

Wayne County ARC 2015 Illicit Discharge Elimination Plan (IDEP) Activities
2015 Report
March 25, 2016

Summary

Water quality sampling was conducted at select locations to: 1) re-evaluate priority areas for inclusion in the ARC Collaborative IDEP Plan, and 2) narrow down drainage areas with potential illicit discharges. From this data, three priority areas were identified based on elevated *E.coli* levels. These areas will be targeted for further advanced investigations through 2022. In addition, two problem areas were identified in the City of Plymouth where sanitary sewage is suspected to be draining into the storm sewer system. Further investigations are planned for 2016 in order to identify the sources of these discharges.

Introduction

Wayne County Department of Public Services, Water Quality Management Division (WQMD) utilized IDEP Field Investigation funding (ARC 2015 Budget TC3) allocated to Wayne County to perform field screening in priority areas identified by the ARC Technical Committee staff, perform advanced investigation the priority areas, perform IDEP Investigator Training consistent with the Regional IDEP Training Plan and provide written and oral summaries of activities at ARC Technical Committee meetings and for the ARC's Annual Report.

IDEP Field Screening Priority Areas (Task 1a)

The goal of this task was to re-establish priority areas for advanced IDEP investigations. To do this, WQMD identified sites for monitoring, procured the lab services, collected samples, and provided data handling and analysis on a total of the 55 sites resulting in 61 samples being collected for *E.coli*. Dissolved oxygen, conductivity and water temperature were also recorded for these sites. Sites sampled were located within the previously established priority areas as described in the 2015 IDEP Budget Recommendation. These areas include portions of the Upper, Middle and Lower Rouge subwatersheds in the communities of Livonia, Plymouth, Plymouth Township, Wayne, Canton Township and Westland.

Based on this sampling effort, ARC staff identified the following priority areas for further investigations:

- A. North Branch Tonquish Creek and the Middle Rouge in Plymouth/Plymouth Township from the north side of Joy Road just west of Lilley Road.
- B. Lower Rouge in Canton Township from Proctor and Denton roads west including Superior Township.
- C. Sines and Arnold Drain in Canton Township at Sheldon Road 0.5 miles north of Ford Road and the McKinstry Drain in Canton Township south of Ford Road between Lilley and Beck roads including Van Buren Township and possibly Ypsilanti Township.

These priority areas will be addressed as outlined in the Rouge River Collaborative IDEP Plan dated March 23, 2016 (pending MDEQ approval). The sampling data, map of sites and the field data sheets are provided in Appendix A.

IDEP Advanced Investigations (Task 1b)

In response to elevated *E.coli* concentrations identified in Task 1a, WQMD performed several advanced investigations within the City of Plymouth to narrow down the sources of *E.coli*. These investigations led to the identification of two problem areas where sanitary sewage was found in the storm sewer system. These two areas are tributary to the Harvey Street Outfall and Park Street Outfall as described in Table 1. The results of these investigations are provided in Appendix B along with recommendations for future work.

Table 1: Problem Areas needing Follow-up Investigations

Location	Illicit Discharge Type	Next Steps	Receiving Water
Harvey Street Outfall	Sewage discharge of unknown origin	Additional drain sampling and CCTV or other investigations	Byron Creek tributary to S. Branch Tonquish Creek in Plymouth
Park Street Outfall	Sewage discharge of unknown origin	Dye test suspect residences	Middle Branch in Plymouth

WQMD also performed facility dye-test inspections within the City of Wayne which is tributary to G97-Lower Branch upstream of Henry Ruff Road (a priority area identified in the 2015 TC3 Work Plan). Twenty-two (22) site evaluations and multiple follow-up visits resulted in the dye-testing of 12 facilities (eight commercial and 4 municipal). These inspections revealed improper drum storage and poor housekeeping measures at one commercial facility within the City of Wayne (see Appendix C).

IDEP Training (Task 2)

The IDEP Investigator Training, funded by the ARC and the Alliance of Downriver Watersheds and sponsored/hosted by the Washtenaw County Water Resources Commissioner's Office, was held September 30, 2015 at the Washtenaw County Community College. Sixty-nine people attended the workshop; several of those attendees were unregistered "walk-ins." The attendees reported on the workshop survey that the training was informative and worthwhile. Thirty-nine (39) of the 69 attendees were from the ARC membership (see Appendix D).

Reporting (Task 3)

Written progress summaries of IDEP activities were provided with each quarterly invoice, input/update information was provided in November for the update of the ARC's IDEP presentation and this final report summary was prepared for the ARC's Annual Report.

Appendix A
Water Quality Monitoring Data Summary

Site_Id	General Description	Date	Time	Dissolved Oxygen (mg/L)	Conductivity (mS/cm)	Water Temperature (°C)	E.coli (MPN)	Total Coliforms (MPN)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	notes for follow up
G00.2	Dunhill Way and Hauk Park Lower Rouge west of Ridge	09/25/15	13:45	9.37	1.938	20.5	97	11199	Lower	Canton Township	Slightly Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc		sample taken at Dunhill way and Hauk Park Riversedge sub	conductivity over 1.000
G200	Lower Rouge/Proctor/Denton	07/24/15	11:20	8.32	0.83	22.2	1314	>24196	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	Natural(leaves, limbs etc	Sunny		E.coli over 1000
G200.1	Lower Rouge west of Ridge Rd (DeStaCo property)	09/17/15	12:00	6.53	1.149	16.6	4106	>24196	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	None		sample taken at the bridge at the DeStaCo property	E. coli over 1000 and conductivity over 1000 in followup sample
G200.3	3211 Napier Rd unknown tributary	09/25/15	14:05	7.95	0.826	17.5	197	17329	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	Natural(leaves, limbs etc		sample taken at 3211 Napier Rd; some tires and springs in creek	
G211	Fellows Creek/Ford Rd	08/17/15	12:50	8.72	0.934	24.1	657	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		some tires at site	
G211A	Fellows Creek at Fairborn Rd Ford Rd east of Ridge Rd	08/17/15	13:05	7.71	0.814	22.7	327	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc			
G211B	Fellows Creek crossing at Poppleton Blvd east of Ridge south of Warren	08/17/15	13:30	8.22	0.795	22.3	228	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc			
G211C	Fellows Creek at Warren Rd/Beck-upstream is LR-9 bug hunt site	08/17/15	13:35	7.87	1.317	23.9	323	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc			conductivity over 1000
G64A	McClagherty Drain/Hannan Rd	08/06/15	13:00	6.53	1.78	24	426	>24196	Lower	Romulus	Moderately Turbid	Clear	None/Natural	Natural(leaves, limbs etc		floating green scum present	conductivity over 1000
G64A	McClagherty Drain/Hannan Rd	08/06/15	13:30	6.05	1.517	20.1	262	>24196	Lower	Romulus	Clear	Clear	None/Natural	Natural(leaves, limbs etc		some fixed trash present	conductivity over 1000
G92	Lower Rouge/Haggerty	07/24/15	10:45	8.47	0.936	20.1	228	17329	Lower	Canton Township	Moderately Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc	Sunny		
G93	Fowler Creek at Beck Rd	08/17/15	11:00	5.25	0.67	22.7	318	>24196	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	Natural(leaves, limbs etc		riprap present upstream of bridge low flow	
G93A	Fowler Creek at Geddes Rd	08/17/15	9:30	5.98	0.824	22.5	259	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc			
G94	Sines Drain at Sheldon Rd	08/17/15	10:50	5.73	1.064	22	389	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		tire and riprap also present at site	conductivity over 1.000
G94A	Sines and Arnold Drain/Beck Rd	08/17/15	9:45	0.95	1.27	23.2	1046	17329	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		riprap on upstream side of culvert is causing flow blockage	E. coli over 1000, conductivity over 1.000, DO below 5.0mg/L
G94B	Apple Run Drain at Beck Rd	08/17/15	10:05	3.98	0.999	25.1	288	15531	Lower	Canton Township	Opaque	Gray	None/Natural	Natural(leaves, limbs etc			DO below 5.0mg/L

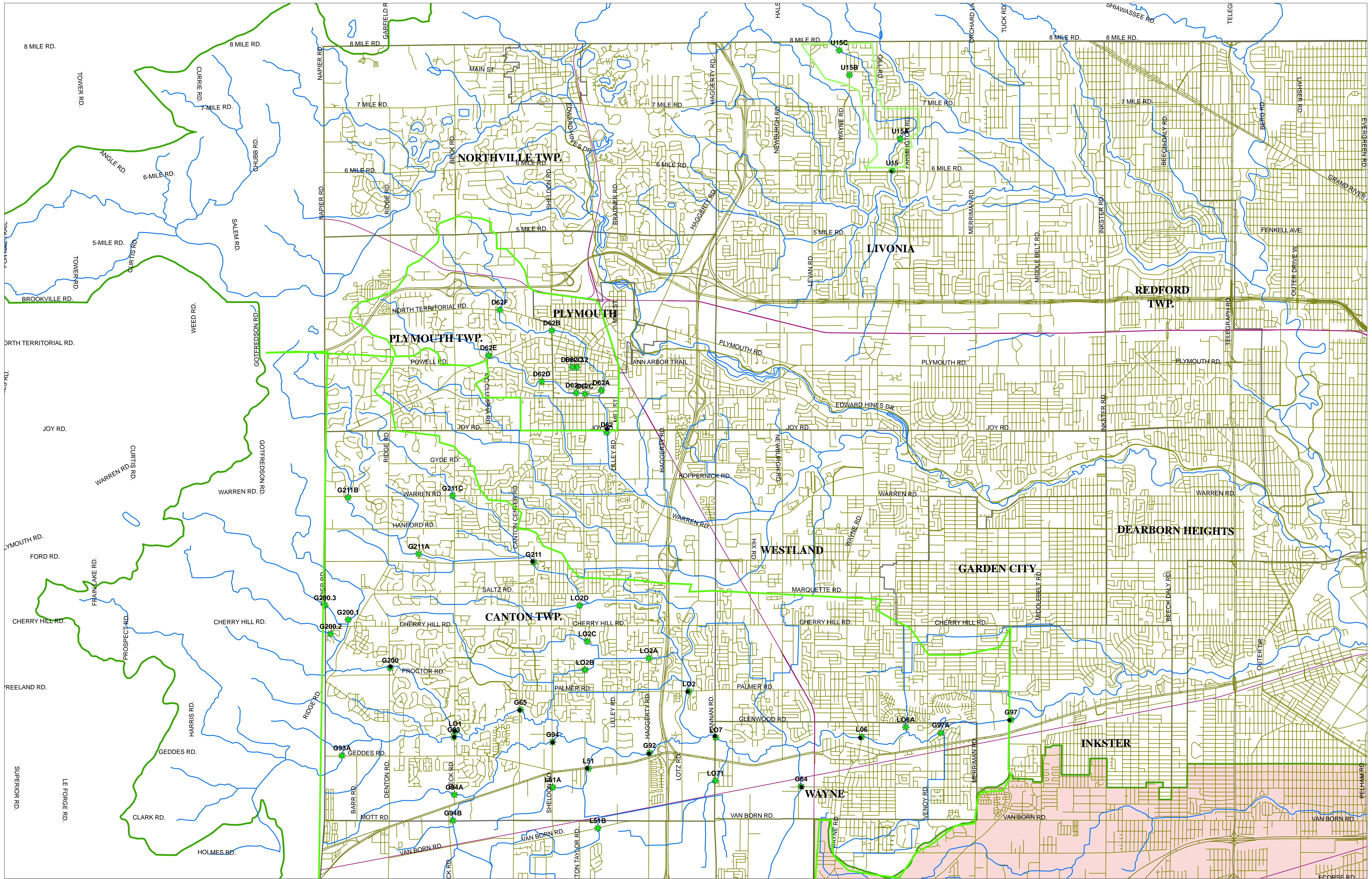
Site_Id	General Description	Date	Time	Dissolved Oxygen (mg/L)	Conductivity (mS/cm)	Water Temperature (°C)	E.coli (MPN)	Total Coliforms (MPN)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	notes for follow up
G97	Lower Rouge/Henry Ruff Rd	07/24/15	10:05	8.08	1.056	20.8	495	>24196	Lower	Westland	Moderately Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc	Sunny		conductivity over 1.000
G97A	outfall enclosed tributary east of Venoy Rd north of Michigan Avenue	08/06/15	13:55	10	2.321	17.2	171	>24196	Lower	Westland	Highly Turbid	Brown: Light	Musty-Faint	Natural(leaves, limbs etc		some floating and fixed trash in trash rack in outfall lots of dry weather flow	conductivity over 1.000
L02	Fellows Creek/Palmer Rd	08/17/15	11:45	4.83	1.11	22.6	331	>24196	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	Trash-Fixed		boards dumped at site	conductivity over 1.00 DO below 5.0mg/L
L02A	Fellows Creek/Haggerty Rd	08/17/15	12:00	5.35	0.874	24.1	171	4611	Lower	Canton Township	Clear	Clear	None/Natural	Trash-Fixed			
L02B	Fellows Creek/Morton Taylor Rd	08/17/15	12:15	1.12	0.883	20.7	109	17329	Lower	Canton Township	Slightly Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc		washing machine other trash at site sample taken at enclosed drain outlet	DO below 5.0mg/L
L02C	Fellows Creek/Cherrystone	08/17/15	12:30	4.32	0.941	27.6	10	7270	Lower	Canton Township	Highly Turbid	Brown: Light	None/Natural	None			DO below 5.0mg/L
L02CR	Fellows Creek/Cherrystone	08/17/15	12:30	4.32	0.941	27.6	10	7270	Lower	Canton Township	Highly Turbid	Brown: Light	None/Natural	None		replicate taken at L02C	DO below 5.0mg/L
L02D	Fellows Creek north of Cherry Hill	08/17/15	12:40	0.92	1.442	23	158	8121	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	Natural(leaves, limbs etc			conductivity over 1.00 DO below 5.0mg/L
L06	Lower Rouge/Wayne Rd	07/24/15	10:20	8.05	1.03	20.3	717	24196	Lower	Wayne	Slightly Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc	Sunny		conductivity over 1.000
L06A	Lower Rouge tributary in Glenwood Cemetery	08/17/15	11:30	1.1	2.351	17.1	41	15531	Lower	Wayne	Clear	Clear	None/Natural	Natural(leaves, limbs etc		very low flow light film and water stagnant	conductivity over 1.00 DO below 5.0mg/L
L07	Lower Rouge/Hannan	07/24/15	10:35	8.16	0.37	19.7	420	>24196	Lower	Canton Township	Slightly Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc	Sunny		
L51	McKinstry Drain at Michigan Ave	08/17/15	10:40	3.77	1.17	22.4	4884	>24196	Lower	Canton Township	Slightly Turbid	Brown: Light	None/Natural	None			E.coli over 1,000, DO below 5.0mg/L, and conductivity over 1.000
L51	McKinstry Drain at Michigan Ave	09/17/15	11:00	4.43	1.035	15.8	122	15531	Lower	Canton Township	Highly Turbid	Brown: Medium	None/Natural	None			conductivity over 1.00 DO below 5.0mg/L
L51.1	McKinstry Drain at end of Morton Taylor	09/17/15	11:10	9.42	0.977	16	160	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		end of Morton Taylor Rd. There is some flow here. Beware of dog	
L51.2	McKinstry Drain at Washburn Rd	09/17/15	11:30	6.68	1.535	17	86	>24196	Lower	Canton Township	Slightly Turbid	Clear	None/Natural	Natural(leaves, limbs etc		sample taken at the end of Washburn Rd (past gate)	conductivity over 1.000
L51A	McKinstry Drain at Sheldon Rd	08/17/15	10:30				1336	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		extremely low water levels, temperature, DO and conductivity could not be measured	E. coli over 1000
L51B	McKinstry Drain at Van Born Rd	08/17/15	10:20	1.03	0.685	22.7	223	>24196	Lower	Van Buren Township	Opaque	Green	None/Natural	Natural(leaves, limbs etc		duckweed, algae present	
LO1	Lower Rouge/Beck	07/24/15	11:05	6.5	0.866	21.3	602	24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc	Sunny		

Site_Id	General Description	Date	Time	Dissolved Oxygen (mg/L)	Conductivity (mS/cm)	Water Temperature (°C)	E.coli (MPN)	Total Coliforms (MPN)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	notes for follow up
LO71	Lower Rouge tributary at Hannan south of Michigan Ave	08/06/15	13:20	7.2	2.168	20.4	187	>24196	Lower	Canton Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		floating and fixed trash present	conductivity over 1.000
NA		09/25/15	13:50	5.14	4.083	17			Lower	Canton Township	Moderately Turbid	Brown: Light	None/Natural	Natural(leaves, limbs etc		Napier at Cherry Hill. Unmapped drain. This sample was not submitted to the lab	conductivity over 1.000
U15	Six Mile/east of Farmington	07/24/15	14:30	7.19	1.247	19.7	683	>24196	Upper	Livonia	Clear	Clear	Musty-Faint	Natural(leaves, limbs etc		sample taken on downstream side of Six Mile. Water low at site. Iron bacteria present at seeps	conductivity over 1.000
U15A	Curtis, west of Farmington, north of Six Mile	07/24/15	14:20	7.91	0.958	20.8	262	24196	Upper	Livonia	Clear	Clear	None/Natural	Natural(leaves, limbs etc		sample taken upstream of enclosure	
U15B	north end of Bicentennial Park	07/24/15	14:00	3.46	0.754	21.2	2187	19863	Upper	Livonia	Clear	Clear	None/Natural	Natural(leaves, limbs etc			E.coli over 1000, conductivity over 1.000
U15C	Memorial Gardens/Eight Mile	07/24/15	13:50	9.33	0.796	27	20	7701	Upper	Livonia	Clear	Clear	None/Natural	Natural(leaves, limbs etc		sample taken at base of dam in cemetery. Stream rerouted south of 8 Mile in Glen Eden memorial gardens	
D62	Tonquish Creek/Joy Rd	07/24/15	11:50	7.58	1.843	20.4	1483	>24196	Middle	Plymouth Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		some floating trash	E.coli over 1000, conductivity over 1.000
D62A	North Branch Tonquish Creek at Ford St	07/24/15	12:05	8.07	2.375	20.4	3255	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc			E.coli over 1000, conductivity over 1.000
D62A	North Branch Tonquish Creek at Ford St	09/17/15	12:30	8.49	2.119	18.2	1145	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc			E.coli over 1000, conductivity over 1.000
D62A.1	Tonquish Creek at Kellogg Street outlet	09/17/15	12:45	9.13	2.003	17.7	749	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		sample taken at the south end of Kellogg St outlet	
D62A.2	Tonquish Creek at Harvey St	09/17/15	13:00	8.8	1.752	17.4	341	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		sample taken at the upstream side of enclosure at Harvey/north of Ann Arbor Trail	conductivity over 1.000
D62B	Tonquish Creek/Sheldon Rd south of Penniman Rd	07/24/15	13:15	10.51	1.033	23.9	594	>24196	Middle	Plymouth Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc			conductivity over 1.000
D62B-R	Tonquish Creek/Sheldon Rd south of Penniman Rd	07/24/15	13:15				644	>24196	Middle	Plymouth Township						field replicate taken of D62B	
D62C	South Branch Tonquish at Main St	07/24/15	12:15	8.36	1.074	20.7	3654	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		some dripping from outfall right bank	E.coli over 1000, conductivity over 1.000*
D62C	South Branch Tonquish at Main St	09/17/15	13:10	8.15	1.374	18.6	6867	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		Main St at Rite Aid. Very steep banks	E.coli over 1000, conductivity over 1.000*
D62C.1	outfall north side of South Branch Tonquish Creek at Harvey St	09/17/15	13:30	7.26	1.206	19.1	>24196	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		sample collected at Harvey outfall in culvert from Norh side	E. coli elevated (sewage source), conductivity over 1.000

Site_Id	General Description	Date	Time	Dissolved Oxygen (mg/L)	Conductivity (mS/cm)	Water Temperature (°C)	E.coli (MPN)	Total Coliforms (MPN)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	notes for follow up
D62C.1	outfall north side of South Branch Tonquish Creek at Harvey St	09/25/15	14:35		0.982	20.7	72700	141360	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		Harvey Street outfall lots of small fish. Surfactant: >0.25ppm; Ammonia 0.5 ppm	E. coli elevated (sewage source), conductivity over 1.000
D62C.2	Crestwood Condos east of Sheldon (south branch Tonquish creek)	09/17/15	13:55	8.75	0.904	18.2	1274	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		sampled in Crestwood condos, east of Sheldon Rd. lots of small minnows in deep pools	E. coli over 1000
D62C.2R	Crestwood Condos east of Sheldon (south branch Tonquish creek)	09/17/15	13:55	8.75	0.904	18.2	1259	>24196	Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		replicate of site above	
D62D	S. branch Tonquish at Jo Ann Road west of Sheldon Rd	07/24/15	12:30	8.2	0.687	20.7	1210	19863	Middle	Plymouth Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		minnows at site	E. coli over 1000
D62E	South Branch Tonquish Creek in Plymouth Township Park	07/24/15	12:50	8.2	0.3668	21.4	644	9208	Middle	Plymouth Township	Clear	Clear	None/Natural	Natural(leaves, limbs etc		lots of little fish/minnows	
D62F	North Territorial Road west of Sheldon	07/24/15	13:05	8.04	1.856	21	794	>24196	Middle	Plymouth Township	Slightly Turbid	Clear	None/Natural	Natural(leaves, limbs etc			conductivity over 1.000
City of Plymouth IDEP Harvey Street (with ALS Lab)																	Plymouth investigation samples below
Linden/Harvey	Linden/Harvey	09/29/15	10:15				130		Middle	Plymouth City	Clear	Clear	None/Natural	None		Ammonia >2.0, Surfactant <0.25	
1046 Palmer	1046 Palmer	9/29/2015	11:20				60		Middle	Plymouth City	Clear	Clear	Musty-Faint	None		surfactant 3.0ppm; Ammonia 0.75ppm	
1096 Palmer	1096 Palmer	09/29/15	11:00				TNTC		Middle	Plymouth City	Moderately Turbid	Milky/White	Sewage-Stong	Sewage Solids-Floating		toilet paper in storm; sanitary odor, sewage fungus present' TNTC with 100 dilutions Surfactant: <0.25, Ammonia <0.25	
1097 Hartsough	1097 Hartsough	09/29/15	14:15				NA		Middle	Plymouth City	Highly Turbid	Brown: Light	Musty-Faint	None	Overcast	rain intensifying, first flush starting in manhole; looks like old sanitary; storm sewer in middle of block. Hardly any flow	
1108 Beech	1108 Beech	09/29/15	9:45				80		Middle	Plymouth City	Clear	Clear	None/Natural	None		10 dilution of sample; Ammonia 0.25, Surfactant 1.5	
1124 Carol (West)	1124 Carol (West)	09/29/15	14:35				NA		Middle	Plymouth City	Clear	Clear	None/Natural	None	Raining	raining' sample not analyzed by the lab; water clear, some first flush	
656 Harvey	656 Harvey	09/29/15	10:30				10		Middle	Plymouth City	Clear	Clear	None/Natural	Natural(leaves, limbs etc		Ammonia: 0ppm; Surfactant> 0.25	
918 Hartsough	918 Hartsough	09/29/15	14:06				NA		Middle	Plymouth City	Highly Turbid	Gray	Musty-Strong	Trash-Floating		lab sample at this loction not analyzed; cigarette butts, highly turbid water; Ammonia >2.0, Surfactant 1.0	

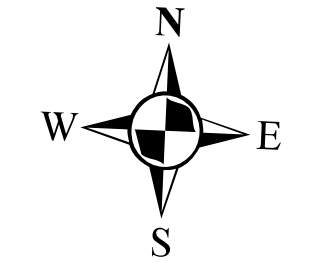
2015 ARC *E. coli* Survey Data

Site_Id	General Description	Date	Time	Dissolved Oxygen (mg/L)	Conductivity (mS/cm)	Water Temperature (°C)	E.coli (MPN)	Total Coliforms (MPN)	Watershed	Community	Water Clarity	Water Color	Odor	Visible Debris/Pollution	Weather Conditions	Comments	notes for follow up
Beech/Harvey G62C.2	Beech/Harvey G62C.2	09/29/15	9:30				TNTC		Middle	Plymouth City	Slightly Turbid	Gray	Sewage-Stong	None		sewage fungus present; strong sewage odor; TNTC with 100 dilutions; Ammonia 0.25 ppm; Surfactant 0.25ppm	
1104 Sutherland		09/29/15					NA		Middle	Plymouth City						no sample analyzed at the lab	
																	*triggered follow up investigation



ARC IDEP Field Map
July 2015
E. coli

- Legend**
- ★ ARC sample locations 2015
 - 2005 TMDL site
 - Priority Areas



**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1005
Military

Site ID#: 697
Field Crew: ST NG

Ambient Temp: 75° Dry Weather Flow Depth: 3' +

Weather: Sunny - Clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.08
Water Temperature (°C): 20.8 Conductivity (mS/cm): 1.056

From the lab
E. coli (MPN): 495 Total coliforms (MPN): 224/96

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid _____
Moderately Turbid X
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green _____ Light X
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1020
Military

Site ID#: LO6
Field Crew: STNG

Ambient Temp.: 75° Dry Weather Flow Depth: _____

Weather: Clear
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.05
Water Temperature (°C): 20.3 Conductivity (mS/cm): 1,030

From the lab
E. coli (MPN): 717 Total coliforms (MPN): 24196

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown:
Green _____ Light
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1035
Military

Site ID#: L07
Field Crew: STNG

Ambient Temp.: 75 Dry Weather Flow Depth: 24" +

Weather: Clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.16
Water Temperature (°C): 19.7 Conductivity (mS/cm): 0.37

From the lab
E. coli (MPN): 420 Total coliforms (MPN): >24196

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown: X
Green _____ Light Y
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1045
 Military

Site ID#: 692
 Field Crew: STNG

Ambient Temp.: 75 Dry Weather Flow Depth: 18"

Weather: Clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.47
 Water Temperature (°C): 20.1 Conductivity (mS/cm): 0.936

From the lab
 E. coli (MPN): 228 Total coliforms (MPN): 17329

General Remarks: _____

Water Clarity

Clear _____
 Slightly Turbid _____
 Moderately Turbid
 Highly Turbid _____
 Opaque _____

Odor

None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
 Green _____ Light
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1105
Military

Site ID#: LO1
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 4"

Weather: clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 6.50
Water Temperature (°C): 21.3 Conductivity (mS/cm): 0.866

From the lab
E. coli (MPN): 602 Total coliforms (MPN): 24196

General Remarks: _____

Water Clarity

Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1120
 Military

Site ID#: G200
 Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 12" +

Weather: Clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.32
 Water Temperature (°C): 22.2 Conductivity (mS/cm): 0.83

From the lab
 E. coli (MPN): 1314 Total coliforms (MPN): 224196

General Remarks: _____

Water Clarity

Clear _____
 Slightly Turbid X
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor

None/Natural X
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color

Clear X Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1150
 Military

Site ID#: D62
 Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 3"

Weather: Clear
 Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 7.58
 Water Temperature (°C): 20.4 Conductivity (mS/cm): 1.843

From the lab
 E. coli (MPN): 1483 Total coliforms (MPN): 224196

General Remarks: _____

Water Clarity
 Clear X
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural X
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear X Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural X
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating X Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1205
Military

Site ID#: D62A
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 4'

Weather: clear
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.07
Water Temperature (°C): 20.4 Conductivity (mS/cm): 2.375

From the lab
E. coli (MPN): 3255 Total coliforms (MPN): >24196

General Remarks: _____

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural
Musty: Faint _____ Strong _____
Sewage/Fishery Faint _____ Strong _____
Anaerobic/Septic Faint _____ Strong _____

Water Color
Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1215
Military

Site ID#: D62C
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 4"

Weather: Clear
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 8.36
Water Temperature (°C): 20.7 Conductivity (mS/cm): 1.074

From the lab
E. coli (MPN): 3654 Total coliforms (MPN): >24196

General Remarks: dripping from outfall

Water Clarity
Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural _____
Musty: Faint _____ Strong _____
Sewage/Fishery Faint _____ Strong _____
Anaerobic/Septic Faint _____ Strong _____

Water Color
Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1230
Military

Site ID#: D62D
Field Crew: STWG

Ambient Temp.: 85 Dry Weather Flow Depth: 4"

Weather: Clear
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.20
Water Temperature (°C): 20.7 Conductivity (mS/cm): 0.687

From the lab
E. coli (MPN): 1210 Total coliforms (MPN): 19863

General Remarks: MINNOWS

Water Clarity
Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural _____
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color
Clear _____ Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1250
 Military

Site ID#: D62E
 Field Crew: ST NG

Ambient Temp.: 85 Dry Weather Flow Depth: _____

Weather: Clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.20
 Water Temperature (°C): 21.4 Conductivity (mS/cm): 0.3668

From the lab
 E. coli (MPN): 644 Total coliforms (MPN): 9208

General Remarks: lots of little fish/minnows

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1305
Military

Site ID#: D62F
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 8"

Weather: Clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.04
Water Temperature (°C): 21.0 Conductivity (mS/cm): 1.856

From the lab
E. coli (MPN): 794 Total coliforms (MPN): 72196

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1315
Military

Site ID#: D62B
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 3"

Weather: Clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 10.51
Water Temperature (°C): 23.9 Conductivity (mS/cm): 4033

From the lab
E. coli (MPN): 594 Total coliforms (MPN): 724196.0

General Remarks: _____

Water Clarity
Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
 WATER QUALITY MANAGEMENT DIVISION

REPLICATE

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1315
 Military

Site ID#: D62B-R
 Field Crew: ST NG

Ambient Temp.: 85 Dry Weather Flow Depth: 3"

Weather: Clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) _____
 Water Temperature (°C): _____ Conductivity (mS/cm): _____

From the lab
 E. coli (MPN): 644 Total coliforms (MPN): 221196.0

General Remarks: _____

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear
 Green
 Gray _____
 Black _____
 Milky/White _____
 Brown: _____
 Light _____
 Medium _____
 Dark _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1350
Military

Site ID#: U15C
Field Crew: STNG

Ambient Temp.: 8° Dry Weather Flow Depth: 6"

Weather: Clear
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 9.33
Water Temperature (°C): 27 Conductivity (mS/cm): 0.796

From the lab
E. coli (MPN): 20.0 Total coliforms (MPN): 7701.0

General Remarks: Sample taken at base of dam in Conestoga
Stream was reported here (Glen Cove Conestoga)

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color
Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1400
 Military

Site ID#: U15B
 Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: _____

Weather: clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 3.46
 Water Temperature (°C): 21.2 Conductivity (mS/cm): 0.754

From the lab
 E. coli (MPN): 2187 Total coliforms (MPN): 19863.0

General Remarks: _____

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
 Time: 1420
 Military

Site ID#: U15A
 Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 3"

Weather: Clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 7.91
 Water Temperature (°C): 20.8 Conductivity (mS/cm): 0.958

From the lab
 E. coli (MPN): 262 Total coliforms (MPN): 2496

General Remarks: at enclosure (upstnagm)

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear
 Green _____
 Gray _____
 Black _____
 Milky/White _____
 Brown: _____
 Light _____
 Medium _____
 Dark _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/24/15
Time: 1430
Military

Site ID#: 015
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 2"

Weather: Clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 7.19
Water Temperature (°C): 19.7 Conductivity (mS/cm): 1.247

From the lab
E. coli (MPN): 683 Total coliforms (MPN): >24196

General Remarks: downstream side

Water Clarity
Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural _____
Musty:
Faint X Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/6/15
 Time: 1300
 Military

Site ID#: G64A
 Field Crew: STNG

Ambient Temp.: 75 Dry Weather Flow Depth: 18"

Weather: Sunny
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 6.53
 Water Temperature (°C): 24.0 Conductivity (mS/cm): 1.780

From the lab
 E. coli (MPN): 426 Total coliforms (MPN): 72496

General Remarks: _____

Water Clarity

Clear _____
 Slightly Turbid _____
 Moderately Turbid
 Highly Turbid _____
 Opaque _____

Odor

None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color

Clear Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum

WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
 WATER QUALITY MANAGEMENT DIVISION

ARC Dry Weather Water Sample Data 2015

Date: 8/6/15
 Time: 1320
 Military

Site ID#: L071
 Field Crew: STNG

Ambient Temp.: 75 Dry Weather Flow Depth: 0"

Weather: Clear
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 7.20
 Water Temperature (°C): 20.4 Conductivity (mS/cm): 2.168

From the lab
 E. coli (MPN): 187 Total coliforms (MPN): 24196

General Remarks: End of Randolph St

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear
 Green _____ Brown: _____
 Gray _____ Light _____
 Black _____ Medium _____
 Milky/White _____ Dark _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating Fixed
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION

ARC Dry Weather Water Sample Data 2015

Date: 8/6/15
Time: 1330
Military

Site ID#: G64
Field Crew: STNG

Ambient Temp.: 75 Dry Weather Flow Depth: 4"

Weather: Clear
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 6.05
Water Temperature (°C): 20.1 Conductivity (mS/cm): 1.517

From the lab
E. coli (MPN): 262 Total coliforms (MPN): 724196

General Remarks: outfall with minimal flow

Water Clarity
Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed X
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/6/15
Time: 1355
Military

Site ID#: 697A
Field Crew: STNG

Ambient Temp.: 75 Dry Weather Flow Depth: _____

Weather: Clear
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 10.0
Water Temperature (°C): 17.2 Conductivity (mS/cm): 2.321

From the lab
E. coli (MPN): 171 Total coliforms (MPN): 24196

General Remarks: Dry weather flow, lots of trash in trash rack

Water Clarity
Clear _____
Slightly Turbid _____
Moderately Turbid
Highly Turbid _____
Opaque _____

Odor
None/Natural _____
Musty:
Faint Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear _____ Brown: _____
Green _____ Light
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash:
Floating Fixed
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 9:30
Military

Site ID#: G93A
Field Crew: ST NG

Ambient Temp: 80° Dry Weather Flow Depth: 3"

Weather: Hot + Humid
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 5.98
Water Temperature (°C): 22.5 Conductivity (mS/cm): 0.824

From the lab
E. coli (MPN): 259 Total coliforms (MPN): 224/96

General Remarks: _____

Water Clarity X
Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor X
None/Natural _____
Musty: Faint _____ Strong _____
Sewage/Fishery Faint _____ Strong _____
Anaerobic/Septic Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
 Time: 945
 Military

Site ID#: G94A
 Field Crew: ST NG

Ambient Temp.: 80 Dry Weather Flow Depth: 3"

Weather: Hot Humid
 Sunny: Partly Sunny: Overcast:

Sample ID: same as site ID Dissolved Oxygen (mg/L) 0.95
 Water Temperature (°C): 23.2 Conductivity (mS/cm): 1.270

From the lab
 E. coli (MPN): 1046 Total coliforms (MPN): 17329

General Remarks: over abundance of riprap causing flow issue;

Water Clarity
 Clear
 Slightly Turbid
 Moderately Turbid
 Highly Turbid
 Opaque

Odor
 None/Natural
 Musty:
 Faint Strong
 Sewage/Fishery
 Faint Strong
 Anaerobic/Septic
 Faint Strong

Water Color
 Clear Brown:
 Green Light
 Gray Medium
 Black Dark
 Milky/White

Visible Debris/Obvious Pollution
 None Natural
 Foam (leaves, limbs, weeds)
 Trash:
 Floating Fixed
 Sewage Solids:
 Floating Fixed
 Floating Green Scum

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1005
Military

Site ID#: G94B
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: _____

Weather: Hot Humid
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 3.98
Water Temperature (°C): 25.1 Conductivity (mS/cm): 0.999

From the lab
E. coli (MPN): 288 Total coliforms (MPN): 15531

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque X

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green _____ Light _____
Gray X Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1020
Military

Site ID#: LS1B
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 12" +

Weather: Hot Humid
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 1.03
Water Temperature (°C): 22.7 Conductivity (mS/cm): 0.685

From the lab
E. coli (MPN): 223 Total coliforms (MPN): >24196

General Remarks: Duck weed, algae

Water Clarity

Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque

Odor

None/Natural
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1030
Military

Site ID#: L51A
Field Crew: ST NG

Ambient Temp.: 80 Dry Weather Flow Depth: 1"

Weather: Hot humid
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) _____
Water Temperature (°C): _____ Conductivity (mS/cm): _____

From the lab
E. coli (MPN): 1336 Total coliforms (MPN): > 24196

General Remarks: Extremely low water levels
Temp, DO & conductivity could not be taken

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear
Green _____
Gray _____
Black _____
Milky/White _____
Brown: _____
Light _____
Medium _____
Dark _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1040
Military

Site ID#: L51
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 5"

Weather: Hot Humid
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 3.77
Water Temperature (°C): 22.4 Conductivity (mS/cm): 1.170

From the lab
E. coli (MPN): 4884 Total coliforms (MPN): > 24196

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green _____ Light X
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None X Natural _____
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1050
Military

Site ID#: 694
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 3"

Weather: Hot Humid
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 5.73
Water Temperature (°C): 22.0 Conductivity (mS/cm): 1.064

From the lab
E. coli (MPN): 389 Total coliforms (MPN): > 2496

General Remarks: _____

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural
Musty: _____
Faint _____ Strong _____
Sewage/Fishery _____
Faint _____ Strong _____
Anaerobic/Septic _____
Faint _____ Strong _____

Water Color
Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: _____
Floating _____ Fixed *fire, riprap*
Sewage Solids: _____
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1100
Military

Site ID#: G93
Field Crew: STNG

Ambient Temp.: 80 Dry Weather Flow Depth: 5"

Weather: Hot Humid
Sunny: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 5.25
Water Temperature (°C): 22.7 Conductivity (mS/cm): 0.670

From the lab
E. coli (MPN): 318 Total coliforms (MPN): > 24196

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed X *RIP RAP*
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Time: 10:05
 Date: 10/20
 Station: 1000

Site ID: 1000
 Field Crew: STNS

Ambient Temp.: 80 Dry Weather Flow Depth: 2"

Weather: Hot Humid
 Sunny: Partly Sunny: Overcast:

Sample ID: same as site ID Dissolved Oxygen (mg/L): 1.10
 Water Temperature (°C): 17.1 Conductivity (mS/cm): 2.351

From the lab
 E. coli (MPN): 41 Total coliforms (MPN): 15531

General Remarks: Very low flow Stagnant
light film

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1145
Military

Site ID#: LOA
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: _____

Weather: HOT Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 4.83
Water Temperature (°C): 22.6 Conductivity (mS/cm): 1.10

From the lab
E. coli (MPN): 331 Total coliforms (MPN): > 24196

General Remarks: Outfall Flowing

Water Clarity
Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural _____
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed X boards
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1200
Military

Site ID#: LO2A
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 11" @ 10

Weather: Hot Humid
Sunny: _____ Partly Sunny: Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 5.35
Water Temperature (°C): 24.1 Conductivity (mS/cm): 0.874

From the lab
E. coli (MPN): 171 Total coliforms (MPN): 4611

General Remarks: _____

Water Clarity

Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural
Musty: _____
Faint _____ Strong _____
Sewage/Fishery _____
Faint _____ Strong _____
Anaerobic/Septic _____
Faint _____ Strong _____

Water Color

Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural _____
Foam _____ (leaves, limbs, weeds)
Trash: _____
Floating _____ Fixed
Sewage Solids: _____
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 12:15
Military

Site ID#: L02B
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 5"

Weather: Hot humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 1.12
Water Temperature (°C): 20.7 Conductivity (mS/cm): 0.883

From the lab
E. coli (MPN): 109 Total coliforms (MPN): 17329

General Remarks: _____

Water Clarity
Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color
Clear _____ Brown: _____
Green _____ Light X
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed X *Washing machine*
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1230
Military

Site ID#: LO2C
Field Crew: BTNG

Ambient Temp.: 85 Dry Weather Flow Depth: 3'

Weather: Hot Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 4.32
Water Temperature (°C): 27.6 Conductivity (mS/cm): 0.941

From the lab
E. coli (MPN): 10 Total coliforms (MPN): 2270

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid _____
Moderately Turbid X
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty: Faint _____ Strong _____
Sewage/Fishery Faint _____ Strong _____
Anaerobic/Septic Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green _____ Light X
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None X Natural _____
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1230
Military

Site ID#: LO2CR
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: _____

Weather: Hot Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 4.32
Water Temperature (°C): 27.6 Conductivity (mS/cm): 0.241

From the lab
E. coli (MPN): 10 Total coliforms (MPN): 8164

General Remarks: _____

Water Clarity

Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural _____
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural _____
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1240
Military

Site ID#: LOAD
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 34

Weather: Hot Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 0.92
Water Temperature (°C): 23 Conductivity (mS/cm): 1,442

From the lab
E. coli (MPN): 158 Total coliforms (MPN): 8131

General Remarks: Stagnant, NO/low flow

Water Clarity

Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1250
Military

Site ID#: G211
Field Crew: STNG

Ambient Temp.: 85 Dry Weather Flow Depth: 4"

Weather: Hot Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.72
Water Temperature (°C): 24.1 Conductivity (mS/cm): 0.934

From the lab
E. coli (MPN): 657 Total coliforms (MPN): 724196

General Remarks: _____

Water Clarity

Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed X tires
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1305
Military

Site ID#: G211A
Field Crew: STNG

Ambient Temp.: 90 Dry Weather Flow Depth: 3"

Weather: Hot Humid
Sunny: _____ Partly Sunny: Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 7.71
Water Temperature (°C): 22.7 Conductivity (mS/cm): 0.814

From the lab
E. coli (MPN): 327 Total coliforms (MPN): > 24196

General Remarks: _____

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural _____
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear
Green _____
Gray _____
Black _____
Milky/White _____
Brown: _____
Light _____
Medium _____
Dark _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1330
Military

Site ID#: G2113
Field Crew: STNG

Ambient Temp.: 90 Dry Weather Flow Depth: 3"

Weather: Hot Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 8.22
Water Temperature (°C): 22.3 Conductivity (mS/cm): 0.795

From the lab
E. coli (MPN): 228 Total coliforms (MPN): 24196

General Remarks: _____

Water Clarity
Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 8/17/15
Time: 1335
Military

Site ID#: G211C
Field Crew: STNG

Ambient Temp.: 90 Dry Weather Flow Depth: 3"

Weather: Hot Humid
Sunny: _____ Partly Sunny: X Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L) 7.87
Water Temperature (°C): 23.9 Conductivity (mS/cm): 1.317

From the lab
E. coli (MPN): 323 Total coliforms (MPN): 224196

General Remarks: _____

Water Clarity
Clear X
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty: _____
Faint _____ Strong _____
Sewage/Fishery _____
Faint _____ Strong _____
Anaerobic/Septic _____
Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash: _____
Floating _____ Fixed _____
Sewage Solids: _____
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 11/15/15
 Time: 1:30
 Station: Millery

Site ID: 1000101
 Field Crew: SI NG

Ambient Temp.: 80 Dry Weather Flow Depth: 8"

Weather: _____
 Rain: 0 Partly Sunny: _____ Clouds: _____

Sample ID: 724196 Dissolved Oxygen (mg/L): 7.26
 Water Temperature (C): 19.1 Conductivity (uS/cm): 1906
 pH: 7.8 Turbidity (NTU): 0.1

From the lab
 E. coli (MPN): 724196 Total coliforms (MPN): 724196

General Remarks: at Harvey downstream side
sampled outfall in culvert

Water Clarity
 Clear X
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural X
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear X Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural X
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: _____
Time: _____

Site ID: _____
Field Case: BT-116

Ambient Temp.: 67 Dry Weather Flow Depth: 5"

Weather: _____
Sky: Clear Partly Sunny Overcast

Sample ID: same as site ID Dissolved Oxygen (mg/L): 4.43
Water Temperature (°C): 15.8 Conductivity (µS/cm): 1,035

From the lab
E. coli (MPN): 230 Total coliforms (MPN): 110 15531.0

General Remarks: _____

Water Clarity
Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid X
Opaque _____

Odor
None/Natural X
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear _____ Brown: _____
Green _____ Light X
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None X Natural _____
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 4/15/15
Time: 11:00
Miles: _____

Site ID: 1011
Event Code: 5116

Ambient Temp.: 67 Dry Weather Flow Depth: 2"

Weather: _____
Survey: Partially Survey: _____ Checkoff: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 9.40
Water Temperature (°C): 16.0 Conductivity (µS/cm): 0.977

From the lab
E. coli (MPN): 160.0 Total coliforms (MPN): 224196

General Remarks: end of morton Taylor
moving slowly

Water Clarity

Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color

Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 4/17/15
 Time: 1:30
 Milieu

Site ID: 1000
 Field Crew: 1000

Ambient Temp.: 67 Dry Weather Flow Depth: 3"

Weather: _____
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: _____ Dissolved Oxygen (mg/L): 6.68
 Water Temperature (°C): 17.0 Conductivity (µS/cm): 1535

From the lab
 E. coli (MPN): 86 Total coliforms (MPN): > 24196.0

General Remarks: end of Washburn (past gate)

Water Clarity

Clear _____
 Slightly Turbid
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor

None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color

Clear Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/27/15
Time: 1:00
Minutes

Site ID: 02000001
Field Code: 01-013

Ambient Temp.: 27 Dry Weather Flow Depth: 12"

Weather: _____
Sky: X Partly Sunny: _____ Overcast: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 6.53
Water Temperature (°C): 16.6 Conductivity (µS/cm): 1449

From the lab
E. coli (MPN): 4106 Total coliforms (MPN): 22496

General Remarks: DeStaco Property

Water Clarity
Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural X
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color
Clear _____ Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None X Natural _____
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 11/17/15
Time: 12:30
Mileage: _____

Site ID: 12345
Field Crew: STING

Ambient Temp.: 80 Dry Weather Flow Depth: 6"

Weather: _____
Sky: X Partly Sunny _____ Clear _____

Sample ID: _____ Dissolved Oxygen (mg/L): 8.45
Water Temperature (°C): 18.2 Conductivity (µS/cm): 2.119

From the lab
E. coli (MPN): 1145 Total coliforms (MPN): >24196

General Remarks: _____

Water Clarity X
Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor X
None/Natural _____
Musty: Faint _____ Strong _____
Sewage/Fishery Faint _____ Strong _____
Anaerobic/Septic Faint _____ Strong _____

Water Color
Clear X Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural X
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 4/27/15
Time: 10:45
Military

Site ID: 000001
Point Name: STAG

Ambient Temp.: 80 Dry Weather Flow Depth: 5"

Weather: _____
Sunny: Partly Sunny: _____ Cloudy: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 9.13
Water Temperature (°C): 17.7 Conductivity (µmhos/cm): 2,003

From the lab
E. coli (MPN): 749 Total coliforms (MPN): 724196

General Remarks: South end of Kellogg St.

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color
Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Event: 2-17-15
 Time: 12:00
 Station: Millery

Site ID: 00000000
 Point Code: 000000

Ambient Temp.: 80 Dry Weather Flow Depth: _____

Weather: _____
 Storm: Partly Stormy: _____ Foggy: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 8.80
 Water Temperature (°C): 17.4 Conductivity (µS/cm): 1,752

From the lab
 E. coli (MPN): 341 Total coliforms (MPN): 724196

General Remarks: Behind Steps Accounting and Tax
Harvey

Water Clarity
 Clear
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural
 Musty:
 Faint _____ Strong _____
 Sewage/Fishery
 Faint _____ Strong _____
 Anaerobic/Septic
 Faint _____ Strong _____

Water Color
 Clear Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural
 Foam _____ (leaves, limbs, weeds)
 Trash:
 Floating _____ Fixed _____
 Sewage Solids:
 Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 4/27/15
 Time: 13:10
 Millinery

Site ID: 270002
 Field Crew: STAG

Ambient Temp.: 80 Dry Weather Flow Depth: 3"

Weather:
 Sunny: X Partly Sunny: _____ Cloudy: _____

Sample ID: same as site ID Dissolved Oxygen (mg/L): 8.15
 Water Temperature (°C): 18.4 Conductivity (µS/cm): 1374

From the lab
 E. coli (MPN): 6867 Total coliforms (MPN): 224196

General Remarks: difficult collection site

Water Clarity
 Clear _____
 Slightly Turbid X
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor
 None/Natural X
 Musty: Faint _____ Strong _____
 Sewage/Fishery: Faint _____ Strong _____
 Anaerobic/Septic: Faint _____ Strong _____

Water Color
 Clear X Brown: _____
 Green _____ Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution
 None _____ Natural X
 Foam _____ (leaves, limbs, weeds)
 Trash: Floating _____ Fixed _____
 Sewage Solids: Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 11/11/15
Time: 1:55
MILLY

Site ID: 11111111
Field Crew: SLP

Ambient Temp.: 80 Dry Weather Flow Depth: 4"

Weather: _____
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: _____ Dissolved Oxygen (mg/L): 8.75
Water Temperature (C): 18.2 Conductivity (µmhos): 0.904

From the lab
E. coli (MPN): 1274 Total coliforms (MPN): 724196

General Remarks: in Crestwood Condos
lots of minnows

Water Clarity
Clear
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural
Musty: _____
Faint _____ Strong _____
Sewage/Fishery _____
Faint _____ Strong _____
Anaerobic/Septic _____
Faint _____ Strong _____

Water Color
Clear Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural
Foam _____ (leaves, limbs, weeds)
Trash: _____
Floating _____ Fixed _____
Sewage Solids: _____
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: _____
Time: 1:35
Miles: _____

Station: _____
Field Crew: _____

Ambient Temp.: 80 Dry Weather Flow Depth: _____

Weather: _____
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: _____ Dissolved Oxygen (mg/L): _____
Water Temperature (°C): _____ Conductivity (µS/cm): _____

From the lab
E. coli (MPN): 1259 Total coliforms (MPN): 224196

General Remarks: Duplicate Crestwood condos

Water Clarity
Clear _____
Slightly Turbid _____
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural _____
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear _____ Brown: _____
Green _____ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural _____
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed _____
Sewage Solids:
Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 7/25/15
 Time: 1:30
 Station: Millery

Sample ID: 12051
 Field Crew: JWAG

Ambient Temp.: 88

Dry Weather Flow Depth: _____

Weather: _____
 Sunny: Partly Sunny: _____ Clear: _____
 Cloudy: _____

Sample ID: _____ Station ID: _____ Dissolved Oxygen (mg/L): 5.14
 Water Temperature (°C): 17.0 Conductivity (µmhos/cm): 4,083

From the lab
 E. coli (MPN): _____ Total coliforms (MPN): _____

General Remarks: Napier N of Cherryhill
@ ON MAPPED drain - Did NOT submit
this sample

Water Clarity

- Clear _____
- Slightly Turbid _____
- Moderately Turbid
- Highly Turbid _____
- Opaque _____

Odor

- None/Natural
- Musty: Faint _____ Strong _____
- Sewage/Fishery: Faint _____ Strong _____
- Anaerobic/Septic: Faint _____ Strong _____

Water Color

- Clear _____
- Green _____
- Gray _____
- Black _____
- Milky/White _____
- Brown: _____
- Light
- Medium _____
- Dark _____

Visible Debris/Obvious Pollution

- None _____
- Foam _____
- Trash: Floating _____ Fixed _____
- Sewage Solids: Floating _____ Fixed _____
- Floating Green Scum _____
- Natural
(leaves, limbs, weeds)

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 4/15/15
Time: 1:05 PM

Site ID: 141360
Location: ST 141360

Ambient Temp.: 82 Dry Weather Flow Depth: outfall

Weather: Sunny
 Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: _____ at site ID: _____ Dissolved Oxygen (mg/L): _____
 Water Temperature (°C): 20.7 Conductivity (µS/cm): 0.982
 Ammonia (NH₃) (mg/L): 0.5 Turbidity (NTU): 0.135 ppm 5 ppm

From the lab
 E. coli (MPN): 72700.0 Total coliforms (MPN): 141360.0
100 DILUTIONS ON SAMPLE

General Remarks: harvey st outfall - re sample
lots of fish, clear

Water Clarity

Clear X
 Slightly Turbid _____
 Moderately Turbid _____
 Highly Turbid _____
 Opaque _____

Odor

None/Natural X
 Musty: Faint _____ Strong _____
 Sewage/Fishery: Faint _____ Strong _____
 Anaerobic/Septic: Faint _____ Strong _____

Water Color

Clear X Brown: _____
 Green X Light _____
 Gray _____ Medium _____
 Black _____ Dark _____
 Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
 Foam _____ (leaves, limbs, weeds)
 Trash: Floating _____ Fixed _____
 Sewage Solids: Floating _____ Fixed _____
 Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 05/15
Time: 1345
Mileage:

Station: 00002
Field Crew: STAG

Ambient Temp.: 82 Dry Weather Flow Depth: 8"

Weather:
Rainy: Partly Rainy: _____ Cloudy: _____

Sample ID: _____ (same as site ID) Dissolved Oxygen (mg/L): 9.37
Water Temperature (°C): 20.5 Conductivity (µS/cm): 1938

From the lab
E. coli (MPN): 97 Total coliforms (MPN): 11199.0

General Remarks: Dunhill Way at Hook Park
Rivers Edge sub

Water Clarity

Clear _____
Slightly Turbid X
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor

None/Natural X
Musty: Faint _____ Strong _____
Sewage/Fishery: Faint _____ Strong _____
Anaerobic/Septic: Faint _____ Strong _____

Water Color

Clear _____ Brown: _____
Green _____ Light X
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution

None _____ Natural X
Foam: _____ (leaves, limbs, weeds)
Trash: Floating _____ Fixed _____
Sewage Solids: Floating _____ Fixed _____
Floating Green Scum _____

**WAYNE COUNTY DEPARTMENT OF DEPARTMENT OF PUBLIC SERVICES
WATER QUALITY MANAGEMENT DIVISION**

ARC Dry Weather Water Sample Data 2015

Date: 1/29/15
Time: 1:05
Station:

Site ID: 3211
Field Crew: STAG

Ambient Temp.: 82 Dry Weather Flow Depth: 4"

Weather:
Sunny: Partly Sunny: _____ Overcast: _____

Sample ID: ARC 01 3211 Dissolved Oxygen (mg/L): 7.95
Water Temperature (°C): 17.5 Conductivity (µS/cm): 0.826

From the lab
E. coli (MPN): 1920 Total coliforms (MPN): 173 29.0

General Remarks: @ 3211 Napier

Water Clarity
Clear _____
Slightly Turbid ✓
Moderately Turbid _____
Highly Turbid _____
Opaque _____

Odor
None/Natural ✓
Musty:
Faint _____ Strong _____
Sewage/Fishery
Faint _____ Strong _____
Anaerobic/Septic
Faint _____ Strong _____

Water Color
Clear ✓ Brown: _____
Green ✓ Light _____
Gray _____ Medium _____
Black _____ Dark _____
Milky/White _____

Visible Debris/Obvious Pollution
None _____ Natural ✓
Foam _____ (leaves, limbs, weeds)
Trash:
Floating _____ Fixed ✓ tires
Sewage Solids:
Floating _____ Fixed ✓ Springs
Floating Green Scum _____

Appendix B
2015 ARC IDEP Advanced Investigation
City of Plymouth
Summaries

**Park Street Outfall
Mill Street (aka Lilley Road) Advanced IDEP
City of Plymouth**

**Summary & Recommendations
December 2015**

Background

- Area originally investigated with extensive dye-testing under the Middle Rouge Residential IDEP Grant and identified as a priority area under the ARC's Draft Collaborative IDEP (*E.coli* TMDL) Action Plan in 2009.
- In 2014, with ARC IDEP funding, WQMD sampled the Park Street storm sewer outfall (City of Plymouth's MS4) to assess progress toward *E.coli* reduction goals as well as to establish new IDEP priority work areas.
- High concentrations of *E.coli* were again identified in the Park Street storm sewer and the area was targeted by WQMD for additional IDEP advanced investigation in 2015.

Summary of 2015 Efforts

- Met with the City's Department of Municipal Services in January and decided to focus efforts on the Mill Street (aka Lilley Road part of Wayne County's MS4) area which is upstream and tributary to the Park Street storm sewer outfall.
- WQMD performed facility dye-testing at eight commercial facilities along Mill Street with no illicit connections/discharges identified.
- In March WQMD, with Plymouth Municipal Services support, also performed storm sewer manhole inspections along Mill Street. In one of the manholes, near 114 Mill Street and 140 Mill Street, dry weather flow and obvious signs of sanitary sewage were observed. The dry weather flow originated from an inlet into the manhole that appears to deliver drainage from the north.
- WQMD staff met with WC DPS Roads staff and the DPS Roads Engineer arranged for a private contractor to televise the Mill Street storm sewer from Union Street to just south of Plymouth Road in early June 2015. Multiple taps into the Mill Street storm sewer were observed but none revealed obvious signs of sewage. This area is primarily residential single family with several multifamily dwellings.
- With support from the City and the Wayne County Parcel Data Online Tool WQMD staff identified 23 residential properties and their ownership where available (see Table 1 and Figure 1 attached).

Recommendations

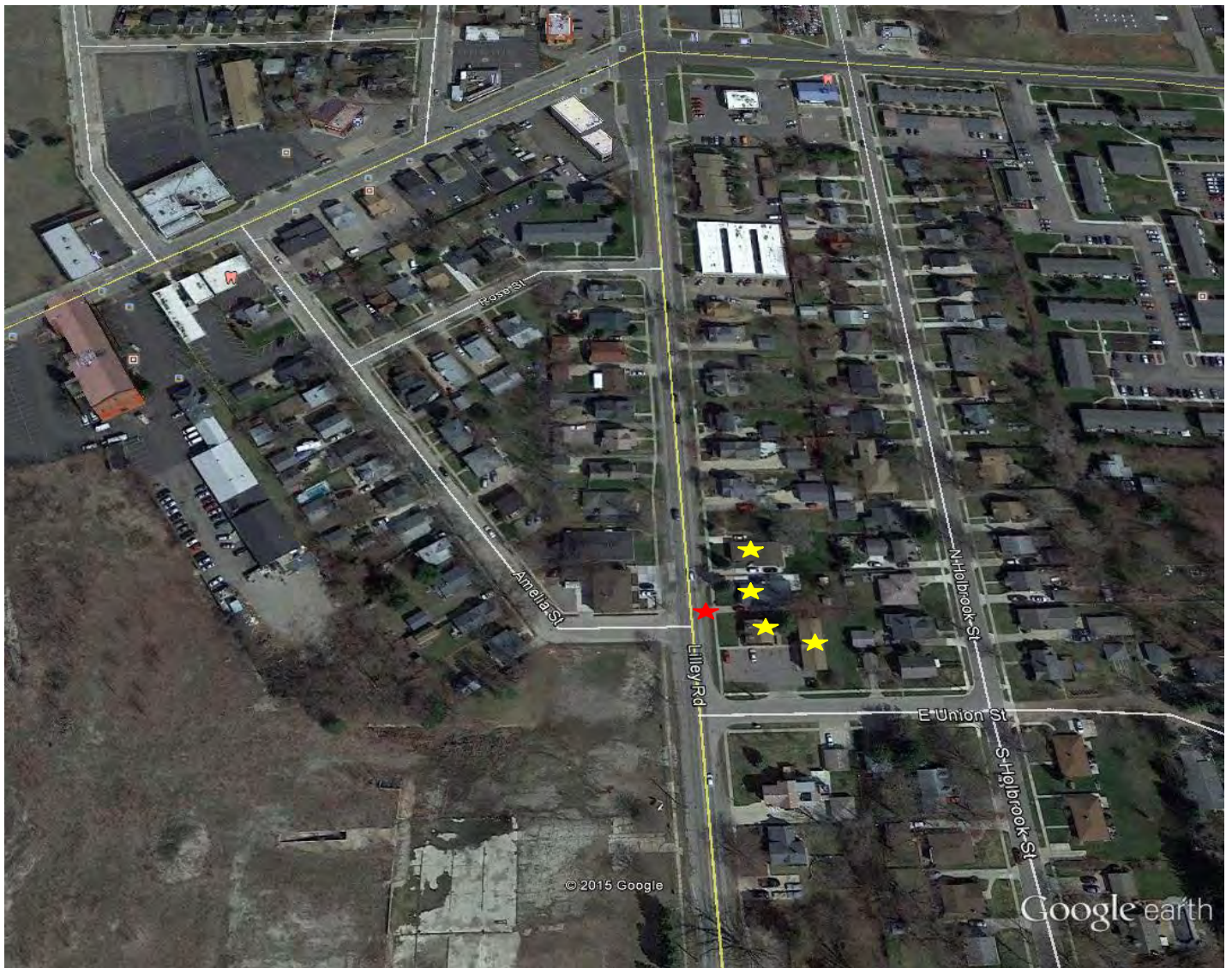
- Upon approval from WQMD Division Director, WQMD staff will attempt to gain voluntary access to the residential properties (#1-4) highlighted in Table 1 and Figure 1. These four properties are the closest to, and are suspected to be, the origin of the sanitary sewage identified in the manhole mentioned above.
- If residential dye testing is deemed inappropriate, or proves unsuccessful at eliminating the high *E.coli* concentrations observed in the Park Street storm sewer, arrangements should be made via WQMD or Roads Division for a private contractor to perform smoke testing of the Mill Street (aka Lilley Road) storm sewer.

Table 1: Properties located on Mill Street between Union Street and Plymouth Road

Number	Street address	Property Owner	Property Type	Side of Mill Street
1	104 N. Mill St	Nadia Bibi (Trust)	multifamily residence	east
2	114-115 E. Union St	unknown	apartments	east*
3	140 N. Mill St	Phillip/Ann Hartley	single family residence	east
4	150 N. Mill St	Phillip/Ann Hartley	single family residence	east
5	172 N. Mill St	Lee Anderson	single family residence	east
6	188 N. Mill St	Beatrice Gray	single family residence	east
7	202 N. Mill St	David/Carly Cirelli	single family residence	east
8	210 N. Mill St	Adam/Sarah Wagner-Pschigoda	single family residence	east
9	240 N. Mill St	Jean Scheppele	single family residence	east
10	254 N. Mill St	William Dunn	single family residence	east
11	300 N. Mill St	300 Mill St LLC	apartments	east
12	332 N. Mill St	Mill Town Square	condominiums	east
13	157 N. Mill St	Joseph/Alice Rea	single family residence	west
14	161 N. Mill St	Jerry Knorp	single family residence	west
15	175 N. Mill St	Nicole Hermann	single family residence	west
16	189 N. Mill St	Edward Hicks	single family residence	west
17	201 N. Mill St	John Kay	single family residence	west
18	215 N. Mill St	Sean/Jennie Hendon	single family residence	west
19	225 N. Mill St	George Cazen	single family residence	west
20	243 N. Mill St	Joshua Catana	single family residence	west
21	261 N. Mill St	Timothy/Allison Smith	single family residence	west
22	100 Rose St	Cumming Properties	multifamily residence	west
23	315 N. Mill St	George Bergevin	single family residence	West

* Addresses and property owners not available through Wayne County Parcel Data online tool

Figure 1: Mill Street Advanced IDEP Investigation Area & Target Properties



★ - target properties

★ - approximate location of manhole with observed sanitary sewage

**Harvey Street Outfall
ARC IDEP Monitoring & Advanced IDEP
City of Plymouth**

**Summary & Recommendations
December 2015**

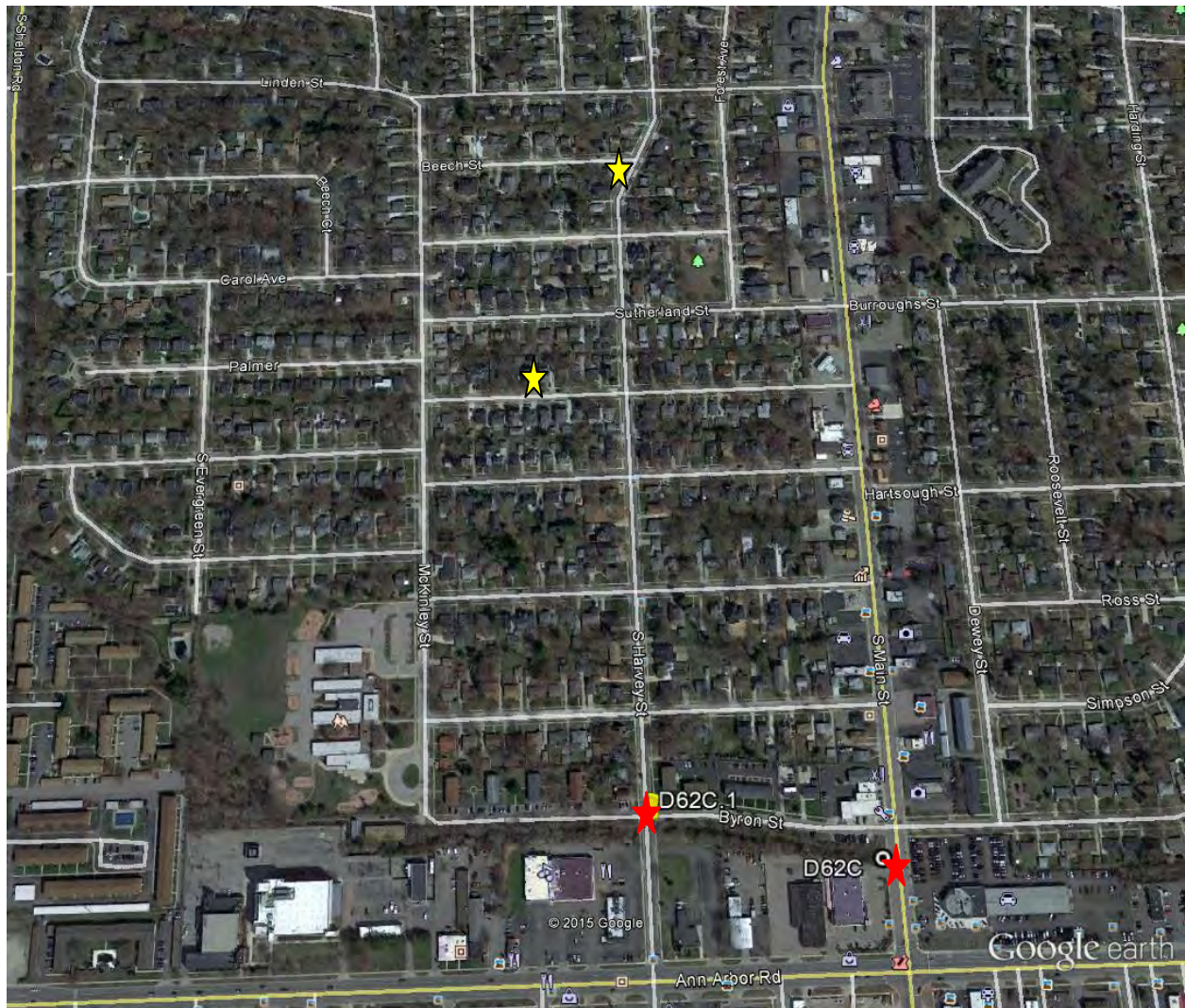
Background & Summary 2015 Efforts

- With ARC funding, WQMD conducted dry weather water quality monitoring on Byron Creek (S.Branch of Tonquish Creek) in the City of Plymouth in July 2015.
- Elevated IDEP parameters (*E.coli*, conductivity, ammonia, low dissolved oxygen, and surfactants) were identified at the Main Street crossing of Byron Creek (see Figure 1 site D62C).
- Further investigation upstream from the Main Street crossing identified an outfall off Harvey Street discharging during dry weather (Figure 1 site D62C 1). The *E.coli* concentration detected in the lab analysis of this discharge was 727,000 colonies/100mls Most Probable Number (MPN).
- WQMD met with the City's Department of Municipal Services regarding the results of the ARC funded Harvey Street outfall sampling on September 29, 2015.
- The City of Plymouth staff assisted WQMD in identifying segments of storm sewer where they were aware of sewage discharges in residential areas that are tributary to the Harvey Street storm sewer. Samples were collected and the *E. coli* concentrations in the Beech Street and Palmer Street samples were Too Numerous to Count (TNTC). Sewage fungus and a strong sewage odor were also detected in the storm sewer on Beech Street (see Figure 1 and 2).
- Elevated surfactant and ammonia concentrations were detected in two manholes on Linden Street and Hartsough Streets but due to year end laboratory budget constraints the samples were not sent to the lab for *E. coli* analysis.

Recommendations

- The illicit discharges identified by WQMD with ARC funding are all into and from the City of Plymouth's MS4. As such, WQMD recommends a meeting be held in early 2016 between the City, ARC technical staff and WQMD to review the results of the 2015 investigation and determine responsibilities for further source identification and corrective action.
- Potential source identification efforts could include sewer televising and/or smoke testing, or residential dye testing along Beech and Palmer streets at a minimum.
- Additional manhole inspection, sample collection and lab analysis is also recommended for all storm sewer segments (e.g. Linden Street, Hartsough Street, etc.) discharging to the Harvey Street storm sewer. This is to either identify or eliminate these tributary streets for sewer televising, smoke testing, and/or residential dye testing.

Figure 1: Harvey Street Advanced IDEP Investigation Area



- ★ - Byron Creek sampling site (D62C) and Harvey Street outfall (D62C 1)
- ★ - Beech Street and Palmer Street manholes with *E.coli* concentrations Too Numerous to Count

Figure 2: Beech Street Manhole (west of Harvey Street intersection) Sewage Fungus



Appendix C
2015 ARC IDEP Advanced Investigation
City of Wayne
Dye-Testing Summary

**FACILITY INSPECTION LIST
CITY OF WAYNE (COMMERCIAL FACILITIES)
2015**

#	Site Evaluation Date	Initial Inspection Date	Final Insp. Date	Follow Up Date	Facility Name	Facility Address	City	# of Visits	# of ICs	# of IDs	# of EC	EC Type	Status
1	4/3/14	11/13/15	11/13/15	NA	EZ STORAGE	34333 E. MICHIGAN AVE.	WAYNE	2					DYE TEST OK
2	11/13/15	11/17/15	11/17/2015	NA	HYDROSPOT HYDROPONICS	34236 MICHIGAN AVE	WAYNE	2					DYE TEST OK
3	11/13/15				7-ELEVEN	32324 ANNAPOLIS ST	WAYNE	1					SITE EVALUATION
4	11/13/15	12/16/15			AT&T	35928 ANNAPOLIS ST	WAYNE	2					DYE TEST INCOMPLETE/FDS NEED CLEANING PRIOR TO TESTING
5	11/13/15	12/16/15	12/16/2015	TBD	COMPLEX STEEL AND WIRE	36254 ANNAPOLIS ST	WAYNE	2			2	55 GALLON DRUMS AND TRASH BEHIND FACILITY NEED TO BE CLEANED UP AND PROPERLY DISPOSED OF	DYE TEST OK
6	11/13/15	12/16/15	12/16/2015	NA	BROOME'S AUTO PARTS	36597 ANNAPOLIS ST	WAYNE	2					DYE TEST OK
7	12/16/15	12/16/15	12/16/2015	NA	BROOME'S AUTO PARTS	4322 WALKER ST	WAYNE	1					DYE TEST OK
8	12/16/15	12/16/15	12/16/2015	NA	BROOME'S AUTO PARTS	4330 WALKER ST	WAYNE	1					DYE TEST OK
9	11/17/15				CITGO	35600 MICHIGAN AVE	WAYNE	1					SITE EVALUATION
10	11/13/15				DYNAMIC DRY CLEANERS	3420 MICHIGAN AVE	WAYNE	1					SITE EVALUATION
11	11/13/15				JEWELS DRY CLEANING	34806 MICHIGAN AVE	WAYNE	1					SITE EVALUATION
12	11/12/15	11/25/15	11/25/15	NA	AK AUTOPARTS	4090 SECOND ST	WAYNE	2					DYE TEST OK
13	11/20/15/ 12/03/15				7-ELEVEN	33920 VAN BORN RD	WAYNE	2					SITE EVALUATION
14	11/20/15/ 12/03/15				METRO PCS	33940 VAN BORN RD	WAYNE	2					SITE EVALUATION
15	11/20/15/ 12/03/15				ONE STOP PHARMACY	33950 VAN BORN RD	WAYNE	2					SITE EVALUATION
16	11/20/15/ 12/03/15				INFUSE ASIAN CUSINE	33970 VAN BORN RD	WAYNE	2					SITE EVALUATION FACILITY VACANT
17	11/20/15/ 12/03/15				HAPPY'S PIZZA	33990 VAN BORN RD	WAYNE	2					SITE EVALUATION
18	12/14/15	12/14/15	12/14/15	NA	FIRST CONGREGATIONAL CHURCH	2 TOWNE SQUARE	WAYNE	1					DYE TEST OK

Abbreviations:
IC: Illicit Connection
ID: Illicit Discharge
EC: Environmental Concern

**FACILITY INSPECTION LIST
CITY OF WAYNE (COMMUNITY FACILITIES)
2015**

#	Site Evaluation Date	Initial Inspection Date	Final Insp. Date	Follow Up Date	Facility Name	Facility Address	City	# of Visits	DSA	# of ICs	# of IDs	# of EC	Status
1	3/28/14	11/17/15	11/17/15	NA	WAYNE PUBLIC LIBRARY	3737 S. WAYNE RD	WAYNE	2	ROUGE				DYE TEST OK
2	3/28/14	4/3/14	11/17/15	NA	CITY OF WAYNE SIGN SHOP	3450 2ND ST	WAYNE	3	ROUGE				DYE TEST OK
3	3/28/14	4/3/14	11/17/15	NA	CITY OF WAYNE MEETING AND BANQUET FACILITY (SENIOR CENTER)	35000 SIMS ST	WAYNE	3	ROUGE				DYE TEST OK
4	12/3/15	12/11/15	12/14/15	NA	WAYNE HISTORICAL MUSEUM	1 TOWNE SQUARE	WAYNE	3	ROUGE				DYE TEST OK

Abbreviations:
IC: Illicit Connection
ID: Illicit Discharge
EC: Environmental Concern

Appendix D
2015 Regional IDEP Training Summary

2015 Regional IDEP Training Attendees

First Name	Last Name	Email	Company	Work Address 1	Status
Christian	Fox	cfox@bloomfieldtwp.org	Bloomfield Township	4200 S. Telegraph Rd.	Registered
Angela	Pasciolla	apasciolla@bloomfieldtwp.org	Bloomfield Township	4200 Telegraph Road	Registered
George	Kilpatrick	gkilpatrick@bloomfieldtwp.org	Bloomfield Twp.	4200 Telegraph	Registered
Jennifer	Lawson	jlawson@a2gov.org	City of Ann Arbor	301 E. Huron	Registered
Paul	Matthews	jlawson@a2gov.org	City of Ann Arbor	301 E. Huron	Registered
Peter	Stephens	PStephens@a2gov.org	City of Ann Arbor	301 E. Huron St	Registered
Matt	Waldsmith	jlawson@a2gov.org	City of Ann Arbor	301 E. Huron	Registered
Tim	Wisser	twisser@aubrnhills.org	City Of Auburn Hills	1500 Brown Rd	Registered
Rick	Rutherford		City of Belleville	6 Main st.	Walk-in
Jacob	Harless		City of Clarkston	375 Depot St.	Walk-in
Jacob	Lorenz		City of Clarkston	375 Depot St.	Walk-in
Jason	Miller		City of Clarkston	375 Depot St.	Walk-in
Jim	Englen	jleach@farmgov.com	City of Farmington	33720 West Nine Mile Road	Registered
Josh	Leach	jleach@farmgov.com	City of Farmington	33720 West Nine Mile Road	Registered
Mike	Pesavento	jleach@farmgov.com	City of Farmington	33720 West Nine Mile Road	Registered
Joe	Eudy	tpieron@fhgov.com	City of Farmington Hills DPW	27245 Halsted	Registered
Kevin	McCarthy	kmccarthy@fhgov.com	City of Farmington Hills DPW	27245 Halsted	Registered
Dan	Striks	tpieron@fhgov.com	City of Farmington Hills DPW	27245 Halsted	Registered
John	Lapenta	debbie.thor@ohm-advisors.com	City of Northville	215 W. Main Street	Registered
Adam	Wayne	awayne@cityofnovi.org	City of Novi	26300 Lee BeGole Drive	Registered
David	Anason	DAnason@rochestermi.org	City of Rochester	1141 N. Wilcox	Walk-in
Jason	Dickinson		City of Rochester	1141 N. Wilcox	Walk-in
John	Fuller		City of Rochester	1141 N. Wilcox	Walk-in
Kerri	Martin		City of Rochester	1141 N. Wilcox	Walk-in
Bob	Robinson		City of Rochester	1141 N. Wilcox	Walk-in
Roger	Staten	rlaskaska@ci.romulus.mi.us	City of Romulus	12600 Wayne	Registered
Dave	Elmer	jfordice@ci.saline.mi.us	City of Saline	100 N. Harris St	Registered
Ron	Hogan	jfordice@ci.saline.mi.us	City of Saline	100 N. Harris St	Registered
Ryan	Marion	rmarion@cityofsaline.org	City of Saline	100 N. Harris St	Registered
Sam	Greco	sgreco@hfcc.edu	Henry Ford College	5101 Evergreen Rd	Registered
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Walt	Douglas		University of Michigan	326 E. Hoover	Walk-in
Dennis	Hartman		University of Michigan	326 E. Hoover	Walk-in
Kareem	Johnson		University of Michigan	326 E. Hoover	Walk-in
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