated 9/21/2021

Number of Complaints	Illicit Discharges	Illicit Discharges Corrected
10	4	3



# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: June 17, 2020 Time: 12:20

Reported By: Homeowner Telephone: \_\_\_\_\_

Location of Complaint: 3821 Lakeland Lane Sidwell: 19-18-279-002

Homeowner Information: Vijay and Sara Goburdhun

Description of Complaint: Blue/Green Discoloration of water along shoreline

### EES Department Investigation Notes

	Date
<p>O. Olsztyn-Budry visited site. Upon arrival, Fire Department was on site. Captain Allen Van Heck spoke with homeowner and left a voice mail with Ned Greenberg, the Lake Board Representative and Lake Association President, to determine if there was any treatment on the lake recently. Captain Van Heck to follow up with O. Olsztyn-Budry once he responds. Captain Van Heck also spoke with Pete Filpansick with Lake Pro. Pete was not aware of any chemical treatment to the lake in recent days. He indicated that some algae treatment use copper which would result in the blue/green discoloration. O. Olsztyn-Budry called and registered the complaint with the EGLE Pollution Emergency Alert System (PEAS). The homeowner was also advised to report the concern as well. While on site, the homeowner from 3800 Lakeland Lane came out and informed O. Olsztyn-Budry &amp; Captain Van Heck that there was a company on the lake on Friday June 12, 2020 performing some sort of treatment. She thought the company name was Inland Waters. O. Olsztyn-Budry called and left a message with Jacy Garrison, the Oakland County Water Resource Commissioner's office Lake Board Representative. Photos documented and included in the project file here: S:\Engineering\NPDES Stormwater Permit\IDEP\Illicit Discharge Investigations\3821 Lakeland Lane\Photos 6-17-20</p>	6/17/20

### Actions Taken

	Date
<p>Photo documentation – O. Olsztyn-Budry S:\Engineering\NPDES Stormwater Permit\IDEP\Illicit Discharge Investigations\3821 Lakeland Lane\Photos 6-17-20</p>	6-17-20

Agencies Contacted	Name	Phone/Email	Date
OCWRC	Jacy Garrison	248-858-5264	6/17/20
EGLE	PEAS	800-292-4706	6/17/20

### Administrative Use Only

	Date
<p>Report Prepared By: <u>Olivia Olsztyn-Budry</u></p>	6/17/20

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: July 12, 2020 Time: \_\_\_\_\_

Reported By: Ryan Husch  
Bloomfield Township Fire Dept. Telephone: 433-7745

Location of Complaint: 3371 Westchester Road Sidwell: 19-12-477-011

Homeowner Information: Property Owner: Sabin Zacharias  
Builder: Randy Najjar, Sapphire Luxury Homes

Description of Complaint: Fuel Oil Spill across this property and neighboring properties.

### EES Department Investigation Notes

	Date
An unknown fuel oil tank on property was ruptured during construction of new house and overflowed during rain storm. The oil flowed across the property and 2 neighboring properties. The Fire Department was called onsite on Sunday, July 12, 2020 and contained the spill. The Fire Department contacted DEQ and the PEAS Hotline.	7/12/20
The Summary Cleanup report was issued by PM Environmental on 9/29/20. Emailed with both Lishba Varughese and Joshua Scheels of DEQ. They received the report and consider this incident closed.	11/30/20

### Actions Taken

	Date
Office staff contacted Lishba Varughese at DEQ Water Division and Joshua Scheels of DEQ Incident Management. Builder for site, Sapphire Luxury Homes, has a contractor onsite pumping out remaining fuel oil from tank. Contractor is scheduled to remove contaminated soil.	7/13/20
Received complaint from property owner of 1036 Long Lake Road regarding smell of oil in the ditch line of Eastover Drive on the other side of Long Lake Road from the spill location. The spill plume must have traveled to a culvert that discharged it to the other side of Long Lake Road. Informed Kelley Junco of RCOC of this.	7/20/20
Met builder and representatives of PM Environmental onsite. PM Environmental will be managing cleanup effort of area impacted by spill. Through testing they will determine extent of contaminated soil. Contaminated soil will be removed and areas restored.	7/21/20

Agencies Contacted	Name	Phone/Email	Date
OCHD			
MDEQ	Lishba Verughese	<a href="mailto:varughesel@Michigan.gov">varughesel@Michigan.gov</a>	7/13/20
OCDC			
RCOC	Kelley Junco	<a href="mailto:kjunco@rcoc.org">kjunco@rcoc.org</a>	7/20/20
OTHER			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	11/30/20

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: September 20, 2020 Time: \_\_\_\_\_

Reported By: 5090 Brookdale owner Telephone: \_\_\_\_\_

Location of Complaint: 5050 Brookdale Road Sidwell: 19-24-302-005

Homeowner Information: General Contractor of site is Thomas Sebold & Associates

Description of Complaint: Paint wash water entering nearby creek from 5050 Brookdale Road

### EES Department Investigation Notes

	Date
Resident of 5090 Brookdale Road contacted the PEAS hotline on Sunday, 9/20/20 regarding a painting contractor wash water entering nearby creek. Complaint was forwarded to Township on 9/21/20 by Lishba Varughese of DEQ.	9/21/20

### Actions Taken

	Date
Jodi Welch of Ordinance Department visited site. The house is currently under construction and the wash tub was incorrectly tied into the basement sump. The sump pump discharged the discharge water into the yard and creek area. Township staff witnessed the disconnection of the wash tub from the sump and reconnection to correct waste line.	9/21/20

Agencies Contacted	Name	Phone/Email	Date
OCHD			
MDEQ	Lishba Varughese	<a href="mailto:VARUGHESEL@michigan.gov">VARUGHESEL@michigan.gov</a>	9/21/20
OCDC			
RCOC			
OTHER			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	9/21/20

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: December 22, 2020 Time: 10:30 AM

Reported By: Bloomfield Township Telephone: \_\_\_\_\_

Location of Complaint: 1904 Pine Ridge Court Sidwell: 19-18-303-071

Homeowner Information: Yellow H. Gandhi

Description of Complaint: E.Coli detected in storm sewer outfall

### EES Department Investigation Notes

	Date
Storm sewer outfall IDEP inspection during the summer/fall of 2020 revealed an elevated E.Coli count in one of the outfalls. Subsequent sampling and sewer televising limited the search to one run of sewer that 4 condo units discharge into.	12/22/20

### Actions Taken

	Date
Dye tested the condominium at 1904 Pine Ridge Court. Tested toilets on both the main and lower levels. Dye showed up in the downstream storm sewer manhole.	12/21/20
Issued a letter to the property owner, HOA President, and Condo management company indicating that the unit is illicitly connected to the storm sewer.	12/22/20
Met plumbing contractor and the plumbing inspector, Steve Fink, onsite to discuss cross connection and how it can be corrected.	1/25/21
Conducted several emails and phone calls with the plumbing contractor over past few months. Contractor was going to complete work in the spring, but then backed out of project. Sent certified letter today to the property owner, HOA President, and Condo management company indicating that the work must be completed within 30 days.	5/3/21
Management Company has been calling numerous contractors and they are either not interested in the work or their schedule is already booked. Ordinance Department took over project and will stay on top of Management Company to find contractor and get the work done.	7/26/21
Management Company has indicated that they have hired a contractor, the HOA approved the estimate, and the work will be scheduled.	1/26/22
Contractor, Milford Contracting, has indicated that they will begin on project as soon as the frost laws are lifted likely in early April	3/17/22

Agencies Contacted	Name	Phone/Email	Date
OCWRC	Ron Fadoir	<a href="mailto:fadoirr@oakgov.com">fadoirr@oakgov.com</a>	12/22/20

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	5/3/21

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: December 22, 2000 Time: \_\_\_\_\_

Reported By: \_\_\_\_\_ Telephone: \_\_\_\_\_

Location of Complaint: Beverly Hills Sidwell: \_\_\_\_\_

Homeowner Information: \_\_\_\_\_

Description of Complaint: Green Dye in stream in area of Lahser Road and 13 Mile

### EES Department Investigation Notes

	Date
Received emails and phone calls from OCWRC regarding green dye in stream south of Bloomfield Township. OCWRC wanted to know if Township knew anything about it. We did not.	12/22/20

### Actions Taken

	Date
Cory Borton met Joel Kohn of OCWRC in the field to determine location of dye release. It was discovered that it was coming from a house on Long Bow Court in Beverly Hills. Apparently, a plumber was looking for sump pump outlet and used too much dye.	12/22/20

Agencies Contacted	Name	Phone/Email	Date
OCHD			
MDEQ			
OCWRC	Joel Kohn and Ron Fadoir		
RCOC			
OTHER			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	12/22/20

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: January 4, 2021 Time: 10:00 am

Reported By: Ron Cousineau Telephone: \_\_\_\_\_

Location of Complaint: Upper Long Lake Estates Sidwell: \_\_\_\_\_

Homeowner Information: \_\_\_\_\_

Description of Complaint: Ron Cousineau of the Upper Long Lake – Lake Board called OCWRC regarding the use of road salt.

### EES Department Investigation Notes

	Date
Ron Fadoir of OCWRC called regarding the concern of the use of road salt in the Upper Long Lake Estates development. The streets in this area drain to Upper Long Lake and the development swim area.	1/4/21

### Actions Taken

	Date
No actions required. The Bloomfield Township Road Department receives training on the use of road salt and the trucks are calibrated annually. The use of brine reduces the amount of road salt necessary. Only the necessary amount of road salt is used on the roads and the Road Department is aware of limiting use in areas along lakes	1/4/21

Agencies Contacted	Name	Phone/Email	Date
OCHD	Ron Fadoir	fadoirr@oakgov.com	1/4/21
MDEQ			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	1/4/21

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: April 28, 2021 Time: 9:15 AM

Reported By: Mary Porrazzo Telephone: \_\_\_\_\_

Location of Complaint: 3035 Croft Way / 228 Orange Lake Rd Sidwell: 19-09-400-041

Homeowner Information: Mary Porrazzo

Description of Complaint: E.Coli sludge coming from hillside. Possible failing septic system.

### EES Department Investigation Notes

	Date
Complaint from property owner at 3035 Croft Way of smelly sludge oozing from the hillside behind home. Suspected failing septic system for 228 Orange Lake Road at the top of the hill.	4/28/21

### Actions Taken

	Date
Property owner of 3035 Croft Way issued complaint to the Township DPW of smelly sludge in her rear yard coming out of hillside. DPW investigated and thinks it is a failing septic system from 228 Orange Lake Road up the hill.	4/27/21
Notified OCHD of the possible failing septic system at 228 Orange lake Road. Met Teresa Brooks onsite to investigate. Teresa and I knocked on the door of 228 Orange Lake Road and asked if we could add dye to their septic system. They allowed us to pour dye in the kitchen sink and run the water.	4/28/21
Teresa Brooks of OCHD is not able to visit site today to look for dye. I stopped by and observed dye coming out of the side of the hill where the sludge is located at 3035 Croft Way. I emailed pictures of it to Teresa.	4/29/21
OCHD issued a violation letter dated 4/30/21. The Townshjp issued a letter dated 5/4/21.	5/4/121
The plumbing inspector, Steve Fink, indicated today that the final connection of 228 Orange Lake Road to the public sanitary sewer was completed on 6/1/21. The septic tank for the property was abandoned and crushed onsite.	6/3/21

Agencies Contacted	Name	Phone/Email	Date
OCHD	Teresa Brooks	<a href="mailto:brookste@oakgov.com">brookste@oakgov.com</a>	4/28/21
MDEQ			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	6/3/21

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: April 27, 2021 Time: 1:00 pm

Reported By: Katie Sontag Telephone: 248-541-7245  
3325 Franklin Road

Location of Complaint: E.L. Johnson Nature Center Sidwell: 19-09-301-051

Homeowner Information: \_\_\_\_\_

Description of Complaint: Stagnant water and sheen observed within stream that flows through E.L. Johnson Nature Center.

### EES Department Investigation Notes

Date

The resident left a voicemail with DPW and called OCWRC. The complaint was forwarded to EESD by DPW and Joel Kohn of OCWRC.	

### Actions Taken

Date

Cory Borton and Angela Hysinger visited the site and walked the stream. The water level in the stream was much lower than usual. Much of the pools along the stream were stagnant and it appeared that an iron bacteria sheet was observed in some locations from ground water seepage. No indications of any dumping or illicit discharges. Joel Kohn of OCWRC indicated that he has received numerous calls over the county lately regarding the same thing do to the lack of rain recently. No further action needed.	4/27/21

### Agencies Contacted

Name

Phone/Email

Date

OCWRC	Joel Kohn	kohnj@oakgov.com	4/27/21
OCHD			
EGLE			

### Administrative Use Only

Date

Report Prepared By:	Cory Borton	4/27/21
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# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: June 30, 2021 Time: \_\_\_\_\_

Reported By: Property Owner Telephone: \_\_\_\_\_

Location of Complaint: 2903 Woodcreek Way Sidwell: \_\_\_\_\_

Homeowner Information: \_\_\_\_\_

Description of Complaint: Property Owner at 2903 Woodcreek Way contacted OCHD regarding Dan Devine Drain behind house is clogged and neighbor blows leaves into drain and pumps water from it. Also saw foam in stream. Name and phone number of property owner not provided.

### EES Department Investigation Notes

	Date
Teresa Brooks of OCHD forwarded complaint to Bloomfield Township. Teresa Brooks of OCHD visited the site on 6/30/21 and did not observe and foam on water or evidence of an illicit discharge or dumping. The complaint was forwarded to the Township Ordinance Department and the OCWRC. The Dan Devine Drain is an Oakland County Drain.	6/30/21

### Actions Taken

	Date
Ordinance Officer Bob Thibeault visited the site and did not observe any foam in water or signs of illicit discharges or yard waste dumping. Some tree branches within drain. Ordinance Department sent letter to property owner to clean out debris. No further action is required.	7/1/21

Agencies Contacted	Name	Phone/Email	Date
OCHD	Teresa Brooks	<a href="mailto:brookste@oakgov.com">brookste@oakgov.com</a>	
OCWRC	Ron Fadoir	<a href="mailto:fadoirr@oakgov.com">fadoirr@oakgov.com</a>	
EGLE			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	7/7/21

# BLOOMFIELD TOWNSHIP

## Storm Water Discharge Response & Investigation Report

Date of Incidence: September 20, 2021 Time: \_\_\_\_\_

Reported By: Maboob Khan Telephone: 248-760-8874

Location of Complaint: 893 Foxhall Road Sidwell: 19-11-226-010

Homeowner Information: \_\_\_\_\_

Dead deer in stream in rear yard.

Description of Complaint: \_\_\_\_\_

### EES Department Investigation Notes

	Date
Ron Fadoir of OCWRC forwarded complaint to Bloomfield Township	9/20/21

### Actions Taken

	Date
Bloomfield Township staff informed Ron that the resident can contact the Bloomfield Township Animal Welfare Department for removal of the carcass. This was passed to the resident. <b>Status: No further action required.</b>	9/20/21

Agencies Contacted	Name	Phone/Email	Date
OCHD	Ron Fadoir	<a href="mailto:fadoirr@oakgov.com">fadoirr@oakgov.com</a>	9/20/20
MDEQ			

### Administrative Use Only

	Date
Report Prepared By: <u>Cory Borton</u>	9/21/21

**Appendix D2**

**Canton Township Pollution Complaint Documentation**

# Illicit Discharge Report Complaint Form



Date: 7-9-21 Time: 11:00 AM Employee Initials: G. PYLE

### Caller Information

Name: MICHELLE TREMAINE  
Address: 44744 MICH. AVE.  
Telephone: 313-690-4264

### Location of Suspicious Discharge:

PARKING LOT STORM CATCH BASIN/POND

### Description: (Circle all that apply)

Odor:	None	Sewage	Sulfide	<u>Oil</u>	Gas	Rancid-Sour	Other: _____
Color:	None	Yellow	Brown	Green	Red	Gray	Other: <u>RAINBOW COLOR/PANTS</u>
Turbidity:	<u>None</u>	Cloudy	Opaque				

Any other Information: \_\_\_\_\_

### Investigation of Suspicious Discharge

Date: 7-9-21  
Crew Initials: G. PYLE

Location: 44744 MICH. AVE

Temp.: 75° Rain: Yes \_\_\_ No: X Sunny Cloudy

### General Description: (Circle all that apply)

Odor:	None	Sewage	Sulfide	<u>Oil</u>	Gas	Rancid-Sour	Other: _____
Color:	None	Yellow	Brown	Green	Red	Gray	Other: <u>RAINBOW COLOR/PANTS</u>
Turbidity:	<u>None</u>	Cloudy	Opaque				
Floatables:	None	<u>Petroleum</u>	<u>Sheen</u>	Sewage	Other: _____	(collect sample)	
Deposits/Stains:	None	Sediment	<u>Oily</u>	Describe: _____			(collect sample)

➤ Known industrial or commercial uses in drainage area? Yes No

➤ Stream Conditions: \_\_\_\_\_

➤ Additional observations: \_\_\_\_\_

### Analysis:

➤ Does this appear to be an illicit discharge? Yes No PARKING LOT

➤ If so, can you identify the source? Yes No If yes, identify the Source: STORM CATCH BASIN

➤ Is this within Canton Jurisdiction? Yes No

➤ This discharge will be reported to: WC DOE WC Health Dept. MDEQ

\* EMAIL AND PICTURES SENT TO SUE THOMPSON 7-9-21

JP

## **Appendix D3**

### **Farmington Pollution Complaint Documentation**

# WATER & SEWER WORK ORDERS

## MAINTENANCE, SEWER LINES



### Customer Information

SHLAFER, ROMANDR  
31930 GRAND RIVER  
FARMINGTON, MI 48336  
(248) 474-0224

Work Order #: 01950  
Date Filed: 01/29/2020  
Scheduled Date:  
Scheduled By: LMCGILL

### Work Description:

WASHER DRAINS INTO STORM LINE; OWNER WILL BE GETTING IT DISCONNECTED.

### Work Results:

### Labor

Performed By	NAME	Hours	Description

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



# DPW WORK ORDERS

## DRAINAGE / CATCH BASIN

### Customer Information

SAINI, VIJAY  
 34821 ARUNDEL  
 FARMINGTON, MI 48335  
 (614) 537-0602

**Work Order #:** 02106  
**Date Filed:** 05/29/2020  
**Scheduled Date:**  
**Scheduled By:** JLEACH

### Work Description:

REMOVE STICKS AND DEBRIS FROM STORM DRAINS.

### Work Results:

VACTORED BASIN IN ROAD AND BEEHIVE IN YARD; FLUSHED OUT STORM LINE CONNECTING THE TWO; BOTH WERE FULL TO INVERTS OF SMALL STICKS AND BRANCHES; TOOK PICTURES AND E-MAILED TO JOSH; AMOUNT OF STICKS PLUGGED VACTOR TUBE SEVERALTIMES.

MARCUS & JACK 5/29/2020

### Labor

Performed By	NAME	Hours	Description
00351	JACK WEST	2.50	
00681	MARCUS SCHWEISTHAL	2.50	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
13	Van 2005 G.M.C. Savana 10,184#
20	VACTOR TRUCK 2020 FREIGHTLINER FL114SD
20.1	VACTOR JET RODDER 2020 FEDERAL SIGNAL 2100I
20.2	VACUUM PUMP - FEDERAL SIGNAL 2100I

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



# DPW WORK ORDERS

## DRAINAGE / CATCH BASIN

### Customer Information

ENGELSMAN II, THOMAS R  
 36612 SAXONY  
 FARMINGTON, MI 48335

**Work Order #:** 02119  
**Date Filed:** 06/05/2020  
**Scheduled Date:**  
**Scheduled By:** LMCGILL

### Work Description:

PLEASE REPAIR EDGE DRAIN; CONTRACTOR FOR RESIDENT SAYS IT IS FULL OF ROOTS

### Work Results:

36652 SAXONY HAS STREET BASIN AND STORM DRAIN; FOUND BLACK CORRUGATED PIPE IN STREET BASIN; WHEELED FROM BASIN TO CLEANOUT 157'; RAN LINE WITH VACTOR MULTIPLE TIMES; OPENED CLEANOUT TO VERIFY LOCATION; RAN 4' PAST TAP/CLEANOUT; BELIEVE TO BE BULKHEADED ~4' PAST CLEANOUT; PULLED BACK ROOTS AND SANDY WATER; WILL HAVE TO RETURN TO SUCK OUT THE SAND; RAN OUT OF TIME

JACK, MARCUS, & SEAN 6/5/2020

CLEANED OUT CATCH BASIN OF SAND AND DEBRIS

JACK, MARCUS, & SEAN 6/8/2020

### Labor

Performed By	NAME	Hours	Description
00351	JACK WEST	5.00	
00681	MARCUS SCHWEISTHAL	5.00	
00323	SEAN MILLER	2.00	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
13	Van 2005 G.M.C. Savana 10,184#
20	VACTOR TRUCK 2020 FREIGHTLINER FL114SD
20.1	VACTOR JET RODDER 2020 FEDERAL SIGNAL 2100I
20.2	VACUUM PUMP - FEDERAL SIGNAL 2100I
15	VAN 2015 CHEVROLET EXPRESS

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_





# DPW WORK ORDERS

## DRAINAGE / CATCH BASIN

### Customer Information

JIANG, HUAHUI  
 36652 SAXONY  
 FARMINGTON, MI 48335  
 (248) 854-9067

**Work Order #:** 02122  
**Date Filed:** 06/08/2020  
**Scheduled Date:**  
**Scheduled By:** LMCGILL

### Work Description:

CALLER STATED DRAIN FOR SUMP PUMP DISCHARGE IS CLOGGED; SIMILAR TO 36612 SAXONY (W/O #2119); PLEASE CHECK/REPAIR EDGE DRAIN; MAY BE CLOGGED WITH ROOTS

### Work Results:

JET 6" CORRUGATED AT BRITTANY HILL AND SAXONY; MADE ONLY TO FIRST HOUSE'S CONNECTION

MARCUS & JACK 6/8/2020

JETTED/TV'D STORM MAIN TO FIND POSSIBLE TAP; UNABLE TO FIND; HYDROEXCAVATED; FOUND BLACK CORRUGATED AND TAP; RAN LINE ~165'

MARCUS & JACK 6/9/2020

JETTED LINE BOTH WAYS; IT IS CLEAR; FIXED "T"; DID HAVE ROOT INTRUSIONS

MARCUS & JACK 6/10/2020

RESTORED

JACK & SEAN 6/11/2020

### Labor

Performed By	NAME	Hours	Description
00681	MARCUS SCHWEISTHAL	13.50	
00351	JACK WEST	14.50	
00323	SEAN MILLER	1.00	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
13	Van 2005 G.M.C. Savana 10,184#
20.1	VACTOR JET RODDER 2020 FEDERAL SIGNAL 2100I

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

20.2	VACUUM PUMP - FEDERAL SIGNAL 2100I
20	VACTOR TRUCK 2020 FREIGHTLINER FL114SD
26	TRACTOR CAT 2019 420F2IT
26.2	FRONT END LOADER 2019 CAT
M235	Stone
M230	Sand
M241	Bags Mortar

**Results / Comments:**

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



# DPW WORK ORDERS

## DRAINAGE / CATCH BASIN

### Customer Information

THOMPSON, JAMES  
 33111 KIRBY  
 FARMINGTON, MI 48336  
 (248) 573-9094

**Work Order #:** 02566  
**Date Filed:** 05/03/2021  
**Scheduled Date:**  
**Scheduled By:** LMC GILL

### Work Description:

RESIDENT CALLED TO REPORT CATCH BASIN NOT DRAINING; HE CLEARED OFF THE DEBRIS, AND IT IS JUST HOLDING WATER

### Work Results:

RAN THE MAIN LINE; NEED TO CLEAN ROOTS OUT OF CATCH BASIN

MIKE & MARCUS 5/3/2021

VACTORED CATCH BASIN 2; ROOTS EVERYWHERE; RAN LINES TO 1 AND 3; DEBRIS AND ROOTS?; VACTORED 3; FULL OF ROOTS IN CATCH BASIN

MIKE & MARCUS 5/4/2021

### Labor

Performed By	NAME	Hours	Description
00681	MARCUS SCHWEISTHAL	3.50	
00408	MICHAEL PESAVENTO	1.00	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
20	VACTOR TRUCK 2020 FREIGHTLINER FL114SD
20.1	VACTOR JET RODDER 2020 FEDERAL SIGNAL 2100I
20.2	VACUUM PUMP - FEDERAL SIGNAL 2100I
15	VAN 2015 CHEVROLET EXPRESS
13	Van 2005 G.M.C. Savana 10,184#

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



# DPW WORK ORDERS

## DRAINAGE / CATCH BASIN

### Customer Information

IHM, MARK  
 36522 VICARY LN  
 FARMINGTON, MI 48335

**Work Order #:** 02666  
**Date Filed:** 07/19/2021  
**Scheduled Date:**  
**Scheduled By:** CEUDY

### Work Description:

RESIDENT STATES SUMP PUMP DISCHARGING OUT OF OVERFLOW  
 CHRISTIE IHM 248/444-8245

### Work Results:

WE NEED TO CLEAN THE LINE OUT BY CURB  
 --MIKE 7/20/21

VACTORED DOWN ON CURB DRAIN. INSTALLED 6" WYE, 45, AND SCREW-ON CAP FOR A NEW CLEANOUT TO RUN WEST TO EAST. MATERIALS ON 9/9/21 TIMESHEET. RAN LINE WITH BULLDOG.  
 --MARCUS 9/9/21

### Labor

Performed By	NAME	Hours	Description
00408	MICHAEL PESAVENTO	2.00	
00351	JACK WEST	6.00	
00319	CHRISTOPHER GUIBORD	6.00	
00681	MARCUS SCHWEISTHAL	4.50	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
15	VAN 2015 CHEVROLET EXPRESS
13	Van 2005 G.M.C. Savana 10,184#
26	TRACTOR CAT 2019 420F2IT
26.2	FRONT END LOADER 2019 CAT
26.1	BACKHOE ATTACHMENT 2019 CAT
20	VACTOR TRUCK 2020 FREIGHTLINER FL114SD
20.1	VACTOR JET RODDER 2020 FEDERAL SIGNAL 2100I
20.2	VACUUM PUMP - FEDERAL SIGNAL 2100I

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



# DPW WORK ORDERS

## DRAINAGE / CATCH BASIN

### Customer Information

GIBBENS, LYNNE  
 36640 BRITTANY HILL  
 FARMINGTON, MI 48335  
 () -

**Work Order #:** 02739  
**Date Filed:** 09/10/2021  
**Scheduled Date:**  
**Scheduled By:** JLEACH

### Work Description:

CALLER STATES THAT THEIR SUMP PUMP IS DRAINING OUT OF THE OVER FLOW, CHECK EDGE DRAIN FOR ROOTS. ROB GIBBENS 248/425-2786

### Work Results:

EXPOSED SUMP LINE AT STREET, JETTED LINE 60' TO THE EAST UNDER THE ROAD. VACTORED DOWN ON EAST SIDE OF ROAD AND JETTED LINE GOING TO THE EAST, FOUND SOME ROOTS, NOTHING FURTHER TO DO AT THIS TIME. BACKFILLED 9/16/21

### Labor

Performed By	NAME	Hours	Description
00351	JACK WEST	6.00	
00408	MICHAEL PESAVENTO	2.00	
00319	CHRISTOPHER GUIBORD	10.00	
00681	MARCUS SCHWEISTHAL	11.50	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
15	VAN 2015 CHEVROLET EXPRESS
13	Van 2005 G.M.C. Savana 10,184#
20	VACTOR TRUCK 2020 FREIGHTLINER FL114SD
20.1	VACTOR JET RODDER 2020 FEDERAL SIGNAL 2100I
20.2	VACUUM PUMP - FEDERAL SIGNAL 2100I

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

# WATER & SEWER WORK ORDERS

## MAINTENANCE, SEWER LINES



### Customer Information

WHEATON, ERNEST  
22618 BROOKDALE  
FARMINGTON, MI 48336  
(781) 894-4027

**Work Order #:** 02745  
**Date Filed:** 09/14/2021  
**Scheduled Date:**  
**Scheduled By:** JLEACH

### Work Description:

THERE IS A TAP IN THE STORM SEWER ON THE NORTH SIDE OF THIS HOME, DYE TEST PRIVATE SEWER.

### Work Results:

ERNEST WHEATON PASSED AWAY; NIECE ROSEMARY IS IN TOWN CLEANING OUT HOUSE. WE PUT CAMERA IN STORM SEWER AT TAP IN QUESTION, POURED 1 GALLON OF MILK DOWN LAUNDRY TUB SINK IN BASEMENT; MILK MADE ITS WAY TO THE TAP IN THE STORM. TURNED WATER OFF AT CURB STOP. INFORMED ROSEMARY. SHE IS THE EXECUTOR OF THE ESTATE. CONTACT INFO FOR CORRESPONDENCE: ROSEMARY MILLER, 58 COLLEGE FARM ROAD, WALTHAM MA 02451, PH: 617-763-3457

### Labor

Performed By	NAME	Hours	Description
00681	MARCUS SCHWEISTHA	2.00	
00351	JACK WEST	2.00	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
13	Van 2005 G.M.C. Savana 10,184#
72	Enclosed Van Trailer 1987 Tote Wagon TW 101 3,000#
72.1	TV Sewer Inspection Unit 1986 Cues TV Qube P

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

# WATER & SEWER WORK ORDERS

## MAINTENANCE, SEWER LINES



### Customer Information

EIB, MARY  
23130 ORCHARD LAKE  
FARMINGTON, MI 48336  
(248) 474-0741

Work Order #: 02784  
Date Filed: 10/08/2021  
Scheduled Date:  
Scheduled By: CEUDY

### Work Description:

APPOINTMENT 8:00 AM MONDAY OCTOBER 11, 2021  
FLOOR DRAIN NEAR FURNACE IS BACKING UP. PLUMBER ADVISED RESIDENT SEWERS FLOW TO ORCHARD LAKE ROAD.  
IF FLOOR DRAIN NEAR FURNACE WILL TAKE WATER DYE TEST IT. IF NOT DYE TEST BASEMENT LAUNDRY TUB.

### Work Results:

MAIN FLOOR OF HOME HAS HUNG PLUMBING EXITING TO BYPASSED SEPTIC TANK. BASEMENT FIXTURES DRAIN TO CLEANOUT IN BASEMENT. DYE TESTED AT BASEMENT LAUNDRY TUB. DYE CAME TO SANITARY SEWER IN REAR YARD. ADVISED RESIDENT TO CONTACT A DRAIN CLEANING CONTRACTOR TO CLEAN FLOOR DRAIN LINE NEAR TH FURNACE AND THE SEWER MAIN LINE ENTERING HOME.  
--CHUCK 10/11/21

### Labor

Performed By	NAME	Hours	Description
00408	MICHAEL PESAVENTO	0.75	

### Inventory

Inventory Code	Description	Quantity	Units

### Equipment

Equipment Code	Description
15	VAN 2015 CHEVROLET EXPRESS

### Results / Comments:

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Completed By: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## **Appendix D4**

### **Novi Pollution Complaint Documentation**



**ARC Member Permit Responsibilities - Collective IDEP, TMDL and PEP Plans**

Item	Date	Description
<p>Repair/correct illicit connections/discharges revealed during the site inspection. If the discharge is significant, take immediate steps to stop the illicit discharge</p>	<p>2/26/2021</p>	<p>Illicit discharge at 43100 Nine Mile Road was discovered and corrected on 2/25/2021. The Water and Sewer Department discovered a sanitary sewer lead for a bathroom added to the north end of the building was connected to storm sewer. Residents in the area had complained about a smell, which triggered this discovery. A private contractor hired by the property owner capped the sanitary sewer lead and will be connecting the lead to nearby sanitary sewer in the future. No plans will be submitted to the City for review since this is a private lead, but Kate Richardson will follow-up when the work is completed.</p>
	<p>4/28/2021</p>	<p>Possible illicit discharge at storm drain outlet from Beachwalk Apartments to Walled Lake. Resident Harvey Markkowitz (248-705-4822) contacted Novi Police about a frothy, milky layer with sediment on the surface of the water discharging into Walled Lake. Deputy Smith took a sample of it and noted that it was yellowish in color and looked like pollen. Rebecca Runkel will investigate (field visit confirmed that it appears to be naturally-occurring pollen - RR).</p>
	<p>11/18/21</p>	<p>Anonmyous call to Water &amp; Sewer Dept stating a restaurant employee at 41563 10 Mile Rd was witnessed pouring grease into storm drain behind building. Site visit confirmed grease smell and substance in and around catch basin. Debbie Martinez, Code Enforcement Officer, spoke with restaurant employee and property manager. She will send a Notice of Violation to the property owner. The Water &amp; Sewer dept will also be sending a letter to the restuarant regarding proper grease disposal. (Update, 12/7/21 - Violation letters sent, Field Ops checked public storm sewer on Meadowbrook and there was no visible grease accumulation in public sewer, property manager is instructed to clean out/vac private sewer where grease was dumped and report back to Field Ops).</p>

**Appendix D5**

**Oakland County Pollution Complaint Documentation**

FY 2020 IDEP-Related Complaints  
Rouge River Watershed

Source	Date	Complainant	Organization	Complaint Address / Location	City	Complaint	Investigative Agency	Enforcing Agency	Result	Status	Type / Source	Pollutant	Watershed	Estimated Amount	Notes
OC Safety	11/1/2019	Melissa Accord	Salvation Army	730 N. Pontiac Trail, Salvation Army Store	Walled Lake	Vehicle Spill, gasoline running into parking lot storm CB	WRC / Walled Lake	Walled Lake FD	Store Manager contacted Walled Lake FD, Truck was gone. Small amount of fuel on Parking lot cleaned up by FD. Walled Lake DPW followed up, no fuel in Parking lot CB or connected detention pond.	Closed	Fuel / Vehicle spill	Fuel	Rouge	1 gallon	Fuel cleaned up no impact to local storm
Phone Call	1/3/2020	Tom McNalley	Resident	Contour Contracting, 40960 Woodward Ave	Pontiac	Contractor dumping paint and construction debris in down storm drain	WRC / Bloomfield Twp.	NA	Site investigated. No issues found.	Closed	Illegal Dumping / Commercial Facility	NA	Rouge	NA	
Email	2/6/2020	Maureen Diverno	Resident	2038 S. Hammond Lake	W. Bloomfield	Failed Septic System at residence on Hammond Lake	FOTR, W. Bloomfield, OCHD	OCHD	Violation Notices. Pump and Order Issued by OCHD. Homeowner has applied for Permit to replace Failed Septic System.	Permit Pending	Sewage- Residential Failed Septic System	Sewage	Rouge	65,700 gal / yr.	
Letter	2/20/2020	John Biesel	Farmington Hills	La Marsa Restaurant, 23273 Middlebelt Rd.	Farmington Hills	Restaurant illegal Dumping grease into property CBs going to local storm	Farmington Hills, OCHD	OCHD, FHC	Violation Notice issued. Owner had property CBs and local storm cleaned out. OCHD followed up with restaurant inspection, grease trap cleaning and grease dumpster requirements.	Closed	Restaurant Grease- Illegal Dumping Grease	Grease	Rouge	200 gallons	Ongoing issue with IDEP DWIS / investigations going back to 2010. Facility was dye tested, no illicit discharges were found.
CDM Inspection	3/21/2020	CDM	WRC / Northville FD	810 8 Mile Rd. Local Storm from Gas Station at 8 Mile & Taft	Northville	CDM reported oil sheen from a local drain an inlet to Randolph St Drain coming from the Gas Station at 810 Eight Mile Rd. Booming install at local drain outlet	WRC, EGLE, Station Owner	EGLE	Sheen is from Non Aqueous phase liquids from LUST diesel remediation at the Gas Station in Ground water migrating into the gas station the storm drain. PM Environmental & Oscar Larson, cleaned out and disposed of Fuel / water mix in storm system and disposed of Booms. Local drain was remediated per EGLE requirements. No product impacted the Randolph St Drain.	Closed	Diesel Fuel- Gas Station LUST remediation site	Diesel Fuel / Ground water mix	Rouge	200 gallons	product was Light Non Aqueous Paste like diesel fuel components mixed w/ ground water. PM Environmental and Oscar Larson Managed Site cleanup and remediation of the storm sewer and groundwater contamination as part of an ongoing LUST remediation with EGLE.
OC Safety	4/2/2020	Joan Rayford	Resident	28899 Millbrook Rd	Farmington Hills	Neighbor discharging Pool Water into Pebble Creek	WRC / Farmington Hills	NA	Informed caller res pool water is not regulated. Referred to Farming Hills DPW for follow up	Closed	pool water / Residential swimming pool	NA	Rouge	NA	
OC Safety	5/12/2020	Anonymous		528 Randolph St	Northville	Residential home construction site, No silt fence, Excavator parked next to Randolph St Drain	Wayne County DPS / Northville	Northville	Reported to Wayne County, City Northville did SESC Site inspection. No issues were found	Closed	Soil Erosion / Residential Construction Site	NA	Rouge	NA	
OC Safety	7/11/2020		Bloomfield Twp FD	N. Ramp from Square Lk. To Opdyke Rd.	Bloomfield Twp	Gasoline Tanker Truck fire and fuel spill off N. Square Lk. Exit Ramp to Opdyke Rd.	WBT FD, MDOT, RCOC	MDOT	Spill contained by FD to grass detention area off exit ramp. MDOT /RCOC responded. Site cleaned up by contractor	Closed	Accident / Spill	Gasoline	Rouge	500 gallons	Spill was contained in detention area, no impact storm drains or Rouge
OC Safety	8/10/2020	Anonymous	OC Safety Dispatch	22330 Rougemont Dr.	Southfield	Illegal Dumping	WRC	NA	No issues found	Closed	NA	NA	Rouge		
OC Safety	8/18/2020	Judith McGrath	Resident	4468 W. Maple Rd	Bloomfield Hills	Neighbor has pipe from pond draining on to her property	WRC	NA	Referred to Bloomfield Hills not and IDEP issue	Closed					

FY 2021 IDEP-Related Complaints  
Rouge River Watershed

Source	Date	Organization	Complainant	Address	City	State	Zip	Phone	Email	Complaint Address / Location	CVT	Complaint / Description	Referral / Inv Agencies	Enforcing Agency	Results	Status	Illicit Discharge	Source	Type	Quantity	Drain / Waterbody	Watershed	Notes / Comments	
Referral- FOTR	11/17/2020	Resident	David Levitt	25741 River Drive	Franklin	MI	48025	(248) 330.5888	<a href="mailto:dlevitt@mindspring.com">dlevitt@mindspring.com</a>	25733 River Dr, drainage ditch to Rouge River	Franklin Village	Neighbor installed drainage ditch discharging road runoff to Rouge River	Franklin Village, WRC, EGLE	Franklin Village, WRC, EGLE	Referred to WRC for SESC Permit, Franklin Village Construction Permit and EGLE for Discharge Permit	Closed	Sediment	Residential Construction Site	SESC	Not Estimated	Franklin Branch of Rouge River	Rouge	WRC SESC issued stop work order which was corrected. Ongoing dispute with neighbor, Franklin Village and EGLE over road drainage pipe installation and permitting. See SESC file for more details	
Lathrup Village -HRC	2/5/2021	HRC	Stephanie Petriello	555 Hulet Dr.	Bloomfield Hills	MI	48303-0824	(248) 454-6318	<a href="mailto:spetriello@hrcenvr.com">spetriello@hrcenvr.com</a>	Lathrup Village DPS, 24000 Southfield, 48036	Lathrup Village	Dye Testing verified Illicit Connections in the DPS garage facility	Lathrup Village	Lathrup Village	Bathroom, shower and garage utility sink and floor drain connected to local storm MH. Verified by HRC	Corrective Action Pending by Lathrup Village	Sewage	DPW Garage	Illicit Connection	Not Estimated	Local Storm	Rouge	Received Dye Test Results Letter from HRC Corrective actions by Lathrup Village Pending	
Referral -Farmington Hills	3/17/2021	Farmington Engineering	Karen Mondora	31555 W.11 Mile Rd	Farmington Hills	MI	48336	(248) 444-0311	<a href="mailto:kmondora@fhgov.com">kmondora@fhgov.com</a>	Green Pond Sub Div. Valley Forge and Tullipwood	Farmington Hills	Dead Fish on Pond	FH, WRC, ARC	Reported to DNR	Determined to be Winter Fish Kill caused by freezing temps / low DO	Closed	NA	NA	NA	NA	Green Pond	Rouge	Dead fish attributed to frozen pond and low DO. Water Quality readings do not show an ongoing issue. Pond is sediment basin. Pond has only storm drain inlets and no outlets. Cleanout of pond is recommended.	
OC Safety Dispatch	3/29/2021	Resident	Jim Williams	19800 Riverside Dr	Beverly Hills	MI		248-930-0435	<a href="mailto:mojahaiku@earthlink.net">mojahaiku@earthlink.net</a>	Rouge River at 19800 Riverside Dr.	Beverly Hills	Possible sewage on River behind house	WRC, ODHD, Beverly Hills DPW	NA	No issue found, algae, plant material, debris from spring rain washout.	Closed	NA	NA	NA	NA	Rouge River	Rouge	No issues were seen. E.coli counts were minimal. Reported to results to Beverly Hills and homeowner	
OC Safety Dispatch	4/2/2021	NA	Anonymous	NA	NA	NA	NA	NA	NA	14 Mile Rd at M 5, Construction site	Commerce Twp	Construction site pumping discharge with orange color to Seely Creek	Commerce Twp	Commerce Twp	Referred to Commerce Twp. No issues found at site.	Closed	NA	NA	NA	NA	Seely Drain	Rouge	Per Jay James, Commerce TWP, dewatering pond pump was in place but not operating at time of inspection. No issues with the creek were seen	
Referral -Email to Rfadoir	4/19/2021	Wayne County DPS	Sue Thompson	3500 Commerce Ct	Wayne	MI		(313) 999-6266	<a href="mailto:sthompson@waynecounty.com">sthompson@waynecounty.com</a>	Sump Drain, 8 Mile W. of Napier	Novi	Heavy turbid flow to Sump Drain W. of Napier Rd	WRC Permitting / SESC	WRC	SESC Enforcement action at upstream Sub Division Construction site	Closed	Sediment	Residential Construction Site	SESC	Not Estimated	Sump Drain	Rouge	Referred to Joe Gardner with SESC	
OC Safety Dispatch	4/27/2021		KATIE SONTAG					248-541-7245		EL Johnson Nature Center 3325 Franklin Rd.	Bloomfield Twp	Oily Sheen on River at EL Johnson Nature Center	WRC / Bloomfield Twp	NA	No Issues Found	NA	NA	NA	NA	NA	NA	Rouge	No Information	
OC Safety Dispatch	4/28/2021		HARVEY MARKOWITZ		Novi	MI		248 705 4822		1153 East Lake Dr	Novi	Yellow colored Discharge coming from Apt Complex Storm Drain at 1153 East Lake Dr	WRC /City of Novi, DPS	NA	Discharge is Pollen from Property Storm Runoff	Closed	NA	NA	NA	NA	NA	Rouge	Reported by Deputy, Smith Novi PD	
OC Safety Dispatch	5/19/2021	Resident	Dale		Novi	MI		248-255-9076		1585 Paramount St	Novi	Caller thinks illegal Building at 1858 Paramount St is on wetlands	WRC SESC, Novi, EGLE	Novi / EGLE	Not WRC issue referred to City of Novi and EGLE	Closed	NA	NA	NA	NA	Na	Rouge	No Information	
OC Safety Dispatch	6/12/2021	Square Lake HOA, President	Kirt Brannock	1642 Hamilton Dr.	Bloomfield Twp	MI		(360) 306-3300		1750 Hamilton Dr.	Bloomfield Twp	Homeowner at 1750 Hamilton on Square Lake is having issues with construction contactor and silt fencing	WRC SESC, Bloomfield DPS	WRC SESC	Contractor notified, Corrected SESC Controls	Closed	Sediment	Construction Site	SESC	Not Estimated	Square Lake	Rouge	Contact is Joe Gardner, WRC SESC 248-858-5389	
OC Safety Dispatch	7/9/2021	Resident	Althea Brown	22387 Nearbrook Ct.	Farmington Hills	MI		(248) 974-1888		22387 Nearbrook Ct	Farmington Hills	Cement Contractor dumping concrete washout to local storm drain	Farmington Hills, DPS	Farmington Hills	Pending Investigation	Open							Rouge	No Information
OC Safety Dispatch	9/18/2021	Resident	Mahboob Kahn	893 Foxhall Rd	Bloomfield Twp	MI		(248) 760-8874		893 Foxhall Rd	Bloomfield Twp	Dead deer in stream behind house	MDNR / OCHD	MDNR	Deer removed by Animal Welfare	Closed	NA	NA	NA	NA		Rouge		
OC Safety Dispatch	9/20/2021	Resident	Ryan Chevillet	21123 Halstead Rd	Farmington Hills	MI		734-926-6042		21123 Halstead Rd	Farmington Hills	Contact spraying roundup near his property	FH, EGLE	EGLE	Contractor is treating Invasives as part of Minnow Pond Restoration Project. FH is handling	Closed	NA	NA	NA	NA	Minnow Pond Drain	Rouge	Contact Tyler Songas with Farmington Hills Engineering 248-871-2533	
OC Safety Dispatch	12/21/2021	EGLE	Tracy Keskemeti							32801 Long Bow Ct	Beverly Hills	Green Dye in Rouge	EGLE/WRC/Beverly Hills Bldg Dept	Beverly Hills Bldg Dept	Plumber turned River green dye testing Residential Home for sale. Illicit connection corrected by property owner / Beverly Hills	Closed	Tracing Dye	Residential Property	Illicit Connection	0.5 gal	Rouge River	Rouge	House was for sale. Presumed vacant. Illicit connection was corrected by realtor.	

**Appendix D6**

**Plymouth Township Pollution Complaint Documentation**

Charter Township of Plymouth

Illicit Discharge Elimination Program

Pollution Complaint Tracking Form

Complaint made by: Reported by GFL - Green for Life - Matt, Supervisor

Phone #: 586-447-8910

Date: 11/19/20 Time: 8:00 am

Location of Problem: Mystic Forest Offending Party (if known) GFL

Nature of Problem (i.e. paper waste, odor, color, etc.):

Trash truck had an oil leak/spill

Is this an Emergency? No

Yes (then call 911)

Nature of Emergency:

Initial Contact made to: 911 City Dept. Wayne County (888) 223-2363 Oakland County (248) 858-0931 PEAS Hotline (State) 1-800-292-4706 Other Twp Office

Additional Comments: GFL reported they had an oil leak/spill from one of the trash collection trucks on Wednesday 11/18/20 - no leak/spill entered a storm drain - GFL responded immediately.

Investigation Summary
Initial Investigation
Follow-up Investigation
Date of Investigation:
Investigating Agency:
Location of Discharge:
Crew Members:
Investigation Location:
Observations (odor, color, volume, etc.):

Actions Taken (dye testing, notification letter, etc.):
GFL addressed the spill immediately - placed down absorbent material - street sweeper will return to clean up on 11/20/20
Were photos taken: Yes No
Agency Referred to:
Agency Contact:
Method of Communication:
E-mail\* Letter/memo\* Phone
Content of Communication:
\*Attached copies

Date Corrected or Resolved: 11/20/20 - Completed

**Charter Township of Plymouth**

**Pollution Complaint Tracking Form**

**Illicit Discharge Elimination Program**

Complaint made by: Environmental Consulting & Technology - Survey Crew

Phone #: 734-769-3004 x23308

Date: 02/26/2021 Time: \_\_\_\_\_

Location of Problem: Plymouth Hills Mobile Home park

Offending Party (if known) \_\_\_\_\_

Nature of Problem (i.e. paper waste, odor, color, etc.): \_\_\_\_\_

Reported black sheen in vicinity of trailer park. Surveying subcontractor observed a black water discharge coming from a tributary.

Is this an Emergency?  No

Yes (then call 911)

Nature of Emergency: \_\_\_\_\_

Initial Contact made to:  
 911  
 City Dept. \_\_\_\_\_  
 Wayne County (888) 223-2363  
 Oakland County (248) 858-0931  
 PEAS Hotline (State) 1-800-292-4706  
 Other \_\_\_\_\_

Additional Comments:  
 Wayne County forwarded concern - DPW staff investigated the area from the detention pond up to Johnson's Creek.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Investigation Summary**  
 Initial Investigation  
 Follow-up Investigation  
 Date of Investigation: 02/26/21 and 03/02/21  
 Investigating Agency: DPW  
 Location of Discharge: \_\_\_\_\_  
 Crew Members:  
 Jimmy Scholten  
 Investigation Location:  
 Johnson Creek tributaries and outfalls - qtr section 19sw from pond at west side of Plymouth Hills north towards 5 Mile.  
 Observations (odor, color, volume, etc.):  
 No black oily sheen was discovered  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Actions Taken (dye testing, notification letter, etc.):  
 \_\_\_\_\_  
 Follow-up in one year recommended  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Were photos taken:  Yes  No  
 Agency Referred to: \_\_\_\_\_  
 Agency Contact: \_\_\_\_\_  
 Method of Communication:  
 E-mail\*  Letter/memo\*  Phone  
 \*Attached copies  
 Content of Communication:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Date Corrected or Resolved: 03/02/2021

## WORK ORDER NOTIFICATION

*Plymouth Township – Public Works*

### Illicit Discharge Complaint Investigation

**Work Order #14524**

Priority: Red (High)

**ADDRESS:** Johnson Creek 48170 Q sect. 19SW  
**LOCATION:** Johnson creek tributaries and outfalls-quarter section 19sw from pond at west side of Plymouth Hills Mobile Home Park north towards Five Mile

**MAP PAGE:**  
**SECTION:**

**INITIATED DATE:** 3/2/2021 7:30:00 AM  
**INITIATED BY:** Hamann, Dan  
**SUBMIT TO:** Hamann, Dan  
**COMMENTS:**

By Hamann, Dan : 1/25/2022 1:27:31 PM  
 Please look for reported black sheen in vicinity of trailer park. Please take photos. Please make a deposition of what you find and place in comments

By Hamann, Dan : 1/25/2022 1:32:34 PM  
 This work order replaces lost or damaged original w.o.

By Scholten, Jimmy : 1/26/2022 9:23:10 AM  
 Followed from the detention pond up to Johnson’s creek. In that path I didn’t identify any black oily sheen. However I did notice in the trailer park property where there is storage and maintenance activities possibly happening.

By Scholten, Jimmy : 1/26/2022 9:23:11 AM  
 Recommend visiting the site again in one year.

By Hamann, Dan : 1/26/2022 12:22:47 PM

“NOTE: THIS WORK ORDER WAS PREPARED EX POST FACTO DUE TO SOFTWARE ISSUE. COMPLAINT WAS RECEIVED ON 2-26-2021; INITIAL INSPECTION OCCURRED ON 2-26-2021; AND FOLLOW UP ON 3-2-2021: ATTACHED PHOTOS WERE TAKEN ON 3-2-2021  
 --

**INSTRUCTIONS:** Please look for reported black sheen in vicinity of trailer park. Please take photos. Please make a deposition of what you find and place in comments

#### SERVICE REQUEST / CALLER DETAILS

RequestID	Date/Time	Priority	Description	Problem Address

#### WORK ORDER TASKS

Sequence	Name	Proj Start	Entity ID	Duration

#### ADDITIONAL DETAILS

Sequence	Name

#### COSTS

Total Work Order Labor Costs	\$179.40
Total Work Order Material Costs	\$0.00
Total Work Order Equipment Costs	\$9.39
Total Work Order Cost	\$188.79



**Work Order**

WO Number: 14524  
 WO Type: **Illegal Discharge Complaint Investigation**  
 Asset Type: PLYMOUTH\_OPENWATERWAY Change

Category: **Emergency Maintenance**  
 Initiated By: Hamann, Dan  
 Date Created: 03/2/2021 7:30 AM  
 Priority: **Red (High)**  
 Status: **Complete**  
 Supervisor: Hamann, Dan  
 Submit To: Hamann, Dan  
 Date Submitted: 01/26/2022 9:24 AM  
 Projected Start: 03/2/2021 7:30 AM  
 Projected Finish: 03/2/2021 4:00 PM  
 Completed By: Scholten, Jimmy  
 Closed By:  
 Date Closed:  
 Appointment Time: 01/26/2022 9:22 AM

- Comments**
- Hamann, Dan**  
Please look for reported black sheen in vicinity of trailer park. Please ta...  
01/25/2022 1:27 PM
  - Hamann, Dan**  
This work order replaces lost or damaged original w.o.  
01/25/2022 1:32 PM
  - Scholten, Jimmy**  
Followed from the detention pond up to Johnson's creek. In that path I ...  
01/26/2022 9:23 AM
  - Scholten, Jimmy**  
Recommend visiting the site again in one year.  
01/26/2022 9:23 AM
  - Hamann, Dan**  
NOTE: THIS WORK ORDER WAS PREPARED EX POST FACTO DUE TO...  
01/26/2022 12:22 PM

**Instructions:** Please look for reported black sheen in vicinity of trailer park. Please take photos. Please make a deposition of what you find and place in comments

**Resolution:**

Total Entities: 1

Asset	Asset Id	Asset Uid	Location	Warranty Date
PLYMOUTH_OPENWATERWAY	0	0		

- Pink rows indicate inventory still under warranty

Update Work Order XY when adding/removing assets?

**Details**

Project:

Account:

**Print Tree**







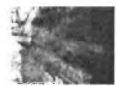











**Location Information**

WO Address: Johnson Creek 48170 Q sect. 19SW  
 Location Details: Johnson creek tributaries and outfalls-quarter section 19sw from pond at west side of Plymouth Hills Mobile Home Park north towards Five Mile

Facility Id:   
 Level Id:   
 X Location:   
 Y Location:

**Attachments**

**+ Add attachment...** **Remove all attachments**

	IMG_20220126_092230027.jpg Attached By: Scholten, Jimmy	3.34 MB 01/26/2022 9:23 AM	
	IMG_20220126_092230558.jpg Attached By: Scholten, Jimmy	3.39 MB 01/26/2022 9:23 AM	
	IMG_20220126_092231081.jpg Attached By: Scholten, Jimmy	2.98 MB 01/26/2022 9:23 AM	
	IMG_20220126_092231536.jpg Attached By: Scholten, Jimmy	2.42 MB 01/26/2022 9:23 AM	
	IMG_20220126_092232016.jpg Attached By: Scholten, Jimmy	2.70 MB 01/26/2022 9:23 AM	
	IMG_20220126_092232544.jpg Attached By: Scholten, Jimmy	3.53 MB 01/26/2022 9:23 AM	
	IMG_20220126_092233017.jpg Attached By: Scholten, Jimmy	2.70 MB 01/26/2022 9:23 AM	
	IMG_20220126_092233513.jpg Attached By: Scholten, Jimmy	3.09 MB 01/26/2022 9:23 AM	
	IMG_20220126_092234049.jpg Attached By: Scholten, Jimmy	3.56 MB 01/26/2022 9:23 AM	



IMG\_20220126\_092238465.jpg

Attached by Scholten, Jimmy

2.89 MB

01/26/2022 9:24 AM



IMG\_20220126\_092238988.jpg

Attached by Scholten, Jimmy

2.38 MB

01/26/2022 9:24 AM



IMG\_20220126\_092239527.jpg

Attached by Scholten, Jimmy

2.98 MB

01/26/2022 9:24 AM



Reservations

Equipment ID	Employee	Start Date	End Date	Comments
--------------	----------	------------	----------	----------

No records to display.

Checked Out Equipment

Equipment ID	Employee	Check Out Date	Due Date	Comments
--------------	----------	----------------	----------	----------

No records to display.

Work Cycle

Repeat: Never

Interval: 2 Months

From: Projected Start Date

Date Printed:

Next Print Date: 3/1/2021

Related Work Activities

Service Requests

Link Request:

Inspections

Link Inspection:

Work Orders

Link Work Order:

<input type="checkbox"/> Id	Description	Link Type	Priority	Status	Sul
<input type="checkbox"/> 14526	Illicit Discharge Complaint Investigation	Child	1	OPEN	Ha

**Charter Township of Plymouth**

**Pollution Complaint Tracking Form**

**Illicit Discharge Elimination Program**

Complaint made by: Stacey Allen - forwarded from PEAS

Phone #: 517-256-9557

Date: 04/08/21 from PEAS Time: \_\_\_\_\_

Location of Problem: 13270 Graefield Cir - Subdivision pond

Fresh Image - 248-919-0872

Offending Party (if known) \_\_\_\_\_

Nature of Problem (i.e. paper waste, odor, color, etc.): \_\_\_\_\_

Painting company is suspected of rinsing painting tools into the storm sewers which flows into the neighborhood pond.

Is this an Emergency?  No

Yes (then call 911)

Nature of Emergency: \_\_\_\_\_

Initial Contact made to:

911

City Dept.

Wayne County (888) 223-2363

Oakland County (248) 858-0931

PEAS Hotline (State) 1-800-292-4706

Other \_\_\_\_\_

Additional Comments:

Plymouth Township DPW was requested to investigate the above illicit discharge complaint.

Commercial painters had washed equipment in the home's backyard and run off water entered a nearby beehive that flows to pond behind complainant's home.

**Investigation Summary**

Initial Investigation

Follow-up Investigation

Date of Investigation: 04/08/21

Investigating Agency: Plymouth Twp - DPW

Location of Discharge:

13270 Graefield Circle

Crew Members:

Jimm Scholten

Investigation Location:

Above address and neighborhood pond

Observations (odor, color, volume, etc.):

DPW staff did not notice any white discharge - the milky appearing water seems to be dispersed.

Actions Taken (dye testing, notification letter, etc.):

Fresh Image was spoken to by Twp employees - it was believed they were not aware of the beehive in the rear yard and the incident was not intentional.

Were photos taken:  Yes  No

Agency Referred to: \_\_\_\_\_

Agency Contact: \_\_\_\_\_

Method of Communication:

E-mail\*  Letter/memo\*  Phone

\*Attached copies

Content of Communication:

Date Corrected or Resolved: 04/08/21



Work Order | Email | Print | Save | Close | Delete

Work Order Location Information

WO Number: 7217  
 WO Type: Illicit Discharge Complaint Investigation  
 Asset Type: PLYMOUTH\_OPENWATERWAY  
 Category: Emergency Maintenance  
 Initiated By: Hamann, Dan  
 Status: Complete  
 Supervisor: Hamann, Dan  
 Submit To: Hamann, Dan  
 Projected Start: 04/8/2021 8:32 AM  
 Completed By: Scholten, Jimmy  
 Date Closed:  
 Appointment Time:  
 Date Created: 04/8/2021 8:32 AM  
 Priority: Red (High)  
 Date Submitted: 04/8/2021 11:41 AM  
 Projected Finish: 04/8/2021 8:32 AM  
 Date Closed:  
 Finish Date: 04/8/2021 11:40 AM

WO Address: 13270 Graefield Cr, Plymouth, Michigan, 48170  
 Location Details: 13270 Graefield Circle 48170  
 Facility Id:  
 X Location: -9,299,610.783  
 Y Location: 5,217,112.009  
 Level Id:

Attachments

+ Add attachment... Remove all attachments

	IMG_20210408_113046986.jpg Attached by Scholten, Jimmy	3.46 MB 04/8/2021 11:31 AM	
	IMG_20210408_113047276.jpg Attached by Scholten, Jimmy	2.50 MB 04/8/2021 11:31 AM	
	IMG_20210408_113047615.jpg Attached by Scholten, Jimmy	3.92 MB 04/8/2021 11:31 AM	
	IMG_20210408_113047917.jpg Attached by Scholten, Jimmy	3.62 MB 04/8/2021 11:31 AM	
	IMG_20210408_113048189.jpg Attached by Scholten, Jimmy	3.04 MB 04/8/2021 11:31 AM	
	IMG_20210408_113048590.jpg Attached by Scholten, Jimmy	3.85 MB 04/8/2021 11:31 AM	

Comments: Add Comment Sort ▲

Hamann, Dan  
 Please investigate IDEP complaint See FEAS report attached.  
 04/8/2021 8:34 AM

Scholten, Jimmy  
 Received pictures from homeowner across the street. The company L...  
 04/8/2021 11:41 AM

Scholten, Jimmy  
 When arrived on scene this morning I didn't notice any white discharg...  
 04/8/2021 11:41 AM

Instructions: Please investigate IDEP complaint See FEAS report attached. Please obtain info from PEAS caller and obtain any photographs if possible.

Resolution:

Total Entities: 1

Asset	Asset Id	Asset Uid	Location	Warranty Date
<input type="checkbox"/>	PLYMOUTH_OPENWATERWAY	0	0	

Discl status indicates inspection still under way.









## Visel, Sarah

---

**From:** Hamann, Dan  
**Sent:** Tuesday, June 29, 2021 8:31 AM  
**To:** Visel, Sarah  
**Subject:** FW: Paint dumping complaint  
**Attachments:** 4-7-21\_ homeowner 1.png; 4-7-21\_ homeowner 2.png; 4-7-21\_ homeowner 3.png; 4-7-21\_ homeowner 4.png; 4-7-21\_ homeowner 5.png; 4-8-21 IDEP work order.png; 4-8-21 outlet from pond on s. side N. Territorial 2.jpg; 4-8-21\_DPW 1.png; 4-8-21\_DPW 2.png; 4-8-21\_DPW 3.png; 4-8-21\_DPW 4.png; 4-8-21\_DPW 5.png; 4-8-21\_DPW 6.png; 4-8-21\_GIS\_water bodies\_water courses.png; 4-8-21\_outfall from pond on n. side of N.Territorial.png; 4-8-21\_outlet from pond s. side of N. Territorial.png; 4-8-21\_outlet from pond s.side of N. Territorial.png; entry point to torm water sys @ rear of 13225 Graefield.png; PEAS - 26090 - Paint disposed of in subdivision pond - Plymouth - Wayne.pdf

**From:** Hamann, Dan  
**Sent:** Friday, April 9, 2021 9:19 AM  
**To:** Hedges, Martin (EGLE) <HENDGESM@michigan.gov>; Martin, Carol <cmartin@plymouthtp.org>  
**Cc:** Fellrath, Patrick <pfellrath@plymouthtp.org>  
**Subject:** RE: Paint dumping complaint

Dear Mr. Hedges,

Please find attached photos from the complainant and a few my staff took yesterday. There is a home across from complainant that is being painted by commercial painters and they washed equipment in that home's backyard. Run off water entered a nearby beehive that flows to pond behind complainant's home. That pond subsequently flows north to eventually another pond on north side of N. Territorial Rd. and possibly, eventually to Johnson Creek. In the photos my staff took that reflect what complainant took on 4-7-21, the milky (white latex paint) appearing water seems to be nearly entirely dispersed. I include a screen shot of our work order in which our employees deposition contains painting company name and number. Please advise if there will be further follow up. In order to send this I had to resize all of the attachments.

Thank You,

Dan Hamann  
DPW Foreman  
Charter Township of Plymouth  
46555 Port St. Plymouth, Mi. 48170  
734-564-2853

**From:** Hedges, Martin (EGLE) <HENDGESM@michigan.gov>  
**Sent:** Thursday, April 8, 2021 8:14 AM  
**To:** Martin, Carol <cmartin@plymouthtp.org>

Charter Township of Plymouth

Illicit Discharge Elimination Program

Pollution Complaint Tracking Form

Complaint made by: \_\_\_\_\_ Phone #: \_\_\_\_\_

Date: 08/18/21 Time: 14:12

Location of Problem: 15119 Robinwood Offending Party (if known) \_\_\_\_\_

Nature of Problem (i.e. paper waste, odor, color, etc.): \_\_\_\_\_

Gasoline or other flammable liquid spilled in Roadway \_\_\_\_\_

Is this an Emergency?  No

Yes (then call 911)

Nature of Emergency: \_\_\_\_\_

Initial Contact made to:  
 911  
 City Dept. \_\_\_\_\_  
 Wayne County (888) 223-2363  
 Oakland County (248) 858-0931  
 PEAS Hotline (State) 1-800-292-4706  
 Other Fire Department \_\_\_\_\_

Additional Comments:  
Resident contacted TWP fire dept to wash down fluids from a delivery truck in front of listed address.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Investigation Summary**  
 Initial Investigation  
 Follow-up Investigation  
Date of Investigation: 08/18/21  
Investigating Agency: Twp Fire  
Location of Discharge: 15119 Robinwood  
Crew Members: \_\_\_\_\_  
Investigation Location: \_\_\_\_\_  
Observations (odor, color, volume, etc.): a small amount of fluid in the street  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Actions Taken (dye testing, notification letter, etc.):  
PTFD personnel placed absorbent on the spill.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Were photos taken:  Yes  No  
Agency Referred to: \_\_\_\_\_  
Agency Contact: \_\_\_\_\_  
Method of Communication:  
 E-mail\*  Letter/memo\*  Phone  
\*Attached copies  
Content of Communication:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Corrected or Resolved: 08/18/21

Incident Supplement No: 210001988-001 (000) 	Report Type: Incident Report	Report By Personnel: Loudon, Andrew (283)	<b>001</b>
---------------------------------------------------------------------------------------------------------------------------------	---------------------------------	----------------------------------------------	------------

<p><b>PLYMOUTH TOWNSHIP FIRE DEPARTMENT</b></p> <p>9911 N. Haggerty Road Plymouth, MI 48170 Phone: 734-354-3230</p>	
-----------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

**Incident Details**

Alarm Date & Time <b>08/18/2021 14:12:11</b>	Arrival Date & Time <b>08/18/2021 14:16:00</b>	Controlled Date & Time	Last Unit Cleared Date & Time <b>08/18/2021 14:40:46</b>
Response Time <b>00:03:49</b>	Priority Response? <b>No</b>		
Incident Type <b>411 - Gasoline or other flammable liquid spill</b>	Fire Dept. Station <b>ST1</b>	Shift <b>B-SHIFT B</b>	
Aid Given or Received <b>N - None</b>			
Action Taken 1 <b>45 - Remove hazard</b>	Action Taken 2	Action Taken 3	
Apparatus - Suppression Count <b>1</b>	Apparatus - EMS Count	Apparatus - Other Count	
Personnel - Suppression Count	Personnel - EMS Count	Personnel - Other Count <b>2</b>	
EMS Provided? <b>No</b>	Civilian Casualty? (Count) <b>No</b>	Personnel Casualty? (Count) <b>No</b>	
Property Use <b>962 - Residential street, road or residential driveway</b>	Mixed Use <b>-</b>		
Property Loss <b>\$0.00</b>	Property Value <b>\$0.00</b>	Contents Loss <b>\$0.00</b>	Contents Value <b>\$0.00</b>

**Location**

Location Type <b>Address</b>	Address <b>15119 ROBINWOOD</b>	City, State Zip Code <b>PLYMOUTH TWP, MI 48170</b>			
District <b>Station #2</b>	Section No	Census Tract	CAD Mapindex	Directions <b>15119 ROBINWOOD</b>	Longitude <b>-83.4555506</b>
				Latitude <b>42.3940174</b>	

**Situation**

Initial Dispatch Code <b>411 - Gasoline or other flammable liquid spill</b>	Final Dispatch Code <b>411 - Gasoline or other flammable liquid spill</b>	Incident Delay			
Incident Reported By	Response Type	Critical Incident? <b>No</b>	Team Mobilized? <b>No</b>		

**Narrative:**

Narrative Type <b>INCIDENT</b>	Narrative Description <b>E1</b>	Written By <b>64LOUDONA</b>	Approved By
-----------------------------------	------------------------------------	--------------------------------	-------------

E1 responded to a washdown of fluids from a delivery truck in front of the listed address. The call was placed by the homeowner to Twp. hall. The fire chief ordered an engine to go to the location to assist. E1 arrived on scene to find a small amount of fluid in the street. E1 made contact with the home owner and advised that PTFD personnel would lay down absorbent. PTFD personnel placed absorbent to the spill to absorb the fluids. E1 clear.

**Charter Township of Plymouth**

**Pollution Complaint Tracking Form**

**Illicit Discharge Elimination Program**

Complaint made by: Earl Baker - made to FOTR

Phone #: 734-765-5840

Date: 08/19/21 Time: \_\_\_\_\_

Location of Problem: Ann Arbor Rd. @ Tonquish Creek Offending Party (if known) \_\_\_\_\_

Nature of Problem (i.e. paper waste, odor, color, etc.): \_\_\_\_\_

Discharge of raw sewage into the creek \_\_\_\_\_

Is this an Emergency?  No

Yes (then call 911)

Nature of Emergency: \_\_\_\_\_

Initial Contact made to:

911

City Dept. \_\_\_\_\_

Wayne County (888) 223-2363

Oakland County (248) 858-0931

PEAS Hotline (State) 1-800-292-4706

Other FOTR forwarded to Ply Twp \_\_\_\_\_

Additional Comments:

Specified area was checked for evidence of sewage discharge

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Investigation Summary**

Initial Investigation

Follow-up Investigation

Date of Investigation: 08/19/21 and 09/15/21

Investigating Agency: DPW

Location of Discharge: \_\_\_\_\_

Ann Arbor Rd @ Tonquish Creek

Crew Members:

Dan Hamann

Investigation Location:

Ann Arbor Rd @ Tonquish Creek

Observations (odor, color, volume, etc.):

Checked 5 outfalls near specified area, found no evidence of sewage discharge

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Actions Taken (dye testing, notification letter, etc.): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Were photos taken:  Yes  No

Agency Referred to: \_\_\_\_\_

Agency Contact: \_\_\_\_\_

Method of Communication:

E-mail\*  Letter/memo\*  Phone

\*Attached copies

Content of Communication:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date Corrected or Resolved: 09/15/21

Email
 Print
 Save
 Close
 Delete

Work Order

11814  
 Illicit Discharge Complaint Investigation  
 PLYMOUTH\_OPENWATERWAY Change

Emergency Maintenance  
 Hamann, Dan  
 Closed  
 Priority: Medium Low

Date Created: 05/15/2021 9:26 AM  
 Date Submitted: 08/19/2021 11:00 AM  
 Projected Finish: 08/19/2021 12:00 PM  
 Date Closed: 9/15/2021 9:35:41 AM  
 Finish Date: 08/19/2021 12:00 PM

Add Comment  
 Hamann, Dan  
 Please check outfalls for evidence of sewage discharge

Hamann, Dan  
 checked 5 outfalls near specified area. found no evidence of sewage ...  
 Please check outfalls for evidence of sewage discharge

Assets  
 Asset Id Asset Uid Location Warranty Date

\_OPENWATERWAY 0 0  
 Date inventory still under warranty

Details  
 Account  
 Contractor

Location Information

WO Address: Ann Arbor Rd @ Tonquish Creek 48170  
 Location Details: AA Rd @ Tonquish Creek

Facility Id:  
 X Location:  
 Level Id:  
 Y Location:

Category:

Attachments

+ Add attachment... Remove all attachments

Drag and drop files here to attach them.

Reservations

Equipment ID	Employee	Start Date	End Date	Comments
No records to display.				

Checked Out Equipment

Equipment ID	Employee	Check Out Date	Due Date	Comments
No records to display.				

Work Cycle

Repeat: Never  
 Interval: 2 Months  
 From: Projected Start Date  
 Date Printed: 1/24/2022 Next Print Date: 9/13/2021

Related Work Activities

Service Requests  
 Link Request

Id	Date Initiated	Description	Link Type	Priority	Category	Submit To	Dis
No records to display.							

Open SRS Remove

Inspections

Link Inspection

Id	Type	Description	Link Type	Entity Id	Entity Type	Date	Inspected By
No records to display.							

**Appendix D7**

**Wayne County Pollution Complaint Documentation**

**Rouge River Watershed Complaints January 1, 2020-December 31, 2021**

Have you received and investigated any pollution complaints? YES

Summary and details on complaints received in 2020/2021 below:

**2020**

	<i>Number of complaints</i>	<i>Number of Confirmed Illicit Discharges</i>
Year	2020	2020
<b>Water Quality Complaints - DOE-Water Quality Division</b>	23	8
<b>Number of calls into Wayne County Hotline</b>	NA	NA
<b>Types of Complaint Investigations</b>		
Illicit Discharge – oil/fuel	2	2
Illicit Discharge – sewage/grey water	2	1
Illicit Discharge – paint	1	
Illicit Discharge – other Dumping	2	1
Requesting Information/Technical Assistance	1	
Soil Erosion Sedimentation Control	4	1
Foaming/Turbidity	3	
Drainage/flooding	3	
Illicit Discharge-Algicide	1	1
Unauthorized discharge	1	
Dead fish	1	
Concrete Washout		
Discoloration-Surface water		
Unseated Sanitary Sewer manholes		
Suspicious discharge		
<b>Emergency Spill Response</b>		
<i>List type(s) here:</i>		
<i>Subtotal, Emergency Spill Response</i>		
<b>Illicit Discharges Identified during Routine Field Operations</b>	<i>Suspicious Illicit Discharge</i>	<i>Confirmed Illicit Discharges</i>
Assignment: <b>ALL</b>		
<i>List type and source (LRMD, FMD. Parks etc) here</i>		
ESD Soil Erosion/Sedimentation	2	2



## Complaint investigation- Rouge River Watershed Summaries January 1, 2020-December 31, 2020

2020

### Rouge River Watershed

#### 1. January 4, 2020 Sediment Discharge

A Friends of the Rouge (FOTR) staff person reported an active sediment discharge impacting the Middle Rouge River that was occurring on Saturday, January 4, 2020, at 10:49am. The outfall is located on the Middle Rouge in the City of Dearborn Heights near Parr Park. FOTR staff contacted the State of Michigan Pollution Emergency Alerting System to report the discharge and Michigan Environment, Great Lakes, and Energy (EGLE) staff responded and tracked the source to a broken water main/road work being performed on Ann Arbor Trail. There were no sediment controls in place and the agency (or contractor) performing the work was informed of this. EGLE staff was going to contact the Wayne County Environmental Services Division Director Patrick Cullen about the project. On Monday January 7, 2020, the information on this complaint was shared with the Soil Erosion program manager. No further action from is needed on this complaint.

Illicit discharge confirmed: yes (EGLE)- third party

#### 2. February 4, 2020 Johnson Creek Foaming Northville Township

Friends of the Rouge (FOTR) received a call from a resident reporting large amounts of foam on the Johnson Creek near Six Mile and Beck Roads, and downstream. EGLE was contacted and their staff could not respond, but a report was filed. The foam was observed January 18, 2020, and it is still present. ESD investigated the foaming on February 5, 2020. Pockets of foam present downstream of the riffle at Beck and Six Mile Roads were verified. There was brownish organic material present in some of the foam pockets. Took a sample of the foam/water and used test kits to analyze for ammonia, surfactants, and tannin/lignin. No concentration of surfactant or ammonia were detected, but there was 2.5ppm of tannin/lignin. This result shows that there were tannin/lignans present in the sample. Tannin/lignin are organic and result from the breakdown of plant materials/wood. The turbulence at the riffle and where fast-moving water is present does help create the foam if the materials are present in the water. No further investigation of the complaint is needed at this time.

Illicit discharge confirmed: no

#### 3. February 25, 2020: A Canton Township resident is about the maintenance and flooding around the storm water pond and surrounding common area around the pond, located in her subdivision. She did not report any issues with flooding of the roads in the subdivision, which do appear to be under Wayne County jurisdiction according to the County's MS4 system maps

Illicit discharge confirmed: no

#### 4. March 2, 2020: ESD received a complaint from a Canton Township resident who reports having a lot of water in the yard and recently had to have the living room of the home lifted and repaired. The complaint may be attributable to poor drainage on the property. The property backs up to Lilley Road and Terrell court, which are both Wayne County roads. ESD investigated March 3, 2020, and it appears the yard over time has sunken/receded compared to neighboring properties. All the

adjacent yards appear to be at a slightly higher evaluation than that of the complainant. The flooding is contributing to issues regarding the home's foundation and/or structure as to the flooding in the family room on the west side as well as the basement on the east side of the home. It does appear that some of the water from the yard does flow into the county's MS4 storm sewer along Lilley Road that discharges into Fellows Creek to the south of Terrell Court. During the investigation, it was noted that the yard was supersaturated with water with several spots of pooling water present. The complainant informed ESD that the water had finally receded, but that the flooding is an ongoing issue, especially during the spring and summer. No issues were observed with the storm drains on the street. All the stormwater behind the property pools in the backyard and does not flow south along the cul- de- sac (Terrell Court). Based on the investigation findings it is recommended that the complainant would benefit from either having a storm drain installed in the backyard or have the backyard elevated with additional soil to increase the property elevation so that stormwater from neighboring properties do not flow into her yard. The complainant was provided with the Friends of the Rouge Rain Management brochure and suggested that FOTR be contacted for additional advice. No further investigation is needed at this time.

Illicit discharge confirmed: no

5. February 12, 2020 Reported Sewage Overflow - Romulus GM Plant

ESD received a call from a Romulus resident regarding a sewage overflow occurring at the Romulus GM facility. The sewage overflow was reported to Romulus DPW. They sent a crew out to investigate. Mike and I went out and surveyed around the perimeter of the plant (that we could observe without accessing the facility). We did not observe an active overflow from that vantage point. ESD did not observe discharges to the McClaugherty Drain, which is located adjacent to the facility. ESD staff called the GM Romulus facility, and the environmental engineer, Michael Kennedy, confirmed that there was a sewage backup at the facility. It is contained and being remediated at this time. Some of the sewage overflow went to a stormwater pond onsite. None of the sewage migrated from the property. This pond does discharge into the McClaugherty Drain. The facility called EHD to report the sewage discharge. The discharge was also reported to EGLE. The engineer stated that when overflows have occurred in the past, EGLE gave permission to discharge water from the pond. Romulus DPW was also informed of this (and they learned about it during their investigations).

Illicit discharge confirmed: yes (third party)

6. March 31, 2020 Gas spill, Randolph Street Drain, Northville

Oakland County Water Resources Commission had a crew out on the Randolph Street Drain this morning at about 9:30 that reported gas coming into the open portion of the Randolph from the Mobile Gas station at 701 8 Mile Rd, on the North side of 8 mile. It's a substantial flow of product with lots of flow in the Randolph. It's probably already down in the Rouge. Don't know how long this has been occurring or how much product was released. We have a crew on site, and have contacted the station manager, Oakland County Safety Dispatch, Northville FD, and EGLE. This has been an ongoing issue at this gas station. Fuel is contained onsite. PLM and Oscar Larson are handling cleanup, source investigation and reporting to EGLE. EGLE RRD will handle any additional remediation and corrective actions required.

Illicit discharge confirmed: yes (third party)

7. April 18, 2021 Petroleum sheen Lower Rouge- Wayne

Sheen on the Lower Rouge reported by a water trail volunteer at a location 1/4 mile east of John Hix, and approx. 600' north of Michigan Ave. west. The City of Wayne investigated, and the incident was also reported to EGLE. The sheen and oil odor appeared to be from runoff by recent rains. Wayne DPW staff placed a boom in the river as a precautionary measure. The boom was removed after consultation with EGLE staff and did not appear to have absorbed petroleum product. No investigation performed by ESD.

Illicit discharge confirmed: yes- addressed by EGLE and Local community (third parties)

8. 5/14/2020 Stormwater Drainage- Canton Township

Homeowner concerned over inadequate drainage in residential yard and what agency has the responsibility to address. ESD consulted with Wayne County Roads, and Wayne County does not have jurisdiction over personal property drainage, so the resident was referred to contact the subdivision HOA.

Illicit discharge confirmed: no

9. May 12, 2020 Sedimentation – Northville

An anonymous caller reported to Oakland County Safety Dispatch a construction site at 528 Randolph Street in the City of Northville. The complainant reports the silt fences are down and excavators are working in the stream along the Randolph Street Drain. It appeared that the site is South of Baseline (8 Mile Road) in Wayne County. The Randolph is an Inter-County Drain. This complaint was referred to Wayne County Soil Erosion for compliance

Illicit discharge confirmed: no- referred to appropriate SCSC

10. 5/27/2020 Sedimentation Lower Rouge Inkster

Sediment discharge observed at the John Daly Road crossing by ESD staff performing routine water quality monitoring. Referred to Wayne County soil erosion for referral to the appropriate local enforcement agency for compliance.

Illicit discharge confirmed: yes

11. 5/28/2020 non-point source pollution and wildlife concerns Mott Drain Canton Township

ESD received an e-mail from a Canton Township resident concerned about wildlife and the riparian corridor along the Wayne County Drain (Mott Drain) behind the person's home, which is in the Pheasant Run subdivision. The homeowner was provided a public education article to share with the Homeowners Association (HOA) for publishing in the newsletter to inform residents about being good watershed stewards

Illicit discharge confirmed: no

12. 7/23/2020 Fellows Creek Algicide Canton Township

A Canton Township resident reported that Fellows Creek had a purple-blue discoloration. This was confirmed and reported to EGLE staff in Lansing and SEMI district. Efforts to track the source of the discoloration, which appeared to be an algicide, such as Aquashade. No source was identified.

Illicit discharge confirmed: yes

13. 6/4/2020 Illegal dumping City of Detroit Eliza Howell Park

A City of Detroit resident reported illegal dumping in Eliza Howell Park in the woods behind her home. The dumping was done near the Rouge River. Two males in a late model Jeep dumped bedding boxes, Styrofoam, and other packing material and drove away. She has a video of the dumping and the suspects. She did not see a license number for the vehicle. She called the police and planning to clean the material up herself. Referred to the City of Detroit, and their staff responded to the complaint.

Was an illicit discharge confirmed: no

14. 6/20/2020 Fish in storm drain Canton Township

A Canton Township resident reported dead fish in a storm drain in Canton Township residential yard. The storm drain in the yard is not part of the County's drainage network and not the responsibility of Wayne County. Recommended the resident contact the residential homeowner's association (HOA) as to what drainage infrastructure was installed for drainage when the subdivision was built, and if maintenance could be performed to remove the dead fish.

Illicit discharge confirmed: no

15. 7/23/2020 City of Plymouth- concrete track out

Vehicle track out onto residential streets originating from Messina Concrete, Plymouth was observed. The sediment from the facility track out was observed draining into a storm drain on Junction Street, which eventually drains to Tonquish Creek. Observations were referred to the City of Plymouth and EGLE Air Quality and Surface Water for follow up. Recommendations for BMPs for the facility were discussed with City representatives and EGLE staff

Illicit discharge confirmed: yes

16. 6/29/2020 Johnson Creek Turbidity Northville

A Northville resident reported cloudiness in Johnson Creek and that the Creek is more turbid than in the past. The creek was investigated, and no illicit discharges were detected at the time. Cloudiness to the creek may be attributed to low water and increasing development upstream may be generating more runoff and nonpoint source pollution to the Creek than in previous years.

Illicit discharge confirmed: no

17. August 28, 2020 Johnson Creek Foaming Northville Township

A Northville resident collected a water sample on Johnson Creek at the confluence of a natural watercourse, that drains a wetland upstream from his house. He also has photos of a brownish white foam present at the riffle on Johnson Creek and the natural watercourse. The metropolitan Detroit area was receiving heavy rainstorms and thundershowers and had received approximately 1.15 inches of rain at the time the caller reported the foaming at 10:07am. ESD investigated the complaint and collected samples at two locations- the natural watercourse/Johnson Creek (same location as the sample the resident collected), and at the outlet of the wetland. The water leaving the wetland does create a watercourse that has a downhill gradient until it meets Johnson Creek

The samples were tested for tannin/lignin and anionic surfactants. Interference was noted in the surfactant samples as sulfate is likely present in the water. Based on the low levels of surfactant in

the sample, and presence of Tannin/Lignin, it is suspected that the foaming is due to natural phenomena.

Illicit discharge confirmed: no

18. July 21, 2020 Arbor Hills unauthorized discharge Northville Township

ESD notified of an unauthorized discharge from Arbor Hills that occurred on July 7, 2020. The discharge impacted the drainage ditch that discharges to Johnson Creek in Northville Township. Given the length of time that has passed since the event occurred, it was determined that no follow up investigation was needed at this time.

Illicit discharge confirmed: no

19. Sep 2, 2020 Soil Erosion Canton Township

A Canton Township resident reports soil erosion occurring at a construction site. on Fellows Creek. water is blocked in the creek and a pump is set up to transfer water from one side of the crossing to the other side while the construction is ongoing at the crossing. The complaint was referred to Wayne County Soil Erosion, who did not find soil erosion compliance issues at the site. The site construction plan includes stabilizing and revegetating the streambanks once the work is completed.

Illicit discharge confirmed: no

20. 9/15/2020 Paint Dumping Canton Township

A Canton Township resident reported observing a neighbor dumping paint down a storm drain in the subdivision. This complaint was investigated, and some paint residue was observed on the storm drain grate, and none was observed in the catch basin. There was no response at the suspect residence.

Illicit discharge confirmed: no

21. October 2, 2020 Sewage odor Livonia

A complaint received from a Livonia resident regarding sewage odor in the Upper Rouge was forwarded to ESD and investigated. The Upper Rouge at the complaint location was clear, and no evidence of illicit discharge was noted. Some tires were observed in the river at the site. There is a sanitary sewer system siphon near the crossing and the sewage odor appears to be originating from there. The results of the complaint investigation were shared with the complainant and EGLE.

Illicit discharge confirmed: no

22. October 9 2020 stormwater runoff/illegal dumping- Dearborn Heights

FOTR staff referred a complaint about construction adjacent to the Rouge River from a Dearborn Heights citizen. The complainant is concerned about the condition of the site and the impact of the stormwater runoff on the Rouge River. ESD investigated the site. Wayne County Parks staff. Some illegal dumping was observed on the property. This condition was referred to Dearborn Heights compliance, Wayne County Soil Erosion and Wayne County Parks.

Illicit discharge confirmed: yes

23. 12/14/2020 Soil Erosion Northville Township

Northville Township staff received a call from a resident regarding a homeowner that cleared land and is building a deck (with no permit) adjacent to the Johnson Creek. Northville Township notified the homeowner that a building permit was required. This complaint was referred to Wayne County Soil Erosion for further follow up if needed.

Illicit discharge confirmed: no

2021

	<i>Number of complaints</i>	<i>Number of Confirmed Illicit Discharges</i>
Year	2021	2021
<b>Water Quality Complaints - DOE-Water Quality Division</b>	19	
<b>Number of calls into Wayne County Hotline</b>	NA	
<b>Types of Complaint Investigations</b>		
Illicit Discharge – oil/fuel	4	1
Illicit Discharge – sewage/grey water	4	1
Illicit Discharge – paint	1	
Illicit Discharge – other Dumping		
Requesting Information/Technical Assistance		
Soil Erosion Sedimentation Control	4	3
Foaming/Turbidity		
Drainage/flooding		
Illicit Discharge-Algicide		
Unauthorized discharge		
Dead fish		
Concrete Washout	1	
Discoloration-Surface water	3	
Unseated Sanitary Sewer manholes	1	
Suspicious discharge	1	
<b>Emergency Spill Response</b>		
<i>List type(s) here:</i>		
<i>Subtotal, Emergency Spill Response</i>		
<b>Illicit Discharges Identified during Routine Field Operations</b>	<i>Suspicious Illicit Discharge</i>	<b>Confirmed Illicit Discharges</b>
Assignment: <b>ALL</b>		
<i>List type and source (LRMD, FMD, Parks etc) here</i>		
ESD Soil Erosion/Sedimentation		

Complaint investigation- Rouge River Watershed Summaries January 1, 2021-December 31, 2021

1. January 21, 2021 Paint discharge Tonquish Creek Plymouth City

A Plymouth City resident reported a whitish colored discharge originating from the large outfall between Coolidge and Harding Streets near Lions Park. The complainant observed a company called Paint in Manning working on a job at the corner of Coolidge and Joy Streets. The observations were reported to City staff. City staff followed up on the complaint, and the discharge was not active at the time of investigation, and they plan to do further investigation

Illicit discharge confirmed: no

2. February 26, 2021 Blackish discharge-Johnson Creek Plymouth Township

A contractor performing survey work on the Johnson Creek Intercounty Drain observed a black water discharge originating from a tributary. It appears to be discharging from a small tributary from the Plymouth Hills Estates. There is a stormwater pond and wetland areas upstream of that tributary according to Google Maps. It appears that the blackish material was organic material and does not appear to be an illicit discharge.

Illicit discharge confirmed: no

3. April 19, 2021 Sedimentation- Sump Intercounty Drain Northville Township

A FOTR volunteer reported a heavy turbid discharge into the Sump Intercounty Drain. The discoloration originated from the enclosed portion of the Sump Drain from Oakland County. The Oakland County Water Resources Commission was made aware of the condition. Oakland County Soil Erosion inspectors found an unpermitted single family construction site upstream of where the discharge was reported. The property owner was issued a compliance letter ordering them to get a permit and to protect the catch basin in the yard and to install silt fence.

Illicit discharge confirmed: yes (third party)

4. April 27, 2021 concrete washout-Northville Township

A Northville Township resident reported concrete washout occurring at a residence where construction was taking place. Northville Township staff investigated and inspected the catch basins on the street and the construction area. No evidence of concrete washout was evident on the catch basins, and it appeared the concrete contractor was following washout BMPs.

Illicit discharge confirmed: no

5. May 6, 2021 Lower Rouge discoloration- Canton Township

ESD staff observed a reddish discoloration on the Lower Rouge in Wayne while performing routine monitoring. FOTR staff also observed the discoloration further downstream. The discoloration was attributed to a substance in the YCUA effluent. YCUA staff was notified of the discoloration, and they were performing inspections inhouse, analyzing the effluent, and investigating the collection system for potential sources. A specific source of the discoloration was not identified but appears to be a tracing dye.

Illicit discharge confirmed: no



6. May 7, 2021 Fellows Creek discoloration Canton Township

A Canton Township resident contacted FOTR about a greenish discoloration observed on Fellows Creek. The resident contacted the EGLE PEAS hotline to report the incident and EGLE was investigating.

Illicit discharge confirmed: no

7. June 10, 2021 Oiled birds- Rouge River Dearborn

EGLE staff provided ESD an FYI as to oiled birds discovered in the Rouge River by the Ford Rouge plant. EGLE RRD and WRD are notified of the issue and were investigating the source of the oil that affected the birds.

Illicit discharge confirmed: yes (third party)

8. July 2, 2021 Sewage discharge- Hines Park Dearborn Heights

ESD received an email from FOTR staff regarding strong sewage odors/sewage discharge evidence at two locations along Hines Drive in Dearborn Heights in the Parr Recreation area (Hines West of Telegraph) and Wallaceville Recreation Area (near Beech Daly/Hines). Wayne County Drains and ESD staff investigated and found large areas in the floodplain that were impacted by an unidentified sewage source (gray/black water, sewage odor, and debris).

The sewage source (s) may be from CSOs/SSOs that occurred during the historic rain events, and from water ponding in the low points of the floodplain after the waters receded. One of the manhole covers on the Rouge Valley Interceptor sewer was found dislodged, so that system may have overflowed/mixed with the flood water during the recent rain events.

Wayne County Parks was notified as the standing water/sewage posed a potential public health risk to those who may walk in the impacted area or come in contact with the water. Parks staff cordoned off the areas to limit access and the Drains office was in the process of contacting a contractor to spread lime in contaminated areas.

Illicit discharge confirmed: yes

9. July 6, 2021 Unseated manholes-Hines Drive Dearborn Heights

FOTR staff reported to ESD that unseated manholes were also discovered in the area between Hines Drive/Beech Daly in an area that was underwater previously. Drains staff was deployed to reseal the manholes.

Illicit discharge confirmed: no

10. July 6, 2021 Sewage Discharge- Rouge Park City of Detroit

FOTR staff reported a pool of black sewage water in a field in Rouge Park where Lahser dead ends at the river just north of Joy by the Lahser Marsh. FOTR staff was advised to report these observations to the City of Detroit Parks and Recreation/Department of Public Works for investigation.

Illicit discharge confirmed: no

11. July 9, 2021 Oil release Canton Township auto facility

ESD received a voice mail and e-mail from Canton Township staff regarding an oil release that was occurring at Canton Auto Service. According to Canton Township, the complainant reported that the facility is discharging oil into storm drains and to a stormwater pond. Canton Township responded to the complaint and placed booms in the pond to collect the oil. In addition to contacting the Township, the complainant also called EGLE and the EPA. She claims the Auto Service company is discharging oil into the storm drain. She stated someone from the EPA (State of Michigan EGLE?) was onsite yesterday but did not have a name or number of the person who investigated.

ESD staff called to talk to the complainant, and she said the dumping at the facility has been going on for a long time and she does observe oil in the pond after a rain. She observed inlets into the storm sewer where oil was entering the storm sewer system. She alleges the facility dumps other fluids such as antifreeze and the employees say if it because the owner orders them to do so. ESD confirmed that EGLE staff was at Canton Auto Service, and it was confirmed there was a discharge of oil that occurred into the pond, but it appears the petroleum product has not migrated from the pond at this time. According to EGLE, there are multiple issues going on at the facility, including a history of dumping, and the possibility of an illicit connection in the building. There are over 300 tires stored on the site as well. The complainant reported observing some dead ducks in the pond. The EGLE staff did not observe any but referred the matter to MDNR. According to EGLE, the owner is not being very responsive and cooperative. It does not appear that the Wayne County MS4 or Wayne County Drainage system are being affected by the oil discharge at this time.

Illicit discharge confirmed: yes (third party)

12. July 23, 2021 Soil Erosion Northville Township

Northville Township forwarded ESD a complaint regarding a recurring soil erosion issue. The complaint was referred to Wayne County ESD Soil Erosion.

Illicit discharge confirmed: no

13. August 3, 2021 Soil Erosion-Livonia

ESD staff, while performing IDEP investigations in the City of Livonia, observed some mild track out and a catch basin needing maintenance at a development site. Also, there is an excavation going on in the front of 37598 Lyndon (residence). The contractor performing the work is dewatering the excavation site and the water is very cloudy and entering the City's MS4 via a

street catch basin. The cloudiness is visible throughout the storm system. This complaint was forwarded to Livonia's SESC enforcement personnel, who investigated.

Illicit discharge confirmed: yes

14. August 14, 2021 Discoloration- YCUA Effluent Canton Township

YCUA staff provided an update that this morning YCUA staff noticed discoloration in the influent and effluent from YCUA Plant. Upon investigation, the discoloration was traced back to the WTUA construction site where red colored water came into an excavation for pipe repair. It is unclear if it is related to some sort of dye testing by the repair crew or came in through the wastewater. YCUA staff was able to track the source of discoloration. It occurred at facility in Canton Township, which process pigments and dyes.

Illicit discharge confirmed: no

15. August 19, 2021 Sewage Odor Byron Creek City of Plymouth

FOTR staff reported that a City of Plymouth resident reported a strong sewage odor near a play area adjacent to Byron Creek. FOTR advised the complainant to contact PEAS. The complaint was investigated by ESD staff and City of Plymouth. Neither the City of Plymouth or ESD investigators detected a sewage odor in the catch basins in the street or near Byron Creek when the area was investigated.

Illicit discharge confirmed: no

16. September 22, 2021 Sedimentation City of Westland

FOTR staff reported that a development in the City of Westland, near Hines Drive, has a retention pond that was full of milky sediment. ESD provided the contact information for the City of Westland Code Compliance for follow up on the sedimentation occurring at the site.

Illicit discharge confirmed: no

17. October 8, 2021 Petroleum discharge Lower Rouge City of Wayne

A FOTR volunteer was on the Lower Rouge and stopped in the ESD office to report a fuel odor and rainbow sheen discharging from an outfall located on the north bank of the Lower Rouge. The approximate location is behind the Wayne Moose Lodge, 38050 Michigan Avenue in Wayne. He said the outfall was located just downstream of the DTE transmission tower/lines that crosses the Lower Rouge in that area. The incident was reported to PEAS and the City of Wayne. EGLE investigated on October 8, 2021 and not observe any fuel odor or sheen coming from the outfall. EGLE also checked upstream and downstream and didn't observe any sheen or odor, nor were obvious sources of pollutants. Observed along the bank of both sides of the river.

Illicit discharge confirmed: no

18. November 1, 2021 WB M-14 /Beck Fuel Spill Plymouth Township

ESD was provided an FYI from Wayne County Roads regarding a fuel spill that was reported occurring in the right lane, right shoulder of M-14 Westbound near Beck Road. The driver placed oil dry on the spilled material but stated it might not be enough containment. Recommended that the incident be reported to PEAS. EGLE was aware of the incident.

Illicit discharge confirmed: no

19. Suspicious discharge Levan Road Livonia

ESD investigated a report of a suspicious pipe and discharge that is occurring on Levan Road in the City of Livonia near a mountain bike trailhead. The pipe is black PVC, and it appears to be draining from a residence on Levan. The water discharging from the pipe is clear. The pipe drains into a ditch that drains into a gully leading towards Hines Drive, located on the west side of Levan. The discharge from this pipe is ending up on Wayne County Parks property. It does not appear to be an illicit discharge. The findings of the investigation were reported to Wayne County Parks.

Illicit discharge confirmed: no

**Appendix D8**

**City of Wayne Pollution Complaint Documentation**

# Pollution Complaints

Date Reported	Complaint	Date Investigated	Findings	Date Resolved	Resolution
10/8/2021	Fuel smell and rainbow sheen coming from an outfall located on the north bank of the Lower Rouge				
		10/11/2018	No fuel smell nor sheen observed		
		10/18/2021	No fuel smell nor sheen observed - video taken		
		10/18/2021	Original report changed to south bank		
				10/18/2021	EGLE staff visited site and found no fuel smell nor sheen - City will continue to monitor

## Mike Buiten

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**From:** Noel Mullett <Nmullett@waynecounty.com>  
**Sent:** Friday, October 8, 2021 1:19 PM  
**To:** mbuiten@ci.wayne.mi.us  
**Subject:** FW: Bill Craig Complaint

Hi Mike –

Please see below. We have contacted PEAS (confirmation #27865). Operator indicated that someone from District Office in Warren will likely be investigating. I don't believe it to be a County MS4 given the location. Do you know if it is a City outfall or private? Seem like we've had previous issues in the area before although thought it would be south bank?

Hope you doing well!

Noel Mullett Jr.  
Department Administrator  
Environmental Services Division  
Wayne County Department of Public Services  
3600 Commerce Court, Building E  
Wayne, Michigan 48184

email: [nmullett@waynecounty.com](mailto:nmullett@waynecounty.com)  
Phone: 734-326-4486  
Cell: 313-405-5634  
Fax: 734-326-4421  
Wayne County Environmental Hotline: 1-888-223-2363

*I maybe working remotely, if you need to contact me immediately please call or text me at the above cell phone number. Hope you are well. Please stay safe.*

---

**From:** Patrick Cullen <PCULLEN@waynecounty.com>  
**Sent:** Friday, October 8, 2021 12:43 PM  
**To:** Noel Mullett <Nmullett@waynecounty.com>  
**Cc:** Susan Thompson <Sthompso@waynecounty.com>  
**Subject:** Bill Craig Complaint

Hi Noel – Bill Craig was on the Lower Rouge today and stopped in the office to report a fuel smell and rainbow sheen coming from an outfall located on the north bank of the Lower Rouge. The approximate location is behind the Wayne Moose Lodge, 38050 Michigan Avenue in Wayne. He said the outfall was located just downstream of the DTE transmission tower/lines that crosses the Lower Rouge in that area.

Could you please call this into PEAS?

Bill's phone # for more info is 248-479-5127. Thanks.

Patrick Cullen, Division Director

Deputy Drain Commissioner  
Wayne County Department of Public Services  
Environmental Services Division

3600 Commerce Court  
Wayne, MI 48184  
O: 734-326-4437  
[pcullen@waynecounty.com](mailto:pcullen@waynecounty.com)



# Public Services



## Mike Buiten

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**From:** Susan Thompson <Sthompso@waynecounty.com>  
**Sent:** Monday, October 18, 2021 9:34 AM  
**To:** mbuiten@cityofwayne.com  
**Subject:** Update Lower Rouge complaint

Good Morning Mike:

Hope that you had a great weekend.

Wanted to share with you an update on the Lower Rouge petroleum sheen and fuel odor.

I contacted EGLE and they did investigate the complaint on the afternoon of October 8, 2021, at approximately 2:15 PM. The outfall was located based on photos and instructions from the complainant. **At the time of the inspection, EGLE staff did not observe any fuel odor or sheen coming from the outfall.** EGLE also checked upstream and downstream and didn't observe any sheen or odor, and no obvious sources of pollutants were observed along the bank of both sides of the river. I also contacted the complainant to get details as to what outfall the sheen was observed at and haven't heard back as of this morning.

Keep me posted on how your investigation goes, and I will likewise if I receive additional information that may be of assistance.

Take care,

Sue

Susan Thompson MS

Wayne County Department of Public Services

Environmental Services Division

3600 Commerce Court

Wayne, MI 48184

Phone: 734-326-5515

Cell: 313-999-6266

E-mail: [sthompso@waynecounty.com](mailto:sthompso@waynecounty.com)

## **Appendix E**

### **Municipal Facility Dye Testing Documentation**

Appendix E1. Number of Municipal Facilities by Permittee

Appendix E2. Documentation of Dye Testing Results Bloomfield Hills

Appendix E3. Documentation of Dye Testing Results Lathrup Village

Appendix E4. Documentation of Dye Testing Results Novi

Appendix E5. Documentation of Dye Testing Results West Bloomfield Township

## **Appendix E1**

### **Number of Municipal Facilities by Permittee**

Community	Number of permittee-owned facilities located in the Rouge River Watershed
Beverly Hills	3
Bingham Farms	0
Birmingham	24
Bloomfield Hills	2
Bloomfield Township	10
Canton Township	8
Dearborn Heights	6
Farmington	5
Farmington Hills	12
Franklin	4
Garden City	0
Henry Ford College	20
Inkster	2
Lathrup Village	2
Livonia	18
Melvindale	5
Northville	6
Northville Township	0
Novi	11
Oak Park	0
Plymouth	4
Plymouth Township	7
Redford Township	8
Southfield	20
Troy	2
Walled Lake	0
Wayne	7
West Bloomfield	12
Westland	24

## **Appendix E2**

### **Documentation of Dye Testing Results Bloomfield Hills**

## Memorandum

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To: Michigan Department of Environment, Great Lakes, and Energy

From: Hubbell, Roth & Clark, Inc.

Date: October 11, 2021

Subject: Bloomfield Hills Dye Testing Summary HRC Job No. 20180002

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Bloomfield Hills is part of the Alliance of Rouge Communities (ARC) which assists with some of the City's Municipal Separate Storm System (MS4) permit tasks. Under the ARC's Collaborative Illicit Discharge Elimination Program (IDEP) there is a requirement to dye test all City owned facilities. This task is a requirement of the MS4 program to help identify and eliminate any illicit discharge into the storm sewer system that is not stormwater or groundwater. Dye testing of this facility has not been performed previously.

On September 28, 2021 Hubbell, Roth & Clark, Inc. (HRC) performed dye testing at the Bloomfield Hills City Hall/Police/Fire building. HRC tested 4 drains at City Hall in both the old and new sections of the building. It was discovered at each of the 4 drains tested, no dye was seen in the sanitary manhole. Upon investigation, dye was spotted in a storm manhole and storm catch basin just south of City Hall/Police and Fire Department. Direction of flow in the storm sewer was from the east to west, so the dye was flowing from the storm catch basin to the storm manhole. Dye was also spotted in the Amy Drain downstream of the culvert crossing at Woodward Avenue south of Long Lake Road.

Dye was also placed in two sanitary manholes just north and east of the main sanitary manhole in order to check connectivity. Dye was spotted in the main sanitary manhole both times in less than 10 minutes. To further address this issue, HRC is currently in discussion with the City regarding a corrective action plan and schedule for implementation. The following was discussed:

- ≡ The part of the building that has these cross-connections was part of an addition several years ago
- ≡ The City will be investigating further to televise the sanitary line to trace where the connection can properly be routed

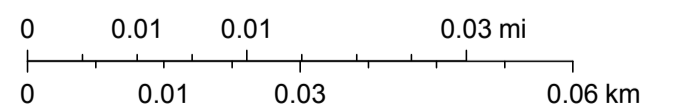
# 45 East Long Lake Road



10/4/2021, 12:08:03 PM

- |                                         |                                  |                       |
|-----------------------------------------|----------------------------------|-----------------------|
| Sanitary Manhole                        | ● Oakland County Road Commission | ➔ MDOT                |
| ● City of Bloomfield Hills              | ● MDOT                           | ➔ Private             |
| ➔ Sanitary Service Leads                | ○ Private                        | ■ Water Valve         |
| Sanitary Pipe                           |                                  | ● Water Hydrant       |
| ➔ Bloomfield Hills Sanitary Storm Pipes |                                  | — Water Service Leads |
| Storm Points                            | ➔ Bloomfield Hills               | — Water Main          |
| ● City of Bloomfield Hills              | ➔ Oakland County Road Commission | □ Tax Parcels         |

1:1,128



## **Appendix E3**

### **Documentation of Dye Testing Results Lathrup Village**



## Memorandum

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To: Dr. Sheryl Mitchell, City Administrator

From: Hubbell, Roth & Clark, Inc.

Date: February 5, 2021

Subject: Lathrup Village Dye Testing Summary

HRC Job No. 20070249

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Lathrup Village is part of the Alliance of Rouge Communities (ARC) which assists with some of the City's Municipal Separate Storm System (MS4) permit tasks. Under the ARC's Collaborative Illicit Discharge Elimination Program (IDEP) is a requirement to dye test all City owned facilities once every 5 years. This task is a requirement per the MS4 program to help identify and eliminate any illicit discharge into the storm sewer system that is not stormwater or groundwater.

Dye testing is a method used to trace sewer systems to locate any cross-connections between storm and sanitary sewer pipes. In compliance with all state regulations, a small amount of environmentally safe and EGLE-approved tracer dye is put into a sanitary drain and flushed with water. If the inlet is connected to the proper sanitary sewer, the dye will show up and be visible from an open manhole downstream. Water is flushed through the system until the dye disappears from the open manhole and the next test can then be performed. If the inlet is not connected to the proper sanitary sewer, an investigation is launched to identify where the drain outlets. The closest storm sewer is generally the best place to start looking for the tracer dye.

On December 17, 2020 Hubbell, Roth & Clark, Inc. (HRC) dye tested the City Hall and DPS building facilities. HRC tested 9 drains at City Hall and 5 drains at the DPS building. A summary table of the results and corresponding maps of the pertinent locations are attached.

HRC did not find any cross-connections or illicit discharges into the storm sewer at City Hall. However, HRC discovered two cross-connections in the DPS building. The shower drain and the garage utility sink are both connected to the storm sewer. Dye from these tests was observed in a storm drain manhole in the garage and from the trench drain just outside of the garage. To further address this issue, HRC has met with the City to discuss a corrective action plan and schedule for implementation. During this meeting, the following was discussed:

- ≡ The part of the building that has these cross-connections was part of an addition several years ago.
- ≡ Signs have been posted to prevent use of the shower and garage utility sink.
- ≡ DPS staff plan to trace the sanitary line from the kitchen sink and restroom so that the shower and utility sink can be properly rerouted.
- ≡ DPS staff will develop a corrective action plan no later than February 28, 2021.
- ≡ DPS will correct the cross-connection no later than June 17, 2022 (18 months from the dye testing, per the ARC collaborative IDEP plan).
- ≡ DPS staff will discuss the storm sewer system with the City engineer to help determine where the trench drain outlets.



**Lathrup Village**

DPW Building

Twelve Mile Rd

DPS  
BUILDING

GARAGE  
STORM  
STRUCTURE

TRENCH  
DRAIN

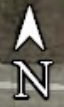
SOUTHEAST  
SANITARY  
STRUCTURE

Harry Fogats Pkwy

Rosland Blvd

Google Earth  
James Smyth St

©2020 Google



200 ft







# Lathrup Village

City Hall

Goldengate Dr W

Southfield Rd

CITY HALL

SOUTH SANITARY  
STRUCTURE

California Dr SE

California Dr SW

Google Earth

©2020 Google



## **Appendix E4**

### **Documentation of Dye Testing Results Novi**






**Facility Location: Power Park** Date: Staff: Water and Sewer Staff

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Bathrooms						Bathroom lead was verified to connect to bolted down grinder pump by W&S staff recently.

**Facility Location: Wildlife Woods** Date: 07/27/2021 Staff: Kate Purpura, Rebecca Runkel, Humna Anjum, Alex Maoney

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's bathroom	no color	11:47 AM + 11:54 AM	11:50 AM	N	Y	Manhole has tall interior drop for lead and deep 21" pipe flowing fast. Hard to see any color, but flow from lead was noticable after a few minutes.

**Facility Location: Rotary Park** Date: August 6, 2021 Staff: Rebecca Runkel, Victor Boron

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's bathroom	yellow green	9:38	9:40	N	Y	Tall interior drop, color showed up within a couple of minutes.

**Facility Location: Fuerst Park** Date: Staff:

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
						Unable to locate sanitary manhole

**Facility Location: Ice Arena** Date: 10/01/2020 Staff: Rebecca Runkel, Victor Boron, and Kate Richardson

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Rear floor drain	yellow green	2:25 PM	2:27 PM	N	Y	

Bathroom	yellow green	2:39 PM	2:42 PM	N	Y	

**Facility Location: Meadowbrook Commons** Date: August 6, 2021 Staff: Rebecca Runkel, Victor Boron

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's bathroom (main floor)	yellow green	9:21	9:27	N	Y	

**Facility Location: Civic Center** Date: June 8, 2021 Staff: Rebecca Runkel and Kate Richardson

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Unisex Bathroom	Yellow Green	9:45AM	9:50 AM	N	Y	

**Facility Location: Fire Station #1** Date: March 3, 2021 Staff: Aaron Staup, Kate Richardson, Humna Anjum, and Victor Boron

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's Bathroom	Yellow Green	1:45 PM	1:46 PM	N	Y	Manhole was slightly clogged, but a flow was still very evident.

**Facility Location: Fire Station #2** Date: March 3, 2021 Staff: Aaron Staup, Kate Richardson, Humna Anjum, and Victor Boron

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's Bathroom		1:25 PM	N/A	N	N	3/3/21 - No flow or dye was visible in the manhole with a lead. Flush was heard, but there is no evidence that waste is currently discharging to this manhole. Upstream manhole could not be lifted because it was bolted down. Further investigation is needed.
						Update - W & S investigated and found the lead in the bolted down manhole.

**Facility Location: Fire Station #3** Date: March 3, 2021 Staff: Aaron Staup, Kate Richardson, Humna Anjum, and Victor Boron

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Bathroom	-	2:30 PM	-	N	N	Could not find a manhole on the sanitary sewer lead. Closest manhole according to as-built plans is over the 21" interceptor, which has an extremely high flow rate. No dye was observed in nearby storm sewer or in the interceptor.

Facility Location: Fire Station #4		Date: November 17, 2021		Staff: Rebecca Runkel and Kate Purpura		
Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's Bathroom	Yellow Green	10:09 AM	10:24 AM	N	Y	Manhole had some blockage before the flow from the dye test was evident.

Facility Location: Fire Station #5		Date: March 3, 2021		Staff: Aaron Staup, Kate Richardson, Humna Anjum, and Victor Boron		
Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Unisex Bathroom	Yellow Green	3:00 PM	3:10 PM	N	Y	Dye took a while to see in the sanitary sewer main along Beck Road since there is a pump for the building lead. It required a lot of flushing/time running the sink to trigger the pump. Dye was obvious in the pump and sanitary sewer manhole.

Facility Location: Police Station		Date: June 8, 2021		Staff: Rebecca Runkel and Kate Richardson		
Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Unisex Bathroom	Yellow Green	10:03 AM	10:07 AM	N	Y	Utility map incorrect. Deadend sanitary manhole is actually a storm sewer manhole.

Facility Location: Lakeshore Park		Date: November 3, 2021		Staff: Kate Richardson and Humna Anjum		
Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's Bathroom	Yellow Green	12:46 PM	1:06 PM	N	Y	


**Facility Location: Library** **Date: June 8 + 21, 2021** **Staff: Rebecca Runkel and Kate Richardson**

Dye Drop Location	Color	In-Time	Out-Time	Storm (Y or N)	Sanitary (Y or N)	Notes
Women's Bathroom	-	10:19 AM + 10:23 AM	-	N	Y	Need to test again with flashlight. Could not tell what color the sanitary flow was due to depth of manhole and limited flow.
Women's Bathroom	faintly green	1:35 PM	1:46 PM	N	Y	Took a while to see flow and even then the flow was minimal. Faintly green. Lead may have a blockage. Reported to Scott.

## **Appendix E5**

### **Documentation of Dye Testing Results West Bloomfield Township**

# WEST BLOOMFIELD TOWNSHIP DYE TESTING FORM

---

**Facility/Location/ID:** Lily Pad Springs / 6200 Farmington Rd, West Bloomfield, MI 48322 / FA-5

**Inspection Date and Time:** October 21, 2021 / 11:40 AM

**Inspectors:** Alex Kozlowski (WBT), Laura Gruzowski (DLZ), Tim Sobczak (WBT), John McKeown (WB Parks)

**Weather Conditions:** 63° F / Sunny

**Type of Dye Used:** Fluorescein

Area(s) in Facility where dye was flushed/washed	Illicit Connection Observed? (Circle One)	Additional Comments
Main Building Restrooms (4)	Yes / <input checked="" type="radio"/> No	None

## **Appendix F**

### **Technical Committee Meeting Attendance**

ARC TC meeting 3/6/2020

Annette DeMerita	ARC
Brad	Canton Twp
Doug Moore	Livonia
Tricia	Livonia
Karen Mondora	Farmington Hills
Emily Levine	ARC
Chelsea Pesta	City of Walled Lake
Adam Gerlach	City of Plymouth
Sermed Saif	City of Orchard Lake Tri-County Engineering
SCOTT FINLAY	City of Troy
Cory Bortan	Blomfield Twp.
Lisa McBill	Farmington
MIKE BUITEN	CITY OF WAYNE
Laura Grzegulski	DLZ Michigan
Alex Kozlowski	West Bloomfield Township
Kate Richardson	City of Novi
Joel Kohn	Oakland Co. Water Resources
Michael Flowers	Wayne County DPS
ANDRA MEALEY	WAYNE CO DPS
Ashley Allen	Hubbell, Roth + Clark
Barb Matthews	HRC - Rep. City of Birmingham
PATRICK FELLRATH	ALMOUTH TWP.
Kristin Rutkowski	Village of Beverly Hills
GEORGE BEDNARSKI	REDFORD TWP
BOB BELAIR	NORTHVILLE TWP.
MIKE DOMINE	CITY OF NORTHVILLE
John Deslippe	WESTLAND, FARMINGTON, OAK PARK



Noel Mullett

Wayne Co DPS

Mike Wierzorek

Henry Ford College

Dean Tuonari

Ron Falcin

WRC

Heather Rice

Washtenaw County Water Resources



## TECHNICAL COMMITTEE MEETING NOTES

February 25, 2021, 1:30-3:00 PM

Virtual Meeting

### 33 Attendees listed below:

Lisa McGill (Farmington)	Saif Sermed (for Orchard Lake)
Alex Kozlowski (West Bloomfield Township)	Sue Thompson (Wayne County)
Adam Gerlach (Plymouth)	Kathy Hood (Romulus)
Joel Kohn (Oakland County Water Resources Commissioner (OCWRC))	Angela Hysinger (Bloomfield Twp)
Jerome Bivins (Inkster)	Ashley Allen (HRC for Bingham Farms)
Tim Pollizzi (Rochester Hills)	Laura Gruzowski (Johnson and Anderson)
Doug Moore and Trisha (Livonia)	Brad Ohman (Garden City)
Rebecca Runkel (Novi)	Tyler Sonoga (Farmington Hills)
Mike Buiten (Wayne)	Sally Patrella (FOTR)
Andra Mealey (Wayne County)	Katie Grantham (SEMCOG)
Matthew Best (Van Buren Township)	Patrick Fellrath (Plymouth Township)
John Deslippe (OHM for Westland, Oak Park and Northville)	Scott Finlay (Troy)
Scott Finlay (Troy)	Bob Belair (Northville Township)
Chris Wilson (Village of Beverly Hills)	Chelsea Pesta (Walled Lake)
Brandy Siedlaczek (Southfield)	Marie McCormick (FOTR)
Taylor Warstler (HRC for Lathrup Village)	Jim Wineka (OCWRC)
Paul Horen (Redford Township)	Annette DeMaria (ARC)
	Emily Levine (ARC)

### 2020 IDEP findings for Oakland County

Emily Levine (ARC staff) provided the status of the IDEP investigations conducted by ARC staff in OC. Highlights are below and details can be found in Attachment A.

Chris Wilson from Beverly Hills shared about an illicit connection that was found in December, in addition to the one on Village Pine Drive.

- A plumber working on a house that was uninhabited for 5 years used a lot of dye to find an illicit discharge and turned the Rouge green. The plumber was fined by EGLE for using the dye without a permit. The connection was corrected.
- The other connection on Village Pines Drive, which was identified by the ARC was fixed by a private contractor without issue.

Other status updates include the following:

- The City of Northville fixed an illicit connection after collaboration between Northville and the ARC. The illicit connection was made on a portion of storm sewer pipe that had not been mapped and was difficult to access. The City took care of routing the sanitary led to the sanitary sewer which was only a couple feet away.
- Further sampling at 3 locations indicated that animals were the likely sources of the elevated *E. coli* findings. Therefore, these sites have been closed out as possible IDEP sites.
- Ongoing investigations are necessary at 2 sites where illicit connections are likely, but have not yet been located.
- Lower Rouge investigations are ongoing. Elevated *E. coli* levels were detected on the Perrin Drain and in the river, necessitating further investigations.

### **2020 IDEP findings for Wayne County**

Sue Thompson (WC) provided the status of the IDEP investigations conducted by ARC staff in OC. Highlights are below and details can be found in Attachment B.

- Plymouth sites –
  - Harvey Street and Mill/Park Street corrections have been made or are anticipated to be done soon. Resampling is planned.
  - PY8 and PY5 – additional investigations are planned
  - PY27 – No further action needed
- Livonia
  - Additional sampling is needed at the site near the Chicken Shack.
  - Outfall U200822 and Levan Road investigations were limited by Covid. Further investigations are planned.
- Wayne outfall, no further action needed.
- Westland – suspicious discharge with high pH referred to the city for follow-up.
- IDEP Alert Observer Training virtual class was well-attended by ARC members.

### **2020 Oakland County Water Resources IDEP findings**

Joel Kohn (OCWRC) provided the status of the IDEP investigations conducted by ARC staff in OC. Highlights are below and details can be found in Attachment C.

- 8 Mile Drain investigation found some hot spots, as well as landscaping businesses lacking in BMPs. Follow-up with DNA sampling is planned for 2021.
- Corrected illicit connection in Bloomfield Township
- Claude H. Stevens Number 3 found concerning sample results, will need continued sampling follow-up in 2021.

### **Call for assistance with IDEP Investigations**

ARC staff asked attendees if they need any assistance with IDEP investigations (outside the work already being investigated by the ARC). Adam from Plymouth brought up an issue around Holbrook Street in Plymouth. There have been multiple residents complaining about sewage smells in the area and Adam has narrowed it down to a catch basin. WC plans to support efforts to investigate this issue in 2021 and it has been included in their 2021 workplan.

## **2021 IDEP Investigation workplans for Oakland and Wayne Counties**

The workplans for 2021 were included in the meeting handouts and were briefly discussed. They will focus on continuing unfinished investigations from 2020. The workplans were approved – Lisa McGill moved to approve; Doug Moore seconded. The meeting chat box was used to vote to approve, with unanimous consent from 24 ‘yes’ votes.

### **Permit update**

Annette DeMaria (ARC staff) reported that EGLE has set due dates of July 1<sup>st</sup> for the communities to have draft Post Construction Stormwater Management Ordinances and October 1<sup>st</sup> to have final ordinances in effect. Livonia has indicated that they will be pushing back on these dates.

The ARC has put together a spreadsheet showing the permit status and ordinance status among member communities. Members provided feedback during the call on the status of their permits. Mike Buiten (Wayne) asked that the spreadsheet be shared. ARC staff will share the spreadsheet along with ordinance language used by other permits who have an ordinance in effect.

Annette asked for feedback from the communities on what assistance was needed for this portion of the permit. No additional feedback was provided. The ARC plans to work with Wayne and Oakland Counties on understanding differences in their processes to determine how the ARC can assist the communities. Southfield volunteered to be a part of this effort.

### **Stormwater standards update from Counties**

Jim Wineka (OCWRC) reported that regional collaboration has been going on amongst Counties to have consistent regional standards. Counties have come to a point of no substantial differences in the standards. However, counties are running behind in submitting final standards to EGLE, but progress is being made. OC anticipates County Board approval by the end of April.

### **Updates from cooperating partners**

- SEMCOG is planning additional IDEP training this year.
- Reminder of March 2<sup>nd</sup> GLWA watershed meeting to discuss expanding E. coli monitoring for the Rouge and Clinton watersheds